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AN INVITATION TO YOU

The AMERICAN BUILDER cordially invites and urges you to enjoy the privileges and benefits of its Correspondence Department. Any phase of any building question may be profitably and instructively discussed in this department. If your problem is a knotty or technical one submit it to the Correspondence Department and secure the benefits of the opinions of other experienced builders. It's a "give" as well as a "take" department, and you are asked to relate your achievements and tell how you have conquered difficulties as well as to ask for information and advice. Rough drawings are desired, for they make clear involved points. We will gladly work over the rough drawings to meet publication requirements. The Correspondence Department is your department. Use it freely and frequently.

We have interesting booklets for
Architects, Contractors and Dealers.
Please tell which booklet you want.



Home of Martin Peterson, Hudson, Wis. Photo taken Nov. 8, 1923.
Andersen Frames delivered September 6, 1905.

Andersen Frames Last A Lifetime

MMARTIN PETERSON never had to worry about window frames. He built his home in 1905, using Andersen White Pine Frames. For 19 years those frames have given good service without costing a cent for repairs. Every joint is still tight so that wind or water cannot enter the house, yet the windows run smoothly in the frames.

Remember that Andersen Standard Frames are the kind you can put into a building and then forget all about them. No repairs or replacements will be necessary.

Reasons Why Andersen Frames Are Preferred:

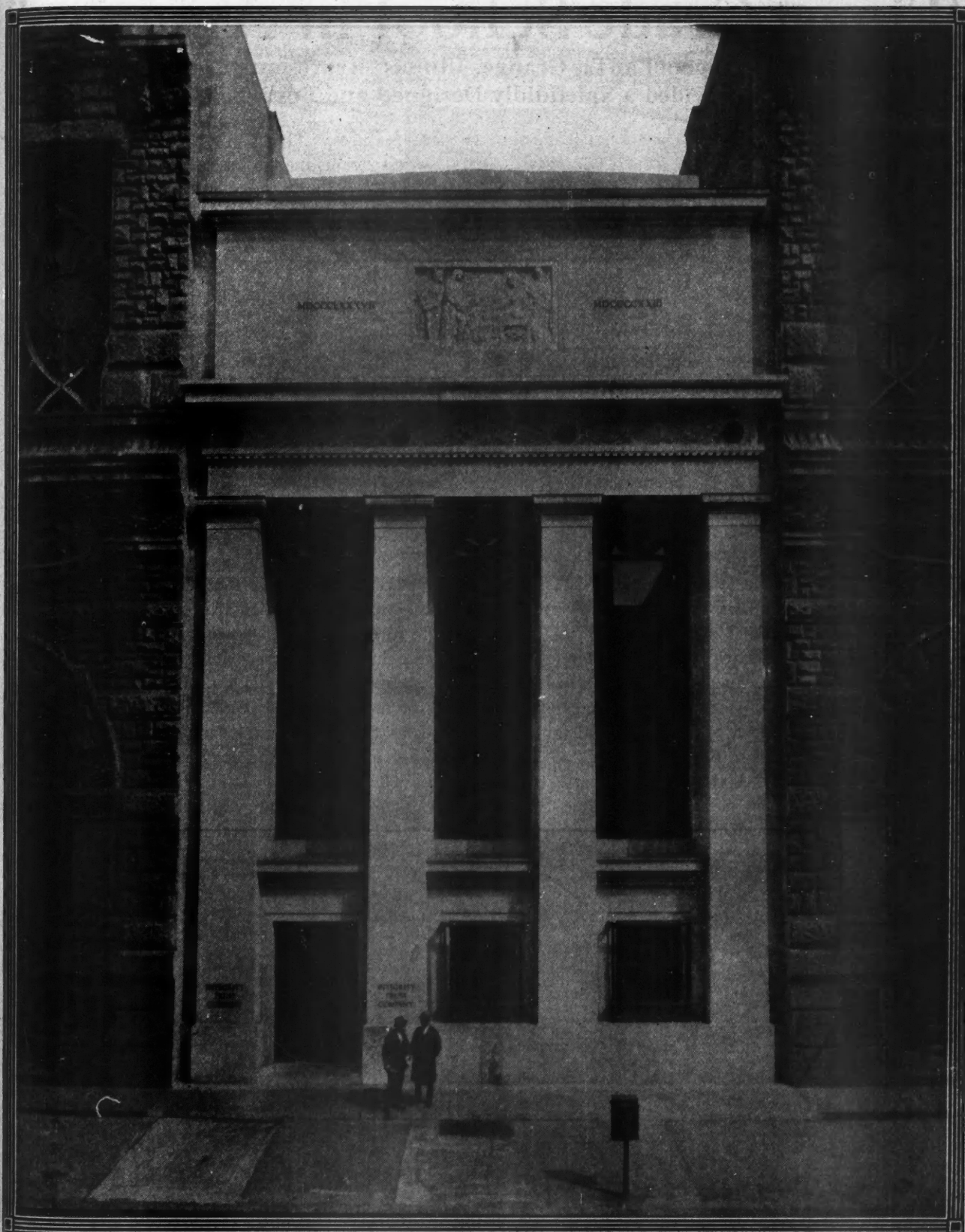
1. Immediate delivery—no expensive delays waiting for special frames.
2. 121 sizes ready for every purpose.
3. Delivered in two compact bundles plainly marked for size and easily handled.
4. 7 units instead of 57. No small parts to become lost or broken.
5. No sorting, measuring or refitting. The complete frame nailed up with pockets and pulleys in place in ten minutes.
6. Accuracy gives smooth running windows, yet excludes weather.
7. Modern machinery, methods and specialization lower costs at the factory; quickness of assembly saves you time, labor and money on the job.
8. Better results in frame, brick or stucco buildings.
9. White Pine preserves original accuracy and gives continuous service.
10. Made by largest exclusive standard frame manufacturer. The trade-mark is absolute protection.

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Dept. A-7

Bayport, Minnesota

Andersen
FRAMES



AN EXAMPLE OF GOOD ARCHITECTURE:

*The Facade of the
INTEGRITY TRUST CO.
PHILADELPHIA . . . PA.
Paul P. Cret, Architect*

"Finest Grade School in America"

New Cossitt Avenue School at La Grange, Illinois, Represents Community Spirit Which Has Provided a Splendidly Designed and Equipped Building

COMMUNITY spirit—that's what has made the new Cossitt Avenue School, of La Grange, Ill., the finest grade school in America, if not in the world.

This suburban community has a prosperous class of citizens, but is far from being a "gold coast" or colony of wealth. Nevertheless, it has many leading business men among its citizens—executives—men of affairs. Not the least of these is Otto A. Heppes, President of the La Grange School Board.

Under this leadership, a great deal of enthusiasm was aroused and several very handsome donations made by public spirited citizens. For instance, the James Kidston Memorial Hall, with its \$20,000.00 Skinner organ and beautiful decorations, is a gift, as also the George M. Vial Memorial Library, a very handsome and valuable addition to the school.

The ladies of the town were greatly interested and helpful, being active in the Parents'-Teachers' Association which donated the Kindergarten Room, with its appropriate decorations and equipment.

Not the least appreciated gift was that of the La Grange Post of the American Legion, which presented the school with a handsome metal flagstaff, set on a special base bearing a bronze memorial tablet to La Grange men who fell in the world war.

La Grange with its 8,000 population, has several school buildings, but the old Cossitt Avenue School was, for many years, inadequate in size, comfort and

modern features. The new structure is really larger and more spacious than is indicated by its outer dimensions. The building is three stories in height, 163 feet across the face with two wings extending to a depth of 130 feet, forming an open interior court.

The architecture of the building is Tudor Gothic and the architects, Childs and Smith, are to be congratulated upon its fine and appropriate appearance, both inside and out. A rich texture and color effect was gained by facing the walls with face brick in seven shades—from dark brown to straw—trimmed in buff Bedford stone. The architectural details are also in Bedford stone, including carved stone finials which rise at the corners of the building and above the towers.

The building is of reinforced concrete construction of the highest fire-resistant type, with flush monolithic floors supported on concrete beams. The treatment of these ceiling beams in the auditorium, library and assembly rooms is particularly interesting and novel. Rough form lumber was used in making the forms with the intention of securing the effect of exposed wooden beams. The result produces a very striking effect of medieval exposed beams in the ceilings mentioned, as the staining and painting over the grain of the wood moulded in the concrete produces a natural effect. The decorations of the walls and ceilings carry out a rich color scheme which harmonizes with this medieval effect. The general tone is dark brown with



The Cossitt Avenue School, La Grange, Ill., Has Been Called the "Finest Grade School in America." The building is of reinforced concrete with the exterior of varicolored face brick. The architecture is Tudor Gothic. Childs and Smith, architects.

touches of gold and color—dark reds, blues and greens—in the decorative shield designs which adorn the ceiling. In the auditorium decorative plaster work organ grills are placed in the walls at the balcony level. The general color tone of these grills and the plaster work in the proscenium arch is also dark brown relieved by touches of reds, greens and blues.

The back curtain of the auditorium is mouse gray—the draw curtains and hangings of midnight blue. Invisible incandescent bulbs of red, white and blue in the borders and footlights illuminate the stage by night.

The auditorium is day lighted from above the ornamental glass laid in lead, so decorated as to give the effect of a bronze grill. In addition to the \$20,000.00 pipe organ, already mentioned as a feature to the auditorium, there is a fine stage and curtain. The seating capacity, including the balcony, is 1,100.

A light, cheerful atmosphere is created in the library by its generous window lighting and decoration in reds, blues and greens. The floor covering is cork tile in diamond patterns. The window lighting in all rooms complies with the Illinois law, which requires that the window glass area shall be not less than one-fifth of the floor area.

Two gymnasiums are provided in the school, one for the boys and another for girls. Very little apparatus is provided, it being felt that class athletic drills are of greater benefit for pupils of grade school age with-

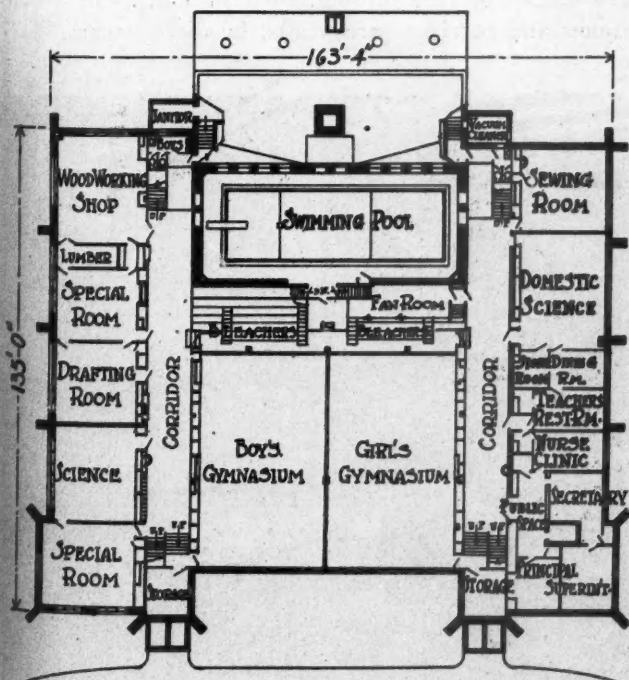
out the more complicated apparatus.

While swimming pools are quite frequently installed in universities and high schools, it is unusual to find them in grade schools. The swimming pool, therefore,

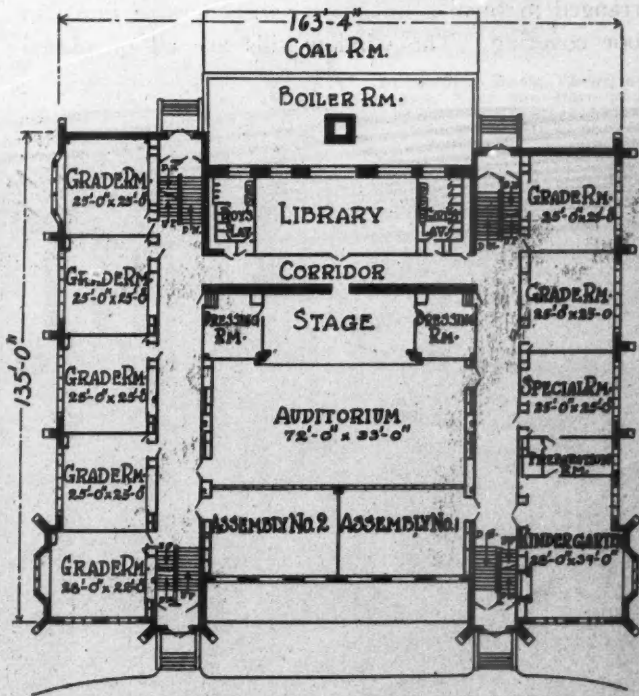


The Auditorium of the La Grange School Is Equipped with a \$20,000 Pipe Organ. It has a seating capacity of 1,100.

in this La Grange school is considerable of a novelty. It is 60 feet long by 20 feet wide. The use of the pool is divided about equally between boys and girls—several days a week to each. The pool is also open to community use—two evenings a week for men and two for women. The water for this school is filtered, as the local supply is artesian and contains



An Unusual Feature of the Plans of the La Grange School Is the Provision of Separate Gymnasiums for Boys and Girls.



The Auditorium Floor of the School Houses the Library, Two Assembly Rooms, a Number of the Grade Rooms as Well as the Kindergarten.

considerable mineral matter. The water in the pool is also tested and analyzed every day, with a view to keeping it pure and free from infection.

The kindergarten room is equipped and decorated in a manner peculiarly suitable for the little folk. Special furniture is provided on a miniature scale and finished in gray. Leaded glass windows and parchment shades make the room light and airy. A decorative element of peculiar interest to juveniles is added by a rockery and fish pool.

This very complete building also contains a domestic science room, a manual training room and two physical science rooms, a drafting room, woodworking and manual training rooms, a domestic science room, sewing room, teachers' rest room, dining room, nurse's clinic and executive offices, besides class rooms and assembly halls. One assembly hall is formed by shutting off the balcony of the auditorium with sliding doors.

The floors of all rooms throughout this building are covered with heavy inlaid linoleum. The corridors all have terrazzo floors and walls and ceilings are painted in dark, old wood effects. Lockers all have their doors flush with the corridor walls. The windows at stair landings and in most of the rooms have a spot of art glass—just enough to add a touch of color.

Cove base throughout the building gives a rounded sanitary finish to the junction of floors and walls, arranged to form a finish over the edges of linoleum floor covering. The window sills are all of glazed



The George M. Vial Memorial Library Was Made Possible Through a Gift to the La Grange School. Decorations are in reds, blues and greens.

brick, providing sills which remain permanently in good condition.

Separate toilet rooms for boys and girls are provided on each floor. These toilet rooms possess a unique feature in their flush sanitary finish. There are no exposed pipes of any kind; even the tanks are concealed in the walls, with access provided by means of special panels. The glazed tile walls and floors are all flush—without projections except the essential fixtures. These are partitioned off into marble stalls.

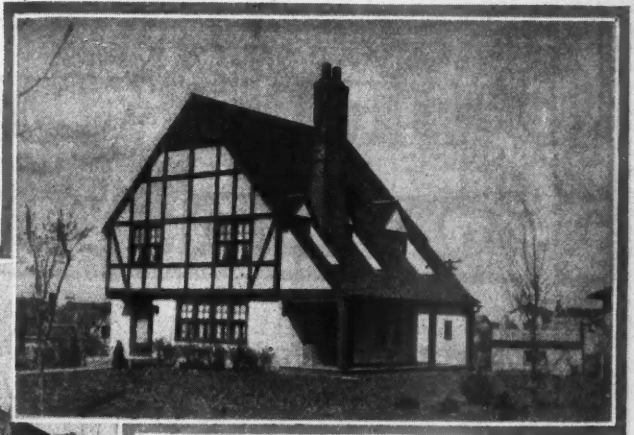
Forced ventilation is provided throughout the building, the fresh outer air being tempered, humidified and forced by fans through ducts into all rooms. The rooms and corridors are heated by direct steam.



"The Old Swimm'n' Hole" Has Been Brought Up to Date and Made Sanitary and Safe for the Students of the Cossitt School.

Chimney Designs To Fit the Home

PHOTOS BY DALE R. VAN HORN



By Running the Chimney Through the Roof and Making the Base a Feature of the Front Porch, This Home Has Been Given a Touch of Individuality. Not a design to be recommended for most homes.



This Tall Flue Is Kept From Being Too Uniform by the Design Shown.



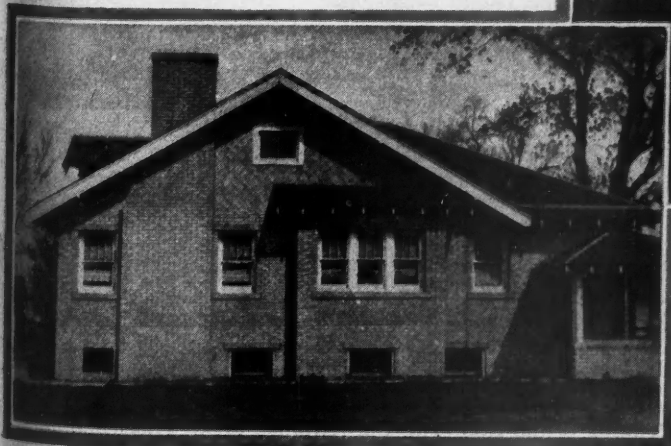
This Dutch Colonial and the Broad, Sturdy Chimney Seem Well Fitted to Each Other.



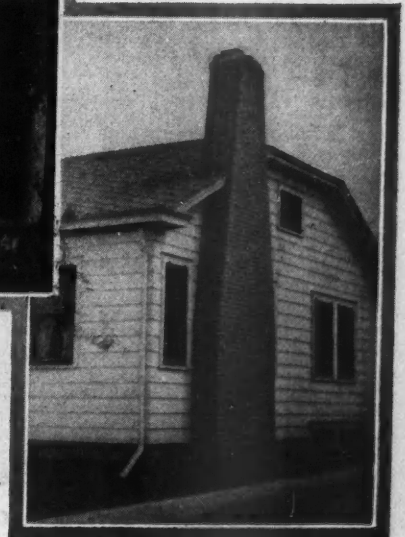
A Chimney of Rough Stone Dominates This Design.



Protruding Rock, Placed at Random Near the Base and the Top of the Stucco Chimney Adds to Its Attractiveness.



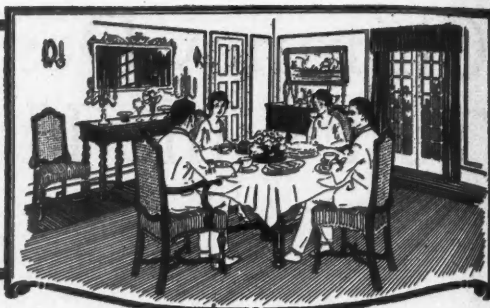
This Stone Chimney Is Appropriate in Its Stone Garden Wall Setting.



This Red Brick Flue Is Particularly Fitting for the White Colonial Bungalow.

Neither Too Tall Nor Too Short, This Chimney Is Consistent with the Fire-Retardant Construction of the House.

OUR FRONT COVER HOME



Impressive Home of Spanish Design Provides the Luxury of High, Spacious Rooms With Unusual and Pleasing Exterior

FOR those who enjoy the best in life and place a home in its proper place as at the head of the list of life's most enjoyable gifts, the residence selected for this month's Front Cover Home will hold a very definite and strong appeal.

Equipped with every modern American convenience and built with the skill of American builders, this home still shows plainly its origination in Mediterranean lands. Homes of this type, first developed from the Spanish Missions and made popular on the Pacific coast, are becoming the goal of an increasing number of home builders in all sections of the United States.

The striking exterior of this home owes much of its charm to the capable handling of mass in its design. Almost of geometric plainness in line, it achieves distinction through the interesting texture of the rough

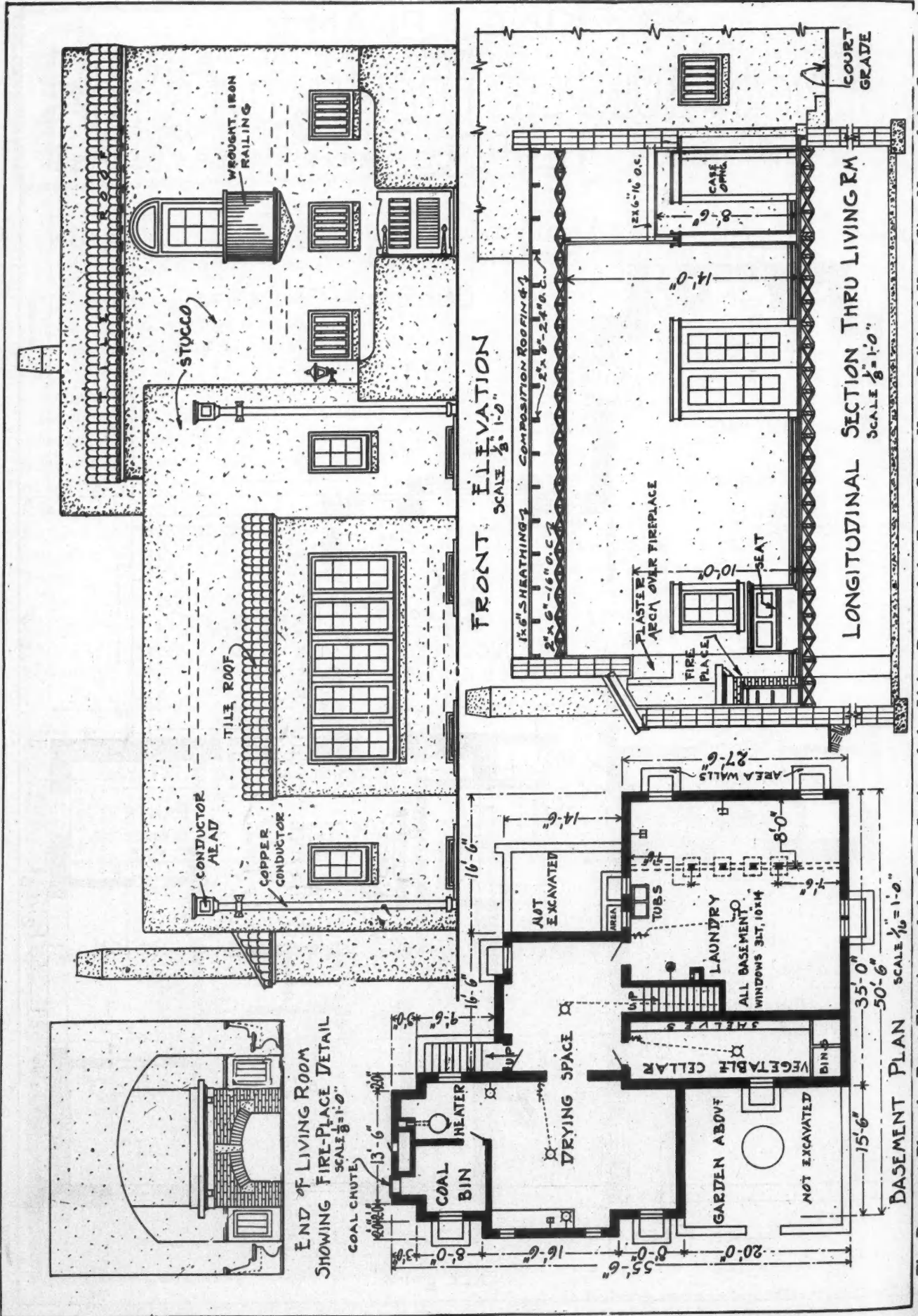
cast of the stucco walls, the red roof tile, the brightly colored awnings and the wrought iron balcony as well as the decorative grilles of the windows and gate.

And one of the major reasons for its popularity may be found in the first floor plan, which is shown to scale on the following pages. The spacious and airy living room has a ceiling fourteen feet in height. This architectural feature, first designed to insure coolness in torrid climates, offers such excellent decorative effects that it seems assured of becoming a feature of American home architecture of the better type.

An unusual feature of the plan is the hallway connecting the two entrances and allowing access to the stairs either from the living room or from the side entry. The court and terrace are typical and pleasing features of this type of architecture. The second floor has three bedrooms and two baths.

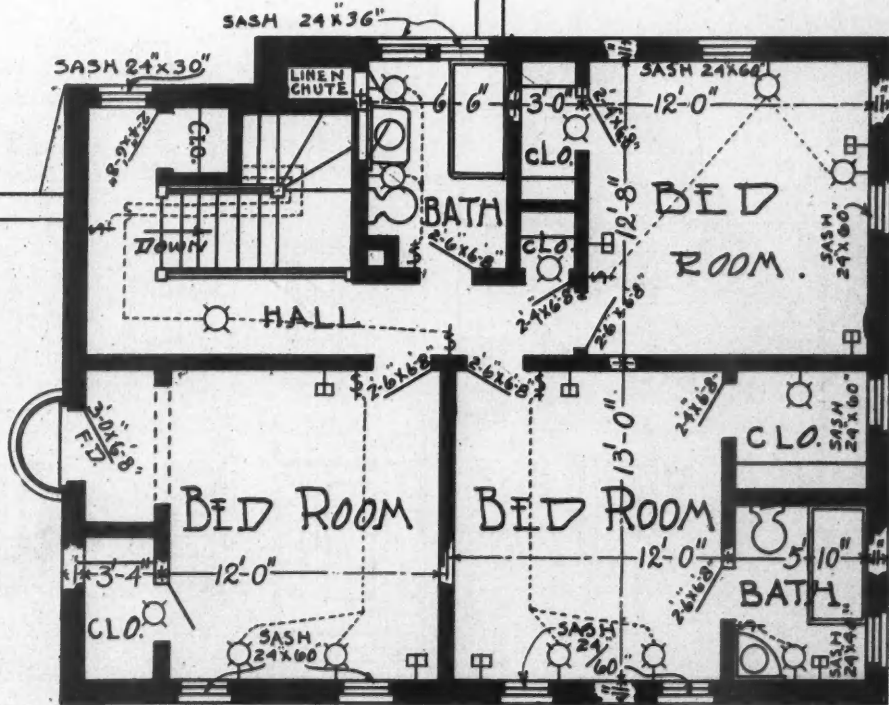
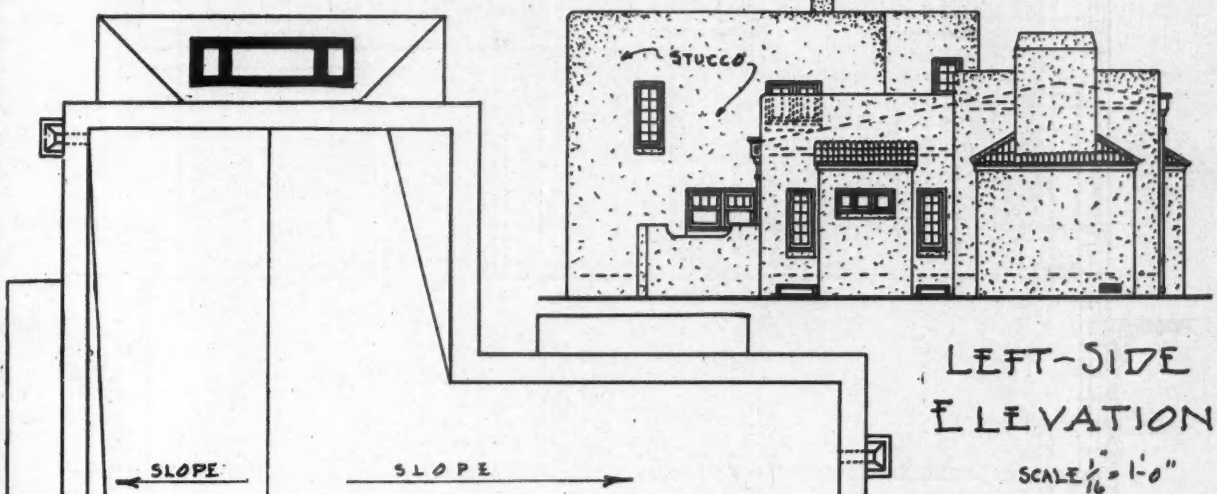
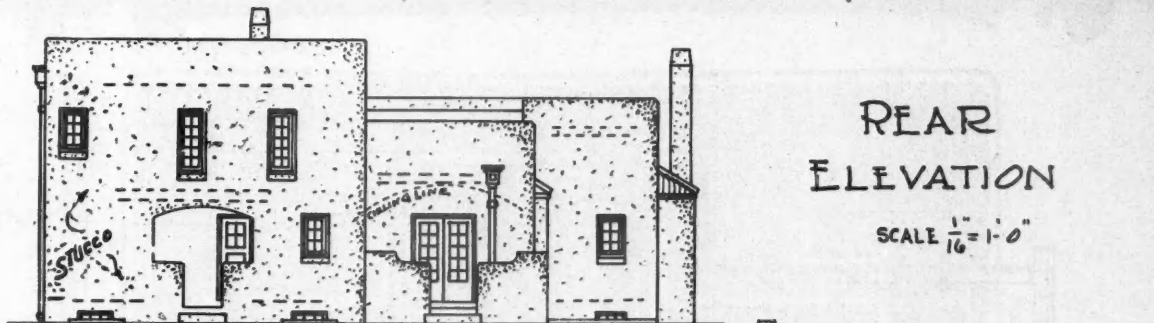


Plain Surfaces, Free from Gables, and Attractive Coloring of the Roof Tile and Awnings Make This Home Most Inviting. Sturdy stucco construction fits it for all climates. Working drawings of this Front Cover Home will be found on the following pages.



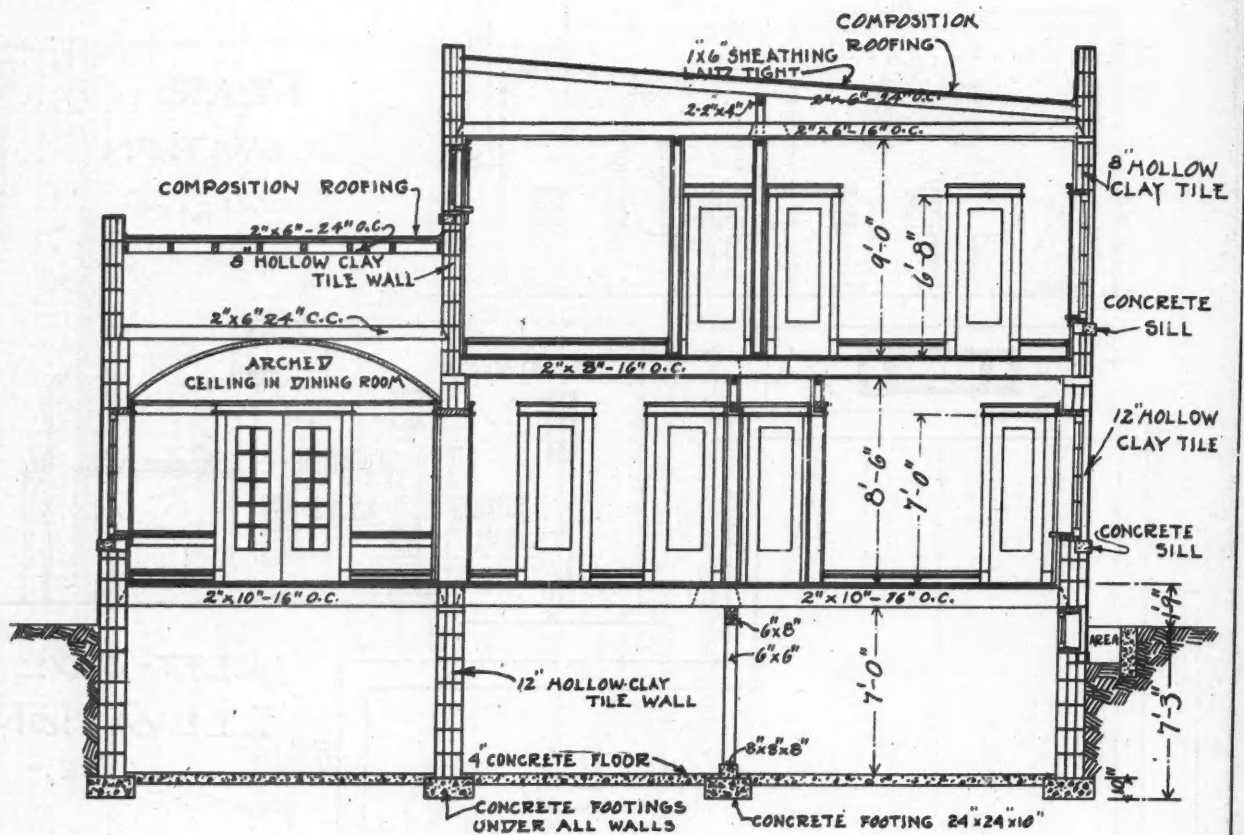
The Basement Plan, the Front Elevation and the Cross Section of the Living Room of the Front Cover Home, Delimited Here, Give Many of the Construction Details. In the upper left hand corner is shown the charming fireplace of the home. Details of the wall construction and the right side elevation are given on page 94.

The Basement Plan, the Front Elevation and the Cross Section of the Living Room of the Front Cover Home, Delineated Here, Give Many of the Construction Details. In the upper left hand corner is shown the charming fireplace of the home. Details of the wall construction and the right side elevation are given on page 94.



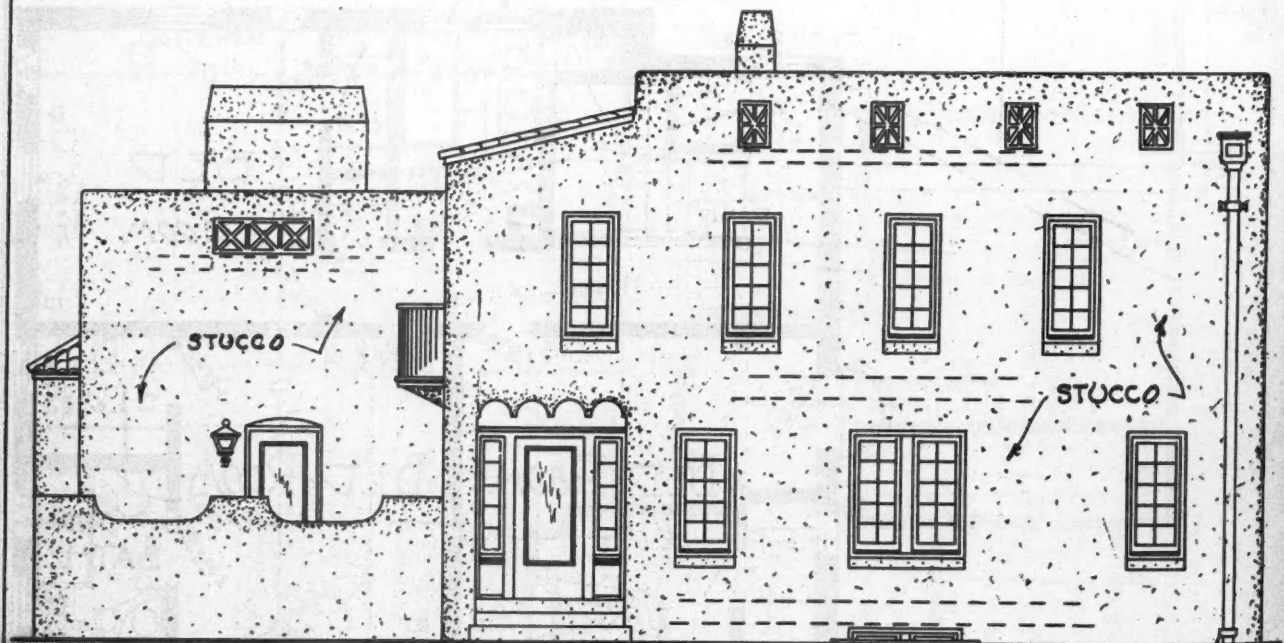
← SECOND FLOOR PLAN →
SCALE $\frac{1}{8} = 1'-0''$

The Second Floor Plan and the Rear and Left Side Elevations of the Front Cover Home Are Presented Here. Two complete baths on the bedroom floor do much to insure convenience. The basement plan is on page 92 and construction details are on the page following.



CROSS SECTION THRU DINING ROOM, KITCHEN AND BED ROOM

SCALE $\frac{1}{8}'' = 1'-0''$

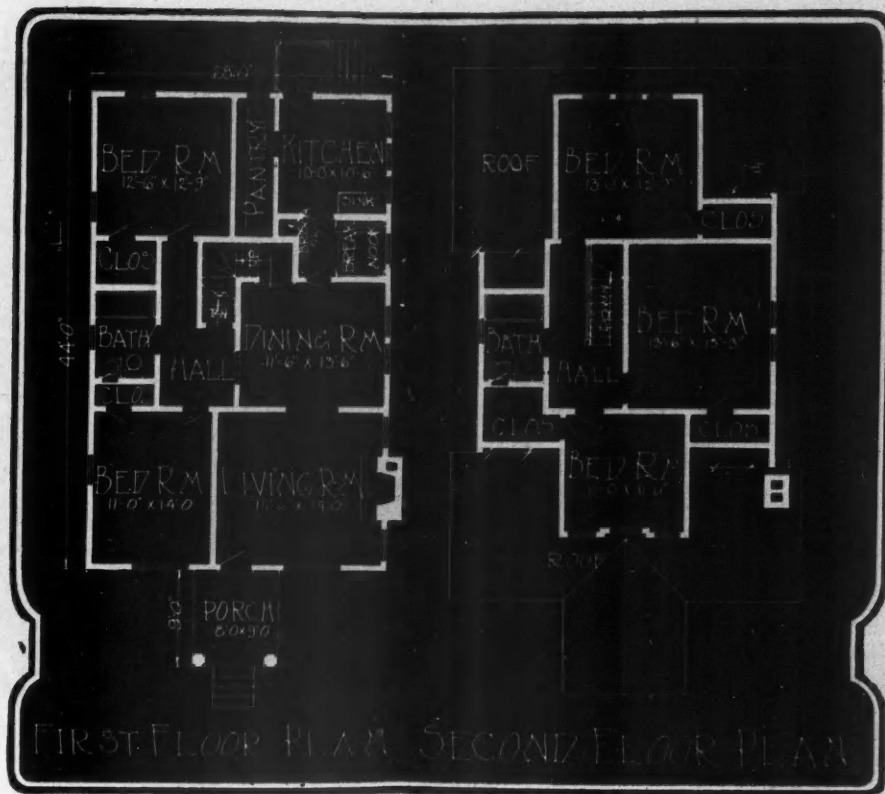


← RIGHT SIDE ELEVATION →

SCALE $\frac{1}{8}'' = 1'-0''$

The Clay Tile Construction of the Walls, the Charming Arched Ceiling Construction of the Dining Room and Roof Pitches Are Shown Above. Below is the right side elevation, giving details of the entryway.

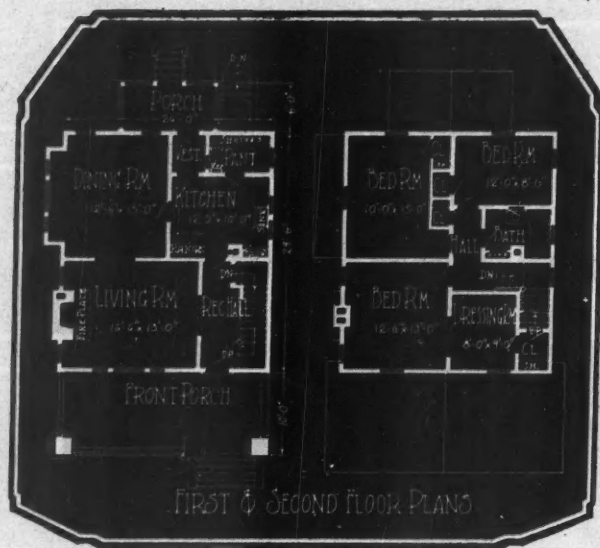
BLUE RIBBON HOMES



A HOUSE FOR CHILDREN. For the family with many children here is a home which should prove very satisfactory. Aside from its attractive exterior, the fact that it contains five bedrooms will be found to recommend it to those happy families where boys and girls abound. The living room of the home, opening directly off the porch, is made pleasant by the fireplace. The wide opening

into the dining room increases the apparent size of both. The two down stairs bedrooms are efficiently segregated from the rest of the house. On the second floor the three bedrooms are arranged to take the best advantage of the space offered. The 28-foot width of the house makes it suitable for the ordinary lot.

BLUE RIBBON HOMES



A SUBSTANTIAL FRAME HOME. It long has been an axiom among builders that the square house or nearly square house is the most economical one to build. And the design shown here proves that such a house can be made attractive.

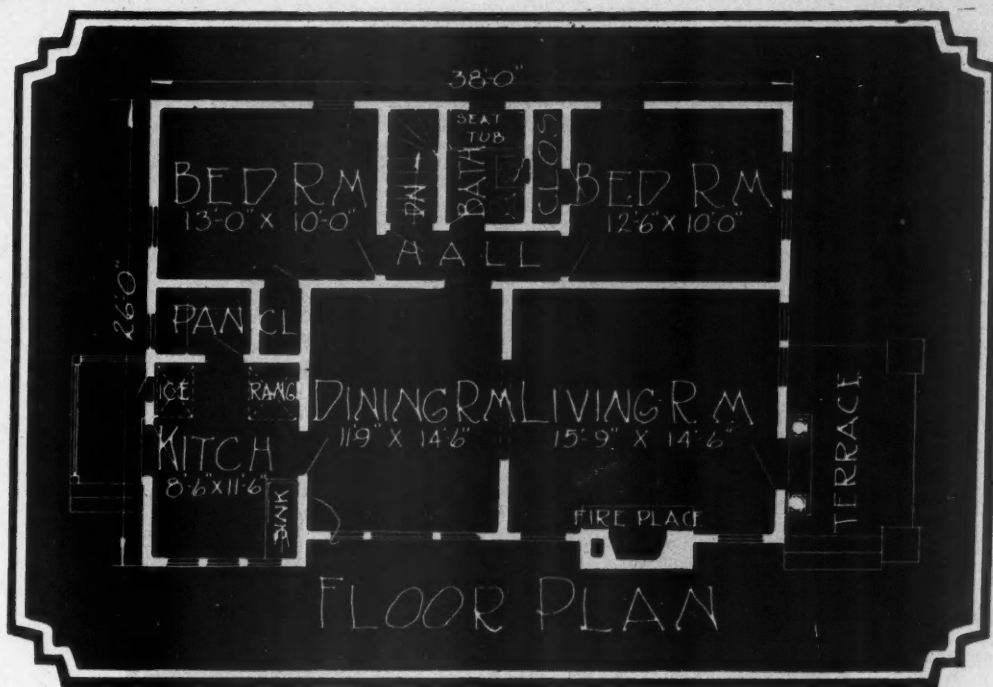
The inviting porch leads into a reception hall, which

houses the stairs leading to the second floor. On one side of the hall is the large living room with its fireplace. The kitchen and dining room units are conveniently arranged.

On the second floor three bedrooms and a dressing room are provided, all with roomy closets.

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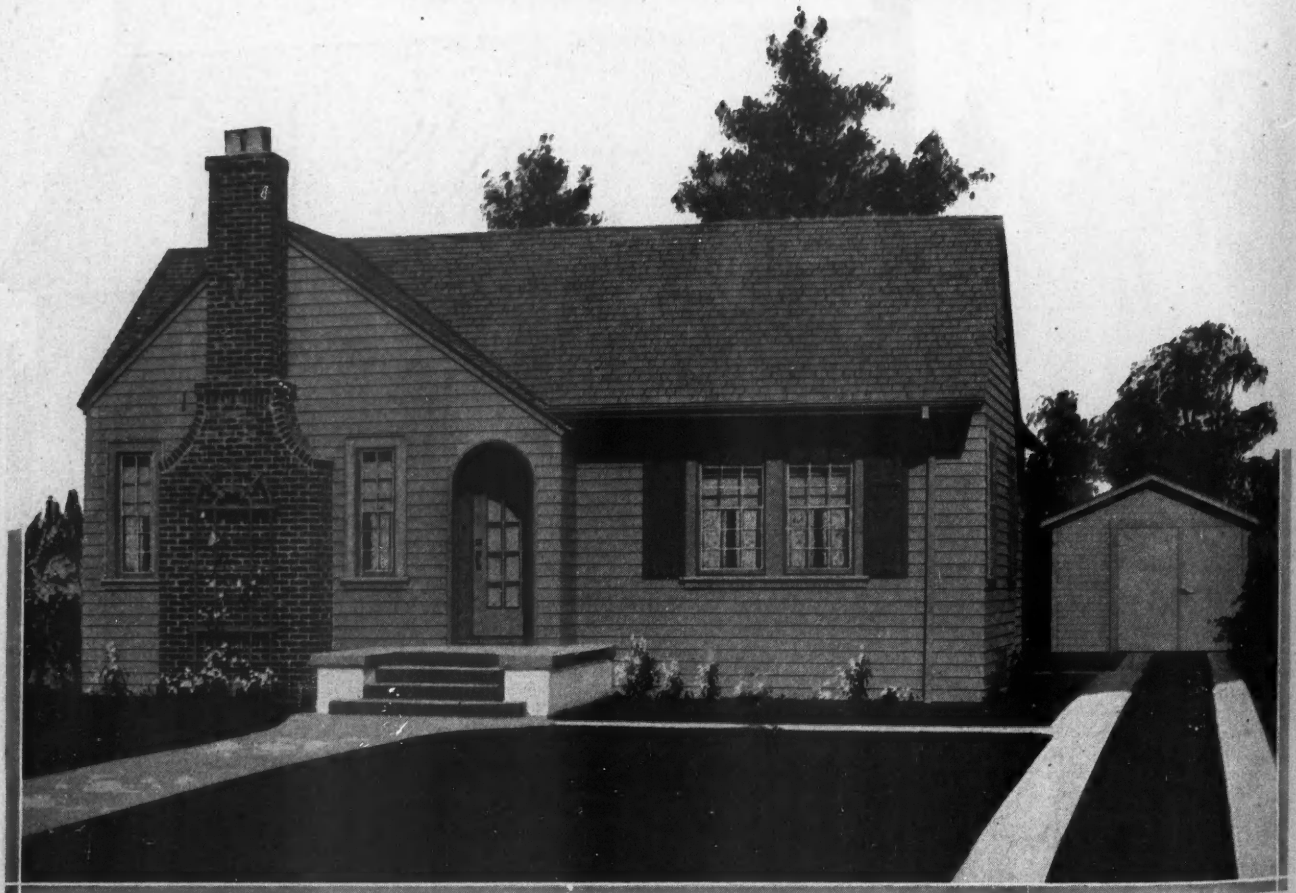
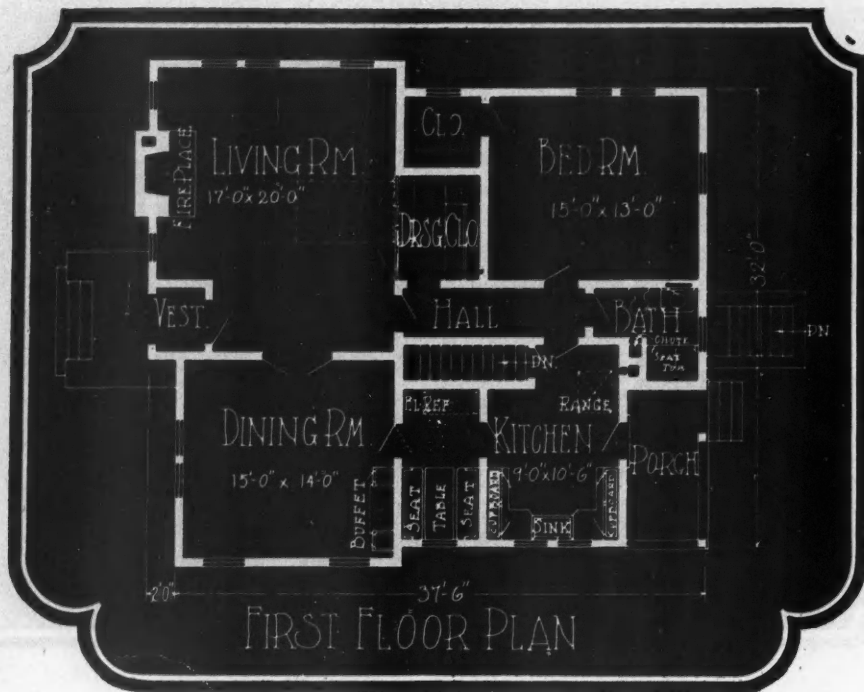
BLUE RIBBON HOMES



COTTAGE TYPE FRAME BUNGALOW. This simple little cottage bungalow contains five good-sized rooms, all on the one floor. The steep pitch of the gable roof gives it the appearance of a much larger house and provides air space in the attic which means warmth in winter and a cool interior in summer. The bungalow is set on a concrete foundation, but the terrace wall and floor at

the front entrance is of common brick, as is the outside chimney of the fireplace. The home contains five rooms, two bedrooms and the usual living and dining rooms and kitchen. The bedrooms are at one side of the house, both being corner rooms connected by a short hall. Between them is the bathroom. The size of the house is 26 by 38 feet.

BLUE RIBBON HOMES



A PARTMENT EFFICIENCY is planned for this most attractive single story cottage. The installation of a disappearing bed in the living room gives this four-room home the efficiency of an added bedroom without the additional expense.

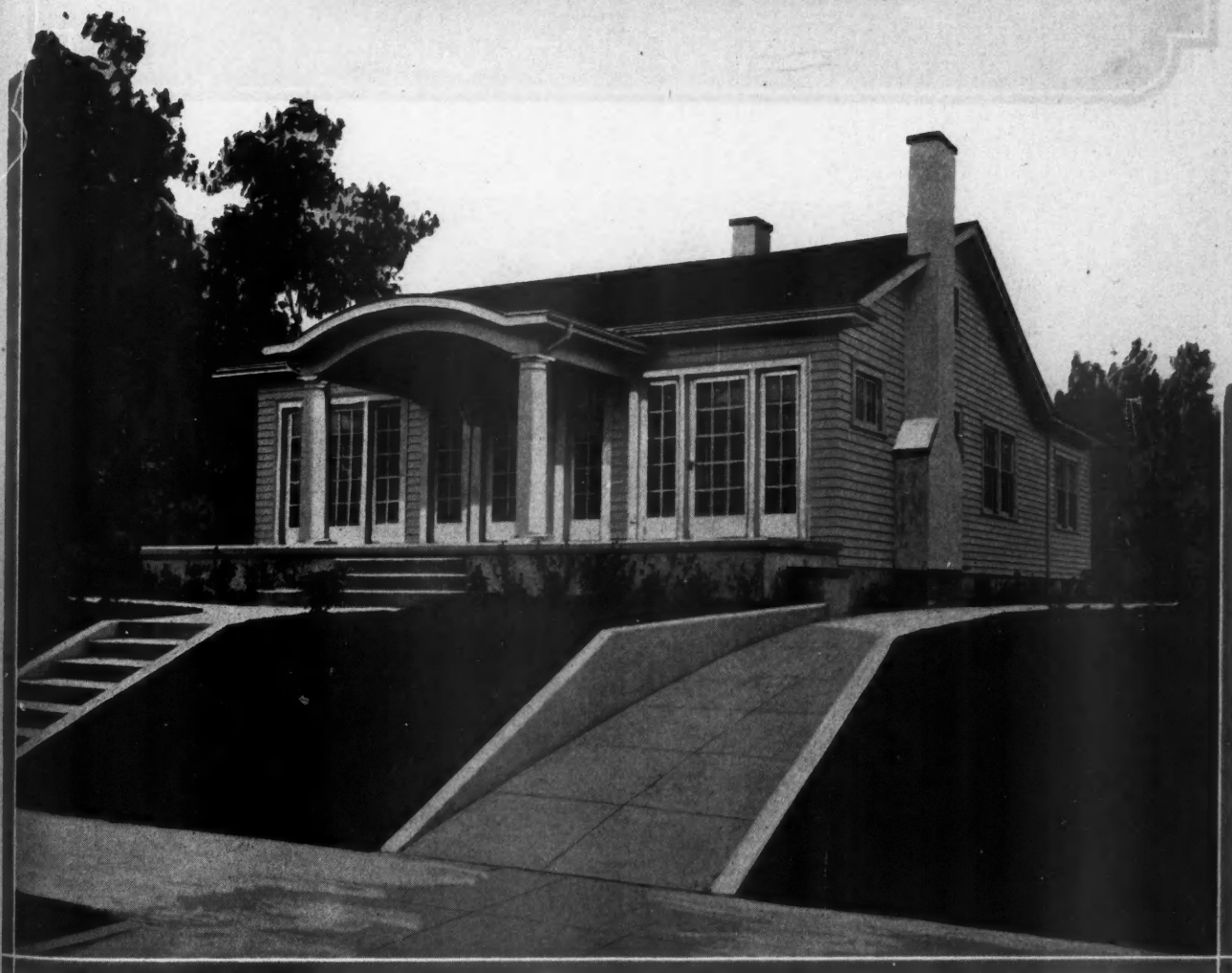
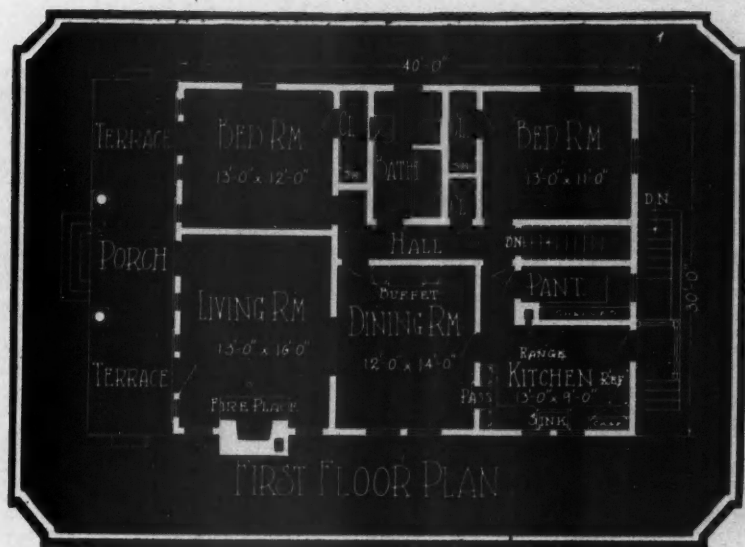
The exterior of this little home is dignified in its studied simplicity. The fireplace chimney, the arched entrance to

the recessed vestibule and the simple and effective windows are all elements which contribute to the charm of the place.

The interior arrangement contains those features which mark a home as really modern. Notice the efficient arrangement of the kitchen with its adjoining breakfast nook. The house is 32 feet wide and 37½ feet deep.

A
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BLUE RIBBON HOMES



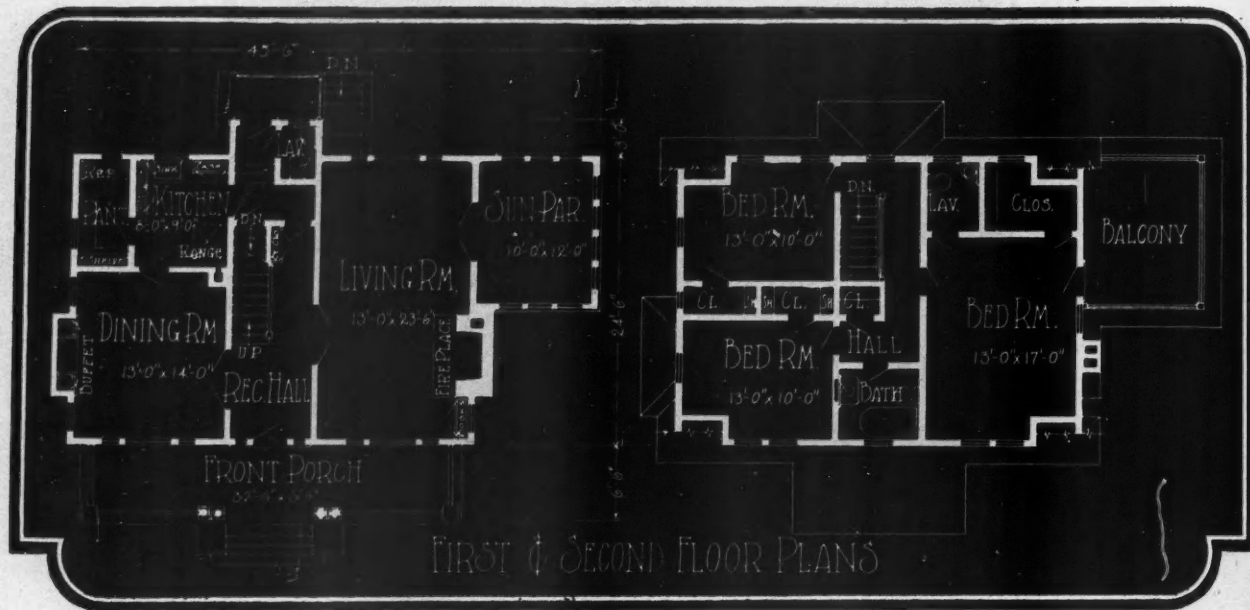
A GRACIOUS HOSPITALITY seems to be the keynote of this home, with its arched porch coming out over the terrace, seemingly to greet and protect the home-comer or caller. The charming simplicity of design is due to the adaptation of Colonial architecture to the bungalow type of dwelling.

The interior has a cozy arrangement, with none of the rooms over size for the dimensions of the house itself. The

living room is large enough to permit pleasant and uncrowded arrangement of furniture and the dining room is adequate to meet the requirements of hospitality. The kitchen shows a regard for the work of the housewife and the bedrooms are pleasant and well separated from the living quarters of the home.

The outside dimensions of the house are 30 feet wide by 40 feet deep.

BLUE RIBBON HOMES



AN EFFICIENT HOUSE. The thrifty Dutch colonists early developed in America a type of home which allows for the utilization of all of the floor space in a manner that later builders have found hard to equal or excel in other types of architecture. The gambrel roof allows the full use of the floor space of the second story without awkward ceiling slopes and angles.

The Dutch Colonial illustrated here is made especially attractive by the careful placing of the windows and the

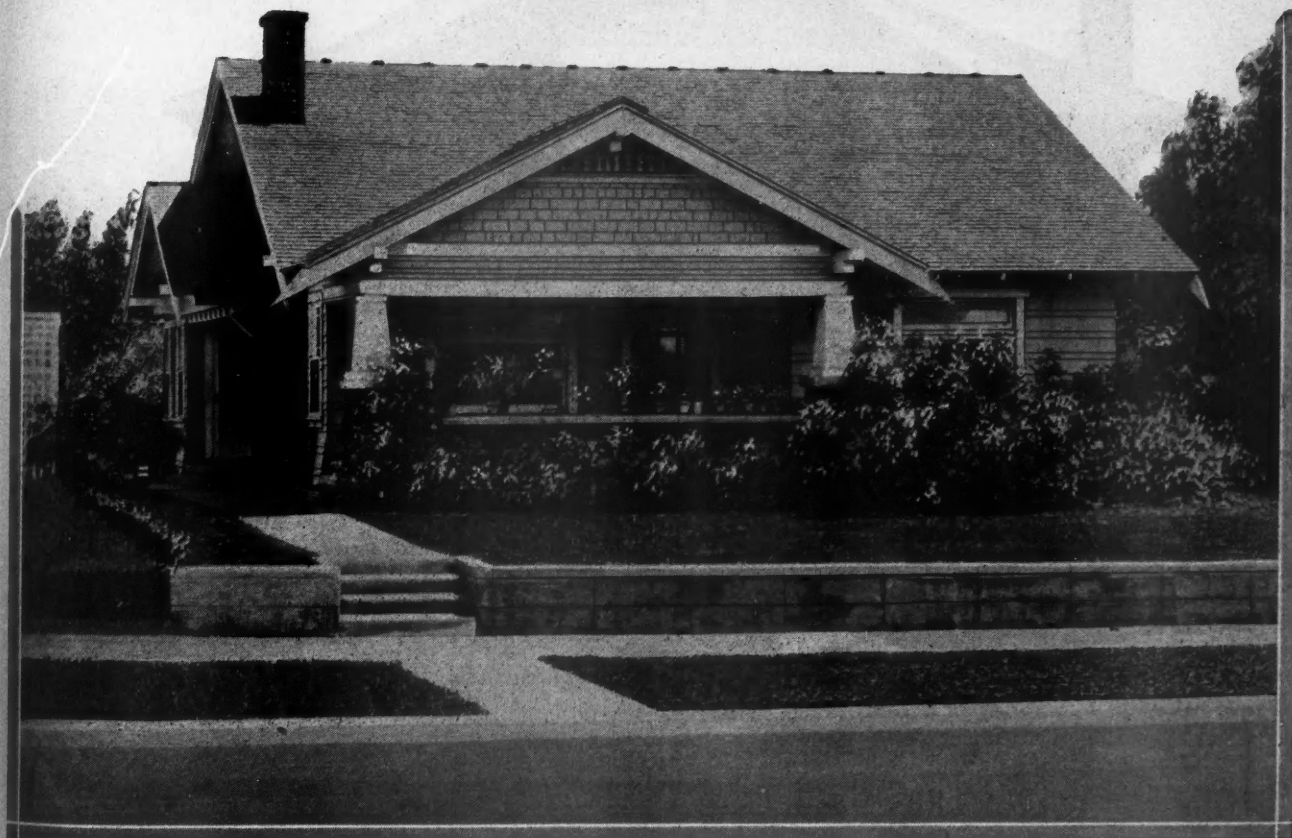
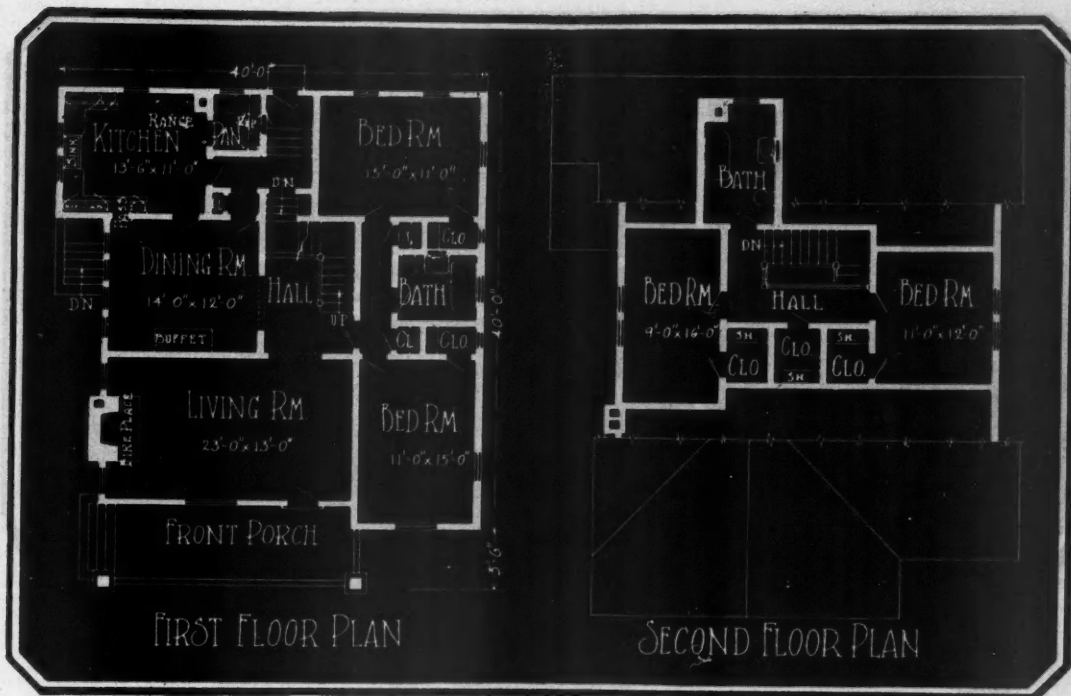
arched roof of the entryway, which gives a pleasing contrast to the predominating straight lines of the house.

The interior arrangement is typical of the Colonial home, with an attractive living room and sun parlor on one side of the reception hall and the dining room and kitchen on the other. There are three large bedrooms on the second floor.

The house is $45\frac{1}{2}$ feet wide by $24\frac{1}{2}$ feet deep, just the house for a corner lot.

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BLUE RIBBON HOMES



A HOME OF SHINGLES. Interesting variations in the use of shingles give this home much of its attractiveness and make a background which is fitting for the profusion of flowers and shrubbery which mark the well loved and well kept home. And at the same time the low intimate roof covers a surprising amount of room.

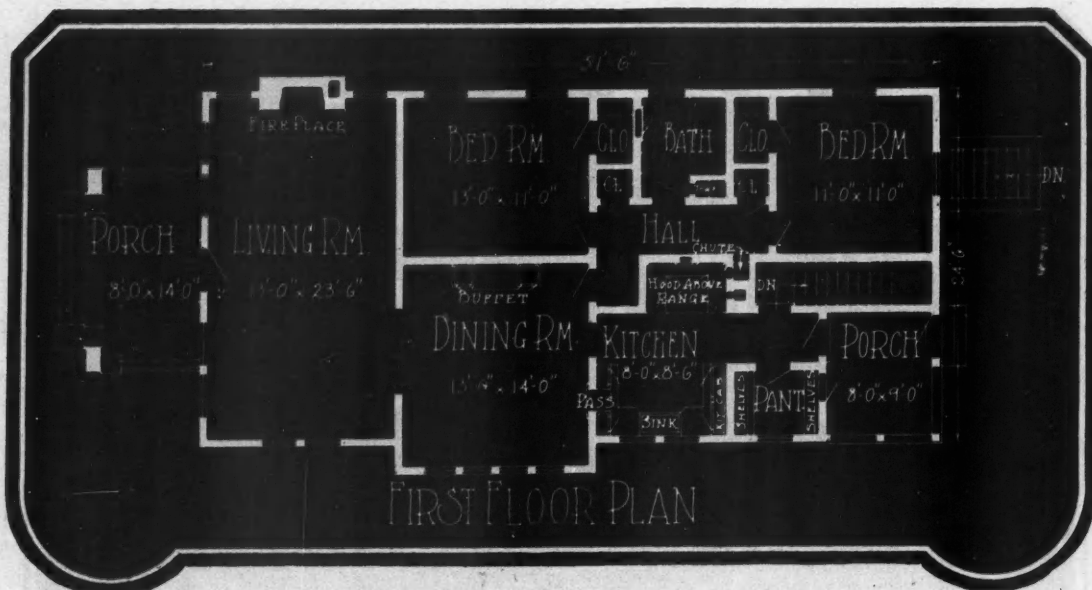
One can well imagine the attractiveness of the cool porch and of the well lighted living room of good proportions. The dining room is reached through the central hall which

contains the stairway to the second floor and also gives access to the two bedrooms on the first floor. These bedrooms form a group by themselves, well separated from the rest of the house, and cross ventilated by windows on two sides.

The bedrooms on the second floor are of a comfortable size and are equipped with large closets.

The house will require a wide lot, since the width is 40 feet.

BLUE RIBBON HOMES



A SHINGLED BUNGALOW. Predominating brick work and well designed and attractive lines do much to make up the charm of this home. Shingles on the walls of such a home as the one shown here make for an air of snugness which is emphasized here by the lines of the roof.

The living room of this home is exceptionally light and airy, with light from large windows on three sides. The fireplace on one end of the room suggests a natural grouping of furniture, while the blank spaces on the interior wall

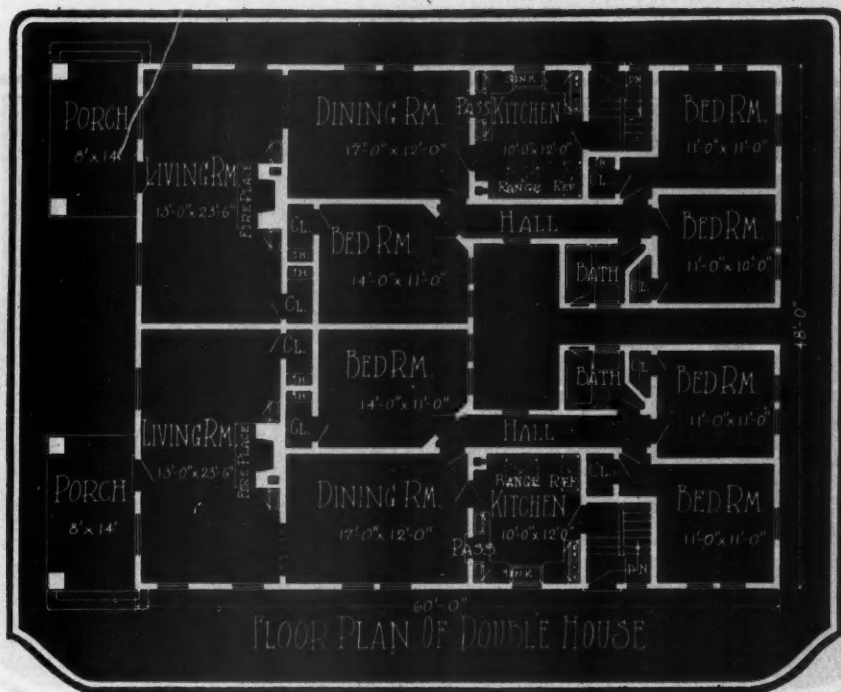
will present opportunities to the artistic housewife.

The dining room and kitchen are arranged conveniently and the kitchen is served by a pantry adjacent to a service porch.

Access to the bedroom group is gained through a hall opening off the dining room. The rooms are light and pleasant and the profusion of closets will be found helpful.

The main body of the house is 24½ feet wide and 51½ feet deep.

BLUE RIBBON HOMES



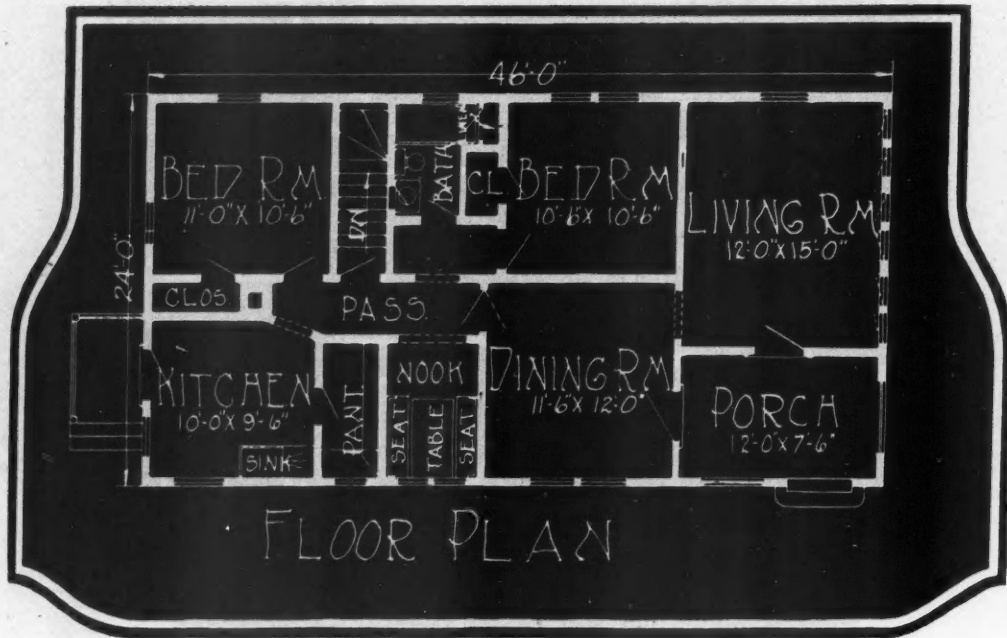
A CALIFORNIA DUPLEX. A two-family dwelling with all of the conveniences of detached bungalows is presented in the design pictured here. And each of the apartments has six large rooms, which should make them attractive to renters.

The plans, which are identical for both apartments, provide for individual porches and, opening off the porch, a

long, rectangular living room with a fireplace. The dining room is exceptionally large for a duplex and the kitchen will be found attractive to housewives. The bedrooms are designed to utilize the space assigned to them to the best advantage.

This design is one which should insure a maximum rent and attract tenants at all times.

BLUE RIBBON HOMES

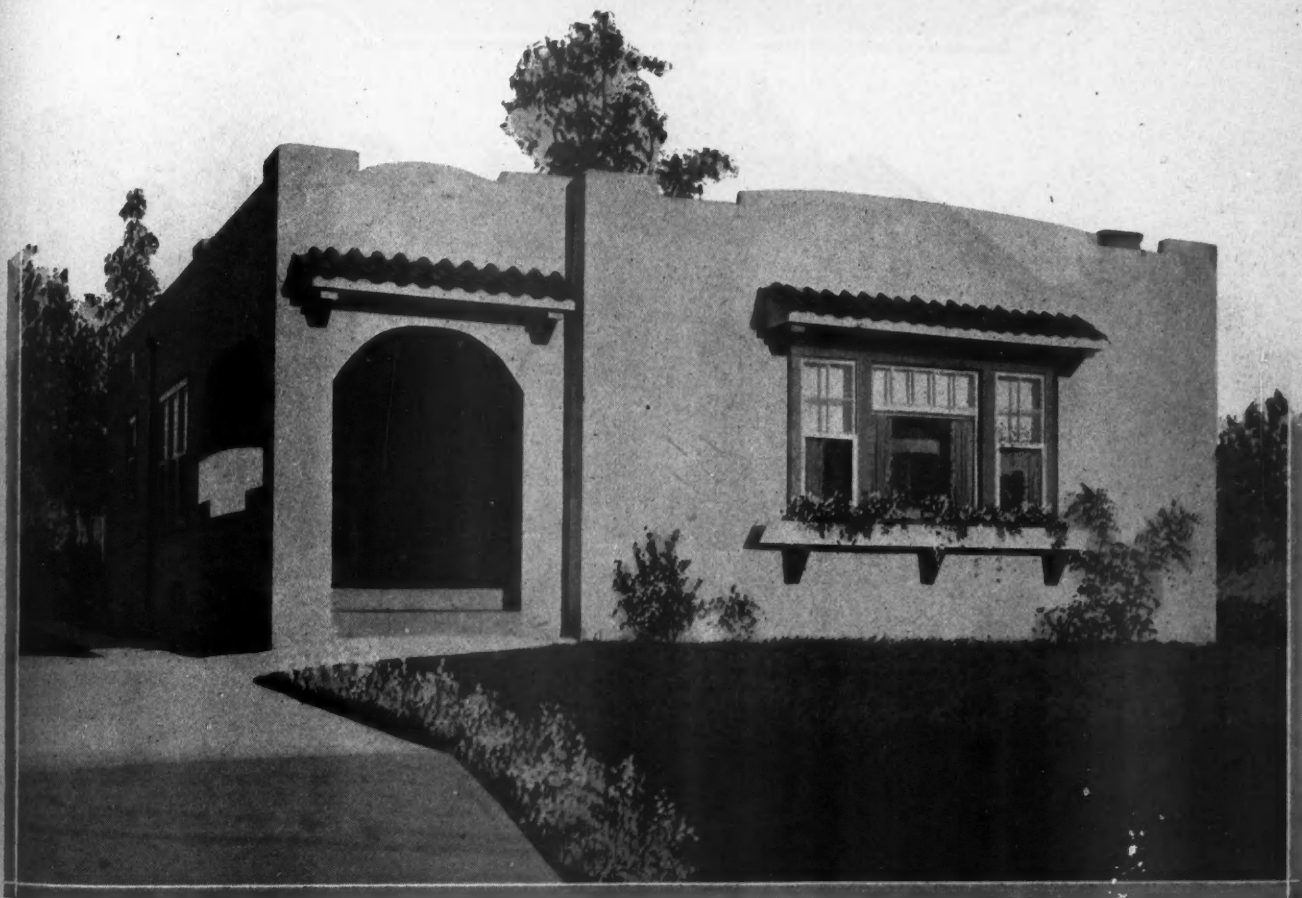
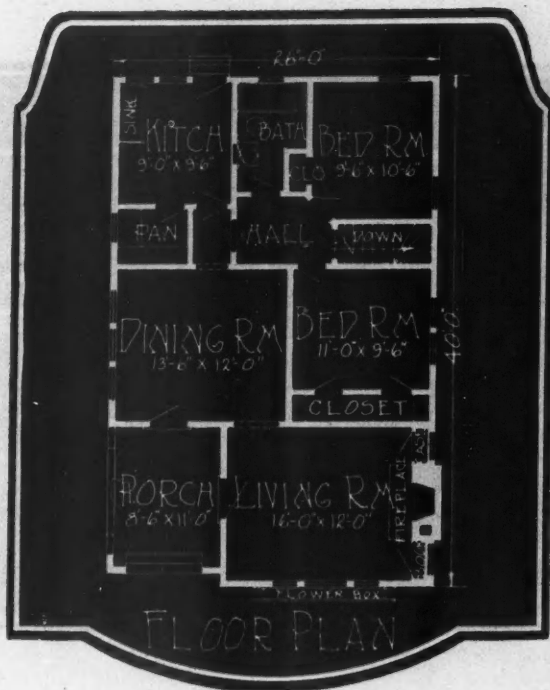


SIMPLE AND ARTISTIC is this California bungalow of the Spanish type. It is constructed of stucco over either wood frame with wood or metal lath or any of the patent stucco bases, or over brick, tile or concrete block. Its plain walls, flat roof, pitched to drain, and the curved door frames are simplicity itself, but withal the architectural scheme makes it attractive. The bungalow contains five

rooms and bath. How these rooms are arranged and their sizes are shown on the floor plan. The bungalow is 24 feet wide and 46 feet deep, and is set on a concrete foundation, which provides the walls for a full basement for housing the heating plant, storage, etc. This is a very attractive bungalow design for those wishing something unusual in a home.

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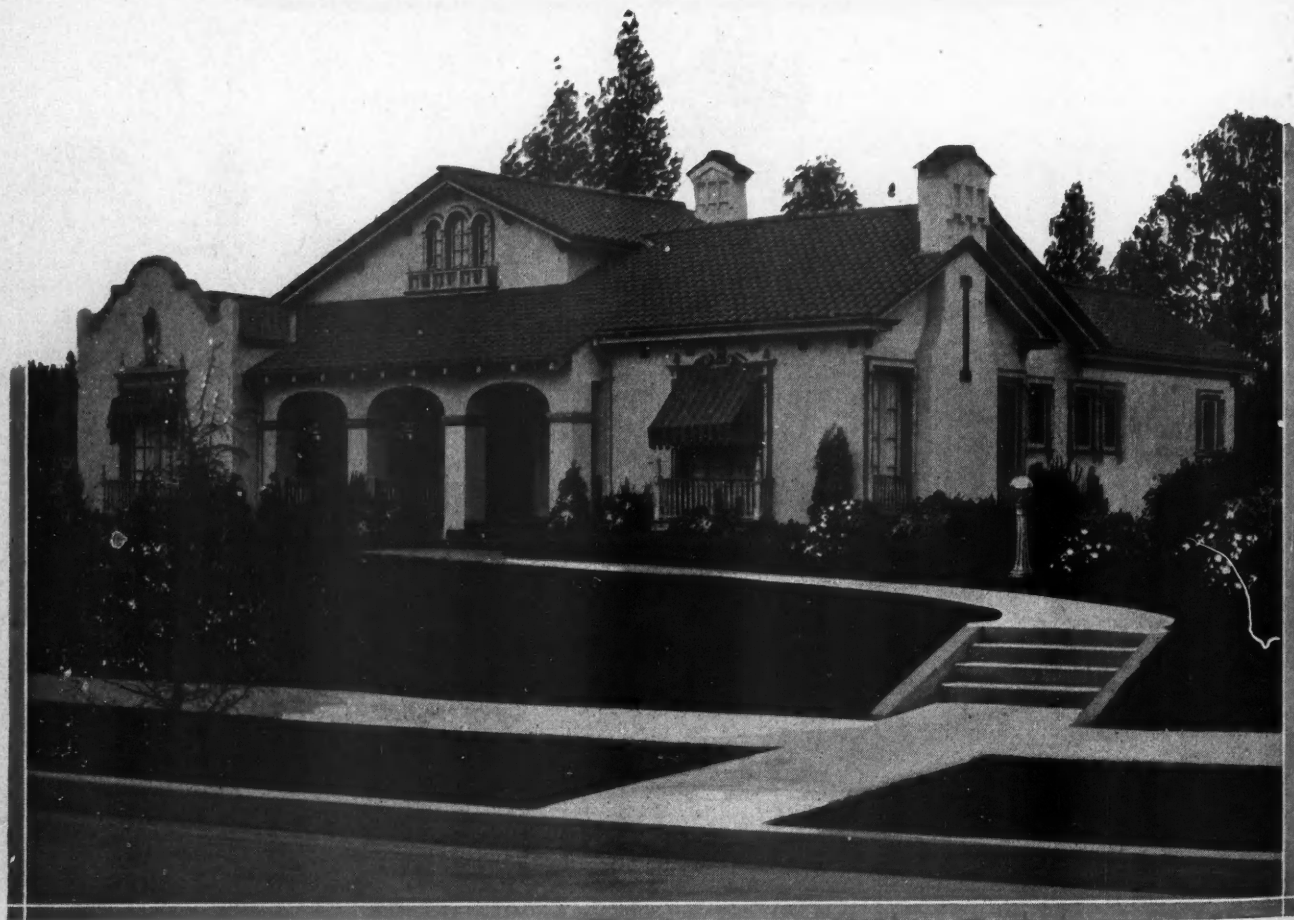
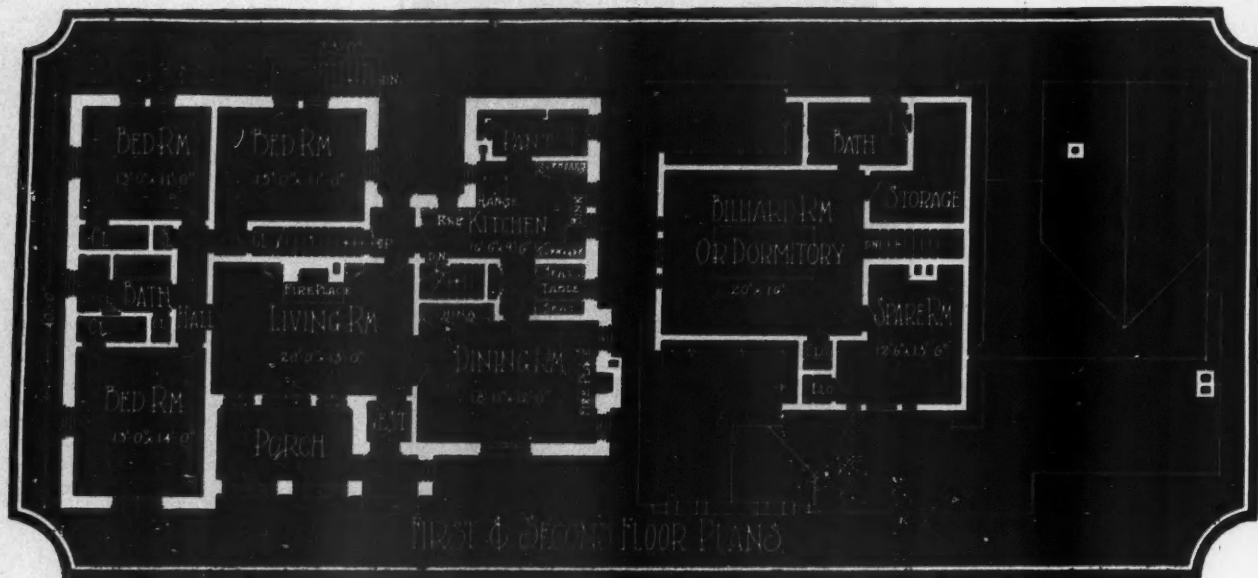
BLUE RIBBON HOMES



SPANISH STYLE BUNGALOW. The recessed porch at the corner of this simple but charming bungalow of the Spanish type is an unusual feature. Two entrance doors open off the porch, the one toward the front into the living room and the other into the dining room. The wave-like tile roofs over the porch opening and over the windows at the front are other good features. The bungalow contains

five rooms. The living room is 12 by 16 feet; the dining room 13 feet 6 inches by 12 feet. Two bedrooms are at the back and are reached through the hall connecting the dining room and kitchen. The bathroom is also at the rear convenient to the bedrooms. The size of the bungalow is 26 by 40 feet.

BLUE RIBBON HOMES

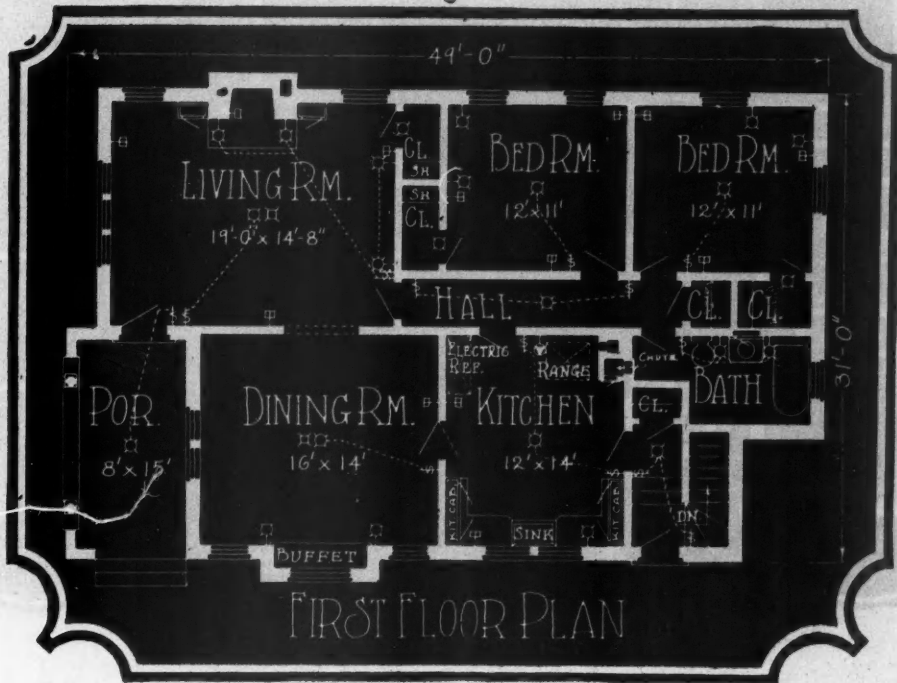


SPACIOUS BUNGALOW. While this stucco bungalow has the appearance of being a home of extraordinary size, it is not. There are six rooms on the first floor, while in the second floor of the gabled section in the center there is space for a dormitory or playroom and a spare bedroom. The bungalow over all is 53 feet wide and 40 feet deep. The recessed porch provides the main entrance to the liv-

ing room in the center of the building. Connected with it is the dining room at the corner. Both rooms are large and both have fireplaces. Three bedrooms are ranged along the other end and at the back, connected by a hall off which is the bathroom. The house is unusually attractive, made so by the partially closed porch, the broken roof lines and the tile roof and chimney caps.

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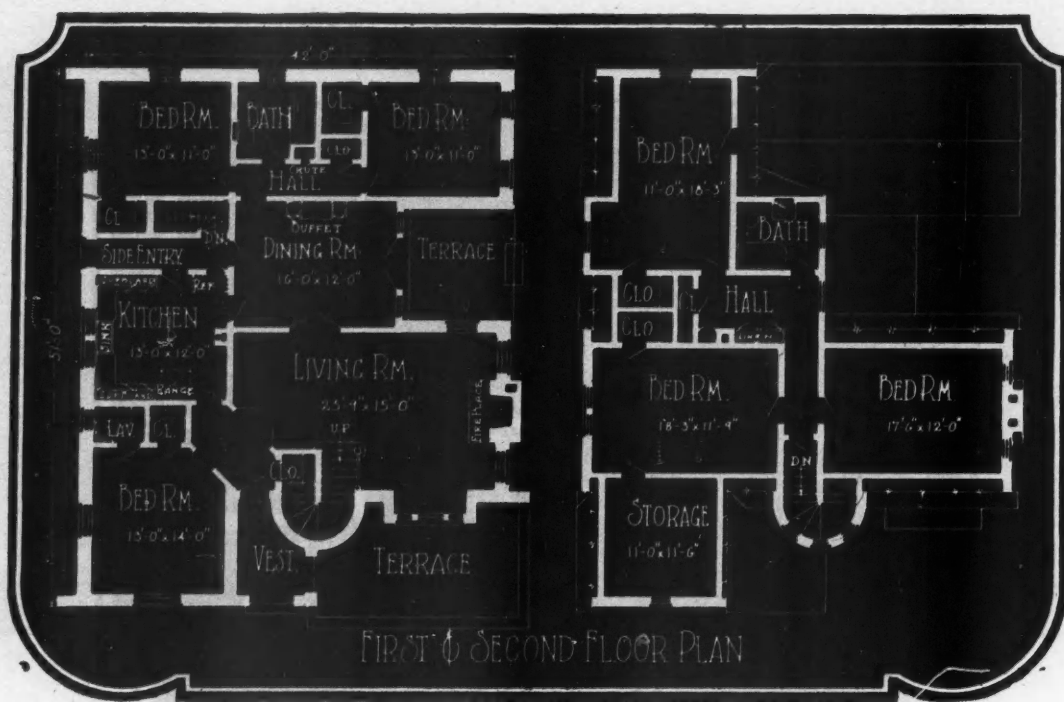
BLUE RIBBON HOMES



A BUNGALOW ELECTRICAL OF THE FRENCH COTTAGE TYPE. This French peasant cottage influence at present making itself felt in American bungalow and house architecture is resulting in very pleasing homes. Here is a quaint little bungalow that snuggles down on its lot, the snuggling impression being enhanced by the stubbed gable ends and the well-balanced relation of porch

openings to windows; likewise by keeping the chimney down to a medium height. Don't those two simple porch columns and arched opening give the front porch an "air"? Withal, it is a simple porch to screen or glass in. It leads into the living room, a room which connects on one side with the dining room, and through a hall to the kitchen and the two bedrooms. The dimensions over all are 31 feet by 49 feet.

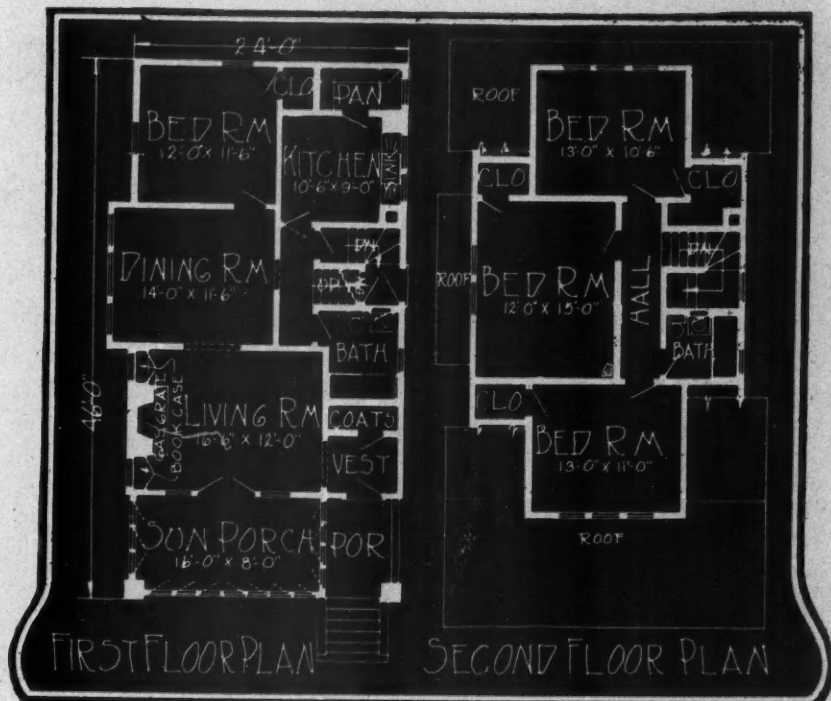
BLUE RIBBON HOMES



OLD WORLD CHARM has been made to conform with New World ideas of comfort and convenience in the charming stucco home shown here. The tile roof, always an attractive feature of a home, is well combined with the tinted stucco of the walls. The arched window and entryway, with the projecting stair inclosure are interesting notes in the picture.

The house is unostentatious in that the exterior gives no hint of the wealth of room it contains. A large living room, dining room and efficient kitchen, three bedrooms and a bath are on the first floor. On the second floor is a group of three large bedrooms and a bath. The house is 42 feet wide and 51 feet deep, requiring a rather large lot.

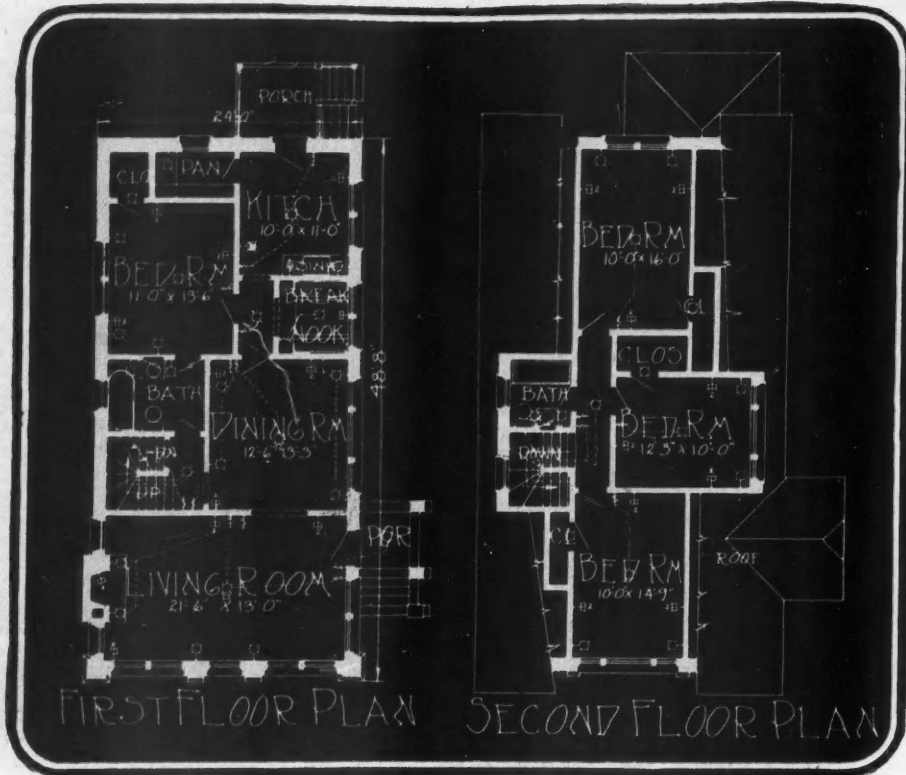
BLUE RIBBON HOMES



POPULAR STUCCO HOME. The type of story and a half residence shown here is one which has enjoyed a long period of popularity which shows no evidence of abating. Undoubtedly this favor is because of the many practical features it presents. The house is suitable for a

narrow lot, since the dimensions are 24 by 46 feet. The first floor shows many useful features, such as the casement window, sun porch, the downstairs bedroom and lavatory and the well planned kitchen. On the second floor are three adequate bed rooms and a bath.

BLUE RIBBON HOMES



STURDY COMFORT is the prevailing tone of this attractive brick story and a half cottage. The blunted ends of the roof and gable lines give this home a likeable air of snugness which is in no way contradicted by the side entrance, which gives an effect of privacy. The interior of the residence is rather remarkable for the

fact that it contains seven full sized rooms, in addition to two bathrooms and a breakfast nook.

The living room is exceptionally light, with windows on three sides and the downstairs bedroom and bath will be found convenient. Three excellent bedrooms are on the second floor. The outside dimensions are 24 by 48 feet.

Dormitory Has Home Features

College Plans Group of Small Units Rather Than One Large Building to House Girl Students—Trueblood & Graf, Architects

By HERBERT C. CROCKER

AN extensive building program recently adopted by Shurtleff College, Alton, Ill., provides for the erection of five dormitories, one of which is shown in the accompanying illustration, having new and unique features. When they are finished it will be possible to pass from any point in one of the buildings to the others without being exposed to inclement weather.

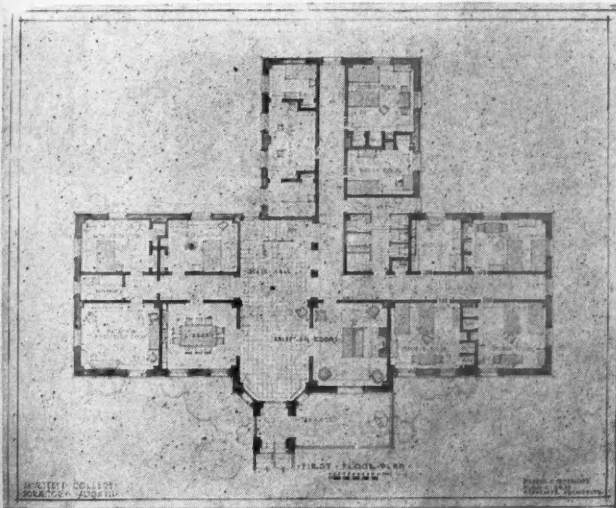
The dormitories are designed to provide the maximum conveniences of a home. Instead of a large building to house 200 or 300 girls, the dormitories are arranged for about 35 persons and are arranged as single and double rooms as well as suites for two.

The projection at the front entrance provides an

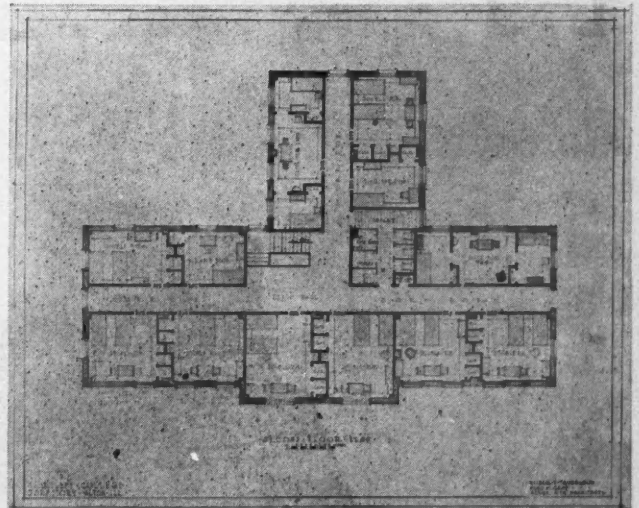
idea of the scheme for connecting the five dormitories. They will be erected in a semi-circle and a covered portico will be built connecting them.

The dormitory shown here has two large reception rooms. One wing of the lower floor is set aside for a library, a guest's room, a reception room for the matron and her bed room is across the hall. Space at the end of the corridor is set aside for the matron's bath room.

The opposite wing of the first floor has three double rooms and a complete kitchen where the girls may prepare suppers and lunches. The wing also contains shower baths and other toilet facilities. The rear wing is designed for a suite for two.



The First Floor Plan.



Plan of the Second Floor.

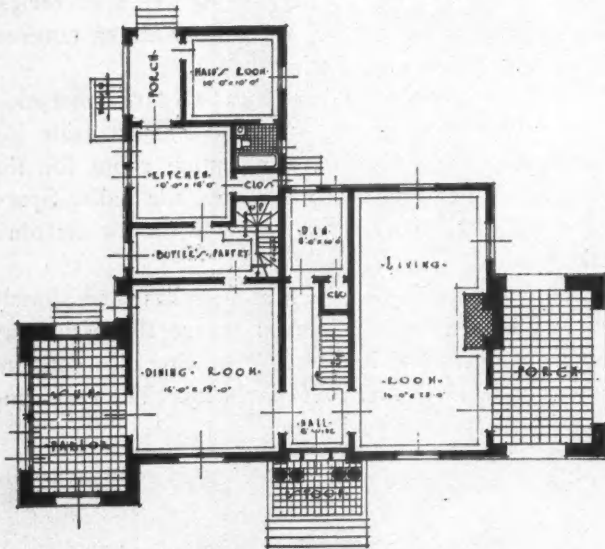


One of a Group of Five Dormitories for Shurtleff College, Alton, Ill., Trueblood & Graf, St. Louis, Architects. The projection at the front will be connected by a covered portico with the other buildings of the campus.

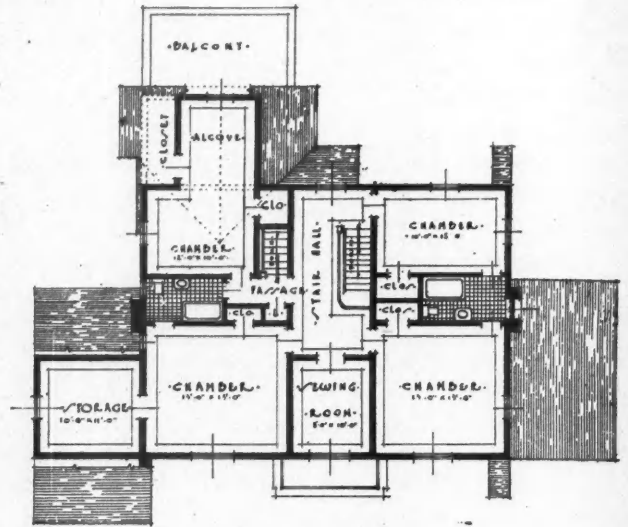
Distinction in Home Design

The Residence of Mr. J. P. Brady, Hampton Gardens, Richmond, Virginia,
Combines, in an Unusual Degree, Convenience With Beauty

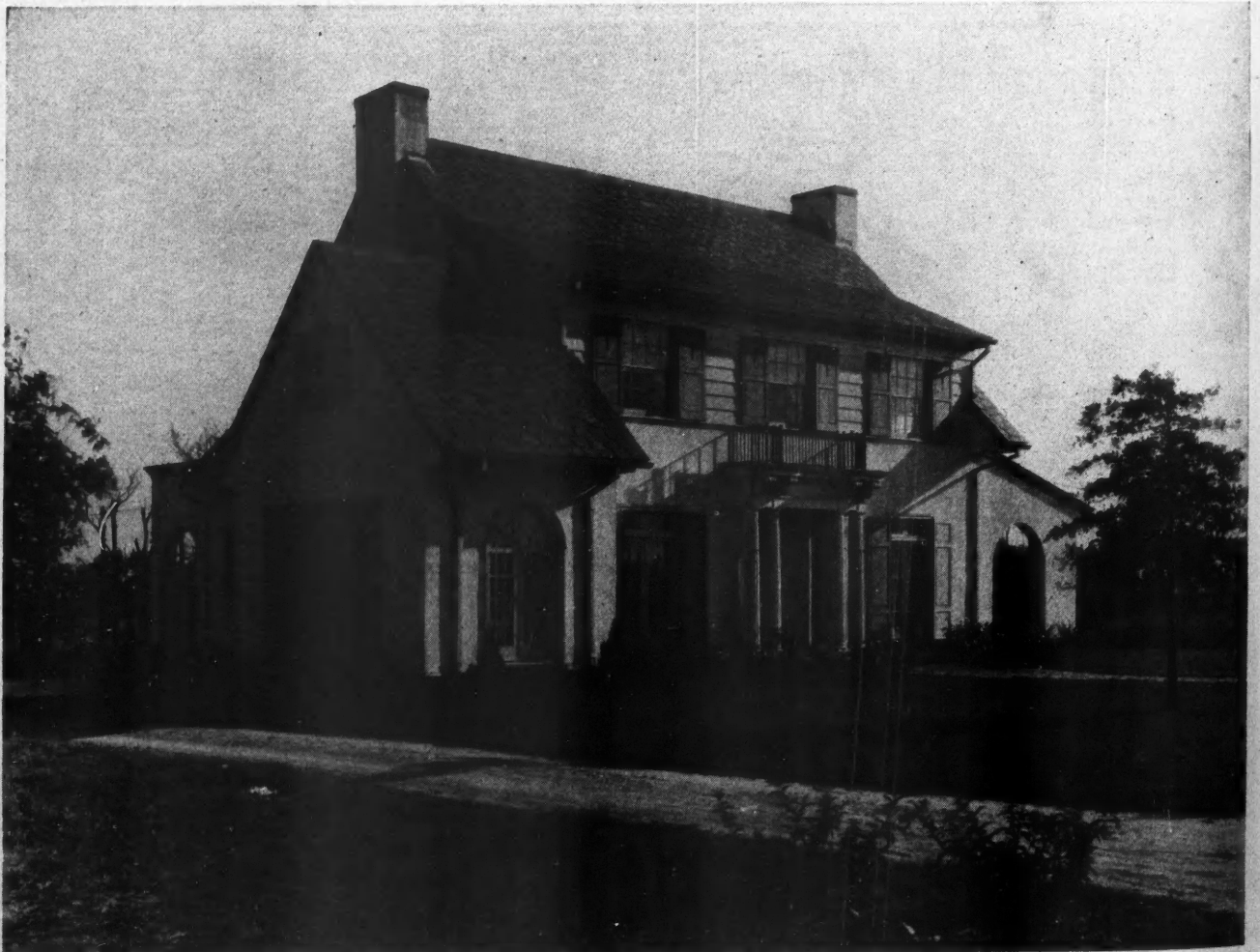
CARL M. LINDNER, Architect



First Floor Plan.



Second Floor Plan.



The Exterior of the J. P. Brady Home Is Remarkably Attractive in Its Finish of White Stucco and Wide Clapboards. Though the modern features, such as the sun porch, are used freely and the stucco used for the finish was unknown to Colonial experience the house plainly shows its Colonial derivation, particularly in the entrance illustrated on the opposite page. Carl M. Lindner, Architect.

MORE and more American architects are planning homes with convenience as the fundamental requirement and are making established architectural types conform to the requirements of living in the present age.

That this can be accomplished without sacrificing beauty is demonstrated amply by the illustrations on this and the opposite page of the home of Mr. J. P. Brady, Hampton Gardens, designed by Mr. Carl M. Lindner, architect. Though the residence is essentially Colonial, Mr. Lindner did not hesitate to use modern materials, or to add an enclosed sun porch and balance it happily with the open porch on the opposite end of the house, tying the two together through the use of arched apertures.

The roof presents many interesting details to the builder intent on construction of the sort which will withstand the test of years and meet the approval of succeeding generations. The chimneys at either end of the building proper mark the terminations of the roof planes in a conventional manner which is most pleasing. And the irregular, rectangular texture of the roofing



Balance Without Monotony Is Achieved Through the Projecting Sun Porch at One End of the J. P. Brady Home and the Open Porch on the Other.



The Entrance of the Home of Mr. J. P. Brady, Hampton Gardens, Richmond, Va., Was Conceived in the Best Colonial Tradition by the Architect, Mr. Carl M. Lindner.

material is one which blends well with the substantial character of the home and one which will retain its characteristics indefinitely.

The happy thought of using wide clapboards for the second story of the home gives it horizontal lines without which much of the excellent balance of the front elevation would be lost. This feature has the additional advantage of giving the green shuttered windows their traditional setting. The outside dimensions of the residence are $49\frac{1}{2}$ by $63\frac{1}{2}$ feet.

The floor plans, even more than the exterior, are reminiscent of the Colonial, but even here practical changes have been made to meet the demands of the owners. A den in the rear of the hall replaces the usual rear entrance and the kitchen and dining room wing of the house is extended to house the maid's room and bath.

On the second floor four chambers of pleasing size are provided with ample bathroom facilities.

SUGGESTIONS FOR REMODELING

A series of very helpful drawings from the book, "Better Homes from Old Houses," prepared and copyrighted, 1924, by The Barrett Company. This series will be a regular feature of the American Builder during the next five months.—The Editor.

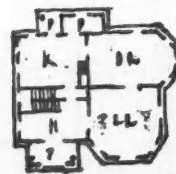
Project No. 2—The Bay Window House



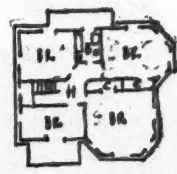
View of Bay Window House Before Alteration Showing Front and Right Side From Street.



View of Front and Left Side



First Floor.



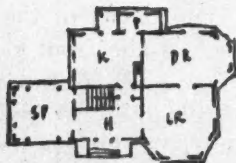
Second Floor.

The Old House Plans.

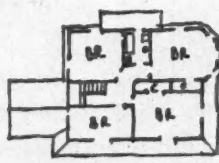
THE Bay Window House is also a type of which innumerable examples have been constructed. The various modifications of this house are many. The kind of roof varies but this is of little importance as the general plan permits a wide range of practical alterations at reasonably low cost.

Alteration One

A sun porch is built at the left opening from the hall. The second story part of the front bay is cut off and a shingled roof run across the front over the door and the bay window on the first floor. Approximate cost of new work, \$700.

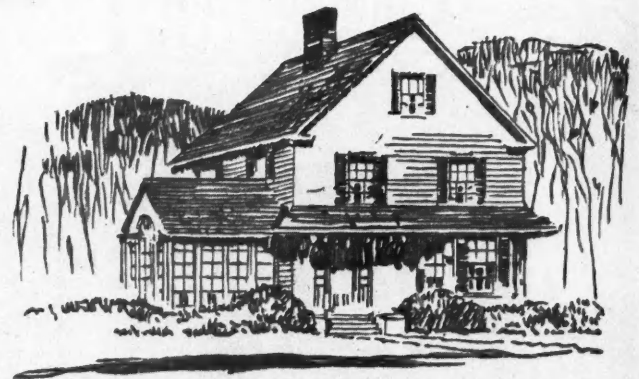


First Floor.



Second Floor.

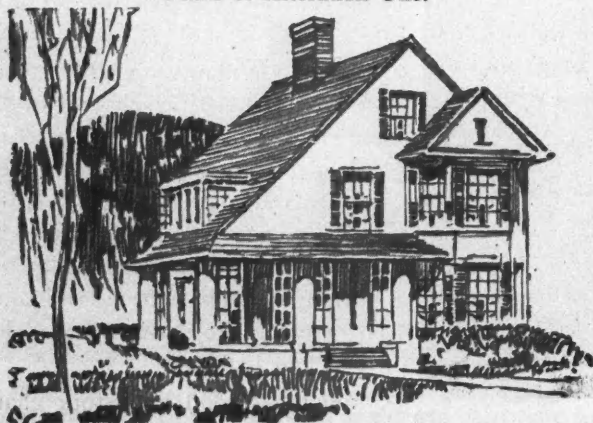
Plans of Alteration One.



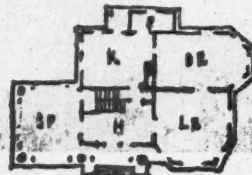
View of House With Alteration One Completed.

Alteration Two

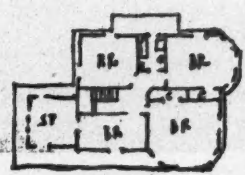
A complete change in exterior appearance is gained by bringing the main roof down in a long slope to cover a new porch, and by building a shingled hood to connect the porch and bay window. In the second story the roof extension permits an attractive and commodious sleeping porch to be added. This alteration changes the high, stilted front of the old house into one with pleasing modern lines. Approximate cost of new work, \$1,000.



Front and Left Side of Alteration Two as Viewed from the Street Showing New Porch Treatment.



First Floor.



Second Floor.

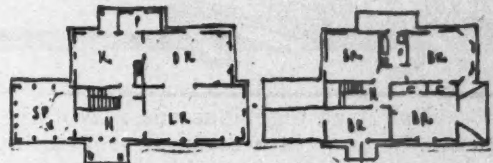
Plans of Alteration Two.



View from the Street Showing Front and Right Side of House With Alteration Three Completed.

Alteration Three

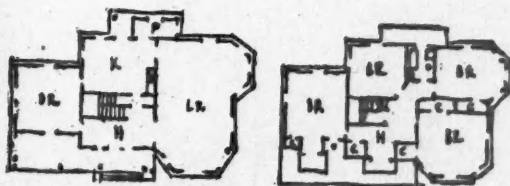
In this alteration the front is changed and improved by cutting off the entire bay window. The living room is increased in size by building a one-story extension at the right and a corresponding extension at the left provides a sun porch. The entrance is improved with a dignified Colonial porch. The bay in the dining room is squared and the corners used for china closets. The cost of the new work, exclusive of painting, would be about \$1,400.



First Floor. Second Floor.
Plans of Alteration Three.

Alteration Four

Here the house is enlarged by building a new wing at the left of the hall which provides an attractive dining room on the first floor and a large bedroom on the second floor. A well arranged porch is included in the new work and the roof so designed that it decreases the apparent height of the house. The living room is enlarged by combining with it the former dining room. The approximate cost of these alterations, exclusive of painting, would be \$2,500.



First Floor. Second Floor.
Plans of Alteration Four.



View from Street Showing New Dining Room Wing and Large Porch in Alteration Four.

Alteration Five

This alteration shows a complete development of the old house into a modern attractive home that would grace any community. The front is made symmetrical by building a wing at the left of the hall with a two-story bay window to match the old. The roof is remodeled into a hipped form and a porch is added at the right side of the house. The addition provides a dining room and pantry on the first floor and a bedroom with a private bath on the second. The approximate cost of new work is \$4,500.

Next month we will take up the American farmhouse type.



Alteration Five Shows a Complete Change to a Modern, Distinctive Home, With Greater Space and Conveniences.



First Floor. Second Floor.
Plans of Alteration Five.



HOW DAN DOES IT.

A Department for Passing "Life Savers" along to other Builders.

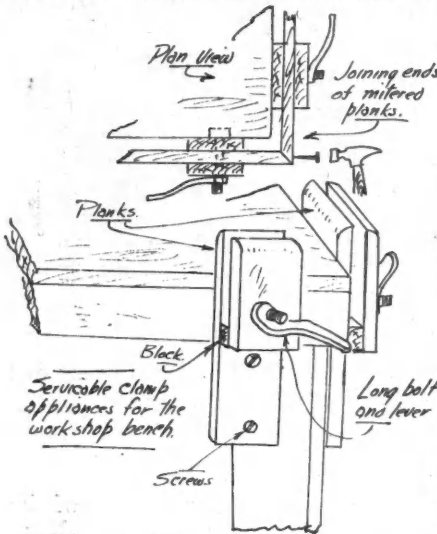
\$2 for an Idea

Dan is an ingenious cuss. Nothing ever stumps him. He always knows the way out when he runs into a tough problem out on the job or in the office. Dan is going to edit this Department and will pay \$2.00 each for every good idea he can use here to show and tell other builders "how to do it." Send him a rough sketch and a short description of what the tough job was and how you handled it.

Address Dan Do-It, care of American Builder, 1827 Prairie Avenue, Chicago, Ill.

Improvements for the Workbench

ADDITIONS can be made to the simple bench, without involving expense or considerable time, an example of which is the clever idea which is depicted in the sketch, which



Worthwhile Improvements For The Workshop Bench

represents only about an hour of work and some spare planks to provide serviceable vertical clamp holders.

As shown in the sketch, two holders are screwed to the bench, these being identical, excepting one is at the side of the bench while the other is adjacent to it at the end of the bench.

It will be evident that either of these clamps will hold with a viselike grip any plank while sawing, planing or chiseling.

These Convenient Clamps Will Add to the Usefulness of the Workbench.

The combination clamps will hold any box-like parts that are to be nailed or assembled with screws. This arrangement solved the difficult problem of handling mitered planks while joining the edges with nails. As will be apparent, the clamps hold the side sections evenly and solidly that the joint can be made without difficulties.

Each of the clamps consists of three pieces, two verticals of any hardwood, a spacing strip about one inch thick.

The screw is a long bolt, while the lever is a piece of iron plate tapped for the bolt. In the absence of this lever, the bolt nut can be used for binding the clamp, until such time that a piece suitable for the lever is obtainable.

Replacing Sash Weights

IN general repair work the workman is often called upon to put in new window ropes in a number of windows.

A weight, or mouse, neither too large nor yet too light,

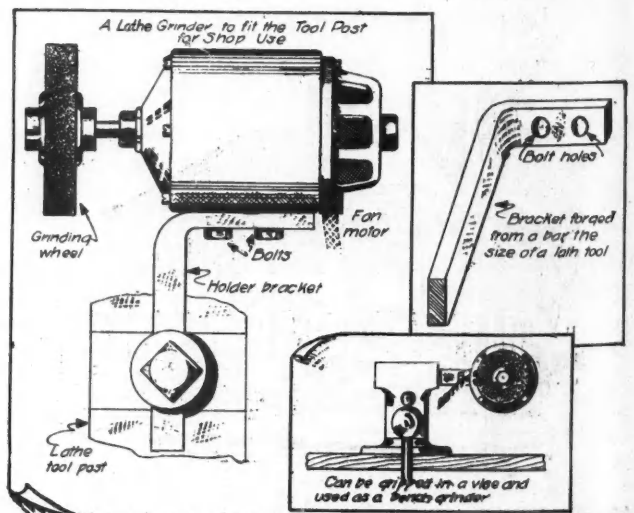
and with a roomy hole to accommodate any of the several ordinary sizes of cord in common use is essential to a quick and satisfactory job—and seldom to be had.

A discarded automobile motor valve, cut and bent as shown, is unbeatable for convenience, serviceability and durability. Any garage will supply them gratis; and but a moment's work with the hammer and cold chisel does the job, complete.—ROBT. W. CULBERTSON, Jackson, Mich.



Lathe Grinder for Shop Use

THE motor from an electric fan, which will operate on shop current, can be converted into a useful grinding tool for



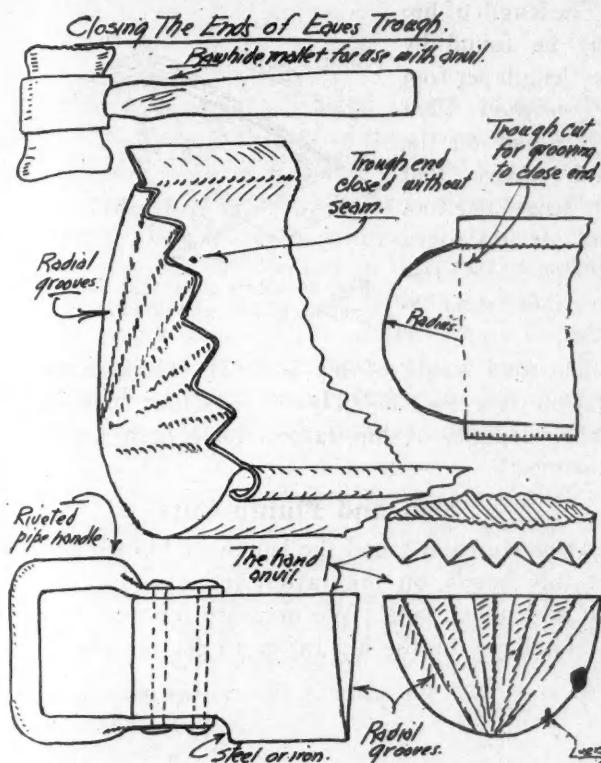
A Lathe Grinder Which Will Be Found Useful in Any Shop.

attaching to the lathe at the tool post by screwing to the frame of the motor a rectangular bar of the lathe tool size. The bar is forged to the shape required to bracket to the motor, placing it at right angles to the position of the motor armature. When required this tool can also be attached into any vise on the bench and used for bench grinding purposes.

Closing Eaves Trough Ends

IN fitting up eaves trough for the edges of roofs, it is the usual practice to close the end of the trough with a semi-circular disc of galvanized sheet iron, by soldering this across the trough.

A special method which is used by one tinsmith is that illustrated in the attached sketch, and this means is a direct saving in time and material as it dispenses with the work of preparing the disc and the work incident to soldering this in place. Further, it is not subject to the possible leakage, as is an imperfectly soldered union.



This Diagram Shows "How Dan Does It" When He Has an Eaves Trough to Close in a Workmanlike Manner.

The device which eliminates the soldered fitting is mainly a hand anvil, half circular in form, with a handle. The circular section is the same dimension as the radius of the trough and the tool is of cast iron or steel, whichever is available for making up the tool.

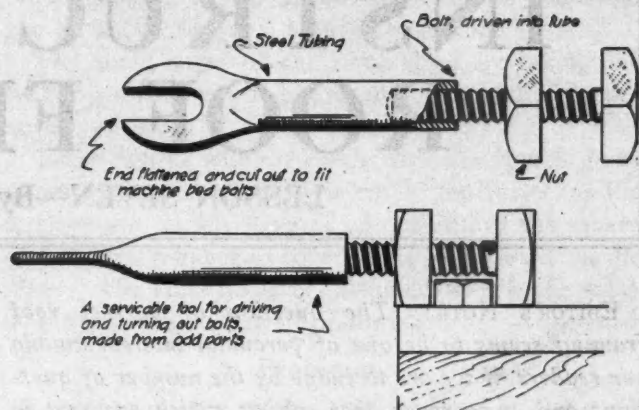
The end is fitted with radial grooves, and to form the trough end a rawhide mallet is used. The end of the trough is cut to a semi-circular shape and this end is gradually beaten back into the vertical position.

The grooves are formed by the surplus metal, thus permitting the trough to assume the required shape of the closed end. From observation of the sketches, this simple time-saving construction will be more clearly understood.

Odd Parts Wrench for Rough Use

A HEAVY bolt and nut, about 1½ inches across the flats combined with a length of steel tubing driven solidly over the end of the bolt form a servicable wrench and hammer. The nut is adjustable away from the bolt head and will span across the flats of a bolt or nut to be turned.

When the nut is jammed against the bolt head, a heavy hammer for rough driving work is afforded. The end of steel tubing is flattened out and cut to fit bed bolts of

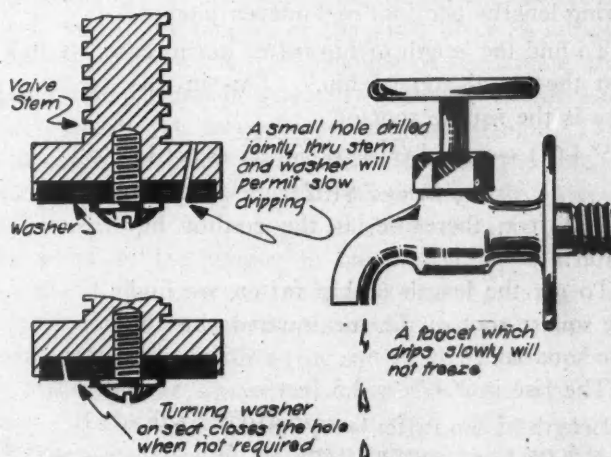


Odd Parts Will Supply the Material for Making This Convenient Wrench for Rough Usage. The slot in the end of the flattened steel tubing should be cut to fit the nuts most commonly encountered.

machines, which are usually 1¼ inches across the flats. This tool was devised by a mechanic from odd parts which he picked up about the shop.

Modification to Prevent Exposed Faucet from Freezing

ANY outside faucet will invariably freeze during cold weather and apart from possible bursting will cause a certain amount of inconvenience where this is used as a source of supply for cattle or for stock and used about the barn. Running water does not freeze and if the faucet drips slowly the water will not freeze it up solidly. As a means of providing a small dripping of the faucet, even though the stem is turned down fully, a small hole drilled through the stem and washers, as shown in the sketch, allows slow leakage and consequently keeps the faucet open. This simple modification does not



Freezing Faucets Will Soon Be a Problem on the Fall Construction Jobs. Here is a way to avoid them.

permanently cause the faucet to leakage, as it is prevented when desired, or after the freezing weather has passed, by turning the washer on the seat to close the hole in the stem, or a solid washer can be used to replace the drilled washer.

WHEN your chisel handles start to split, wrap the ends with wire. Five-ply of not too heavy wire, tightly wrapped, will protect your chisel handles for a long time.

INSTRUCTIONS IN ROOF FRAMING

LESSON SEVEN—By JOHN T. NEUFELD

EDITOR'S NOTE: *The question of correct roof framing seems to be one of perennial interest among our readers, if we are to judge by the number of questions and answers on that subject which are sent in monthly for the Correspondence Department. AMERICAN BUILDER therefore conducts this department for the benefit of its readers who may have roof framing problems. Write in your problem and Mr. Neufeld will answer it, and some questions and answers will appear in this department of AMERICAN BUILDER for the benefit of others who may be interested. We want to make this department the place where YOU can solve all your roofing problems.*

Uneven Pitched Roofs

IN Fig. 23 a roof is shown where the distance from the side of the building to the center is 6'-0", while the distance from the end of the building to a point directly under the point where the rafters meet is 5'-0". This makes an uneven pitched roof. Here the method for finding the length of hip rafters as discussed in our last article cannot be used, because we have no tables giving lengths per foot of "uneven pitches."

To find the length of hip rafter in this case, we first find the "total run of hip." This in this case is the square root of

$$(5^2 + 6^2) = \sqrt{5^2 + 6^2} = \sqrt{25 + 36} = \sqrt{61}$$

$$\sqrt{61} = 7.8102$$

7.8102 feet, therefore, is the run of hip rafter.

To get the length of hip rafter, we find the square root of the run squared plus the rise squared.

The rise is 2'-6" or 2.5 feet.

$$\text{Length of hip rafter} = \sqrt{7.8102^2 + 2.5^2}$$

$$= 8.2006 \text{ feet} = 8'-2\frac{7}{16}''$$

Cutting the Hip Rafter

In Fig. 24, we show part of a hip roof. The span is 16 feet, run 8 feet and rise 6 feet. The rise per foot run is 9". We have already learned that on even pitched roofs, the run of hip is 16.97 or approximately 17" for every foot of run of common rafter. (See June article.) We can then find the total run of hip by multiplying $16.97 \times 8 = 135.76 = 11.31$ feet.

We may also find the run of hip by taking the $\sqrt{8^2 + 8^2} = \sqrt{128} = 11.31$ feet. We do not change this to feet and inches as we want to use these figures to lay out the cuts for the rafter.

The length of hip may be found by the "length per foot run" method. That is we find on the steel square that the "length per foot run" of hip for a 12-9 pitch (9" rise per foot run) is 19.21".

The total length of hip is $19.21'' \times 8 = 153.68'' = 12.8066$ feet = $12'-9\frac{11}{16}''$. (Other methods of finding lengths of hip rafters have been previously explained.)

Seat and Plumb Cuts

After we have found the length of hip we may lay out this length on the rafter and also lay out the seat and plumb cuts. We may use the total run and the total rise of the hip rafter to get the plumb and

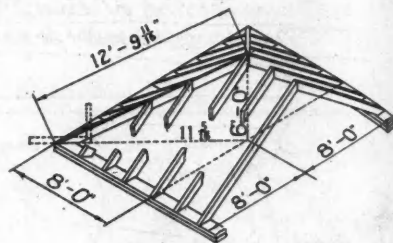


Fig. 24—Part of a Hip Roof. The span is 16', run 8' and rise 6'.

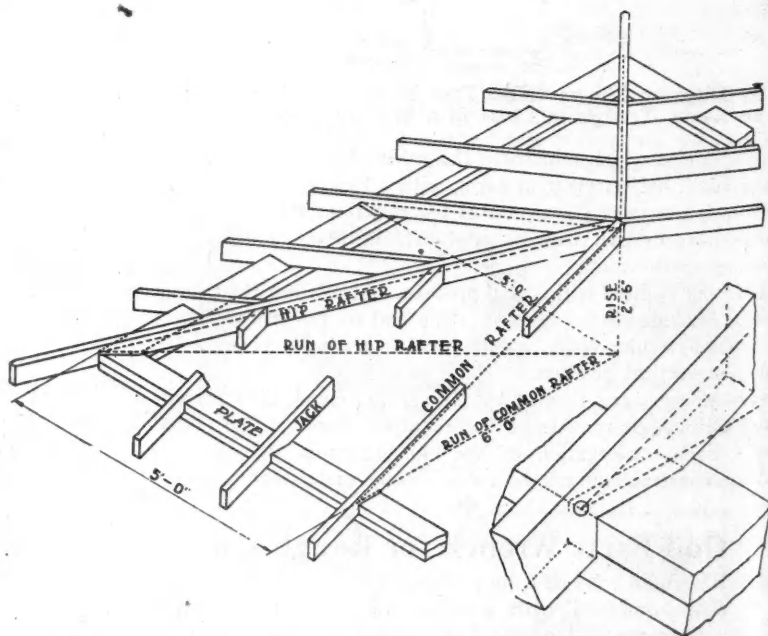


Fig. 23. Here Is Shown a Roof of Uneven Pitch. The distance from the side of the building to the center is 6'. The distance from the end to the point under where the rafters meet is 5'.

seat cuts, just as we did with the common rafter.

Of course, we use inches on the square for feet on the rafter. In this case take the run $11.31 = 15/16''$ on the blade and 6 (the total rise) on the tongue and apply the square as shown in Fig. 25.

The same angles and, therefore, the same cuts can be obtained by using 17 inches (which is the length of run of hip for one foot run of common rafter) and 9 inches (which is the rise of 17 inches of run of hip). This is illustrated in the lower part of Fig. 25.

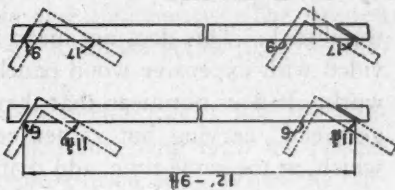


Fig. 25—Using Steel Square to Find Rafter Cuts.

By looking at the small detail shown on the plan in Fig. 26, we see that another cut is required at the upper end of the hip rafter. This is called the side cut.

Side Cuts

To understand this cut we first assume a roof without any pitch and place a large square over it as shown in Fig. 26. The square in this position would make a 45 degree cut. As soon as the roof takes on a pitch the length on the blade of the square changes with the length of the rafter, while the other position (which we have taken on an imaginary plane, level with the top of the roof) remains the same. See Fig. 26.

We now have on one arm of the square the length of the rafter, $12'-9\ 11/16'' = 12\ 13/16'$, and on the other what is known as the tangent ($11\ 5/16''$). The tangent makes an angle of 90 degrees with the hip rafter and 45 degrees with the plate. These figures taken on the square and applied to the back or top edge of the hip rafter will give the side cut as shown in the detail in Fig. 26.

We now have on one arm of the square the length of the rafter, $12'-9\ 11/16'' = 12\ 13/16'$, and on the other what is known as the tangent ($11\ 5/16''$). The tangent makes an angle of 90 degrees with the hip rafter and 45 degrees with the plate. These figures taken on the square and applied to the back or top edge of the hip rafter will give the side cut as shown in the detail in Fig. 26.

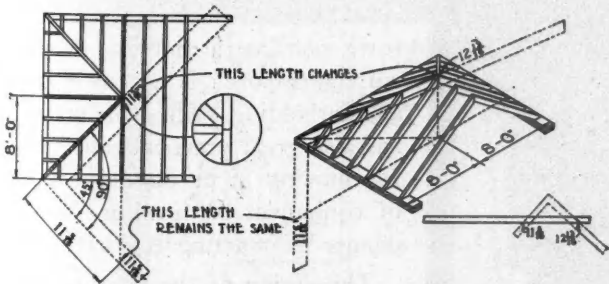


Fig. 26—A Roof Without Any Pitch Is Assumed and a Large Square Placed Over It. As the pitch develops the rafter cut changes on the square.

If we look at Fig. 26 again, we note that as the square makes an angle of 45 degrees with the plate on both sides, the outside distance is the same as the run of hip, in this case $11\ 5/16$ feet. This distance always is the same as the run of hip for even pitched roofs and, therefore, we may take the run of hip on one arm of the square to get the side cut.

The other distance taken is the length of hip as

shown in Fig. 26. Therefore, we have the rule which is generally given thus:

For side cut of hip use length of hip on blade and run of hip on tongue. (Mark along blade.)

The same angle or cut is obtained by taking the length per foot run of hip on the blade and 17 inches on the tongue.

These figures will not check with the figures given on steel squares for the side cut of hip rafter, as the steel squares mostly have 12 on one arm of the square and another number to form the required angle on the other. The cuts, however, obtained will be the same as if the above rules were followed.

Problems

1. On an uneven pitched roof, the run of one common rafter is 8 feet, the run of the other is 10 feet. The total rise of the roof is 6 feet—find the length of the hip rafter.

2. On an even pitched hip roof the run is 10 feet, the rise is 5 feet.

- (a) What is the pitch of the roof?
- (b) What is the length per foot run of the hip rafter?
- (c) What is the length of the hip rafter?
- (d) What numbers on the square can be used for the top and seat cuts of the hip rafter?
- (e) What numbers can be used for the side cut of hip rafter?

The answers to these problems are given on page 158.



Squaring A Sprung Square

SQUARING up a sprung square is a very easy matter. Lay the corner of the square flat on an anvil, and if the tongue, or the short blade, is sprung outward, start at the outside angle of the square and strike with a hammer, gradually reducing the force of the blows as you move toward the inside angle. This will cause the metal to expand and bring the tongue back to its place. It must be remembered that a very little expansion at the angle will be necessary to cause the point of the tongue to move slightly, which is usually all that is necessary in adjusting a square. The square should be tested occasionally as the work is being done, either with a true square or by the method of reversing the square on a board with a straight-edge. If the tongue is sprung inward, the operations are the reverse—the striking with a hammer must begin at the inside angle, and the force of the blows reduced as it moves toward the outside angle.

To test the square take a wide board with a perfectly straight edge and apply the square, holding the blade against the straight-edge, then with a sharp pencil mark along the tongue of the square, reverse the square, and if the line and the edge of the tongue are perfectly parallel the square is true, but if the line and the edge of the tongue produce a V-shaped figure, the square is sprung and should be adjusted before using it on any work requiring accuracy.—H. H. SIEGEL.

Attractively Designed Woodwork

Millwork for Porches, Finish and Built-in Conveniences Adds to Appearance, Value and Utility of a Home

THE builder who is on the alert is constantly studying the public taste with a view to supplying those features which will add to the appearance, comfort and utility of a home. And yet very few builders are paying the attention they should to the more effective use of millwork.

It is, of course, natural to cut costs by pruning down the seemingly unnecessary items. The result is often unfortunate, as far as woodwork is concerned, and the owner gains no real economy. Many houses are being built with just enough wood finish to meet the barest standards. Such houses have far less value than those which are embellished by the proper amount of fine

woodwork. This does not mean that all should be provided with expensive wood paneling or exposed beam-work. It does not mean that there should be any "gingerbread" carving but rather certain useful features which, at the same time, add that note of distinction so greatly valued by the homeseeker or home builder. And, in the end, these features may also prove an economy.

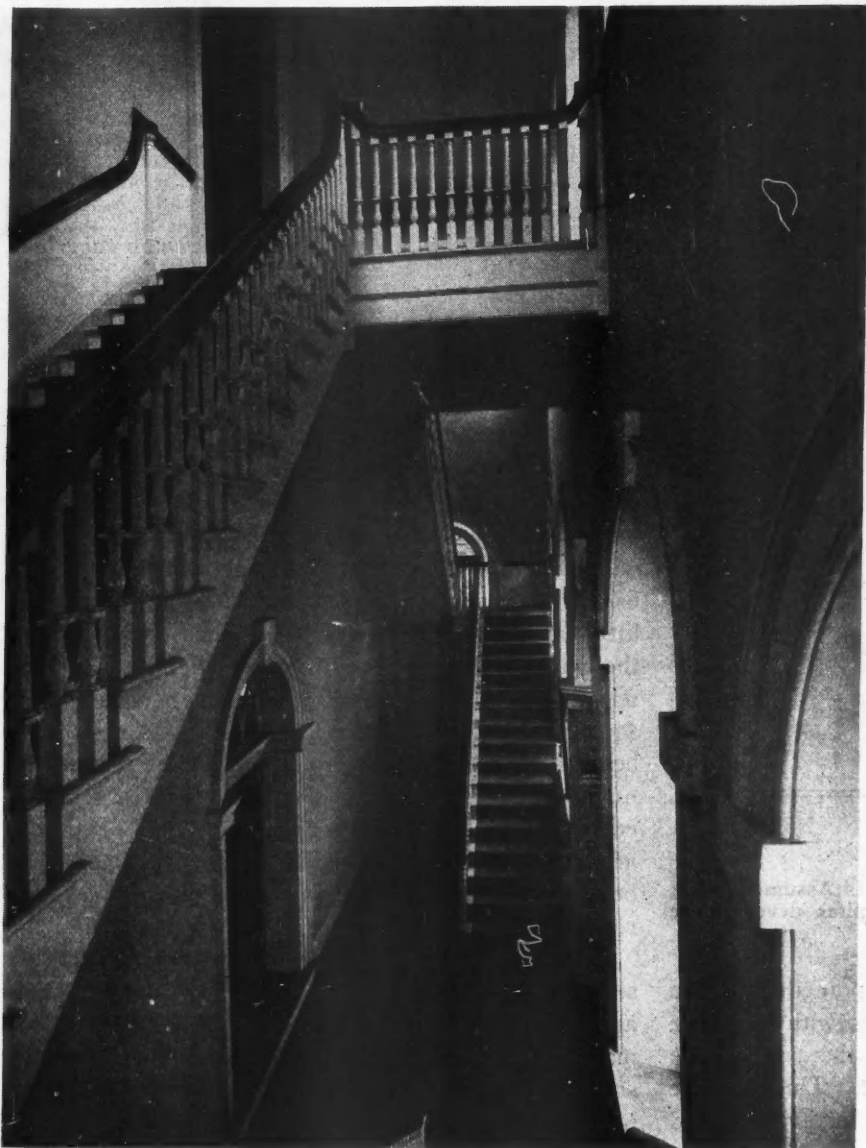
Quantity production cuts down the cost of millwork. The cost of a door, for instance, is said to be 30 per cent less from the mill than if a single door of that design had to be supplied.

As to the gain in appearance, first let us consider the architectural value of the entrance to a house. Properly designed, the entrance emphasizes the architecture of the whole house, whether it be Colonial, Georgian, Dutch Colonial or any other. It has an even greater influence upon the appearance of a small house than on a large one. A porch which harmonizes with the house design expresses at once the architectural motive, because the entrance is most noticeable and claims the eye.

The architectural beauty of columns may be used as a graceful expression of this architecture. A wide doorway, with symmetrical paneling and side lights, adds an appearance of hospitality and comfort, just as a narrow doorway without a porch is apt to be plain and forbidding. The wide doorway has also great practical convenience for moving in or out large pieces of equipment or furniture without danger of marring the woodwork.

The design of the door frame is most important. A curved transom light over the door may, with the side lights, give just the arched effect required to harmonize with the porch design. A simple gable over the entrance is most fitting to certain types of architecture.

Millwork entrances may be secured which are splendid examples of New England design, Colonial, Southern Colonial, Empire, Early



Independence Hall, Philadelphia, Offers a Valuable Study in Colonial Stairways. Shown above is the vestibule of Congress Hall. Note the excellent designing of the doorways.

English design and many others. Simple bench seats at the side of the porch can be used to advantage with some designs and add practical comfort, as well as an expression of hospitality.

The door, itself, should not only be of good design, it should also be of good material, well made, fitted and finished, so that it will resist the weather and retain its serviceable qualities and appearance. The painted door probably resists sun and rain better than the varnished finish.

Neither the permanent outside doors nor the interior doors should be fitted and hung until the plaster of the house has thoroughly dried out. When the outside doors are first fitted and hung, the freshly cut surfaces at top and bottom should be given a coat of filler and varnish or paint, as the case may be. It is well to treat the interior doors in the same manner. If this is not done, the door will absorb moisture through these surfaces, which is almost sure to result in warping. The resultant swelling will cause the doors to stick. When the house is artificially heated, the doors will dry out and shrink. This is quite apt to crack the veneers. Some mills use a waterproof glue in their veneer work, which gives such exterior doors a longer life and weather resistance. It prevents injury to the doors from storms and wet weather where the water might, otherwise, weaken the hold of the glue.

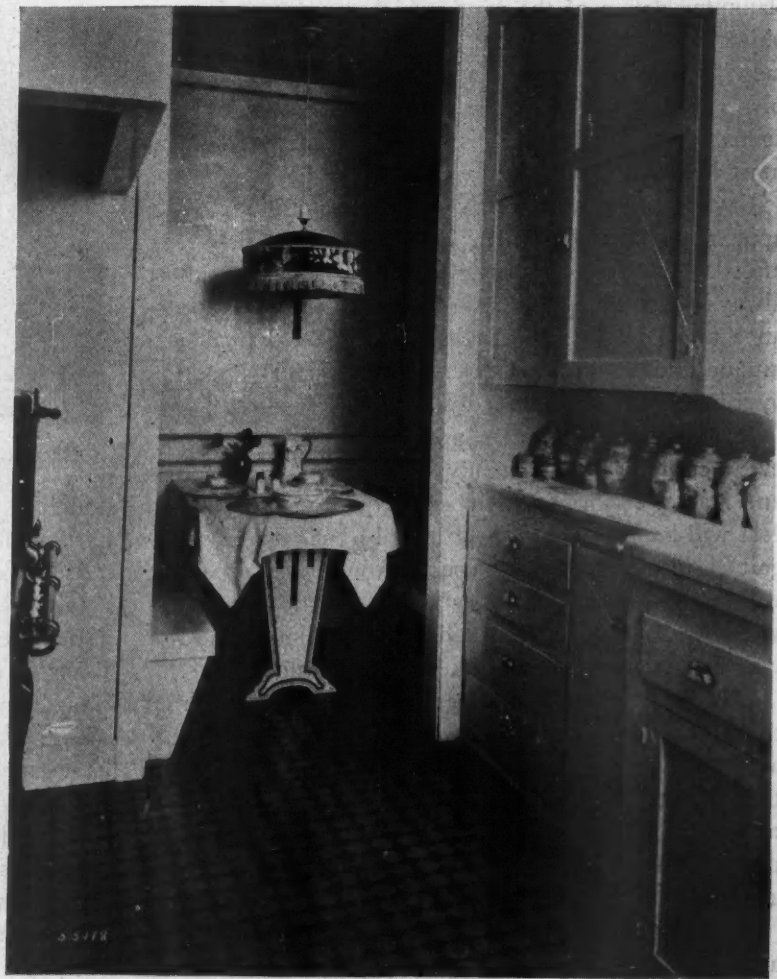
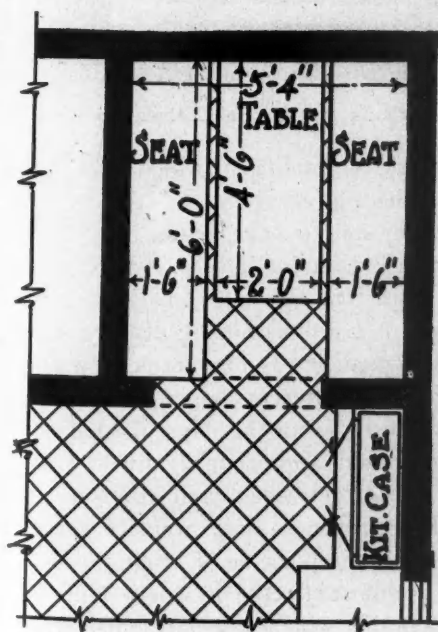
Where sidelights are not provided, it is quite common to install exterior doors with a sheet of glass set in as a panel. French doors are popular in better class houses, either as a combined door and window opening on a veranda, a conservatory, a balcony, or between certain interior rooms. Very handsome effects can be secured with glass in doors but the glass itself should

be heavy, of extra good quality and well glazed. Most of the mills use special putty with extra lasting quality and set the glass so that the edges are entirely surrounded by an elastic bed of putty, making the door wind and weatherproof.

The man who buys or builds a house soon learns the value of well made doors if he is unfortunate enough to get poor ones. On the other hand, well made and well fitted doors, which do not sag, shrink or swell, but retain their fine appearance and their dependable operation, are a "joy forever." First-class doors from a good mill are skillfully designed and well made. Long, satisfactory service and rich beauty of design and finish are built into them.

Designs are on the market which may be said to set new fashions in doors. Some of these contain but one central panel with a raised moulding which outlines the panel, set in several inches from the stiles and rails. Extra deep moulding effects are gained in some designs by using moulding of extra width along the sides, top and bottom of the panel, producing an effect of extra depth. Glass door knobs add a touch of distinction to these art doors. Flush doors, entirely without panels, produce a novel effect and are coming into more general use.

A wide range of choice in woods and finishes is of-



The Dining Room Nook, Breakfast Nook, or "Pullman" Is Now All the Rage. The Above Plan and Photographic view show a popular example.

ferred the builder for interior doors. A spruce frame with a sap gum panel, offers a rich effect. Birch makes a particularly handsome door and can be finished in a number of different ways—with paint, stain or natural finish. Plain red oak or brown ash show beautiful grain effects. A white pine frame with a birch or sap gum panel, add variety, and there are other combinations to be had.

The method of assembling doors in a modern mill is interesting. Hardwood dowel pins are used—sometimes a dozen or more to a door. Rails and stiles quite frequently are laminated and dovetailed, making a great many parts to assemble. They are coated with glue at all points of contact and pressed firmly together by powerful machines into a composite whole. Some manufacturers use cleverly designed dowels with wedge ends which expand as the dowels are driven home when the door is pressed together.

The casement window, popular hundreds of years ago, is coming into its own again. While it will probably never supplant entirely the double hung window, there are many places where it will be a decided advantage in most homes. The full window opening which it affords will quickly allow the heated air of a summer day to escape and the cool air of evening to enter a room. Many effective devices are now on the market for securely holding casement sash against the slamming action of the wind, which removes a former objection to the casement window. Another clever method of overcoming the slamming tendency is to pivot casement windows at the top and bottom with center pivots. Where this is done, staggered stops must be provided.

Bay windows are justly popular, both for their appearance and the extra light and air which they afford. The added expense of bay windows is almost always justified by the gain effected, both in appearance and comfort. A two-sided angle bay makes a unique and inexpensive bay. It is usually supported by a bracket on the outer wall.

Double hung windows are a necessity in almost every room and it certainly pays to install windows and frames of the highest possible quality. Any added cost will be more than offset later by the fuel economy gained in heating the house. Even more important will be the added appearance and comfort of high class windows, their longer life and the protection to interior wall decorations by leak-proof windows and frames.

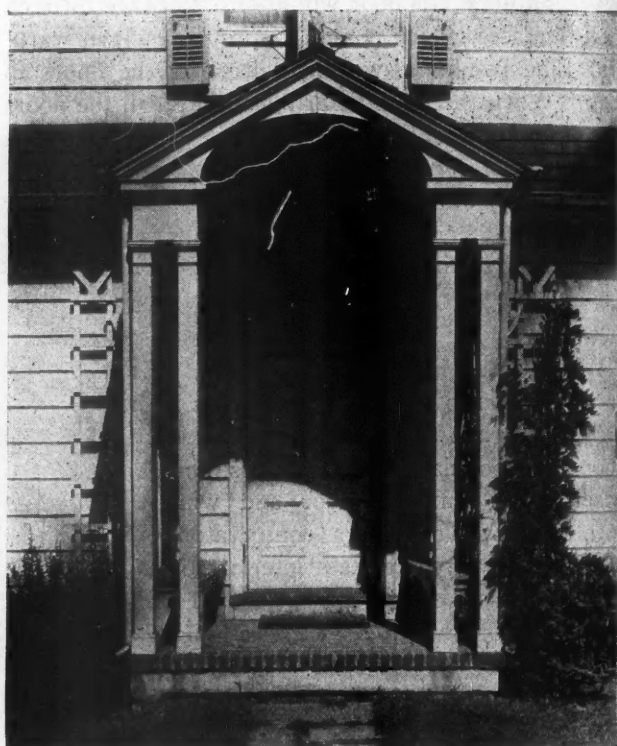
Dormer windows will either improve or detract from the appearance of a house, depending upon the character and proportions of the window design. Sash in the sides as well as the front of the dormer, in one novel design, admit extra light. Dormers are proportioned for from one to four windows and casements are quite often used.

There is a wide range of choice in design, moulding and finish, presenting a number of pleasing and varied effects and matching either English or Colonial styles of architecture.

Window shutters can be used in such a way as greatly to improve the architectural appearance of a residence and add to the comfort of those rooms which are exposed to the glare and heat of the sun.

Attic louvres are also to be had in various pleasing designs and are of considerable help in keeping down the temperature, during hot weather, of the rooms on the floor below. They should have solid hinged backs and be equipped with permanent wire screens.

When one enters a home, the staircase is usually the most noticeable feature of the interior. Many superior stairway designs are obtainable in millwork, with a wide range of choice in graceful early Colonial, modern Colonial or in substantial well-balanced modern, mission or other designs. These are furnished complete, including stair string, treads, risers, newels, balusters, mouldings and all other parts. In fact, complete recep-



Exterior Millwork Is Apt to Be Colonial in Detail.

tion hall woodwork is obtainable, which will produce harmonious and pleasing effects.

Wall paneling is said to have begun as a wainscot a few feet high in old Tudor houses. Wainscot adds a durable and attractive finish to any home. Being far from common, it is a most notable feature in better class homes. This paneling is procurable in a number of varying styles and different heights. It is said to have come down to us from the days of Queen Ann.

Every owner should appreciate features of finish which add to the attractiveness and comfort of the living room. The cheeriness of a fireplace appeals to all. Even though the fireplace be of brick, the framing and overmantel are most effective in wood. Here again, millwork is procurable which will harmonize with the doors, windows and trim. Whether in library, "den" or living room, built-in bookcases should be a feature

of every home. They are sure to harmonize better with the other woodwork and be more substantial, durable, economical and convenient than when bought at the furniture dealers. Of course, the doors, window and trim will be selected to match in all the main downstairs rooms.

Built-in conveniences are appreciated by the whole family but make a particular appeal to the housewife. Instead of just four bare walls to move into, she is particularly charmed by the convenience and coziness of a breakfast nook, built-in sideboards or buffets, china cases, kitchen cases, linen closets, broom case, ironing board case, hall seats and drawers for over-shoes, corner and alcove seats, radiator covers and many similar built-in features—all obtainable in mill work of artistic design. A house equipped with these things, even before the family moves in, has taken on the atmosphere of a home. The speculative builder would find a house with these features readily saleable at a better profit. The builder advising with prospective home owners can give a valuable service by suggesting the installation of these features and the importance and value of good millwork throughout the house.

Keeping Workers Happy

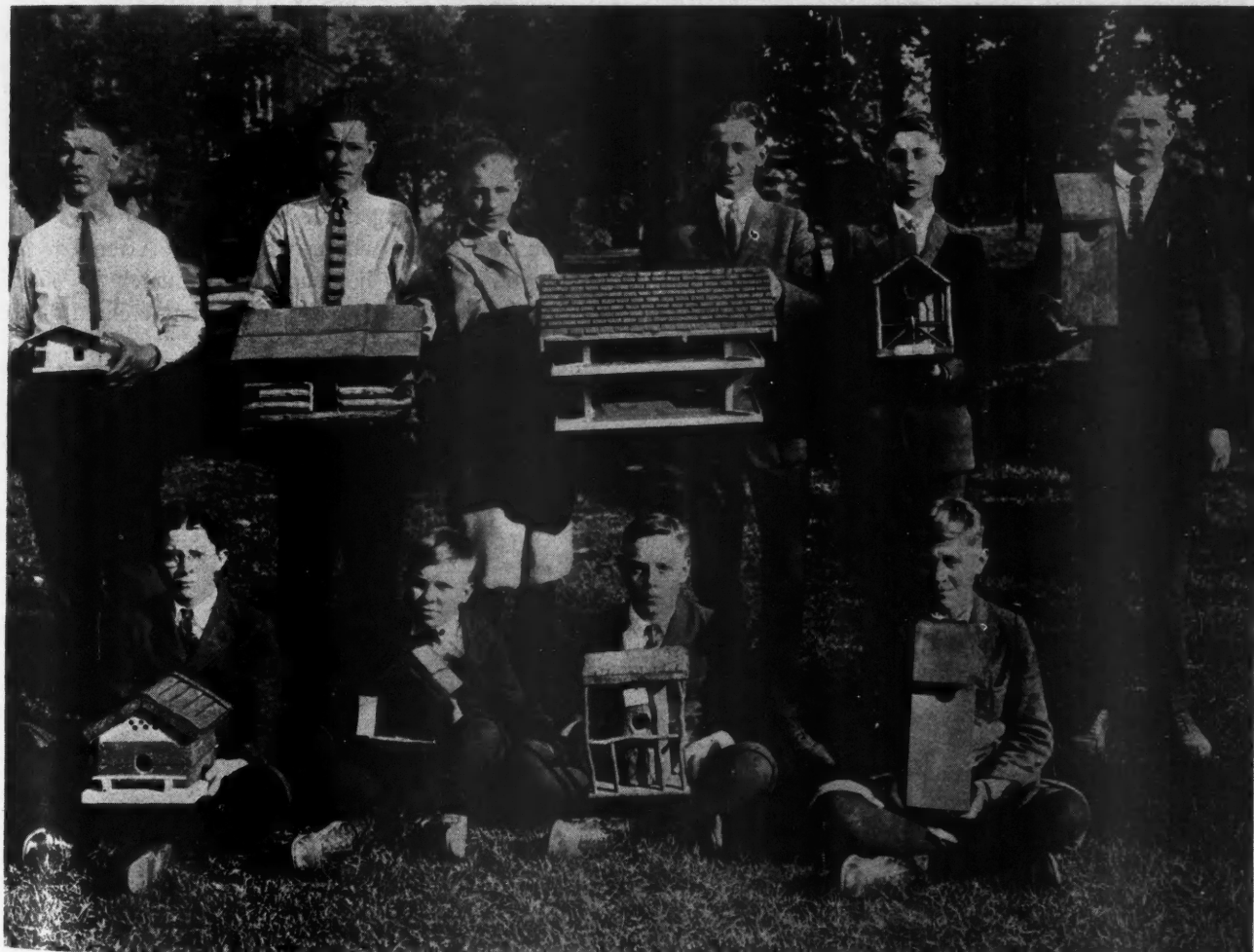
BELIEVING that contentment and good workmanship, regardless of its nature, go hand in hand, the H. K. Ferguson Company, engineers and builders of Cleveland and New York, give fifty dollars to every employe having a baby, one hundred dollars to those having twins, and one hundred dollars to a worker at the time he gets married.

It is the thought of Harold K. Ferguson, president of the company, that contentment and happiness come to a greater extent to those employes being married, and to a still greater degree to those having children. Thus the award is given to the firm's employes, regardless of their capacity or whether they are stationed at the home offices in Cleveland or the foreign industrial building branch in Tokio, Japan.

The awards have been in vogue since 1913, says Mr. Ferguson. During this time allowances have been made for the arrival of over one hundred children and for thirty weddings. They have gone to members of the force ranging from vice-presidents to foremen.

The awards were started as a memorial to a twin baby of the Fergusons, who died in 1913.

YOUNG "HOME BUILDERS" AND EXAMPLES OF THEIR CRAFT



All Kinds and Sizes of Love Nests for Birds Are Being Made by the Students in the Birmingham, Ala., City Schools. Rustic log cabins, two-story houses or cottages are made to order by the young workmen, some of whom are shown in the illustration with specimens of their workmanship.

Fourteen Years a Home Builder

Success of San Antonio Builder Due to Several Factors, Among Which He Places Knowledge of Human Nature First

By A. W. ROE

ALTHOUGH nothing about the American business man is more remarkable than his ability to come back and make good after meeting with financial reverses, W. A. Baity, originator of Baity-Built homes in San Antonio, Texas, is a living object lesson in the art of making a success of life after having been wrecked financially twice and physically once.

In San Antonio the name of Five Per Cent Baity is widely known among people who are interested in the building trades. Mr. Baity has been constructing homes for individuals and other houses which he sells through the services of the real estate offices for the last fourteen years in the Alamo City. In all he has built about 900 homes. Recently he has averaged about 100 a year. These houses are such as appeal to the great and numerous American middle class, being neither extremely cheap or exclusively high in price. Mr. Baity has been instrumental in developing at least three of the city's residential districts. The number of houses in Highland Park to his credit has already passed the two century mark. He began construction on Beacon Hill twelve years ago, when that section was little more than a mesquite thicket in which nestled probably not over a dozen dwellings, and has constructed something like 200 homes there.

Mr. Baity builds, of course, anywhere people wish him to build, but his main construction at the present time is confined to North Haven, a new subdivision, and to Highland Park. He maintains an office in each of these communities, dividing his time so that he can meet prospective home builders in each and talk over plans with them. Mr. Baity finds the system of having an office near the lots on which homes are to be erected better than maintaining one in an office building in the downtown district. Not only is his arrangement less expensive, but it brings the prospects in

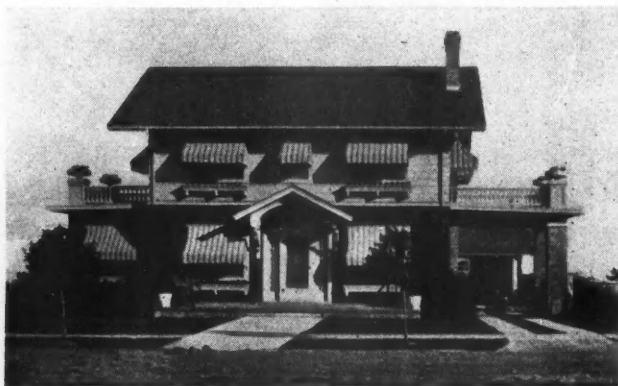
direct contact with homes he has already finished, thus making it easier for him to close a contract. Too, he finds it much easier to supervise the actual construction from offices near the houses in the course of erection than if he had to give attention also to an office in the business district.

The business career of W. A. Baity is colored with romance and paradoxes. Born 61 years ago in North Carolina, Mr. Baity inherited a family inclination in favor of dry goods retailing, and he made quite a success in this field in Winston-Salem. Then he felt the urge of big money to be made quickly from the real estate business, and in less than a year after embarking on this new sea of endeavor he floundered, losing more than \$11,000, his earnings and his store included.

Next he opened a dry goods business in Dennison, Texas, which succeeded wonderfully and from which he retired with a profit of \$63,000 at the end of five years. That was just after he had developed a severe nervous trouble on account of which he had to give up the dry goods business and look for something to do in other fields.

"And so it was that we decided to make San Antonio our home," Mr. Baity said. "No, I never had an idea of making home building a business before settling here. It all came to me quite suddenly when I saw the profits being made by a man who was buying lots on the street where we lived. After building houses on the lots he made good money by selling lot and house together. I figured that I could do the same.

"Then I promptly made the second bad venture of my business experience in buying considerable holdings in a subdivision that looked good when I bought my land, for the weather in San Antonio was then playing true to form. But when the drought ended, I looked out over my property one morning to see it covered

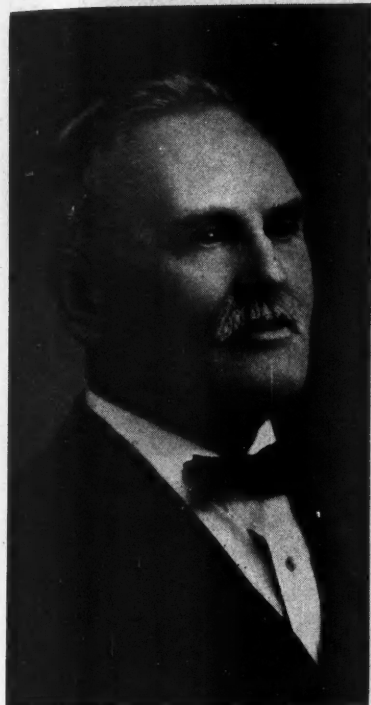


A Two Story Home Typical of the Larger Residences Built by Mr. Baity. Complete equipment is a large factor in the sale.



The Front Elevation of This Bungalow, Built by Mr. Baity, Reproduces Features of the Facade of the Famous Alamo, Where Pioneers of Texas Made History.

with a sheet of water. Equipping myself with boots, I waded out into my submerged property to find that it had become a veritable lake. I lost \$30,000 in that mudhole during the first five years of my experience in San Antonio, borrowed money, and was glad to turn the property loose, although it has become valuable since the city built storm sewers in that section."



W. A. Baity of San Antonio, Who Builds and Sells 100 Homes a Year.

Although Mr. Baity builds many houses and sells them through the offices of local real estate men, he has secured many contracts from prospects during the last two years from what he calls his Five Per Cent Plan. In boosting this plan, he has run, and will continue to run during the next year, advertisements in the newspapers that stress the fact that he is charging only five per cent of the net

cost of the finished building as his legitimate profit for his services.

In effect he says this to a prospect:

"Choose a lot anywhere; give me an idea of the kind of house you wish to construct, and I will give you an estimate of the cost, itemizing all items so that you may compare them with figures of the building supply men if you wish to. To this net cost I will add merely five per cent of it as my profit."

The price he gives when making an estimate includes electric, gas and water fixtures, window shades and draperies also in some of the better homes, cement walks and driveway, gas, water and electric connections to mains in street, oak floors specially polished, garage and servant's room, tile baths with Keene's cement wainscoting in bathrooms and kitchen, and leveling and grassing the yards.

"As to plans, we get them from various sources," Mr. Baity says. "Some of them are suggested by plans we see in the building magazines. True, plans for other climates rarely fit in with our local conditions. San Antonio people want many windows in their houses, for instance. And it is also true that human nature is a curious thing; some people are just naturally hard to please. Often we draw as many as a half dozen plans before we get one that satisfies a customer. But this service helps to swell our volume of business."

According to Mr. Baity, people in San Antonio are still running strong on bungalows, but many are choosing the English colonial types, too, while others select a modified type, best described as a cross between the colonial and the bungalow.

Houses now being constructed by Mr. Baity run from \$3,000 to \$6,000 for bungalows and from \$6,000 to \$8,000 for two stories. This is exclusive of lot, of course, but includes all fixtures mentioned elsewhere. Conservative costs are what homeowners in San Antonio are seeking, according to Mr. Baity, who says, "We build ten houses at \$5,000 or for less to every two above the \$5,000 mark."

When asked what one thing he placed first as having contributed most to his success, without hesitation he replied:

"A knowledge of human nature gained, in my case, in the dry goods business. A man may be ever so good at drawing plans, figuring estimates and actual construction, but unless he understands human nature he is not likely to be able to close many contracts.

"Yes, I have had some special problems in San Antonio, but as these are more or less peculiar to the place, their solutions would probably not be of much value to builders elsewhere. Labor has not been a difficult problem. I pay my men for a full week, although they work only five and a half days, being allowed Saturday afternoons for shopping or for recreation. I have men who have been with me from eight to twelve years, and they are very valuable to me, relieving me of many of the details of the business so that I have time to indulge my liking for fishing.

"Another thing responsible for my having made some money from building homes is the large number that I have turned out. In the dry goods business I operated I built my patronage from the numerous middle class, and I have appealed to this class largely in building homes. Such people are not so hard to please, I find, as are the very wealthy. By appealing to them, I increase the volume of my business, and a little made on every house constructed totals a good figure in the course of a year."

**Back to the Court House
for the Records**

When we make an assertion we can establish it by undisputed records. When we say that we have closed more Baity-built homes and sold them in the last 10 years than any other contractor in San Antonio, the records of transfers in the courthouse will show it to be a fact. Baity has built over 800 homes—got the distinction—homes, not mere houses—and in every one of them there dwell people who are fully satisfied with their homes. That is the only thing that goes to make a home.

**Nobody on Earth Can Build You a Better Home
—and Nobody Will Build It So Economically**

When we say nobody can build you a better home we back it up by showing you several hundred "Baity-Guills" that have met the unqualified approval of those who have lived in them—they are the only homes that have not been built in vain.

Yours for a Happy Home of Your Own.
W. A. BAITY Nationally Known
as "Baity-Guills"
Phone Woodlawn 1180—Northaven Office
Phone Mission 1907—Highland Park Office

Mr. Baity Uses This Type of Newspaper Advertising. The ad reproduced here occupied three full newspaper columns.

CORRESPONDENCE

Questions Answered—Ideas Exchanged

What Is Your Answer?

To the Editor:

Shawnee, Okla.

I am presenting a problem that has repelled all of the attacks of my brain.

I'll be obliged if you will help me out.

A plumb line is lowered down a mine shaft with a 20 by 20-foot opening so that the bob just touches the bottom. The end of the line is held or attached to one side at the top of the shaft. When the bob is swung over to the opposite side at the bottom, it rises a foot off the bottom of the shaft. What is the depth of the shaft?

A. J. LASKER.

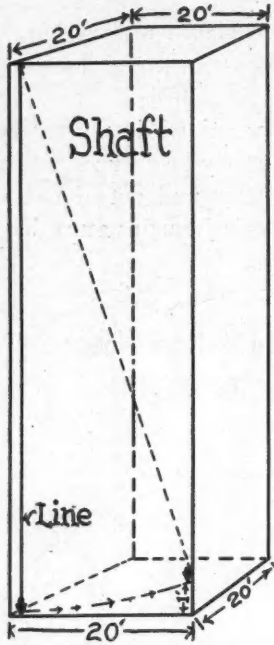
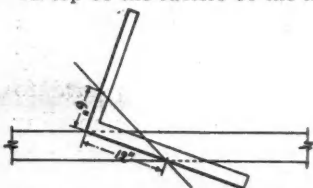


Diagram of Mine Shaft Problem.

ing the cuts for the upper end of the lean-to rafters is not made clear enough to be readily understood by the average workman, I believe. So, with all due deference to him, I would like to offer the following explanation.

To obtain this cut, take the stick to be used as a pattern to cut the rafter, whether a piece of the rafter material or other material to be used as a template, and first, lay off the pitch of the main roof on this stick. We will suppose the main roof is third pitch or its rise is equal to one-third of the width of the building. I suppose that all, or most, workmen use 12 and 8 on the blade and tongue of the square respectively for this purpose.

We will place our square on the material with the 12 at the edge of the stick on the blade of the square and 8 on the tongue just touching the same edge as in Fig. 1. Mark on the blade or the 12 side of the square. Now lay your square on this $\frac{1}{3}$ pitch line as you would to cut $\frac{1}{4}$ pitch, that is, 12 on the blade and 6 on the tongue, and mark again on the 12 side or blade of the square (Fig. 2). This line will be the cut for the upper end of the lean-to rafter where it fits on top of the rafters of the main building.



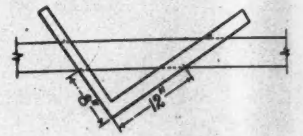
Finding Cuts for Lean-to Rafters, Fig. 1.

To reverse the operation, that is, to lay off $\frac{1}{4}$ pitch first, and then $\frac{1}{3}$ pitch on this line gives the same results.

This method holds good on any two pitches. But always remember to mark the side of the square which represents the run of the roof in both opera-

tions. It will be found that the figures 24 and 3 on the square will cut $\frac{1}{4}$ pitch upon $\frac{1}{3}$ pitch and 24 and 5 will cut $\frac{1}{3}$ pitch on $\frac{1}{2}$ pitch. These figures may not be exact, but they are near enough for rough work. This method of getting cuts will be found useful in cutting braces in barn and bridge work and in any other work where it is necessary to cut one incline timber under or on top of another timber with a different incline.

First, find the run and rise of one incline timber and lay off a line using these two figures on the square, marking on the run side, then lay off on this line the run and rise of the other timber, again marking on the run side. This last line will be the cut to fit the other incline timber.

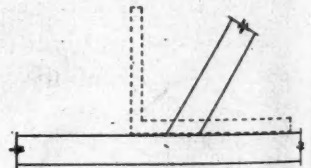


Cuts for Lean-to Rafters, Fig. 2.

If the run and rise of a roof or inclined timber is not known, it can be found easily as follows:

Plumb a straight edge or stand a wood level up plumb on the roof or timber and lay your square or rule along the side of it. Mark across the straight edge or level as in Fig. 3. This line represents the plumb cut or rise of the roof or timber. To find the run lay the tongue of your square along this line and slide it along until 12 on the blade touches the edge of the stick; then note the figure on the tongue. This figure will be the rise per foot of run.

Suppose we were to cut a brace under an inclined timber, the "pitch" of which was not known. By using the straight edge or level as described find the run and rise of the timber. Just suppose that when we slide the tongue of our square along line till 12 on the blade touches the edge of the stick the figure on the tongue where it touches the edge of the stick is $7\frac{3}{8}$. Then the run and the rise of the timber would be 12 and $7\frac{3}{8}$. Place the square on the stick with these figures touching the edge and mark on the 12 side.



Finding Rise of Inclined Timber, Fig. 3.

Suppose again this springs from the wall 7 feet below the foot of the inclined timber and was to intersect the timber at another point out $5\frac{1}{4}$ feet on a level from the foot of the same incline timber. Then the run of the brace would be $5\frac{1}{4}$ feet and its rise 7. Lay your square on the line already obtained, using these figures and mark on the $5\frac{1}{4}$ side, as this is the run. This gives you the top cut for the brace.

There are many ways in which this method can be used.

JOB F. HALL.

THE woods of the carpenter trade are just teeming with simple little practical things that are often overlooked, because our attention is on the more difficult problems. We need to be reminded occasionally of the usefulness of the common little things. Write your practical suggestions to the Correspondence Department for the help of the other builders and find how much help you will get in return by following these columns.

THE EDITOR.

Spring Mould to Circle

To the Editor:

East Durham, N. C.

Referring to the question of Mr. E. L. Robertson in your magazine as to how to lay out spring moulding to fit circular work.

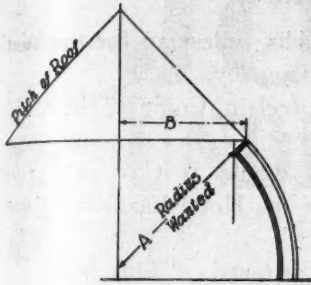


Fig. 1, Showing the Pitch of the Roof on Which Circular Moulding Is to Be Used.

Fig. 1 represents the pitch of a roof, which does not alter the case. The radius of the circle to be fit around is represented by the letter B. The mould is laid out as shown; the correct pitch at which it sits being in relation to the vertical line A. It is to the radius center of the circle to be used. This gives the radius wanted which will bend around on level, but will probably have to be kerfed.

Fig. 2 shows the mould to be bent around circle door heads and like A represents the outside radius of the mould. After being bent the mould is laid out similar to the one mentioned above. Line B is extended to the spring line of the mould as shown which gives the radius wanted. This mould may have to be kerfed.

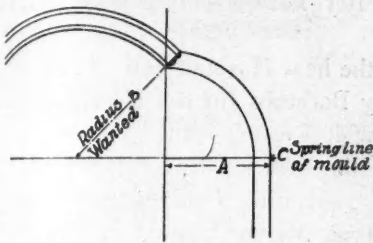


Fig. 2, Represents Mould to Be Bent Around Circle Door Heads.

C represents the piece to be bent, and D the saw kerf. Fasten board in position C, then bend mould until kerfs close entirely. The distance A is the distance apart to make the kerfs.

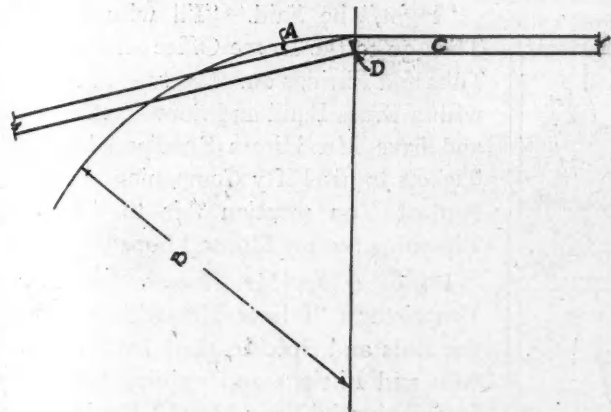


Fig. 3, Showing Simple Method of Finding Proper Distance Apart Saw Kerfs Should Be Cut.

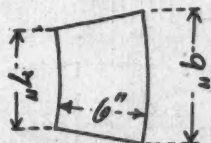
Hoping this has fully answered Mr. Robertson's question, I am.

SUPERINTENDENT C. L. HIGBEE,
Durham Lumber Company.

Sheet Metal Problem

To the Editor: Irvona, Pa.
Here is sketch of a cupola block. I would like to know how to figure the radius on a block as per sketch.

F. G. LEE.



Mr. Lee's Sketch.

Church Built by Oregon Subscriber

To the Editor:

Gervais, Ore.

I am enclosing the photograph of a Catholic Church, the construction of which I have completed at Gervais, Ore.

L. A. GOLDALE.



Substantial Catholic Church Erected in Gervais, Ore., by L. A. Goldale.

Experiments in Plaster

To the Editor:

Austin, Minn.

I have a few things that I would like to discuss in regard to an experiment I conducted with salt and plaster with the following mixture:

- 100 pounds of plaster,
- 200 pounds of sand,
- 2 pounds of salt,
- 6 gallons of water.

This was done in November, 1922. It did not freeze. The work one year later appeared in bubbles and scratches and the finish coat peeled off about one-sixteenth of an inch deep all over the surface.

The action of the salt kept working until the lath was bare. Bubbles would puff up about an inch high from eight to ten inches square. There appeared to be no life in the plaster. And plaster would crumble and fall away like powder. About one yard was covered with Keene cement and the salt had no effect on that, nor did dampness hurt the work.

An experiment with Keene cement and old lime in the making of artificial marble was interesting. This, mixed with strong water or glue and sugar, the mixture was about the thickness of cream. It was allowed to stand one hour. Then the veining was done trowel to a hard finish, and the final set results a surface that cannot be scratched or marked, and the surface is only one-fourth of an inch thick on all sides of the work and the center was a powder.

This work can be used over again by breaking up and remixing over and will set hard in one-half hour, nor does it hurt the cement. Then batch was laid on a cement wall in a cellar, and polished with rotten stone and salad oil, the colors were brown, white and yellow, and resembled work like tiffany, and took a very high polish. Nor did heat or dampness have any effect on the finish.

This is as cheap as the common trowel finish. It is ideal for bathrooms and kitchens. Have any others tried this? If you have, let us hear from you. This is for the betterment of the building world. We should all do more of this work.

CLAUDE MOORE.

Parables of Bildad the Builder

He Restoreth a Defunct Hotel and Retires to Pishimagee Lake,
Leaving the Dread Alibi Bird to Mourn Alone

AFTER a Cold spring it came Hot, and Slap Bang on the first hot Day the Snuffpup Children were taken Down with Scarlet Fever. Mr. Hiram Snuffpup, on His return from His Office found Himself quarantined Out, and Having no Mother-in-Law, went to the Hotel Lazarus. This is the Hostelry in Our city Catering to Drummers and Farmers who Come in on Tuesdays with Their Stock for the Yards.

By the Next morning all the Houses on Duck Boulevard were Quarantined, we having Attained with Our new Mayor an Efficient Health Department.

"Room and Bath!" Thundered fifty Fathers at the Clerk in the Hotel Lazarus.

"Excuse me, Folks, you Don't know what Bad Luck is. Mr. Hiram Snuffpup has the Only Room with Bath in the Hotel. He has Taken the Bridal Suite."

"But We are ordered Quarantined for Five Weeks!" howled the Fifty Fathers of Families. "We are Home Bodies. We must have Our Bath or we Shall Die."

"You have Come to the Right place to Die in," comforted the Clerk, Bitterly.

Now being in the Lobby, wondering whether the Fifty Men I had seen entering were the Local Candidates for the Third Party Nomination, I had followed. After hearing what I Did I went and Looked at the Register. There was a Name there I Knew, and I went to Room 2A.

"How's the Plumbing Accessory business in This

territory?" I asked Jim Tubbs, Salesman for the Well Known Heavenly White Company.

"Fine, if We made Porcelain Coffins!" he Said. "Why?"

"Jim," I asked, "What would It Cost to Put a Bathtub in Every Room of the Hotel Lazarus? How long would It Take?"

"No Time at All," he rejoined. "This hotel was All doped Out for Bathtubs, but at the Last Minute the Boss renigged. The General Contractor was a stomach robber and I never had a Chance to Get my Figure in. I've got the Sketches in Our Office Vault yet, Somewheres."

"Fine . . . Fine . . . FINE!" I Roared. "Jim, can you get Fifty Bathtubs here in a Day or So?"

"Bildad, old Man, the heat Has Got you. If I wired in an Order for Fifty Bathtubs for the Hotel Lazarus the Firm would make it Read 'Coffins.'"

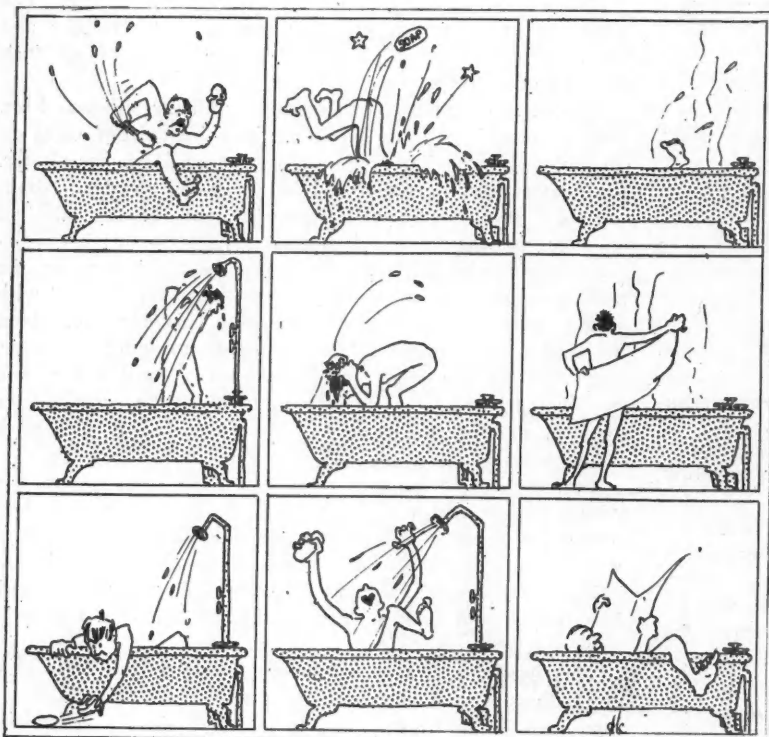
Then I Told him the News. But still He Hung Back. So I Swore, remaining Gentlemanly. But I said, "Listen, you Hook Worm hound! I blew Into this Town when it Looked like a Splinter of The Ark. I've made it Look Alive. I've been So busy Building Homes I haven't had a Chance at This Hotel. But by the Lord Harry, if you don't Take my Order for the Plumbing of This Hotel here and now, Some One else Will; get Me?"

"I got," he Said. "I'll wire Now, and Then go to the Home Office and Escort the Tubs and Fittings on. Meet me at the Depot with a Brass Band and Some Extra Trucks, and have Mr. Hiram Snuffpup issue Bath Tickets to his Fifty Companions in Misery. And if You mention this to Any Other Plumbing Supply House I hope you Choke."

I sought Out Mr. Anemic Lazurus, the Proprietor. "I have Herewith a Copy for the Bids and Specifications for Fifty Bath-tubs and Fittings appertaining Thereto for Installation in Your Hotel," I said. "Here is the Contract. Please Sign."

"If gall Were gasolene Your gas station would Store a Tankfull," he Fumed. "How do You get That way?" But I Saw by the Perspiration on His Brow that I Had Him and he Dared not Crawfish. He Signed.

I went out and Made a business call on my friend, "Black" Lead, of the Plumbers Union. "I need All the Men you've Got, Blackie. Have Them report at the Hotel Lazarus with their Stethoscopes and Asc-



The Fifty Fathers of Families Took Their Baths on the Usual Schedule.

(Continued to page 154.)

JOHNSON'S UNDERCOAT & ENAMEL



If you are the contractor on a job, the responsibility for that job belongs to you. Even though you sub-let the painting contract, still the owner holds you responsible—consequently it is to your interest to see that high class materials and workmanship are employed.

Build up a reputation as the best contractor in your locality—then you can always get the price and will never experience a poor season. Your customers will get the finest kind of a job if both walls and trim are finished with Johnson's Perfectone Undercoat and Johnson's Perfectone Enamel. These products will give equally good satisfaction on wood, plaster and metal. With them any brush hand can turn out perfect work—satisfy your trade and complete more jobs each season.

FREE TRIAL OFFER

We want you to test Johnson's Perfectone Undercoat and Enamel at our expense. We will gladly send you generous samples for experimental purposes. All we ask you to do is use them in comparison with other brands.



S. C. JOHNSON & SON,
Dept. A. B. 7, RACINE, WIS.

"The Wood Finishing Authorities"

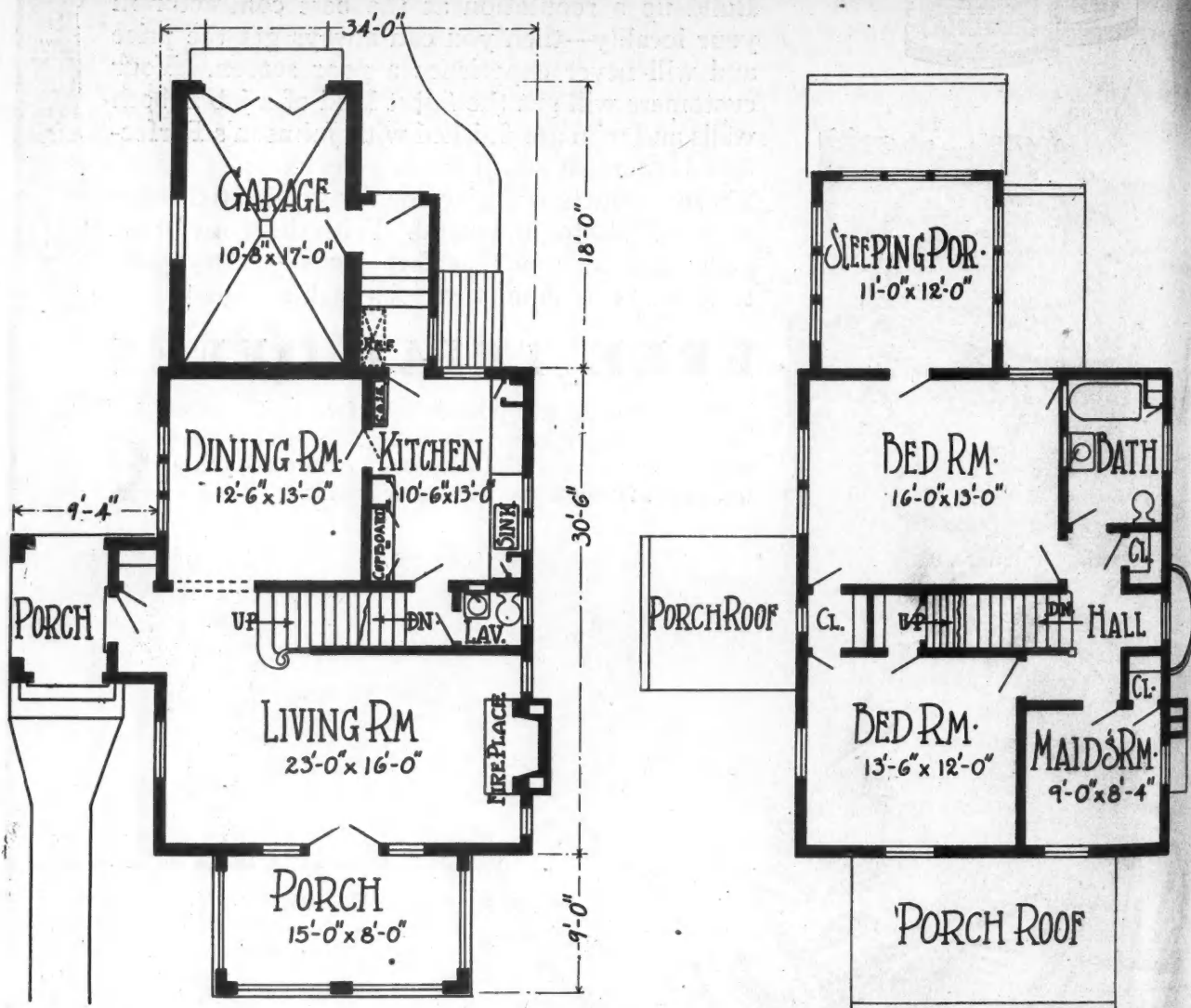
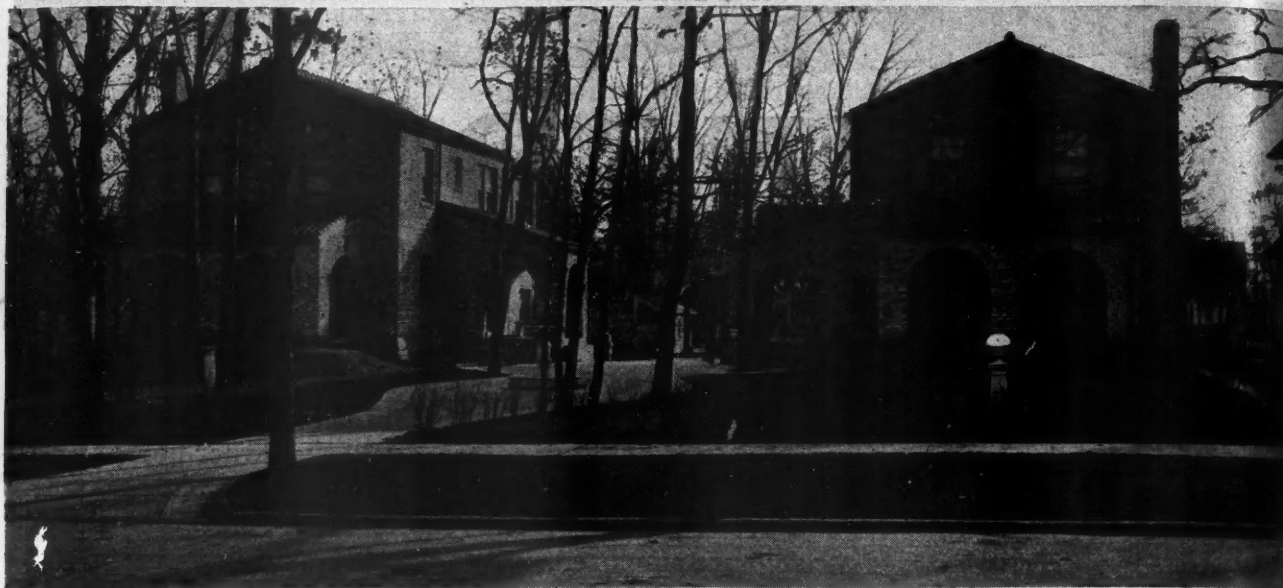
Please send me, postpaid, working samples of Johnson's Perfectone Enamel and Undercoat for testing.

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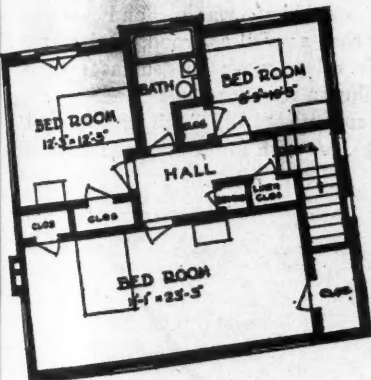
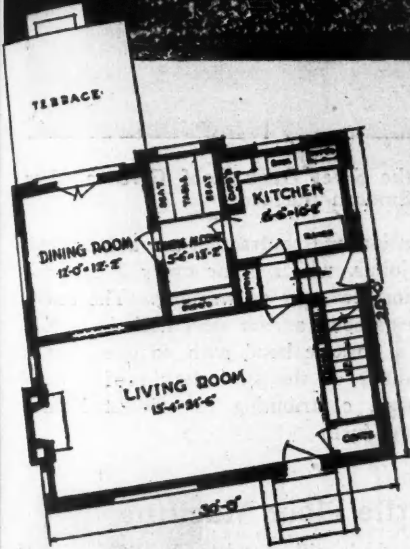
The Residences of V. C. and G. C. Jones, 1022 to 1028 Ely Road, Winnetka, Ill., a Suburb of Chicago, Are Interesting Examples of the Use of Skintled Common Brick Work in Walls. Robert Rae, Architect.

Homes of Common Brick

HOMES of skintled or Chicago brickwork are increasing in popularity in a number of exclusive suburbs near Chicago. The common brick used for the wall material is laid in irregular patterns which gives a most interesting texture.

The two homes shown above are examples of residences of this type built for V. C. and G. C. Jones, Winnetka, Ill. In these residences, which show the Colonial origin of their design, the shadow texture of the walls is utilized to the utmost by covering the brick with a white paint made especially for brick.

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2131 Cle
Enclose
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Address



One of 122 Brick Homes for which working drawings may be had at nominal cost

ANY of the 122 attractive brick homes available thru our home planning department will increase the salability of your properties.

Each home has been actually built and lived in. Capable architects designed them. The working drawings are complete in every detail.

These 122 winners were selected from thousands of homes because they are practical to build, have well arranged interiors and attractive exteriors.

"The Home You Can Afford" shows sixty-two good ones in picture and plan. "Your Next Home" gives you sixty more.

Cash in on the demand for sound construction. Send 20 cents for these two booklets (or 10 cents for either one). That gives you 122 economical brick homes from which to choose those best suited to your particular needs.

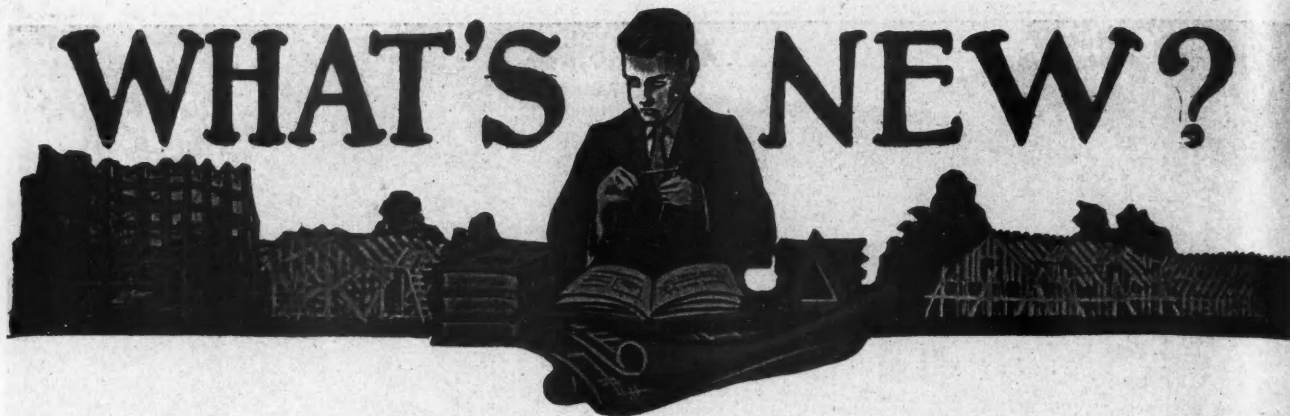
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2131 Cleveland Discount Building Cleveland, Ohio

Enclosed find _____ cents. Send me
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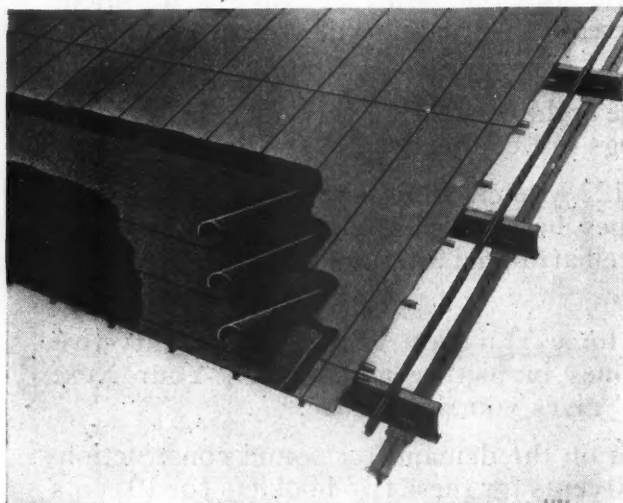
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Steel for the Flat Roof

FOR years there has been a demand for light-weight, fire-proof, flat roofs which would be weather-tight, durable and economical. To meet this demand, engineers set about a series of tests and experiments with varied types and principles of construction, employing many combinations of roofing materials.

Constant development of these experiments and tests evolved a roof which, it is claimed, solves the problem. Announcement is made that the new roof has been placed on the market.

This improved roof construction makes possible flat roofs with slope of $\frac{1}{2}$ inch in 12 inches. The deck is of copper steel with stiffening angles* welded to the plates to add strength and rigidity. Eaves, gables, ridges and gutters are reinforced. The flat, true surface is ideal for the application of the built-up roofing materials, which are cemented to the steel with roofing pitch. The result is a non-combustible roof, designed for a 40-pound live load, but which has been tested to 160 pounds without failure. It weighs but

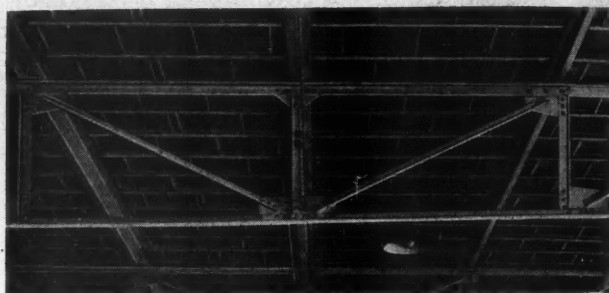


A Steel Roof Deck Makes Possible Roofs with a Slope of $\frac{1}{2}$ Inch to the Foot and Weighs Only $4\frac{1}{2}$ Pounds per Square Foot.

$4\frac{1}{2}$ pounds per square foot and thus makes possible a saving in the cost of purlins, trusses, columns and foundations. It is claimed by the manufacturer that the roof will last indefinitely.

Owing to the simplicity of construction of this steel deck roof, the under side presents a pleasing appearance, showing a clean, smooth surface that is easily painted and forms an ideal

reflector of light. The fact that it is standardized and factory built in units saves in cost of production and passes this economy on to the consumer. The large steel deck units and simple connections make for speed of erection and a



The Under Side of the Steel Deck Roof Gives a Clean, Smooth Surface.

saving in labor. Expansion and contraction are automatically taken care of at the joints, which occur every 2 feet, preventing cracking, sagging, twisting or warping. The roofing is built up on the job as soon as the steel deck is in place and is cemented with a positive bond with no open laps or joints. Insulating qualities of the steel deck roof are said to be exceptionally high, contributing to efficient building heating with economy of fuel.



A Versatile Floor Machine

A FLOOR machine which will complete a number of floor operations, including scrubbing, waxing and polishing floors of linoleum, tile and cork as well as wood, sandpapering and refinishing and much other work on surfaces to be finished or refinished is illustrated here.

The floor machine is constructed of high grade, finely machined aluminum castings. A high grade standard electrical motor of proven reliability delivers twice the amount of power necessary to operate the machine through a simple gear reduction with very large gear size and oversized bearings.

The entire weight of the machine is supported by a special thrust bearing over five inches in diameter. This relieves the machine of all undue friction and the full power of the motor is delivered to the brush.



This Floor Machine Has a Number of Functions.

The
Trap
is ab
matic
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PEERLESS

Dome Damper

*The Smoke Goes Up
the Chimney*



The Heat Into the Room

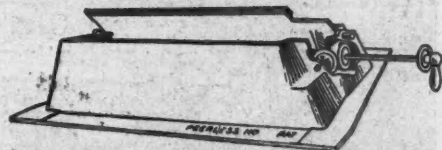


TOO often the reverse condition is true—the heat goes up the chimney, the smoke into the room. Because of this, the old-fashioned fireplace had to be given up; its spirit of cheer and hospitality, could not offset the lack of heat and difficulty of control.

Today it is different. The fireplace has returned to its rightful own. The Peerless Dome Damper has overcome its faults, and restores its charm to the home.

No other method of heating is needed in a room warmed by a fireplace with Peerless Dome Damper. The heat is ample and thorough; and reaches every part of the room. The fireplace becomes efficient; more heat is obtained from the same fuel, and because the fire can be regulated, from kindling to ashes, fuel is conserved.

Make the fireplace part of the homes you plan and then make it useful, and practical, by adding the Peerless Dome Damper. Blue print charts showing plan of installation, and full particulars, upon request.



Peerless Dome Damper is made in three types, identified by their numbers, No. 17, 21 and 22. They are alike in all respects except means of operation. No. 22, illustrated above, is operated from the side of the chimney breast. Other types are regulated from face of fireplace, and inside top of fireplace opening. Strong and durably made of finest heat-resisting materials.



The Peerless Ash Trap shown above is automatic; weight of the ashes falling from fire opening it, and doors close themselves. Eliminates all unpleasantness from fireplace care.

The Peerless Ash Pit Door is made in several styles; all from best materials with standard Peerless workmanship. The one illustrated is No. 3.

Dealers! Write for Proposition



PEERLESS MANUFACTURING CO.
INCORPORATED
LOUISVILLE, Ky., U.S.A.
Largest Manufacturers of Fireplace
Equipment in the World

The machine has a specially designed handle on which there is the operating switch and cable arm. The handle can be adjusted to suit the height of the operator and this adjustment is sufficient to lower the handle to a horizontal position so that the machine can be operated on tables, benches and desks—in this position the machine and handle being only ten inches from the floor.

The motor, gears and all working parts are entirely inclosed and protected from dirt and grit.

Three grease cups are provided which deliver grease to all working parts.

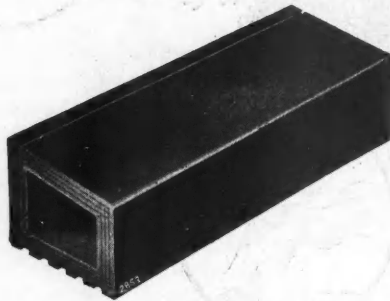
Brush clips of new design are used which enable brushes and other attachment to be easily removed without the annoyance of binding.

The following attachments are furnished with the machine: For scrubbing, palmetto and steel wire brushes; for waxing and polishing floors, polishing pad and disc; for linoleum, tile and cork floors, polishing brush; for sandpapering and refinishing, sandpaper disc and carborundum disc.



Window Sills for Brick Buildings

MANY different ideas have been used in forming window sills for buildings of brick construction, but one of the most recent devices for this purpose is that offered by a manufacturer of clay tile products.



Window Sills Made of Glazed Clay Tile Material Present a Number of Advantages.

This is a window sill made from heavy, vitrified, glazed clay tile as shown in the accompanying illustration. This new sill has been made standard in form and measurement which will make it easy for draughtsmen to incorporate into plans and for masons to place in laying up the walls. The top of the sill is grooved for weather stripping and deep scorings on the bottom insure a good bed joint. Sacrification on the ends provides a good joint there.

Advantages claimed for the new window sill include: no discoloration from wear or weather; heavy glazed walls prevent disintegration or scaling; a number of lengths to care for variations in widths of windows; heavy walls with comparatively light weight and brown color well suited to most brick wall construction. And it is said that the material is much cheaper than other types of window sills. The new window sills are recommended for buildings, factories, garages, apartment buildings, hotels, hospitals, and other structures.

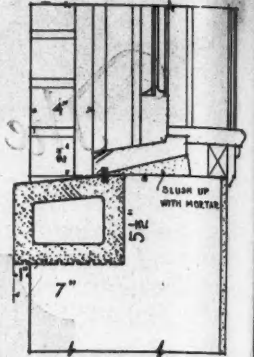


Anchoring Wood Floors

FLOORS of many types have been offered to builders in recent years, but for many types of buildings floors of wood are still the most popular construction. But with the increasing use of concrete in larger buildings the problem has been to find a satisfactory method of anchoring the wooden floor to the concrete floor slab on which it is to rest.

To meet this need, a simple and effective sheet metal clip has been devised which eliminates the necessary of concrete fill, which formerly had to be made after carpenters had laid nailing strips on the concrete already poured and set.

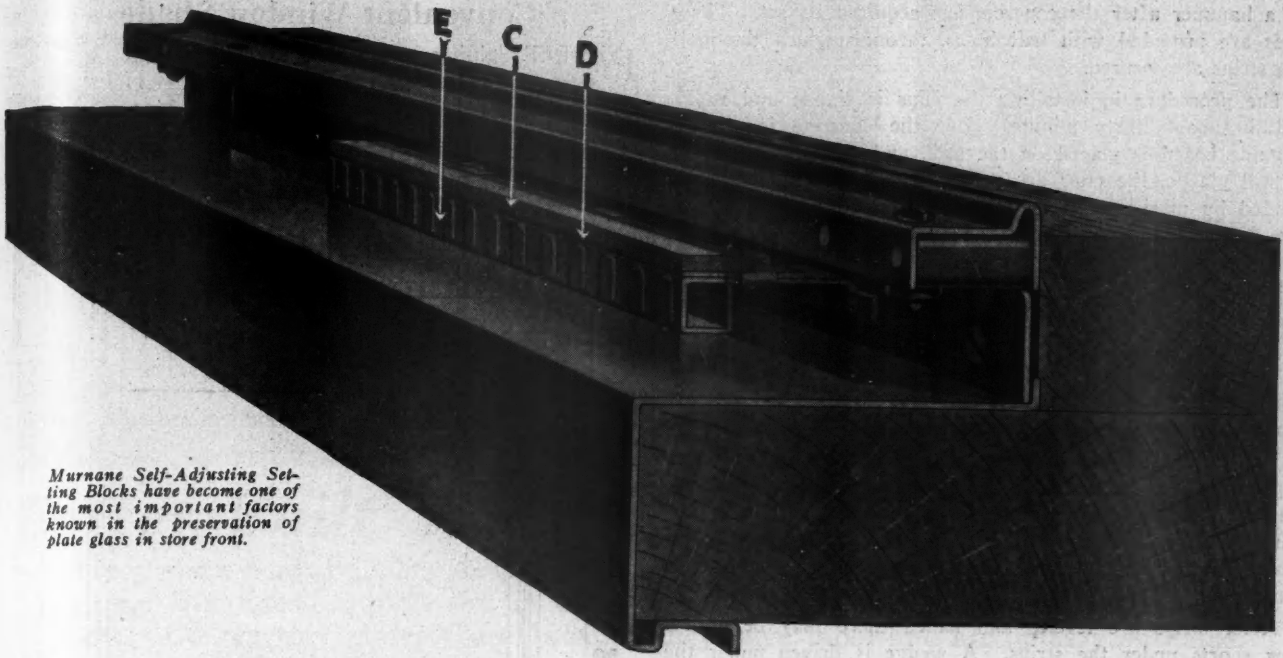
The clips, which are made in 2, 3 and 4-inch widths to accommodate different widths of nailing strips that varying jobs may require, are made of one piece of sheet metal. When ready to receive the nailing strips, they form the letter "H" with a portion of the vertical arms below the cross bar imbedded in the cement and the vertical arms above the cross bar ready to have the nailing strip nailed in. The clip comes to the job with the upper part of the vertical members folded flat, so that it is inserted in the floor as inverted "U". These sections of clip which are inserted in the concrete are made with lugs in which the concrete forms keys as it sets. The upper ends of the clips, above the cross bars, are straightened to a vertical position with the claws



The Diagram Shows How the Glazed Clay Window Sill Is Set in the Wall.



Rapid and Economical Building of Wooden Floors Over Concrete Is Possible Through the Use of Special Floor Clips Which Are Imbedded in the Concrete at the Time the Floor Slab Is Poured. Workmen place the clips by means of marked guide boards.



Murnane Self-Adjusting Setting Blocks have become one of the most important factors known in the preservation of plate glass in store front.

Distortion of Plate Glass is a Main Cause of Breakage

Murnane Self-Adjusting Setting Blocks Prevent Distortion

Breakage of plate glass from distortion is now easily preventable with Murnane Self-Adjusting Setting Blocks which have done so much to build up the prestige and popularity of Zouri Windows. Compared to old methods, many still in vogue, the Zouri modern way has been found to be the best and most economical way of safeguarding expensive windows against distortion.

Above please note a section of sill on which is shown a Murnane Self-Adjusting Setting Block. "C" indicates the sole leather cushion on which the glass sets, "D" the bronze plate to which the sole leather cushion is connected. This bronze plate forms an anti-friction bearing with the copper setting block "E" to which it is adjustably connected so that when the outside moulding is applied, the self adjusting portions of the setting blocks slides inwardly until the glass is in contact with the rabbet.

Murnane Self-Adjusting Setting Blocks have been approved by the Underwriters' Laboratories. You can't go wrong on Zouri.

Write us for complete illustrated particulars.

Zouri

Safety Metal Store Fronts

prevent glass breakage during installation or from distortion after the glass is installed.

Murnane Self-Adjusting Setting Blocks bring the glass into firm and even contact with the full face of the rigid rabbet. Zouri Key-Set construction holds it there.

In Zouri sash the glass is held in place by indirect screw pressure—more certain and perfectly safe.

There's a distributor near you who will give you full details without obligation. Ask us for his name.

Zouri Drawn Metals Company

FACTORY AND GENERAL OFFICES
1608 East End Avenue, Chicago Heights, Illinois

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

of a hammer after the concrete has acquired its set. These ends are provided with nail holes, through which the nailing strips are secured.

The procedure in installing the clips is simple and rapid. Within about thirty minutes after the concrete is poured, a guide board is placed on the slab, and while the concrete is still plastic, the clips are pushed into place, the operator, guided by marks on the guide board, placing them so that the flat top is embedded in the concrete, accurately spaced and in alignment.

When the job is ready for the floors to be laid, a workman inserts a chisel or the claw of a hammer under the top of the floor clips and with a flip of his hand, raises them to the perpendicular, ready to receive the nailing strips, which are then placed along each row of clips, and held in place snugly between the raised tabs.

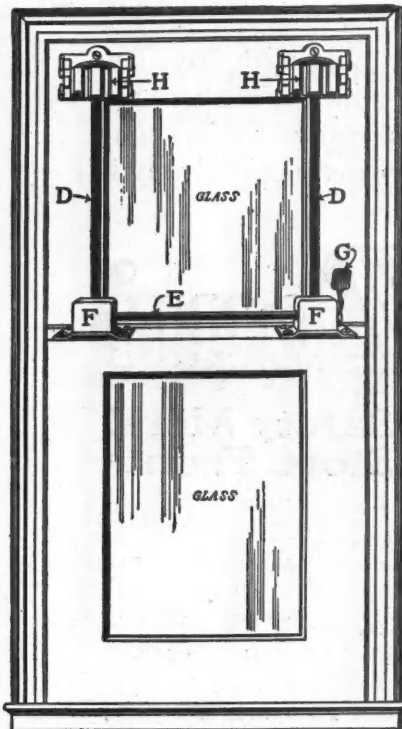
The level slab and the placing of the clips so that their tops are flush with slab surface assure an almost faultless surface. Some leveling with a straight edge will be necessary after which the nailing strips are nailed solidly in place. Joints should come within the clips and both ends nailed.

After strips are leveled and nailed there may be a few low spots under the strips. A wedge is driven under the floor strip at the side of the clip and the hollow slushed full of thin cement mortar. This insures a firm and solid bearing the entire length of each strip.



Locking Double Hung Windows

THE ventilation possibilities of double hung windows are many if they can be secured in exactly the position desired. Here is a device which will lock both the upper and lower sash



Double Hung Windows May Be Secured When Open or Closed Through Use of the Device Shown Here. The makers claim that the window cannot be opened from the outside without breaking the glass.

the window, with the locking device on top of the lower sash. The locking feature is automatic; when the window is closed from the inside it is locked.

securely so that any desired combination of openings in the upper and lower window spaces may be used.

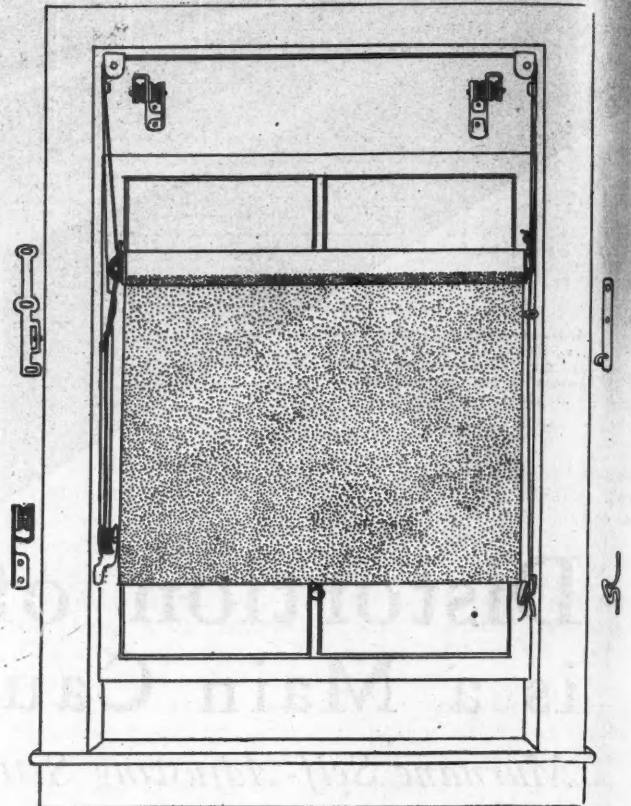
It has been estimated that 80 per cent of the burglary entries in the United States are made through windows which are locked in an inadequate fashion. The makers of this window hardware claim that a window secured with their device cannot be opened without breaking the glass.

Another feature of the fixture is that the upper sash is controlled and handled by means of the lower one, within easy reach of the operator. This dispenses with the use of a window stick for high windows.

The hardware has two parallel rods on the upper sash of

Convenient Window Shades

PROPER lighting for public buildings, such as schools and others of the same type where lighting is of the utmost importance, is a subject which deserves the best attention of



Improved Lighting and Ventilation Are the Objects of the Curtain Adjuster Shown Here. The entire window shade, on its roller, may be adjusted to any desired height so that light and air may be admitted over the top as well as underneath the curtain. The height is controlled by a cord. Details of the fittings are shown at the side and top of the drawing.

architects and builders. While this has been recognized in a great measure in the past few years, with schools erected so that the lighting comes from a prescribed side, the lighting in many of the older buildings may well be corrected.

To provide adequate light without the glare of sunlight an eastern manufacturer has devised a means of raising and lowering the roller which carries the window shade, so that light and ventilation may be had over the top of the curtain while the shade protects the closed portions of the room from the direct sunlight. When the height of the shade is fixed by means of the regulating device, it is raised and lowered as are shades attached to the window frame in the usual manner.

The device consists of six parts and a single, continuous cord. Two double pulleys are installed in the upper corners of the window frame. A third pulley is installed on the left hand side of the frame, about four and a half feet from the floor, since this pulley limits the downward travel of the rolled shade, and it is convenient to be able to look over the top of this when it is lowered. Opposite this pulley, on the right side of the window frame, is placed a fastener to which the free end of the cord is attached when the shade has been adjusted to the desired position.

The simplicity of the construction of the adjuster eliminates a number of the pulleys usually used in such a device. Anyone can operate the adjuster by simply releasing the end of the cord, then raising or lowering the shade to the required height.



Better-Built Homes Without Extra Cost

Everywhere home builders are learning the economy of good construction. Truscon Home Building Products are in demand because they combine quality and low cost. Contractors prefer them because they save labor and are quickly obtained.

Truscon Steel Casements At a Popular Price

Steel Casement Windows are no longer a luxury. Due to standardization and large scale production, Truscon Casements can be used as economically as the ordinary wood windows. Truscon Casements add charm to the home, are weathertight and fireproof, cannot stick or warp, always open and close easily. Furnished complete in frame with hardware—three standard units and combinations of them.

Truscon Basement Windows Double the Daylight

Basements are now used for billiard rooms, dens, offices, children's playrooms, shops, laundries, etc. Truscon Copper Steel Basement Windows give double the daylight, never stick, warp or need repairs, are weathertight and fireproof, always open easily and lock automatically and cost as little as wood. Three stock sizes—2' 9 3/4" x 1' 3"; 2' 9 3/4" x 1' 11"; 2' 7 3/8" x 1' 11".

Truscon 1-A Lath with 1/2" Grounds

Metal Lath stops fire and prevents plaster cracking. The use of 1/2" grounds with Truscon 1-A Lath cuts down costs. The unusual rigidity and perfect key of 1-A Lath saves material, labor and time. Size of 1-A Lath sheets: 18" x 96"; weight 3.2 lbs. per square yard. Truscon Metal Lath includes: 1-A Hy-Rib Lath, 3/8" Hy-Rib Lath, Diamond Lath, Channels, Corner Beads, Base Screeds, etc.

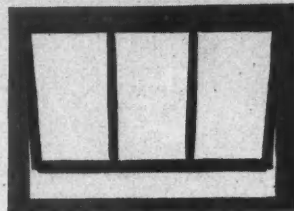
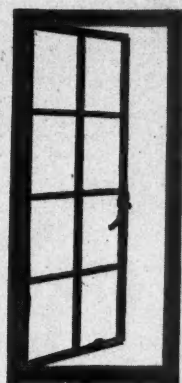
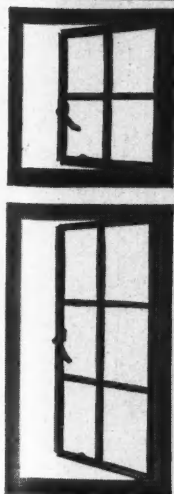
Other Truscon Home Building Products include: Pressed Steel Lintels in standard sizes for use in walls over doors and window openings, Standard Steel Doors in frames for garages, shops, warehouses, backs of stores, etc.

Write for prices and information on Truscon Home Building Products.

TRUSCON STEEL COMPANY, Youngstown, Ohio

Warehouses and Sales Offices from Pacific to Atlantic. For addresses see phone books of principal cities. Canada: Walkerville, Ont. Foreign Div.: New York.

TRUSCON HOME BUILDING PRODUCTS

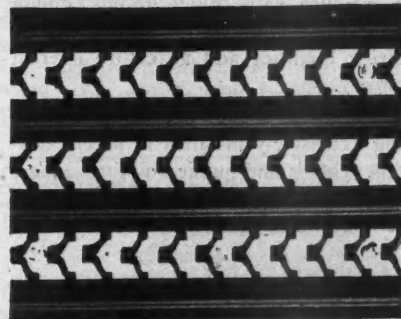


10" x 20" glass.
Size: 2' 9 3/4" x 1' 11".



10" x 12" glass.
Size: 2' 9 3/4" x 1' 3".

Truscon Copper Steel Basement Windows



Truscon 1-A Metal Lath

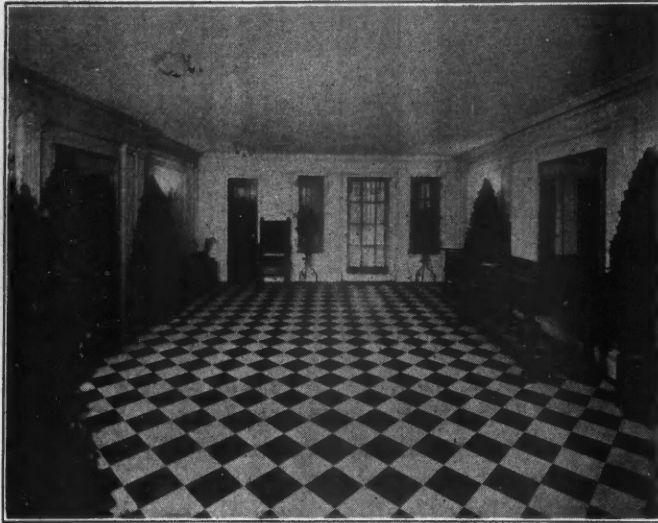


Truscon Expanded Metal Corner Bead

Truscon Standard Copper Steel Casements. Standard sizes of single unit: Width, 1' 11 3/4". Height, 2' 0", 3' 4 3/8", or 4' 4 3/4".

Reinforced Rubber Tile Flooring

RUBBER flooring, or floor tile, reinforced with strong cotton fibres, is becoming increasingly popular for use over many floors in both public and private buildings. Specu-



Reinforced Rubber Tile Flooring Is Finding a Number of Uses in Better Class Buildings and Homes.

lative builders are installing this type of floor covering in many new apartment buildings as an added attraction. Just as automobile tires are tougher and more durable because of their reinforcement with cotton fabric or cotton strands, it is said, so the reinforcement of rubber tile flooring is said to add great strength, durability and resistance to abrasive wear.

These rubber tiles are furnished in beautiful tints and shades producing an effect similar to marble. Colors and patterns run right through from top to bottom and the tile have unusually long life without showing wear. Wainscot, cove base, stair treads and factory flooring are furnished in this material by one manufacturer. Firmly cemented in place with special rubber cement, no cracks or joints are left open and these tile have a smooth, non-slippery surface of great beauty, thoroughly sanitary and easily washed or mopped. Its permanence and the ease with which it can be cleaned is making it increasingly popular for use in private residences—in the entrance halls, living rooms, dining rooms, kitchens and bathrooms. Its long wearing qualities add a feature of real economy.

This type of floor covering is also being extensively installed in hotels, hospitals, schools and public buildings where a noiseless, sanitary, durable covering of elastic resiliency is desired.



Safe Flooring Material

BUILDING a slip proof floor in places subjected to intense wear has long been a problem with architects and builders. And its importance is emphasized by the fact that the danger of slipping and accidents is automatically increased with the traffic such floors have to bear.

One manufacturer who first worked

out a product to meet this need for the stairs of the New York subway has extended the uses of the material found suitable for that purpose until it is available for floors of all types.

The material, originated to care for the tremendous wear and traffic of the New York subways, was made of an abrasive material, in the form of a semi-vitrous tile, so called because of its slight porosity. This is a precast product, moulded to fit the stair treads.

A later step was the development of an aggregate tile which incorporated the wear resisting and non slipping qualities of the stair treads. In this product, vitrified abrasive aggregates are moulded with a cement binder into tile shapes and in the form of precast treads. With a variety of aggregate colors and a variety of marble chips available, with which the aggregates usually are used in combination, the possibilities in color combination are unlimited. With the monotone effects now being produced, a durable tread may be installed without sacrificing the artistic. A specimen of the marble with which the treads are to be used may be used as a factory model for color.

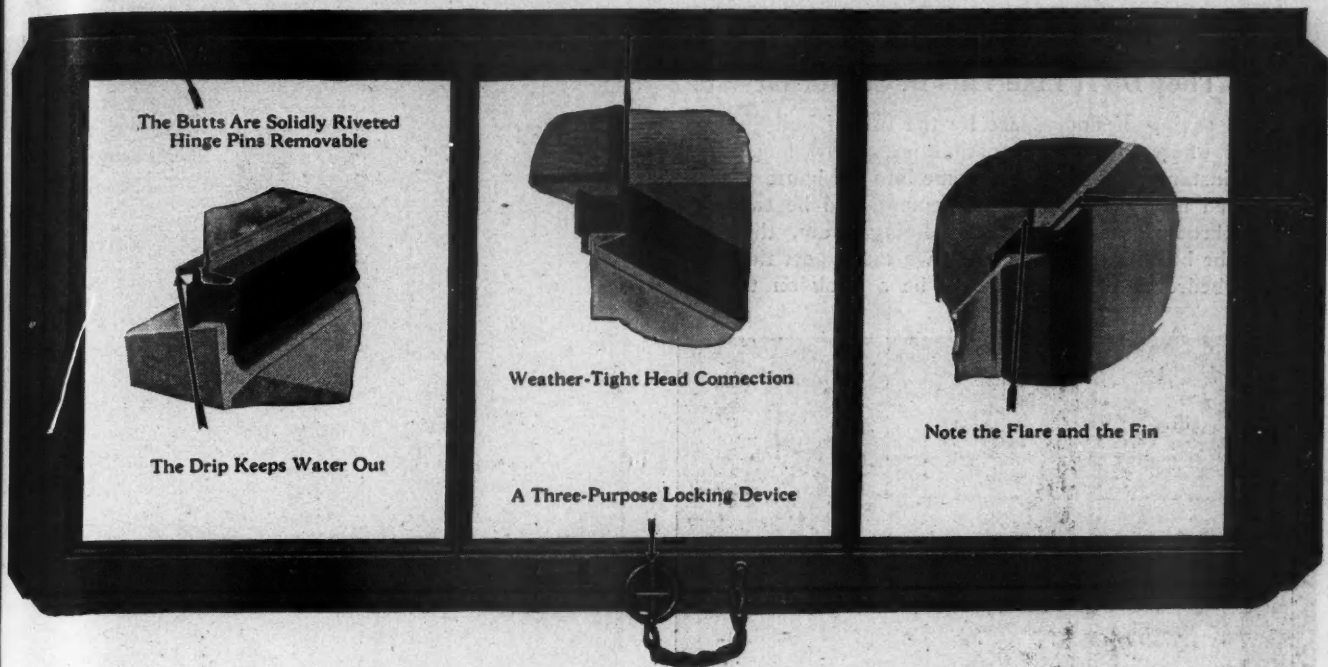
This same process may be applied to floors which are to be constructed of tile in surroundings where an incongruous floor would ruin the effect of fine marble walls.

Another development is the ceramic mosaic tile, designed especially for surfaces where the slipping hazard is great and highly polished tiles are desirable for walking surfaces, such as edges of swimming pools, store fronts, hotel kitchens and other like places. A variety of colors is obtainable in this product.

Another development of the material for use on stairs is that of mosaic tiles, 1 1/16 inches square, set in a reinforced wire asphalt mastic composition. This type of tread is meeting with remarkable success on bus steps and in front of dangerous machinery where it is important that a man's mind be on his work rather than on his feet.



Flooring Material in Which an Abrasive Is Incorporated Finds an Increasing Use for Store Fronts, Public Places and All Purposes Where a Firm Footing and High Resistance to Wear Is Important.



And Now a Still Better Fenestra Basement Window

—new, improved, with 25 important advantages that help you sell the houses you build.

It is the greatest improvement since steel replaced the old-fashioned wood window in the basements of modern homes. Yet its cost is little if any more than the cost of a wood window.

Fenestra Basement Windows, besides admitting more light and air, add attractiveness to both the interior and exterior of a home, and provide absolute protection against rain and storm. Being made of steel, these windows cannot warp or stick, they cannot rot or break, and they are fire-resistant and a barrier against intruders.

Fenestra Basement Windows come completely assembled, ready for immediate use. All sash are interchangeable, and the frames can be installed while glazing is being done.

Home owners everywhere are demanding brighter, more airy, more useful basements and builders are meeting this demand with the new Fenestra Basement Windows. Let us send you the name of a dealer in your locality who can show you these windows and quote prices.

It Has These Distinctive Advantages

1. Made of solid steel with jambs and sill in one piece. Corners are true right angles, rigid against distortion.
2. Double contact weathering at all points makes it absolutely storm-tight.
3. Anchors solidly in the wall by means of the special Fenestra fin which also insures air and water-tight weathering between sash and masonry.
4. Provides guides for the mason in laying up both inside and outside walls.
5. Glazing is done from the inside and glazing clips are not necessary.
6. All sash are interchangeable and easily removed.
7. Has the exclusive Fenestra self-centering lock which draws sash and frame tightly together, secures the window when closed, and furnishes a convenient means of holding it open.

DETROIT STEEL PRODUCTS COMPANY, B-2260 E. Grand Boulevard, DETROIT, MICH.

Fenestra

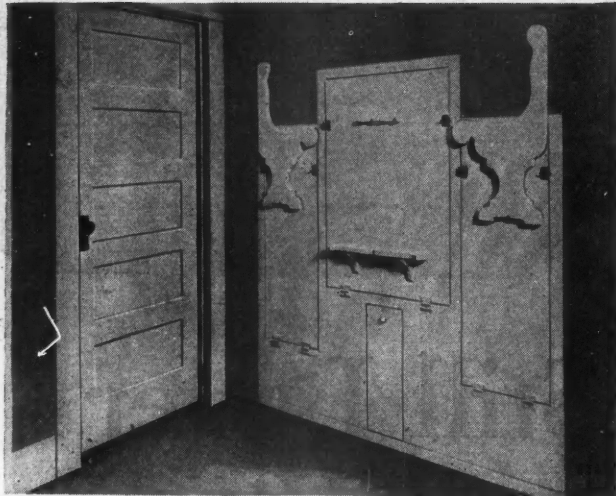
BASEMENT WINDOWS



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

A Fold-Away Pullman Nook They Do It Like This in California

THE saving of floor space by the use of built-in furniture offers interesting possibilities. How long will it be, for instance, before we can come into the house at night, be picked up by a trolley arrangement, and be carried to the bathroom, the kitchen, the dining room, the living room, the bedroom? Like as not, we can expect the space-saving bedroom of the future to be a hook on the hall,



Looks Like a Cupboard Built Into the Wall, Doesn't It? But it isn't, as you will see below.

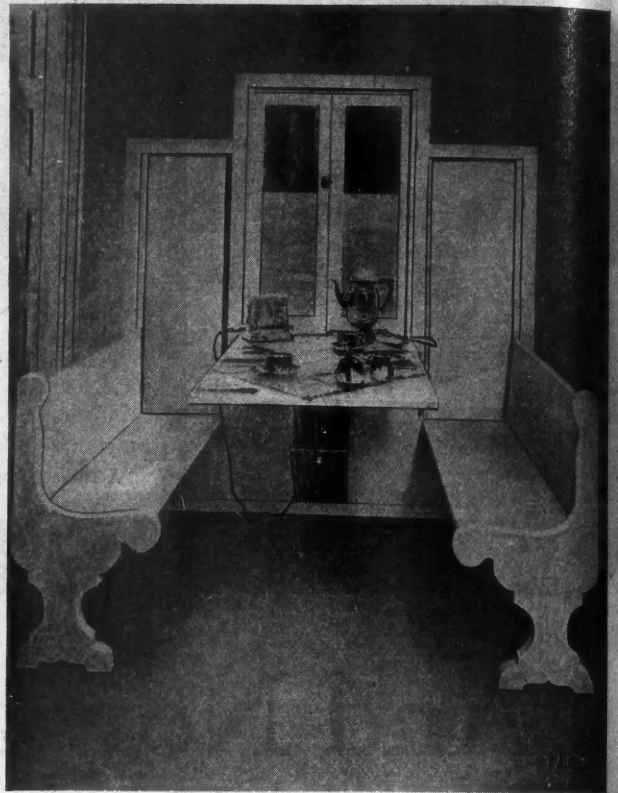
whereon we will sleep suspended the night through in a specially made gunnysack, equipped with body harness.

Here is one phase of the built-in, space-saver idea. It came from California, where they are always trying out something. You look at the first illustration, and see a white enamel cupboard affair against the wall. Looks retiring and unassuming enough, but in comes Mrs. Housewife, reaches for the pull button, and down comes the settle chair like McGinty. Down comes the table, too, with its prop coming from below, and there is a nice little working unit to help one get the dinner vegetables out of the way.

The next transformation comes when the other settle chairs is let down. We then have a complete Pullman breakfast nook, with the sunlight shining in on the table; its toaster, grill and percolator electrically operated. All the



Part of the Built-In Convenience Dropped Down to Make a Work Table for the Kitchen Tasks.



Well, Well, WELL! Surely a very good Breakfast nook, and all set to make someone a very nice breakfast.

comforts of a great big dining room here, one may say, without the inconvenience.

The meal over, the dining board is let go back into place. The ironing board is drawn out, and the housework goes on, with Mrs. Housewife finishing up the ironing of the weekly wash. We would like to see one of the settles high-seated enough to permit her to sit down at this task; also, we don't like the way the window light gets shut off when only the ironing board is used. But isn't that just like a man; never satisfied? Maybe one could build a porthole window into the table, and feel abroad at home.

At any rate, these conveniences, with their room-saving possibilities, offer an excellent opportunity to the builders of apartments and also to the builder of small homes, where the designer often forgets that many conveniences of this type may be built in with little additional cost.



Table Back in Place and Ironing Board Pressed Into Service.

E
In the
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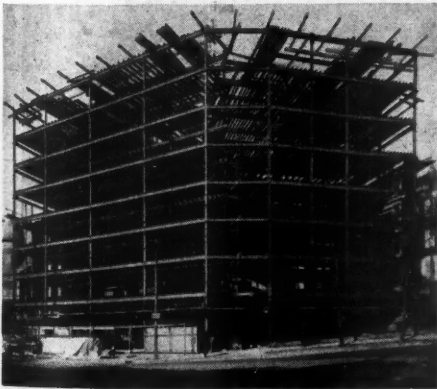
Berloy Metal Lumber in eleven floors and roof of Renkert Building, Canton, O. Architects Walker and Weeks, Cleveland, O. Contractors, Conley Construction Co.

Ask any contractor

Ask any contractor who has ever installed Metal Lumber fireproof construction. He'll tell you that the material goes into place easily and rapidly. He'll tell you that it's easy to handle and practically fool-proof; that the numbered sections marked to correspond with erection drawings make erection easy.

Metal Lumber is uniformly strong and free from imperfections. Every section will always carry its full rated load and more.

Architects who have once used Berloy Metal Lumber specify it again and again. Contractors like to install it. It saves a lot of time over ordinary fireproof construction. Have you received your copy of our new bulletin L-3? If not, ask nearest Berger office for it at once.



Erected in Two Weeks

In the apartment house at Clinton Ave. and High Street, Newark, N. J. eight floors and roof. 90,000 square feet of Metal Lumber floor construction were installed complete ready for the finish flooring in two weeks time. Contractor and workmen had had no previous experience with Metal Lumber.

Architects: Backoff, Cook & Jones. Builders: Henry Kruvant and Co.

The Berger Manufacturing Co.

Canton, O., Boston, New York, Philadelphia, Chicago, St. Louis, Kansas City, Minneapolis, San Francisco, Los Angeles, Dallas, Roanoke, Jacksonville

BERLOY METAL LUMBER

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

ELECTRIFY ALL BUILDINGS

A Department of Up-to-date Information
for all who Plan and Build

Efficient Small Home Wiring

Money Spent for Electrical Equipment Should Be Proportionate to
Other Costs and Adequate to Insure Comfort

IN planning the wiring for any house there are certain specific needs that must be considered.

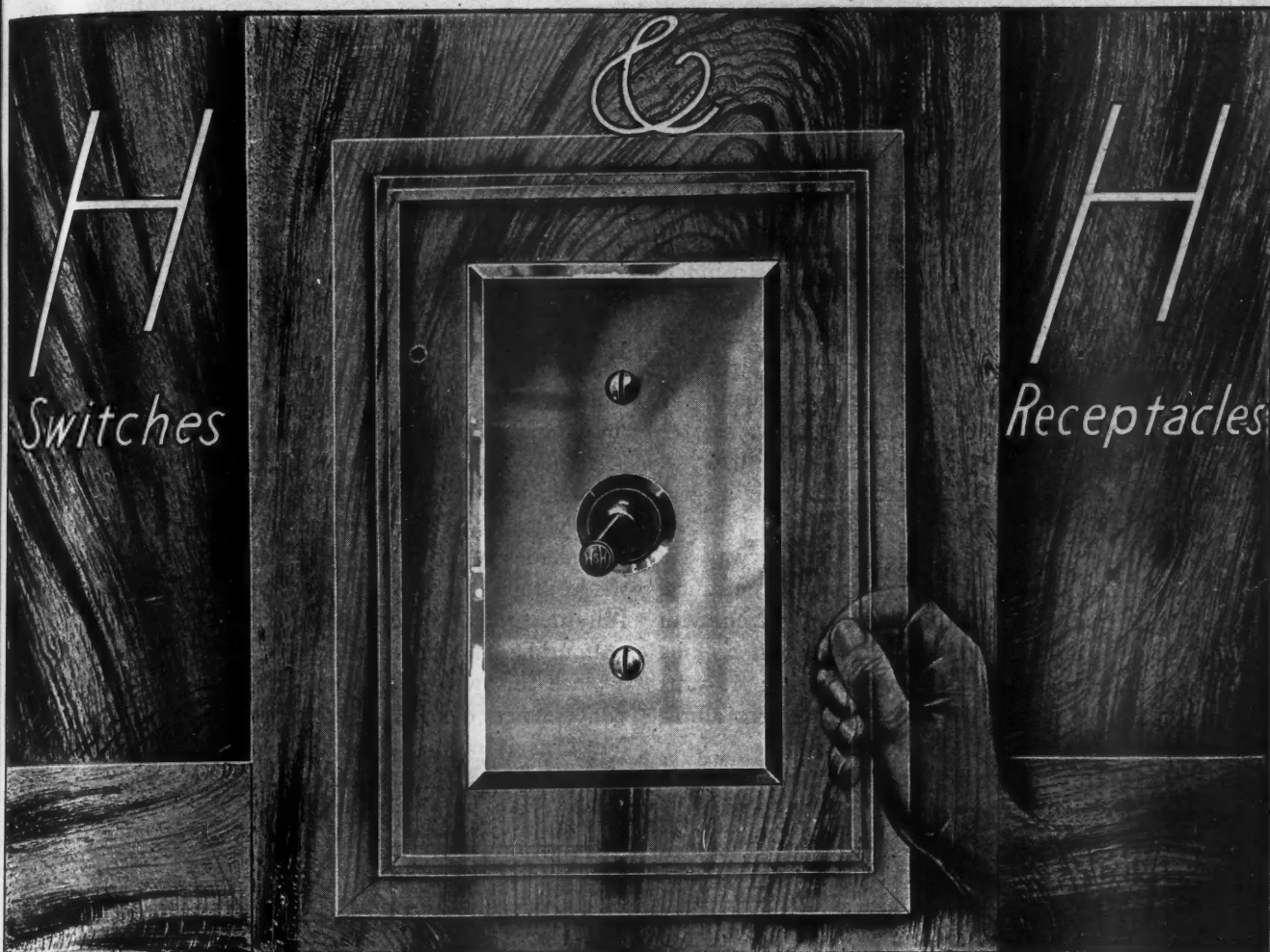
The rooms must look as attractive as possible. The outlets for appliances and switches for lights should be conveniently located, and the lighting plan must furnish ample illumination of a good quality to insure comfort. Poorly planned illumination may cause great discomfort. There should be no scowls and squints because the light is glaring, no strained eyes because there is insufficient light, and no groping in dark halls.

The lighting of a small and modest home is, more than any other, influenced by dollars and cents. The

money spent for wiring should be adequate to insure comfort and so that the wiring will be an asset in selling it. Even the person who builds a house for his own use must consider its possible market value if circumstances make it advisable or necessary to sell. With an eye to this item of salability, enough permanent lighting fixtures should be provided to furnish each room in the house with general illumination. Although the table and floor lamp is playing an ever more important part in the lighting of the average home, it is frequently regarded as part of the furnishings and decorations which may be acquired at any time. This means that prior to the period of pur-



Nowhere Is Proper Wiring More Important Than in Small But Attractive Homes Like the One Shown Here. Full details of proper wiring for this bungalow will be found on page 144.



Picturing the Quality of your Wiring Job

There it is!—the switch on the wall; the owner's contact with the electrical work.

Frame the switch, and you give him his picture of the job. All he will see, all he will touch, all he will ever appreciate.

The looks, the "feel" of your H&H Switch strengthen confidence in the things out of sight. They're the outward evidence of service, convenience, good workmanship.

Whether your background be mahogany panels or modest wallpaper, there's an H&H Switch that will fit the setting and finish the picture—to your advantage.

From the "GOLD STAR" Switch that is frankly "de luxe," to medium-priced "OLD RELIABLE" and competitive-priced "NUTMEG"—each will back up your building standards in its proper place.

For work you're figuring on now, the H&H Catalogue can reach you none too quickly. Not only for switches, but Convenience Outlets and other devices. Please request it.

THE HART & HEGEMAN MFG. CO. HARTFORD, CONN.



chase there must be light. For this reason the plan shown has included center ceiling fixtures in some cases where personal preference might suggest their omission.

The center ceiling outlet is also included as an act of insurance. Many people desiring to light their homes chiefly by portable lamps do not yet know how to choose them so that they will give satisfactory illumination. The center light can then act as a much needed supplement to badly chosen table and floor lamps. When there is no fixture in the center of a room, some fixture, either a bracket or a portable lamp, should be easily turned on upon entering a room. It is customary to have a switch near the door.

The wiring scheme shown here has been made in accordance with home electric practices with a suggestion or two about decorations.

Two small lanterns on each side of the doorway are recommended to light the front steps and entrance. They may be made of copper or wrought iron with clouded glass or mica sides so that the light will be less glaring than if the sides were clear; 15-watt Mazda lamps are plenty large enough to give ample light. The switch is in the vestibule.

The vestibule has a center ceiling outlet. Here a close-to-the-ceiling fixture known as a "rosette" is advised. The rosette is little more than a socket in the ceiling with metal decorations around it. If an ivory-tinted lamp is used instead of the ordinary lamp with white frosting the light will be more mellow and pleasing. Ivory lamps are made in sizes that are also meant for home use and flame tinted lamps are also available. The vestibule light is controlled by two switches, one in the vestibule itself near the door to the porch, and the other in the entrance hall.

In the entrance hall there is also a center ceiling fixture. Here a very short drop cord might be used with a cylinder-shaped shade closed at the bottom. Orange-yellow silk or parchment paper might be used for it. Other fixture possibilities are a decorated glass enclosing globe or a lantern. The light is controlled by a switch near the front door.

It is suggested that the walls of the living, dining room, entrance hall and back hall all be treated alike to give the house a feeling of unity and spaciousness. Light buff might be used to excellent advantage with color introduced in rugs, draperies and pictures.

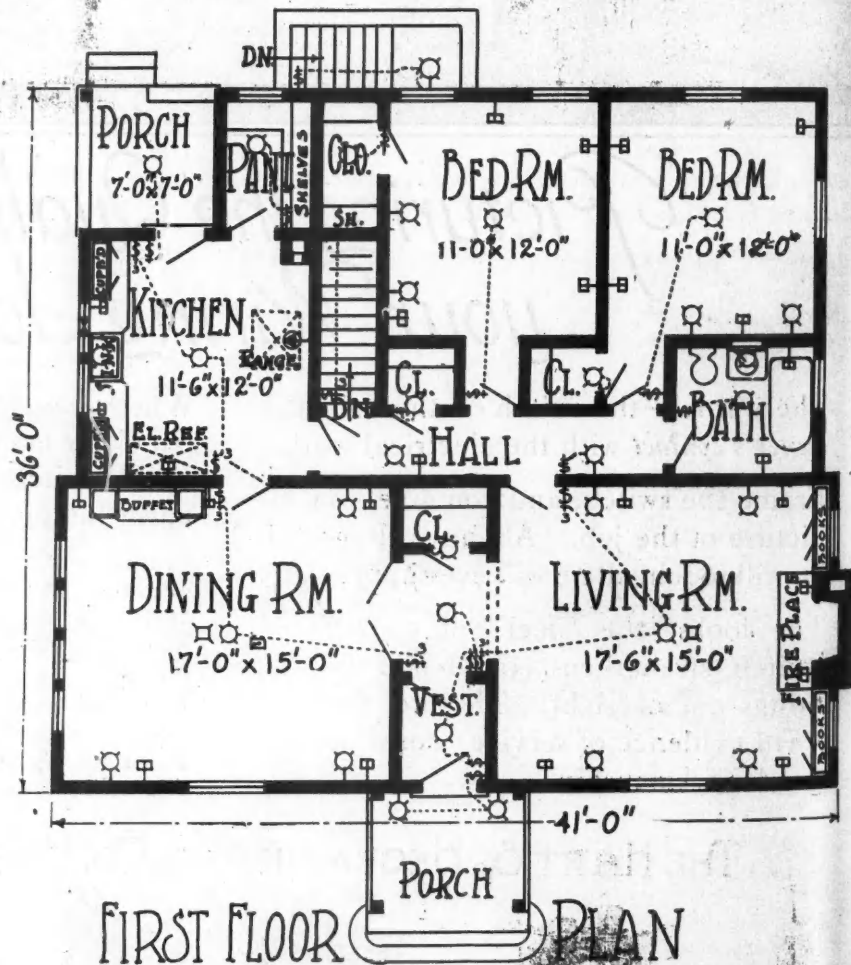
For the living room with plain blue rug and figured window hangings tan shades of silk, glass or parchment paper are suggested for the four wall brackets. If parchment paper is used they may have a band of decoration that is in keeping with the window hangings. Figured draperies are suggested rather than plain blue because under mellow nighttime light blue often looks black and lifeless.

The center fixture in the living room may be one of a number of styles. A silk-shaded semi-indirect fixture might be used. This is one that sends some light downward but most is directed to the ceiling which, if it is white or some pale color, acts as a reflector supplying the room with general illumination.

The first portable lamps purchased for the living room might well be a desk lamp and a floor reading lamp placed near the davenport or a comfortable chair. The shades could be a bit gay. Perhaps the desk lamp shade might be a pleated figured chintz, or a cheerfully decorated parchment paper.

Four baseboard convenience outlets, each one with a place for two attachments, are provided. The twin convenience outlet is recommended throughout the house as it costs only a few cents more at time of

(Continued to page 152.)



Only Those Homeowners Who Live in Homes Where the Electrical Equipment Has Been Given Proper Consideration and Efficient Planning Will Enjoy ALL the comforts of home. This floor plan of the home shown on the preceding page shows its proper electrical installation.

**Wire it
Quicker
with
Ovalflex !!!**

Light---
"Sealed and Delivered"
Anywhere

ON new jobs or re-wiring, wherever light is needed, you can put it there quicker, easier, at less cost---with **Ovalflex**.

Flat---flat and flexible like a strip of steel---only $\frac{5}{16}$ " in thickness, two wires or three wires in a complete Armored Cable. **Ovalflex** lies tight to every contour of the surface.

On new work, simply lay **Ovalflex** on the surface ---plaster over it. For re-wiring, a shallow groove cut in the plaster leads **Ovalflex** where you want it.

QIts armor makes it safe any place; its flatness and flexibility make it economical and convenient. Always---it is best to use **Ovalflex**.



National Metal Molding Company

WORLD'S LARGEST PRODUCERS OF ELECTRICAL CONDUITS AND FITTINGS

1176 Fulton Building, Pittsburgh, Pa.

Represented in All Principal Cities

(17)

National Products	
SHERARDUCT and ECONOMY RIGID CONDUIT	
FLEXSTEEL ARMORED CABLE and CONDUIT	
FLEXTUBE NON-METALLIC CONDUIT	
NATIONAL METAL MOLDING and FITTINGS	
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AUTO-STEELFLEX METAL CONDUIT	
NATIONAL CARBURETER, HEATER and EXHAUST TUBING	

OVALFLEX
A NATIONAL METAL MOLDING PRODUCT

MOTOR TRUCKS and TRAILERS



Care of Trucks in Summer

Cooling and Oiling Systems Require Special Care and Attention from Operators During Hot Weather

THERE is nothing difficult about the precautions which must be taken to keep a motor truck running at its best during the hot summer months. And there is hardly another single phase of operation that more rightfully demands the builder's attention.

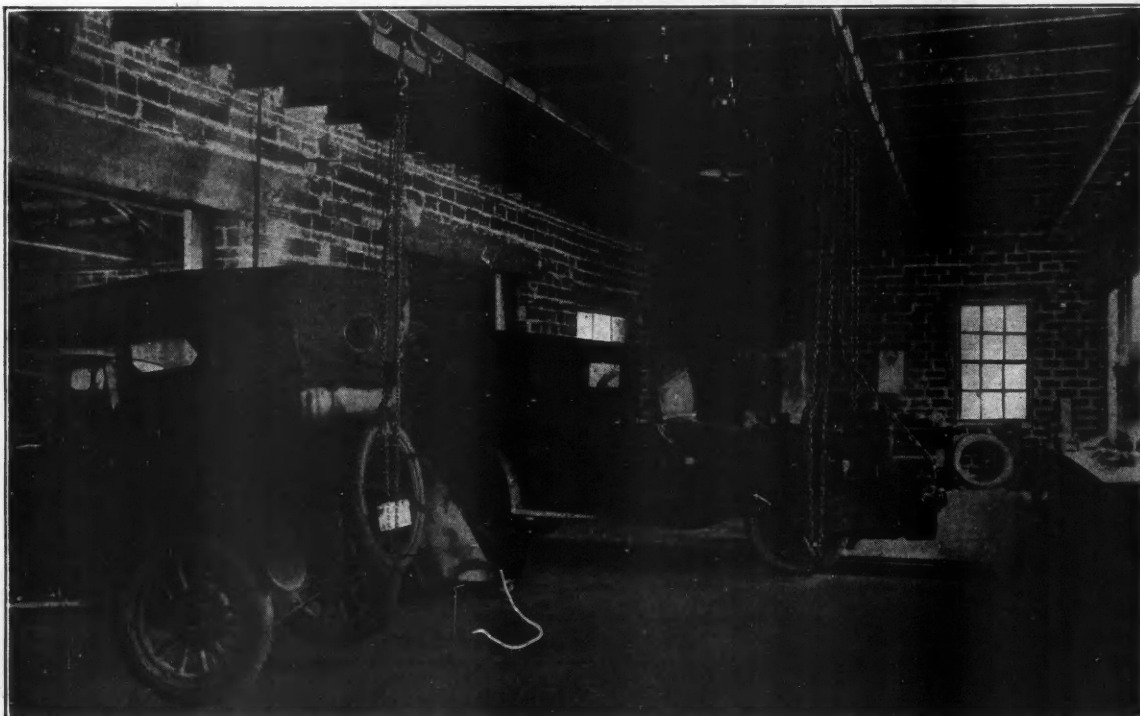
Every authority agrees that the truck owner who neglects to provide this attention is inflicting on his vehicles an enormous strain which will always show up in extravagant repair costs and in much quicker depreciation. Consider, then, the following suggestions. You will find them applicable no matter what type or make of vehicle you use.

1. Be sure to see that the fan turns easily and

that the belt tension is correct. A good test of the tension is to run the fan by hand with the engine not running. If it is possible to slip the belt easily, but not possible to spin the fan, then the tension is right. The fan should be cleaned and well greased at the beginning of summer and kept in this condition always.

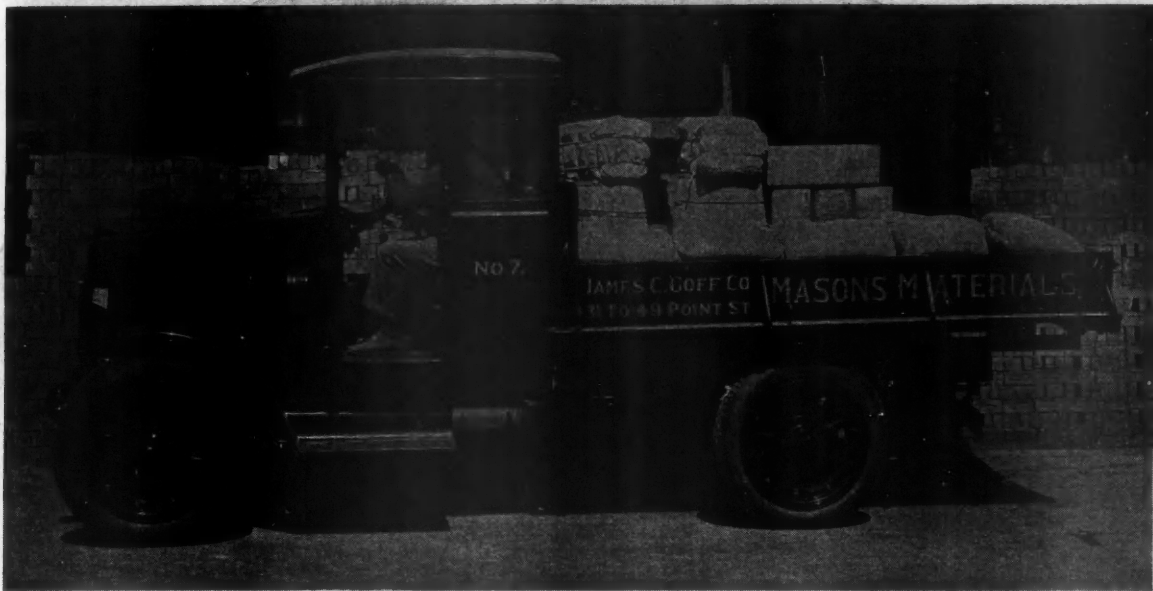
2. The average working temperature of oil in summer is higher than in winter and so oil of the same body will be thinner. Sometimes it is advisable to use a grade heavier oil in summer. In excessively hot spells an especially heavy grade of oil may be required to maintain the oil at the proper consist-

(Continued to page 150.)



An Overhead Carrier System Installed in a Garage Gives the Garageman or Owner of a Fleet of Trucks a Decided Advantage in Maintenance and Repair Work and Lessens the Time Spent in the Shop by Machines Needed on the Job.

Building supplies may be hauled to your satisfaction, in your choice of International. This is Model 33, of 3000 lbs. max. cap.



Some of the Good Reasons Why Internationals Will Haul Your Loads at Very Low Cost

Permanence: The International Harvester Company has built motor trucks for twenty years, and has back of it a manufacturing experience of almost a century. Today this Company has three great factories devoted exclusively to motor truck manufacture. This is the truck experience back of our new 1924 models.

Life Guarantee on Crankshaft and Main Bearings: We guarantee that the crankshaft in the heavy-duty International will not break and that the crankshaft ball bearings will not break, wear out or burn out during the entire life of the truck. No other truck carries such a liberal guarantee as this.

Perfecting Steering Gear: A complete departure from present-day truck steering design. Permits the driver to sit naturally and comfortably as in the finest passenger cars. Does away with cramped, awkward, tiring position without sacrifice of loading space. Improves driver's efficiency and strengthens his morale. Ask his opinion.

Removable Cylinders: International design eliminates reboring cylinders or replacing cylinder blocks. Removable cylinders permit convenient, inexpensive renewals, should the cylinders ever become scored

through neglect or worn after years of service. International was the first to use this type of construction.

Rear Auxiliary Springs, Exclusively International: These springs—inoperative under light loads—come into action when needed. This construction assures correct spring flexibility under varying loads.

Service: With the International you get an Inspection Service Policy with free inspections at regular intervals for the life of the truck. This policy is backed by more than 100 Company branches and their service stations. This valuable working service is unique in the automotive industry.

International Heavy-Duty Trucks are built in 3000, 4000, 6000 and 10,000-pound maximum capacities with bodies to meet every requirement. There is also a sturdy Speed Truck for loads up to 3000 pounds. Upon request we will gladly supply you with names of International owners in the construction field, and the address of the nearest showroom where the full line of new models is on display.

INTERNATIONAL HARVESTER COMPANY

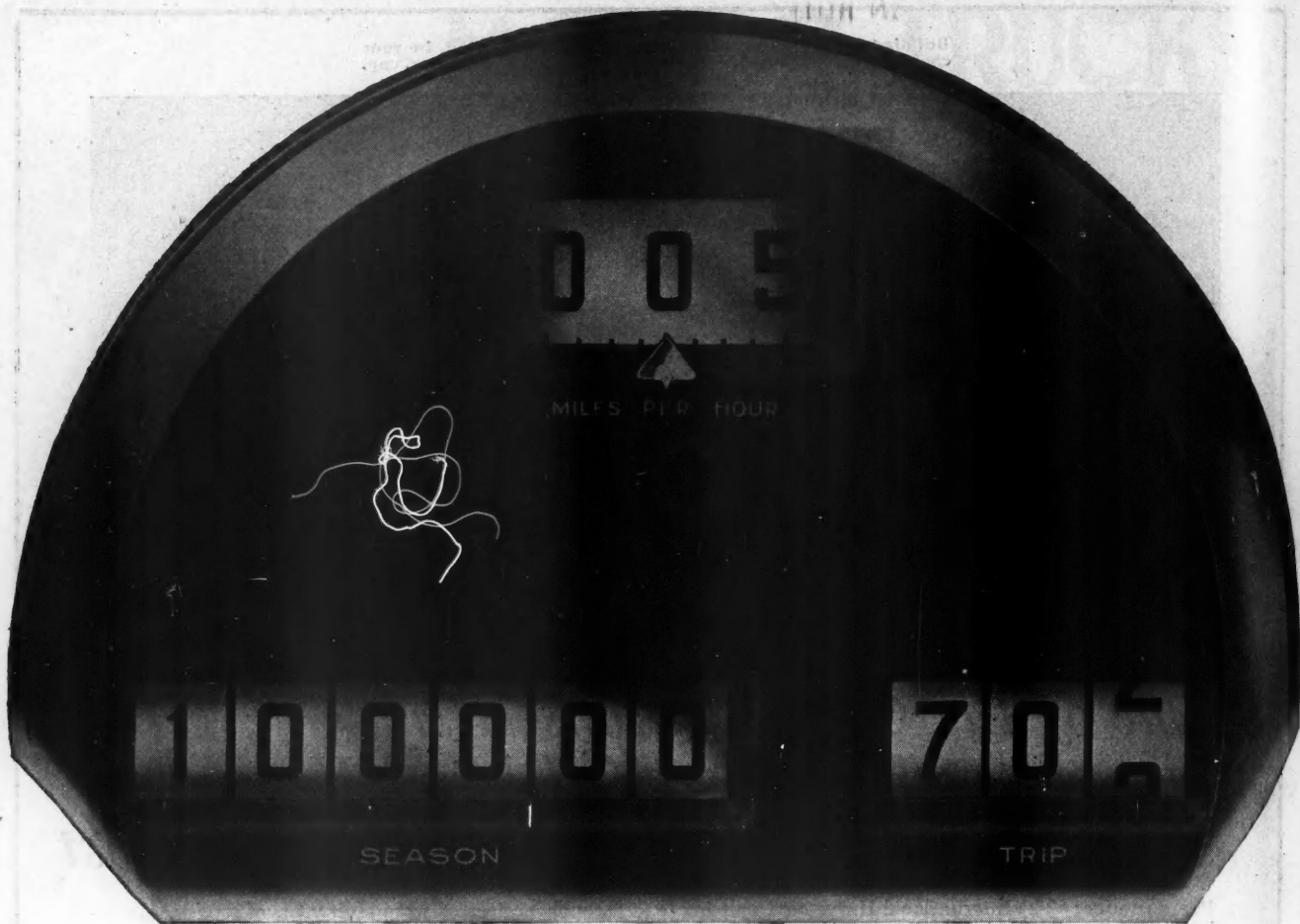
606 So. Michigan Avenue

OF AMERICA
(INCORPORATED)

CHICAGO, ILL.

INTERNATIONAL HARVESTER TRUCKS COMPANY

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Warford Stands the Test of Time

A. M. ROY, President
C. E. BERRY, Vice President
DE KALB WAGON COMPANY
 BUSINESS WAGONS
 AND COMMERCIAL AUTO BODIES
 DE KALB, ILLINOIS
 March 17 1924

Dear Warford Co Chicago, Ill.
 Gentlemen:

We acknowledge your favor of the 15th inst. and in operation that we have two Ford one ton trucks one of these transmissions has been operated continuously since the early part of September, 1921, and we estimate that it has one something over one hundred thousand miles. In fact this is the third truck that this transmission has been installed in. The other one has been operated for something like 40,000 miles.

Both of these transmissions are apparently in first class condition and we feel sure that they have saved us a great deal of money in operating costs. We transport bodies from our De Kalb factory to our Chicago sales room and have a load only one way. The trucks and trailers return to De Kalb empty and where we figure the cost of the saving is from the engine and get the benefit of lower gasoline consumption. We have saved money in saying that these two transmissions and would gladly recommend them to us several times over and would gladly recommend them to us several times over thoroughly high class equipment.

Very truly yours,
 DE KALB WAGON COMPANY

"A Speed for Every Need"

Time deals lightly with Warford.

One Warford Auxiliary Transmission, installed in September, 1921, has outlived two Ford Trucks and is today giving two-ton capacity and speed-wagon pace to a third.

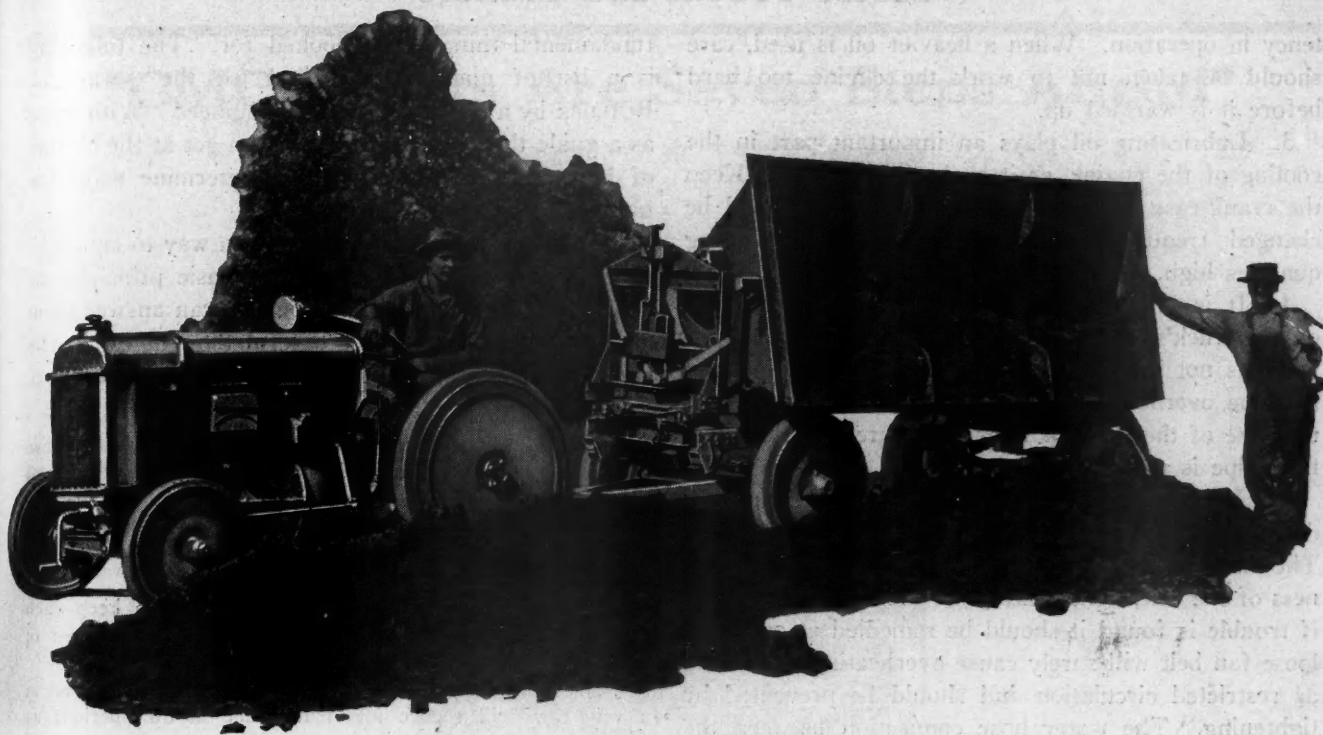
This Warford has traveled more than 100,000 miles, the equivalent of four times 'round the earth, between DeKalb, Ill., and Chicago.

Its performance is representative. Every day and every trip it has met those extremes of driving conditions for which it was expressly built—hauling a heavy load out, and an empty truck back; through the congested traffic of Chicago and over interurban routes where speed is essential to economy.

You may be assured that Warford's two-ton and high-speed performance will be as enduring as your truck. If your Ford dealer hasn't the Warford, write us.

Warford

AUXILIARY TRANSMISSION



Fordson Hauls 4½ Tons of Rock Asphalt, 3 Miles—8 Times per Day

Here is a striking example of how dependably and economically Fordson Power is serving contractors and engineers on hauling jobs of every description. In this case it is Rock Asphalt, and the equipment used by the owners, McArthur Construction Co., Kenton, Ohio, consists of two Fordson Tractors and four dump trailers.

Called on to make 8 trips each day a distance of 3 miles on every trip, with a load of 4½ Tons of Rock Asphalt, the Fordson Tractor proved capable to the task and at the same time helped to reduce the cost of hauling 5.74 cents per ton mile.

Adaptability to different uses, low upkeep,

and the unsurpassed service available to users of Ford equipment are among the advantages that accompany the use of the Fordson for industrial purposes.

For excavating and general construction work, for road building and maintenance, for transporting supplies, tools and men, in fact, on every kind of an industrial job there is work that Fordson can do at a big saving in time and money.

Let your nearest authorized Ford dealer arrange a practical Fordson demonstration for you. See for yourself how the Fordson can reduce hauling and power costs for you.

Any Authorized Ford Dealer has facts and figures that will show you how you can profitably Fordize your business

Fordson Tractor \$420 F. O. B. Detroit

Ford

CARS · TRUCKS · TRACTORS

tency in operation. When a heavier oil is used, care should be taken not to work the engine too hard before it is warmed up.

3. Lubricating oil plays an important part in the cooling of the engine, as it cools the bearings. Keep the crank-case clean; it cools the oil. Oil should be changed frequently enough to keep its lubricating qualities high.

4. It is important to have a clear understanding of the truck's cooling system. See that the flow of water is not impeded by any sort of obstruction and that the overflow pipe is not bent below the level of the base of the radiator filler. Be sure that the overflow pipe is not clogged or flattened.

5. In hot weather the cooling system should be drained often and replenished with clean, fresh water. The fan belt and fan should be examined for looseness of the belt, tight bearings or loose fan blades and if trouble is found it should be remedied at once. A loose fan belt will surely cause overheating as quickly as restricted circulation and should be prevented by tightening. The water hose connection between the radiator and engine should be examined for soft spots which would restrict the circulation.

6. See that your truck's engine is clean all the time. The air which goes into the carburetor draws dust and dirt with it which will not only stop up the carburetor, but if this passes on into the engine, it causes rapid wear to pistons and cylinders, or it may work down into the bearings. Never use waste to clean the engine as the lint frequently sticks to the surface and might enter and clog the carburetor.

7. Some truck owners make the mistake of obstructing the front of the radiator with license plates or signs. Good air circulation and clean radiating surfaces are as important as good water circulation. It is well to clean the outside of the radiator well before the hot spell.

8. Don't have your motor immediately torn down and rebuilt simply because it might act irregularly. Find out exactly what is wrong and then let an expert proceed accordingly. Nothing injures a motor more than to tinker with it, unless it is the unconscious neglect of some detail which results in premature wear or injury to the engine.

9. The exhaust should at all times be kept clear of obstructions and mud should not be allowed to cake on the outside of the muffler. The importance of this will be realized when it is considered that 40 per cent of the heat of combustion must escape through the exhaust.



Pertinent Truck Questions

THE builder who is anxious to get the greatest possible return from his investment in truck equipment should be careful not to overlook the big things about the use of trucks that govern successful operation.

—When a transportation engineer is employed by a concern to advise on the selection and use of trucks, and to suggest ways to economize, there are certain

fundamental things to be looked for. The following is a list of questions prepared for the **AMERICAN BUILDER** by a well-known truck engineer. With these as a guide the individual builder can get at the bottom of his own truck operation and determine ways for improvement.

Each of these questions represent a way to cut truck costs. They cover completely the basic principles of truck operation. Only if the builder can answer them all in the affirmative after careful thought can he be sure his trucks are not working under a handicap. These are the questions:

1. Are the vehicles used well adapted to work they are called upon to perform, with respect to type, size and quality?

2. Is the truck body equipment well co-ordinated with conditions met in unloading and loading to insure a minimum of idle time?

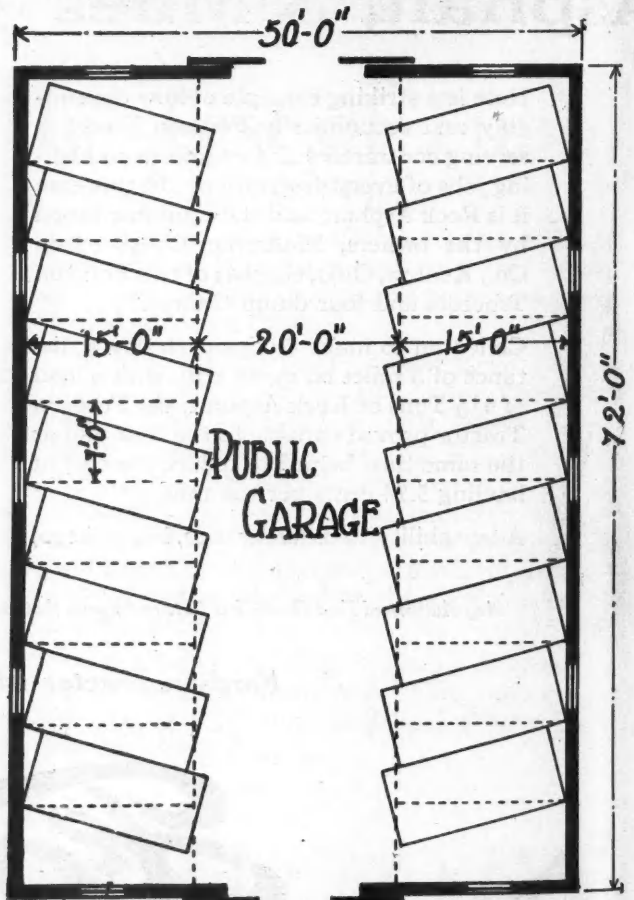
3. Are routes well planned and arranged to keep each truck on the road as much as possible in the course of the day?

4. Are seasonal and rush periods requirements handled in a way that will reduce idle truck time in dull periods as much as possible?

5. Are motor trucks used only on hauls for which they are qualified to do the work more economically than horses?



Diagonal Parking Wastes Space



Diagonal Parking, Urged by Some Garage Owners and Truck Operators as More Convenient, Is a Waster of Space as Shown in the Accompanying Diagram. The advantage urged of driving directly out from the parking space is offset by the fact that the driver loses time in backing his truck into place. It is sometimes used in service garages for pleasure cars because gasoline tanks can be filled without moving the cars.

"GMC Trucks Are Seven Steps Ahead"



Power To Pull Out — Speed on the Road!

Watch the GMC trucks on the next excavating job! Notice how easily they haul their full load up the steep incline to the street—unaided by cable or team.

Then ask one of the drivers how many loads he hauls each day. GMCs are as speedy as they are powerful!

For, equipped with the famous GMC Two-Range Transmission, GMC trucks multiply the power of

their economical sized engine into pull at the wheels that will take them up any grade or out of any mud where wheels can get traction. And, by a shift of a lever, also provide as fast a road speed as safety permits.

This combination of speed and pulling power—built into GMC Trucks—their rugged dependability—and their operating economy—make them money-makers for haulers everywhere.

GENERAL MOTORS TRUCK COMPANY
Division of General Motors Corporation
PONTIAC, MICH.

General Motors Trucks



CLIP AND MAIL

General Motors Truck Co.
Dept. 9,
Pontiac, Mich.

Send me the GMC catalogue.

Name.....

Business.....

Address.....

(Continued from page 144.)

installation and is frequently in use, either for the attachment of two lamps at the same time or for a lamp and a fan or a lamp and heating appliance. The more outlets there are, the greater is the latitude in the arrangement of furniture. An outlet has also been placed in the middle of the living room floor to provide for lamps on a center table.

The living room mantel has also been provided with electric outlets. Conventional electric candlesticks may be used or some simple form of decorative light. One of the possibilities is to get attractively shaped glass jars of a beautiful color and place a light inside. The jars themselves become more lovely and as accents of color are an addition to the room.

In the dining room a dome fixture gives excellent light. The table is flooded with it and the rest of the room is supplied with a lesser intensity. The glass domes that are now on the market have little in common with the atrocities of early gas days. The color is subdued, not violent, there is no bead fringes to make striped, zebra-like shadows, and it is smaller and deep enough to hide the light source so that the brightness of a 75-watt or 100-watt lamp cannot be seen. The usual hanging height is two feet above the table.

For some time satisfactory ways of using cooking appliances in the dining room have been sought. Cords from overhead lights are unsightly, it is a nuisance to have a percolator on the buffet and have to get up and get it after the coffee is done. The most approved method at present is to have a floor outlet under the table that supplies current. Then wires may be brought through the rug without cutting it, and the table itself wired. The outlets are on the under edge. Beneath the table is a call bell.

Baseboard outlets are provided in the dining room for possible serving table lights or other portable lamps. Table and floor lamps are more and more being used in dining rooms. Interior decorators are showing them to supplement brackets in giving general light and because of the charm of an attractively shaded lamp.

The kitchen lighting problem is simple. It is easy to find an opal glass enclosing globe to place in the center of the room, which will give excellent light when equipped with a 100-watt lamp. Several concerns are making kitchen units of approved design and quality. This may be supplemented by a droplight over the sink, equipped with a white glass shade and a 50-watt white Mazda lamp.

There are several electric outlets in the kitchen, a special one for the range that provides for the heavy drafts of current used, one for a ventilation exhaust fan, still another for the refrigerator, and two for other appliances. The two for appliances are located above the working surfaces under the cupboard. They are equipped with red pilot lights to show when the current is being used.

In the kitchen are switches for the back porch light and the cellar lights. The porch light switch is near

the porch door and at the same point the kitchen light may also be turned on. The cellar lights are controlled near the cellar door and the switch is equipped with a pilot light as a reminder when the lights should have been turned off and were forgotten.

For the back porch a glass enclosing globe fixture or a rosette such as was used in the vestibule could be used.

The pantry light is quite close to the ceiling and white glass shaded. A unit such as is used in the kitchen is admirable, but perhaps a greater expense in the beginning than is desired. The operating costs are small because it is never on for more than a few minutes at a time.

The hall lights are two brackets. As the plan indicates, one is controlled at the fixture itself and the other by switches where it is most convenient. This is an excellent place to use decorated glass shades, although parchment-paper or silk are equally good. A convenience outlet is provided in the hall for the use of a vacuum cleaner.

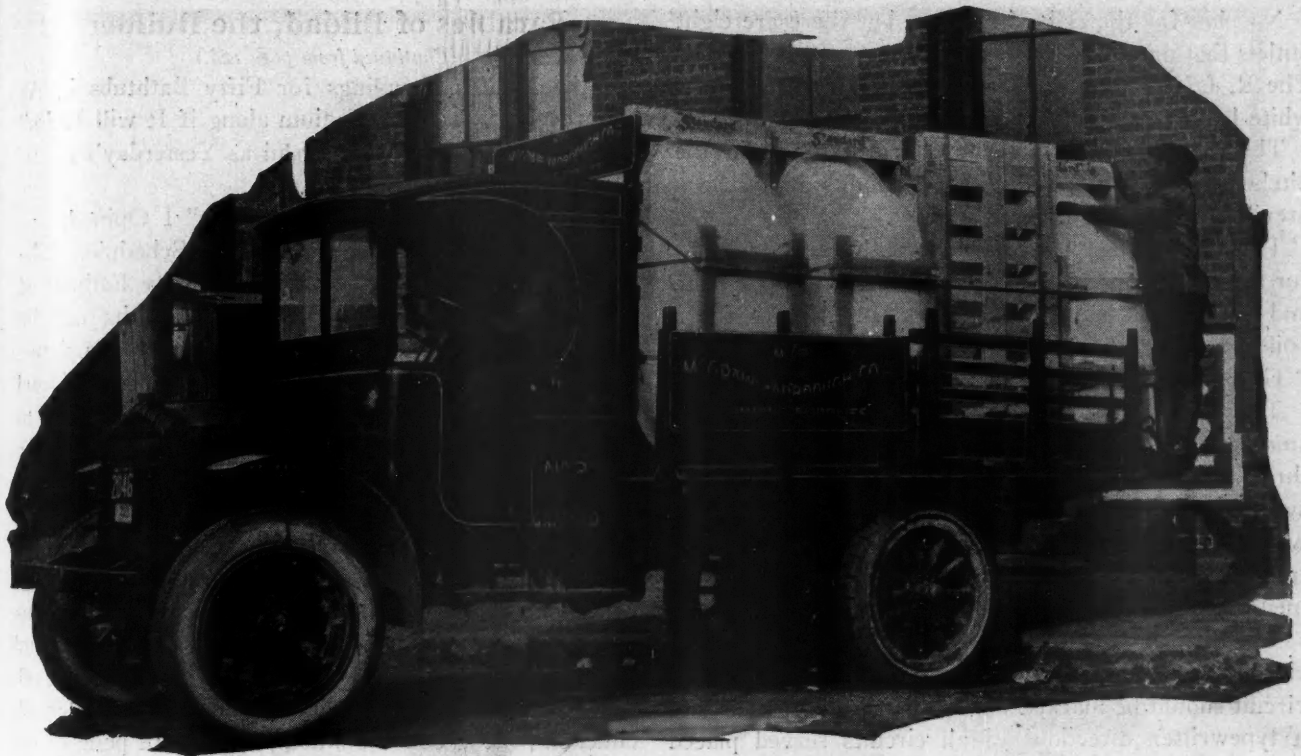
In the bathroom a center ceiling light similar to the glass enclosing globe in the kitchen is splendid. In addition a bracket is placed over the mirror to make shaving as easy a matter as possible. The bracket over the mirror might be like an inverted elongated white cup. Many hotels use a fixture of this sort and the reasons for it are that the lamp is shaded, the glare is cut off and the face is well lighted so that the reflection in the mirror is clear and good. Two convenience outlets are provided, one five feet high at the right of the basin for a curling iron or other attachment, the other in the baseboard for an electric radiator.

The bedroom plans are quite similar. For the center lights, the most useful type of fixture is the semi-indirect for by using larger lamps the general illumination is perceptibly increased, which is not true of all fixtures. These, of course, must hang a foot and a half or two feet from the ceiling. A less conspicuous fixture is a close to the ceiling cluster of lights. These will be more agreeable to look at if shaded or used with ivory tinted lamps. On the score of appearance a prettily tinted or decorated parchment-paper shade flat and close to the ceiling is favored. This seems to be an integral part of the room and does not break the ceiling line perceptibly.

The pair of brackets in each bedroom is to supply light for using the mirror of a bureau, dresser or dressing table comfortably. The correct height depends upon which piece of furniture is chosen. For a dressing table they should be lower than for a dresser.

The convenience outlets in the room provide for bed-side lamps, heating pads, lamps on dressing tables and bureaus, or for a dressing table or bureau that is wired and has brackets attached.

In all closets lights are provided. It is customary to have them controlled either by a switch that turns them on and off with the opening and closing of the door or by a pull chain.



Provides the Load Protection and Power Needed for the Job

To insure safe, dependable delivery of their plumbing supplies, the McGraw - Yarbrough Company of Richmond, Va., contractors in all kinds of plumbing fixtures, purchased the Model 25B Garford shown above.

Protection for the breakables, bath tubs, sinks, etc., is afforded in this truck, not only in the pneumatic and cushion tire equipment, but also in the unusually powerful resilient springs and the special Garford Three-Point Spring Shackles.

These shackles placed in front of the rear springs effectively cushion both load and truck, particularly the rear axle and the springs themselves from damaging jolts and road shocks.

With three points of suspension instead of one, driving and load carrying strains are distributed over several leaves and spring breakage is practically eliminated.

Ample power for steady travel through any kind of going is assured in the perfectly balanced smooth-running engine.

These Garford advantages are giving this user a regular, never-failing delivery service on a lower operating and maintenance cost basis.

They are available for your business. Whatever you haul—sand, bricks, glass, cement, lumber or gravel, Garford Engineers can show you how to haul it in a more efficient, more economical way. Write for further particulars.

The Garford Motor Truck Company, Lima, Ohio

Manufacturers of Motor Trucks 1 to 7½ Tons

GARFORD

DEPENDABLE TRANSPORTATION

No plan for the cellar is shown, but there are eight outlets that provide for the stairs, furnace and laundry. The R. L. M. Standard Dome reflectors with 75 watt white lamps, are very good for cellar use.

The lights are controlled in the cellar and in the kitchen at a switch plate with pilot lights as has been previously mentioned.

The laundry has a raised floor outlet near the tubs for a washer, a pilot lighted outlet for an electric iron, and outlets that will provide for a small stove for a boiler, a mangle, or a fan in summer days.

General considerations in house wiring are these:

The local switch should be located for the greatest amount of convenience. This may mean the use of three or four-way switches. Where more than one switch occurs at the same location it should be covered with a suitable gang plate. Wall switches of the tumbler flush type or flush toggle type, are recommended.

The distributing panel should be provided with extra circuits for future connections. The number of each circuit should be marked in the distributing panels and a typewritten directions of all circuits served placed on the inside of the cabinet door.

Parables of Bildad, the Builder

(Continued from page 128.)

tain the Hidden Couplings for Fifty Bathtubs in As Many Rooms. Take a Medium along if It will Help."

"I thought that Job was Dead as Yesterday's newspaper," he Breathed.

"Not Dead, Blackie—only sleeping," I Opined.

Well, the Fifty Bathtubs came, on Schedule. The Plumbers worked on Schedule. The Fifty Fathers of Families, took Their Saturday Night Baths on the Usual Schedule. And a Hotel Syndicate Proprietor, automobiling through our Town, and Seeing the Hotel so Prosperous, took it Over, and Employed me to Modernize it Still More. He would Have made me Consulting Superintendent of all his Structures, but I Demurred.

"I crave no Notoriety," I said. "I like This town and Here is Where Bildad keeps his Shingle out. But Missus Bildad; I want no Jobs like the Hotel Lazarus happening Every day. I crave Rest, Iced Tea and Slumber. Pack up our Carpet Bag and let us Trek to our Cabin at Pishimagee, where the Woodchuck chucketh, the Woodbine bineth, and There penetrateth No Sound of the Alibi Bird mourning Her First Born!"



A Modern Living Room: The trend in modern homes toward beauty, comfort and refinement is here well illustrated. Notice the ample fireplace and graceful overmantel; the mirror hung from the picture moulding; the casement windows with their substantial drapes; the quiet

elegance of each piece of furniture and especially the rubber tile flooring in alternate shades and tints, so quiet and resilient, so easily cleaned and durable. This is a residence in Kensington, N. Y., Helen Speer, Decorator.

JUST WARM AIR RISING



FRESH MOIST WARM AIR RISING FROM THE SUNBEAM HEATING SYSTEM CIRCULATES HEALTH AND COMFORT THROUGHOUT THE HOME

READ What This Owner Says

Philadelphia, February 19th, 1923

The Fox Furnace Company

Like most other manufacturers, you are probably glad to hear from boosters for your product. I believe you will be interested in why I put warm-air heating in my home and what I think of my Sunbeam Warm-Air Furnace.

I chose a warm-air heating system because I wanted to be more than just warm in the winter time. I wanted to be comfortable. In other words, I wanted my house kept good and warm without that close, stuffy, overheated feeling you get in many houses in winter. I wanted plenty of good, warm, fresh air (moist, not dry) circulating through the house all the time, and I knew that a warm-air heating plant was the only thing that would give it to me. I chose a Sunbeam Warm-Air Furnace because it seemed so well built.

I made the right choice. I don't believe I can express my satisfaction with my Sunbeam Furnace any better than to say just this: If I couldn't replace it, I wouldn't take \$1,000 for it.

D. Friedlander

SURELY that's the kind of heating you'll want in the houses you build—the kind of heating plant that will help you sell your houses in the first place and keep the owners satisfied for many years to come.

Sunbeam Furnaces (Pipe and Pipeless) have many important advantages for the builder besides low first cost and low installation cost. Write today for the complete story.

THE FOX FURNACE COMPANY, ELYRIA, OHIO

Largest Makers of Heating Equipment

Boston Atlanta Cleveland Chicago Denver San Francisco

There is an authorized Sunbeam Dealer near you who can give you quick and efficient service. Let us send you his name.

See Page 1796 in Sweet's Architectural Catalog

SUNBEAM

WARM-AIR HEATING

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



S. Clin Johnson, 1847-1924

S. OLIN JOHNSON, for more than thirty years president of the Penberthy Injector Company of Detroit, Mich., died Saturday, May 17, in Los Angeles, Cal.

Born in Westfield, Mass., June 15, 1847, Mr. Johnson entered the counting rooms of a New York tobacco manufacturer at the age of eighteen. He later was offered an executive position and an interest in a firm of toy manufacturers and continued with this firm until 1877, when ill health forced him to go to Denver. In 1884 he went to Detroit as manager of a knitting concern and two years later became associated with Homer Pennock and William Penberthy in the organization of the Penberthy Injector Company.

Mr. Johnson was a member of many organizations and clubs, among them being the Detroit Board of Commerce, the Detroit Club, the Country Club, the Detroit Athletic Club, the Old Club, the Au Sable Fishing Club, the Michigan Sovereign Consistory, the Essex Golf and Country Club and the Detroit Golf Club.

Chain Belt Officials Named

J. C. MERWIN, works manager of the Chain Belt Company, Milwaukee, was elected second vice-president at the annual meeting of the company held in Milwaukee this month. Mr. Merwin is a graduate of Sheffield Scientific School, Yale University (1910), and has been associated with the company since 1917.

Other new officers elected were: Brinton Welser as secretary and C. E. Stone as assistant secretary. Mr. Welser is a graduate of the University of Wisconsin (1912) and has been with the Chain Belt Company in various capacities ever since. Mr. Stone is assistant to the president, and has also been purchasing agent since 1918. He is a graduate of the University of Michigan (1910).

The officers re-elected were C. R. Messinger, president; Clifford F. Messinger, first vice-president; C. L. Pfeifer, treasurer.

Shingle Producers Organize

S. EVENTEEN shingle mills of the Puget Sound district have effected an organization to be known as the Puget Sound Shingle Manufacturers' Association, which will enforce among its membership the regulations recommended by Secretary of Commerce Herbert Hoover as to grading and standardization of shingles.

Among other regulations which will govern the output of the mills represented in the organization is that which insures that all shingles marketed will run five shingles to two inches, eliminating the shingles which run six to two inches. Another regulation of the organization is that none but vertical grain shingles will be marketed for

roofs. This means that the flat grain shingles and the mixed flat and vertical grain shingles will be used for gables and sidewalls. This will mean that all parts of the shingle log can be used.

The new association, in accordance with the Hoover standards, will market but four grades of shingles, to be known simply as No. 1, No. 2, No. 3, and No. 4.

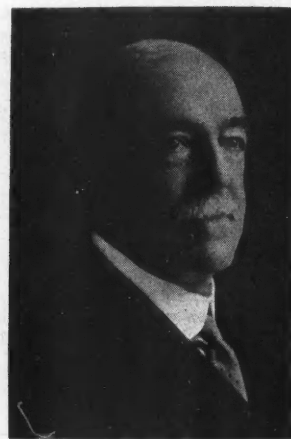
Headquarters of the Association have been established at Ballard, Washington, under the supervision of Ben Kuppenbender. The total capacity of the mills represented in the organization is 1,200,000,000 shingles a year.

Terra Cotta Use Increased

THE Department of Commerce announces that, according to reports for the Census of Manufactures, 1923, the establishments engaged primarily in the manufacture of architectural terra cotta in that year produced 134,810 tons of this product, valued at \$16,827,776, or an average of \$124.27 per ton. Twenty-seven of these establishments also reported other products, such as brick and tile, of a total value of \$15,517,233, the value of their terra cotta production being 90 per cent of the total. In 1922 the total value of all products reported by the establishments which manufactured architectural terra cotta was \$14,981,916, the value of their terra cotta production being 82 per cent of the total.

Fifty Years with Sargent & Co.

A HALF CENTURY of service with one firm is the record of Mr. John H. Shaw, general superintendent of Sargent & Co., manufacturers of hardware, New Haven, Conn.



John H. Shaw, General Superintendent, Sargent & Co.

The celebration of the fiftieth anniversary of Mr. Shaw's joining the Sargent forces was made a special feature of the annual convention of the Sargent sales force, held in New Haven late in June, when Mr. Shaw received the congratulations and best wishes of the entire sales force.

In his fifty years with the company, Mr. Shaw has traveled to many parts of the United States and has a wide acquaintance with hardware dealers and others throughout the country, all of whom will join with the Sargent force in complimenting the general superintendent on his long and useful record.

Families Want Homes

THE home-owning instinct was never so keen as it is today and the opportunity for development was never greater for those catering to these wants, William E. Harmon, of New York, declared before the annual convention of the National Association of Real Estate Boards, held recently in Washington, D. C.

Mr. Harmon spoke from an experience of more than thirty-six years, during which time his firm has operated in twenty-six cities.

"If we realize," he said, "that there probably are one hundred persons in the world with \$10 in ready money to half a dozen with \$100, the sale of real estate on installments can be greatly enlarged by making the first installment as low as possible. The secret of the installment business is that it capitalizes a man's capacity to save money."



Monuments of Integrity

THE contractor or builder who builds with ASBESTONE Magnesia Stucco erects monuments to his business integrity that will endure for generations. Buildings that will be a source of pride to him as well as their owners and a constant recommendation of the quality material and skilled workmanship used in their construction.

The high quality of materials used in ASBESTONE give it many times the strength of ordinary stuccos and elasticity to with-

stand the severest strains. Its unvarying quality is insured by daily laboratory tests and its moderate price especially recommend it to the builder who wants high grade construction within a price limit.

The new ASBESTONE book is out. Ask your dealer or write us for it, and for samples in color tints and pebble dashes.

FRANKLYN R. MULLER, Inc.
208 Madison Street, Waukegan, Ill.

ASBESTONE

EVERLASTING MAGNESIA STUCCO



ASBESTONE Stucco for Exteriors ♦ ASBESTONE Plaster for Interiors

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Books, Bulletins and Catalogs for You

THE literature and publications listed here are available to readers of the American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

"Volume and Profit for the Retail Lumber Dealer" is the title of an interesting description of the 1924 plans of the Celotex Company, 645 North Michigan Avenue, Chicago. The book, attractively bound and illustrated in colors, tells of the advertising campaign of the company for the year and the numerous other dealer helps planned to call the attention of builders to the advantages of Celotex as a building and insulating material. Included in the text is the "Story of Celotex" which tells of the development of the material and of its uses.

"Not a House But a Home," published by the Arkansas Soft Pine Bureau, Little Rock, Arkansas (price \$1, post-paid), presents in a very attractive form twelve house designs by Max F. Mayer. The thirty-two page book, 12 by 19 inches in size, is well illustrated with pen and ink sketches and floor plans of the houses presented. A discussion of each plan presented is given as well as a general discussion of building. The prices of the homes are given as ranging from \$5,331 to \$15,208.

"Elements of Land Economics," by Richard T. Ely, LL.D., Professor of Economics, University of Wisconsin, and Edward W. Morehouse, M. A., Research Instructor of the Institute for Research in Land Economics and Public Utilities, University of Wisconsin. (The MacMillan Company, 66 Fifth Avenue, New York; price \$3.50.)

This is the second of a series of books dealing with subjects in the real estate field sponsored by the National Association of Real Estate Boards, the Institute for Research

in Land Economics, and the United Y. M. C. A. Schools. The series is being published because of the realization that one of the greatest needs in the real estate field today is for educational courses, not only for the men who now are engaged in the business but also for those who are coming into it.

"Elements of Land Economics" is a survey of land as an economic factor and is planned to furnish a foundation of economic principles for the treatment of land as a commodity. The volume gives the results of many years of research and is written in a readable and pleasing manner. An appendix contains a number of interesting and informative tables, such as one showing the per cent of total land area devoted to various classes of uses; the vacant land in thirteen American cities; proportion of owned and rented homes by geographic divisions and other tables of a like nature.



Answers to Roof Framing Problems on Page 119

- 1. The length of the hip rafter is 14.1421 feet = 14'-1 11/16".
2. (a) The pitch of the roof is 1/4 or 6" rise per foot run.
(b) The "length per foot run" for this pitch is 18 inches. (For the hip rafter.)
(c) The length of hip rafter is 10 x 18 inches = 180 inches = 15 feet.
(d) The numbers to be used for the top and seat cuts are 17 and 6.
(e) The numbers for the side cuts of the hip rafter are 17 and 18.

A Special Inducement

to enable you to discover the ease of application, economy and lasting beauty of Cameo. We want you to try it for yourself.

The attached coupon and \$2.00 will bring you 1 quart each of Cameo White Flat and Cameo White Enamel. Specify whether you wish Gloss or Matte (Satin Finish) (Regular Sales price \$3.55).

CAMEO

White Enamels and White Flat

Specifications in Sweet's

DENNY, HILBORN & ROSENBACH Chicago, PHILADELPHIA, New York.

Fill out and mail this coupon today.

Denny, Hilborn & Rosenbach, 316 W. Washington St., Chicago

Attached is \$2.00 for which please send me one quart each of Cameo White Flat and Cameo White Enamel Gloss or Matte.

My Dealer's Name.....

Name.....

Address.....

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



This shows a house insulated with Cabot's Quilt, ready to receive the outside finish. Russell S. Walcott, Archt., Chicago, Ill.

Build your House Like a Fireless Cooker

A fireless cooker keeps hot because it holds the heat. It cooks foods with only a fraction of the heat required in a stove, because that heat cannot escape.

Cabot's Insulating "QUILT"

keeps your whole house warm in the same way. It holds the heat of your heater by insulation. It saves coal enough to pay for itself in two hard winters, besides keeping the house warm and comfortable for all time and reducing doctor's bills. "Build warm houses; it is cheaper than heating cold ones."

Send for a sample of Quilt



Cabot's Creosote Shingle Stains

SAMUEL CABOT, Inc.

Manufacturing Chemist

141 Milk Street Boston, Mass.

342 Madison Ave., New York 24 West Kinzie St., Chicago

Agents Everywhere



Masonic Temple Ironwood, Mich.

Live Mid-West Cities Prefer Brasco Fronts

The stores shown here are representative of the thousands in middle-west towns of all sizes equipped with Brasco Store Fronts.

The importance of attractive windows is recognized by progressive merchants in smaller towns fully as well as in any of the big cities. A Brasco Front will dominate any location, will attractively frame the merchandise and make sales even before customers enter the store.

Strength, glass safety, beauty, permanence and adaptability to any size or type of store make Brasco the logical choice for all store front requirements.

Contractors, architects, owners and merchants everywhere use and recommend Brasco Store Fronts.

Contractors find Brasco installations steady business builders. They also find that Brasco sash requires less labor and less millwork. The finished job is always satisfactory, and one Brasco front sells another.

Mail the coupon below for full information.

Brasco Manufacturing Company
5029 South Wabash Ave., Chicago, Illinois

Brasco

COPPER STORE FRONTS

BRASCO MFG. CO., 5029 So. Wabash Ave., Chicago, Ill.

We would like to know more about Brasco Store Fronts.

Name

Address

Business

AB-7-24

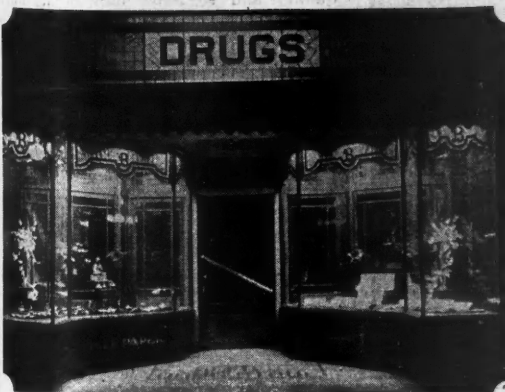
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Kleeman's, Terre Haute, Ind.



Above, Grand Leader Store, Fairfield, Ill.
Below, Beer's Drug Store, Centerville, Iowa



Books, Bulletins and Catalogs for You

THE literature and publications listed here are available to readers of the American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

Six Quick Steps for anchoring wood floors to concrete without a fill, are described and illustrated in a publication of that name issued by the Bull Dog Floor Clip Company, 108 North First Avenue, Winterset, Iowa. The bulletin, of twenty-six pages and most attractively bound, gives in detail all of the processes of laying a wood floor over concrete by the use of the Bull Dog floor clips.

The Building Estimator's Reference Book (Frank R. Walker Co., 536 Lake Shore Drive, Chicago, Ill.; price, \$10) is the fifth (1924) edition of the work by Frank B. Walker, is declared to be completely new. All of the estimates and costs have been checked with present-day costs and costs are itemized, enabling the contractor or estimator to substitute local material prices or wage scales where necessary. The 1,600 page book is 4½ by 6½ inches, bound flexibly. With it is given the Vest Pocket Estimator, a pocket size book giving in tabular form the information most often needed by the estimator.

Ohio Motors, the product of the Ohio Electric & Controller Company, 5900 Maurice Avenue, Cleveland, Ohio, are cataloged in bulletin 204 issued by that company. The motors described are designed for application to domestic machinery, pumps and other devices operated from lighting circuits.

Selected Monuments of French Gothic Architecture. (The Pencil Points Press, Inc., 19 East Twenty-fourth Street, New York, N. Y. Price, \$6.) One hundred plates from the Archives de la Commission des Monuments Historiques, with text by John V. Van Pelt, F. A. I. A., A. D. G. F. Quarto

size, bound in buckram and boards. The third volume of the "Library of Architectural Documents."

France of the Middle Ages probably saw the highest development of the purely Gothic style of architecture, with its multitude of cathedrals, many of them the work of centuries, and other historic structures exemplifying the art of their designers and the craftsmanship of their builders.

Restorations of these buildings, many of them neglected, were initiated in 1837 by an Act of the Ministry of the Interior, with eight men on the commission charged with the work. In 1887 a revision of the law was enacted, so that thirty-seven men were placed on the commission, which was so composed as to include the most noted members of the administration, and the most famous archaeologists and architects of the period.

In the work, a vast number of measured drawings were accumulated, some of them of the actual condition of the buildings, some showing the restored condition, a faithful reproduction of original design.

Selected reproductions of this vast amount of work were published in seven volumes. The originals were expensive and soon were out of print. It is from these that the plates in the American volume have been reproduced.

Fifty of the plates are devoted to the cathedrals of France, the other fifty to other historical churches and structures. The structures and their details are presented with remarkable clearness.

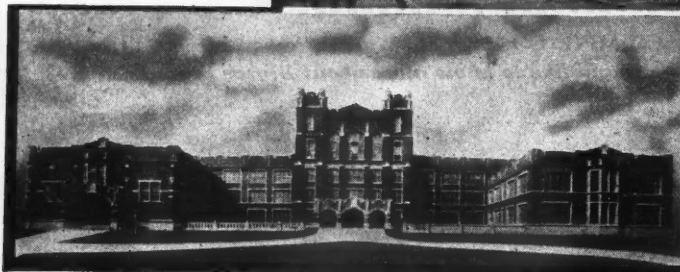
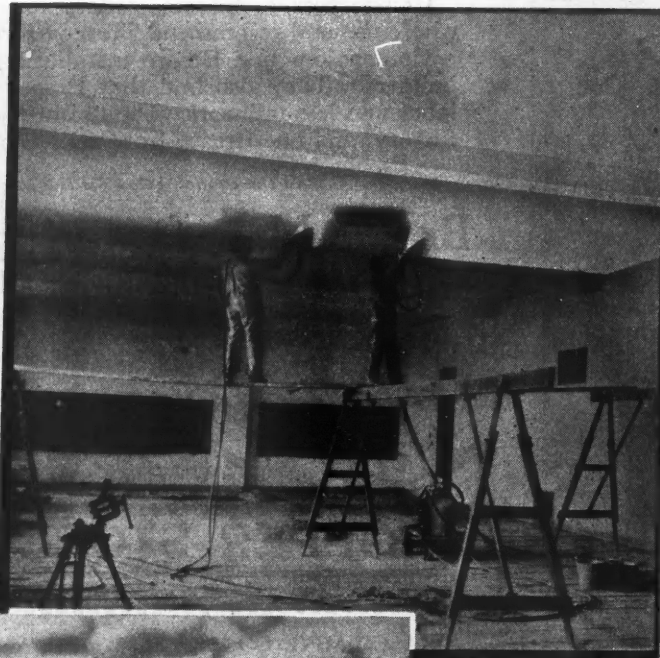
"**The Principles of Real Estate Practice.**" by Ernest McKinley Fisher, M. A. (The MacMillan Company, 66 Fifth Avenue, New York, N. Y.; price \$3.50). This is the first of a series of books fostered by the National Association of Real Estate Boards, and other groups looking toward an adequate educational program in the real estate field. It has found an extensive use as a text book in colleges, Y. M. C. A. schools and real estate offices.

Better Painting—Greater Profits

IN the new 2000-student capacity high school building pictured below, the wall and ceiling surface was spray-painted with DeVilbiss equipment.

The contractor who did the spray-painting reported that three coat work, greater in hiding power and highly superior in quality, was done with a coverage of over 600 sq. ft. to the gallon of paint; further, that on the entire job he effected a saving in excess of 70% on the single item of labor.

The larger picture at the right shows the spray-painting operation in one of the class rooms.



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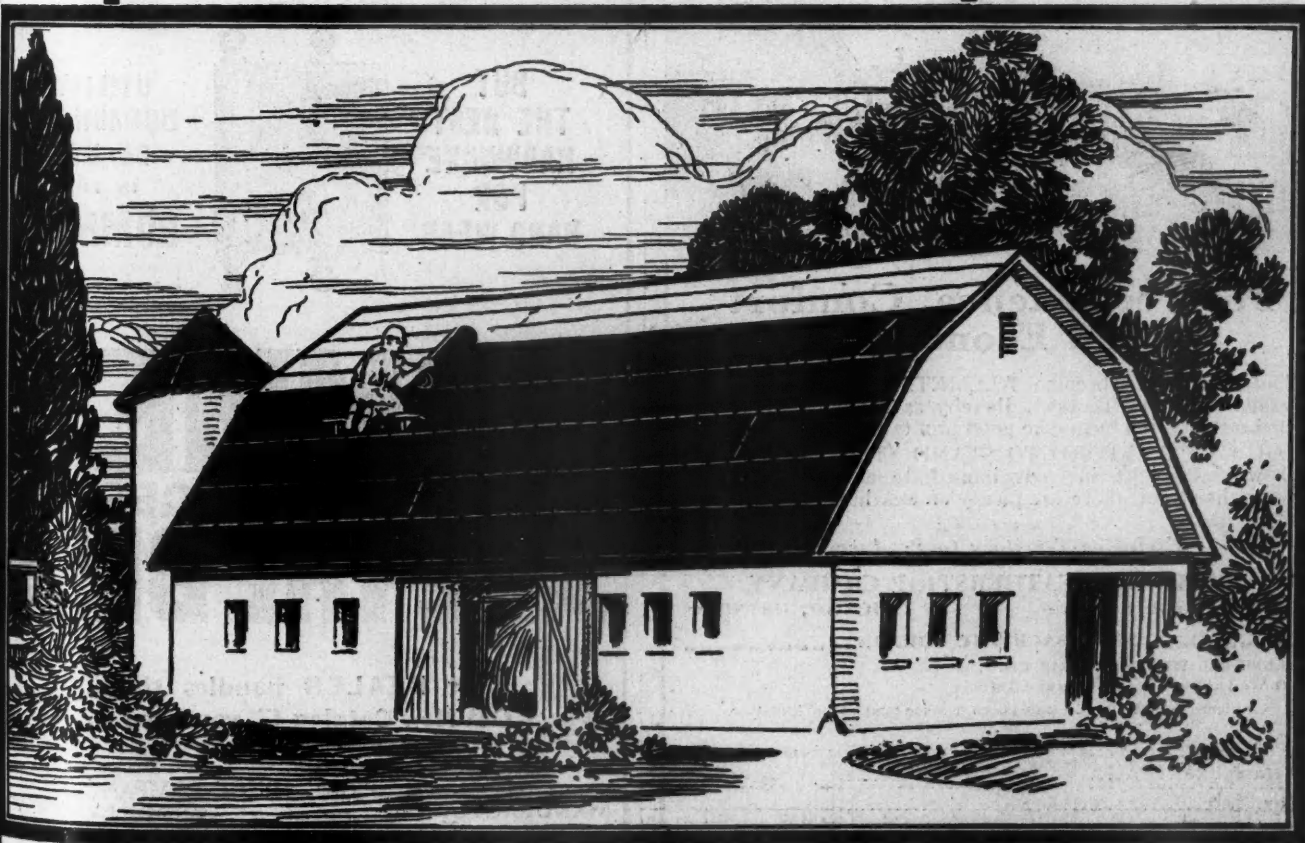
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Books, Bulletins and Catalogs for You

THE literature and publications listed here are available to readers of the American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

"Styles in Roofs" is the title of a most attractive twenty-four page booklet issued by the Beaver Products Company, Inc., Buffalo, N. Y., which describes the slate surfaced asphalt shingles, slabs and roll roofing manufactured by the company. The publication deals in an authoritative manner with making homes more valuable through roof beauty; the development of asphalt and goes at length into the matter of selecting the proper roof material for different types of residences and industrial buildings. This department is well illustrated with pictures showing different types of structures with the roofs which are the most fitting for each. This information is given in addition to a description of the roofing materials manufactured by the Beaver Products Company.

"Historic Mahogany" is the title of a very attractive booklet issued by the Mahogany Association, Inc., 1133 Broadway, New York, N. Y. It deals with the design and development of furniture by men whose names have become famous through their art in fashioning wood into beautiful fittings for homes.

"Heat Insulation" is the subject of a twenty-four page booklet of standard size for architects' files published by Samuel Cabot, Inc., Boston, Mass. The publication describes Cabot's quilt as an insulating material and tells of its many uses in the building field.

Residence Wall Construction is explained in an attractive booklet issued by the Truscon Steel Company, Youngstown, Ohio. The title of the book, "Beautiful and Permanent Walls and Ceilings Are the Body of Architectural Excellence," gives an idea of its contents, which deal particu-

larly with the latest developments in the erection of metal lath and stucco walls. The publication, which is generously illustrated, tells of the fire-resistant and crack-proof qualities of such walls when properly erected.

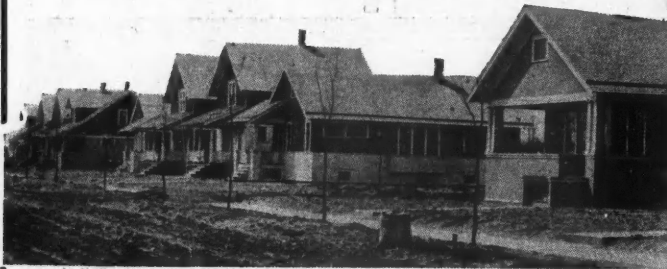
Concrete Garages, their advantages and suggestions for building them are the topic of a publication by that name issued by the Portland Cement Association, 111 West Washington Street, Chicago, Ill. The booklet is illustrated with a number of attractive concrete garages of different types and has a number of valuable suggestions for the building of this type of structure.

"Early American Ornamental Cornices," by Aymar Embury, II, is published as Volume 10, No. 3, of the White Pine series of architectural monographs, from the office of the White Pine Bureau, Merchants Bank Building, St. Paul, Minn. The monograph is very well illustrated with the early American houses referred to in the text and with plates from Builders' guide books published more than a century ago. The text is very pleasant and capably written.

"They Weather All Weather," is the title given to a booklet, illustrated in color, describing the "Genasco Latite Shingles," made by the Barber Asphalt Company, Philadelphia, Pa. The different shades in which the shingles are available are shown by means of colored plates and a number of halftones illustrate homes of all types where the material has been used. The text gives a complete description of the exclusive features of the shingles and their advantages for various types of buildings.

Miami Pure White Cabinets are described and illustrated in Catalog No. 4, issued by the Miami Cabinet Company, Middletown, Ohio. The advantages of all-steel construction and the special process enameling are told and shown in detail.

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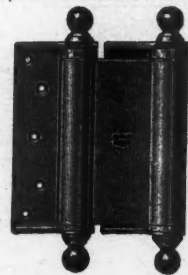
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Fall is Ideal Painting Season

Better Condition of Wood, Freedom from Flies, Better Drying Conditions
Some Reasons for Autumn Painting

FROM the builder's standpoint there is every reason to encourage fall painting. If for no other reason than he can turn out a better job he should advocate doing work at that time. But when he can do a better job and make a better profit he has a double reason for favoring fall work. And he can make a better profit for he can secure better help and avoid the annoyance and delays that often go with summer painting.

Painting is not just an incident of building. It is sometimes so regarded by the owner and in some instances too lightly held by the builder. But when the preservative qualities, the added beauty and the protection of paint are considered there is every urge for the builder and owner to join hands for a quality job done in a workmanlike manner.

Now any one of those reasons will appeal to the thinking man as good cause for preferring fall painting and all of them constitute a case for fall work that should encourage more painting at this season of the year.

New work is quite apt to reach the painting stage during the late summer or early fall. Some owners are

inclined to regret that they are apt to think is a delay, but if the builder will show them the advantages of fall decorating they will look upon the situation as fortunate and prefer the work should be done at this season.

Foster fall painting. It pays owner, builder and master painter. If the public has the facts there is no good reason why fall should not rival spring as painting time.



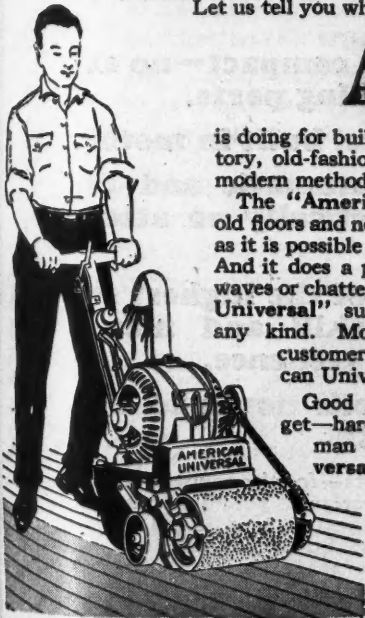
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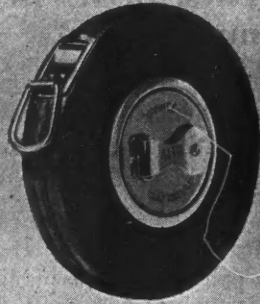
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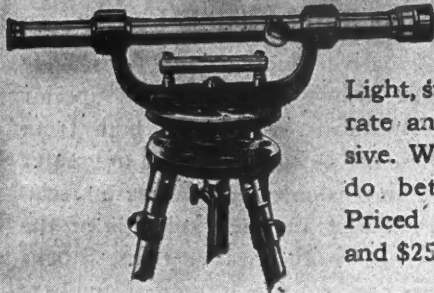


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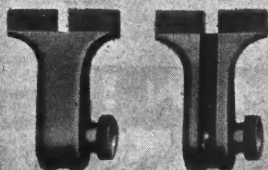
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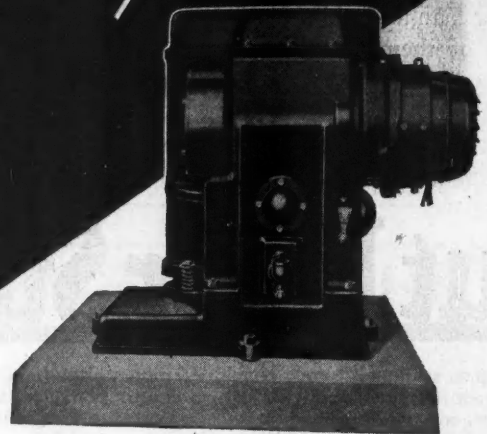


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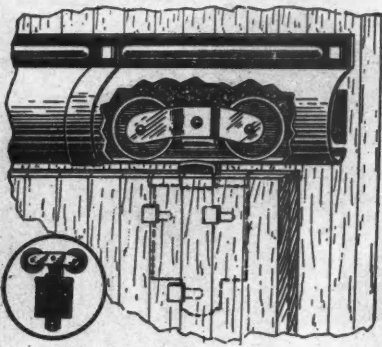
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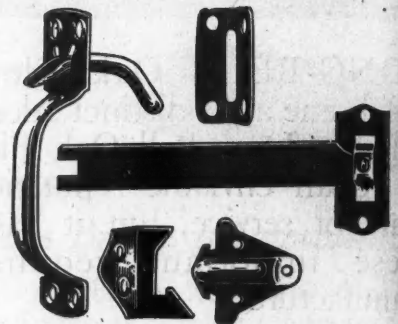
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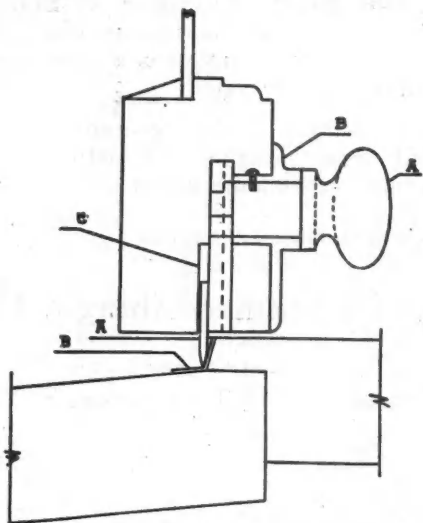
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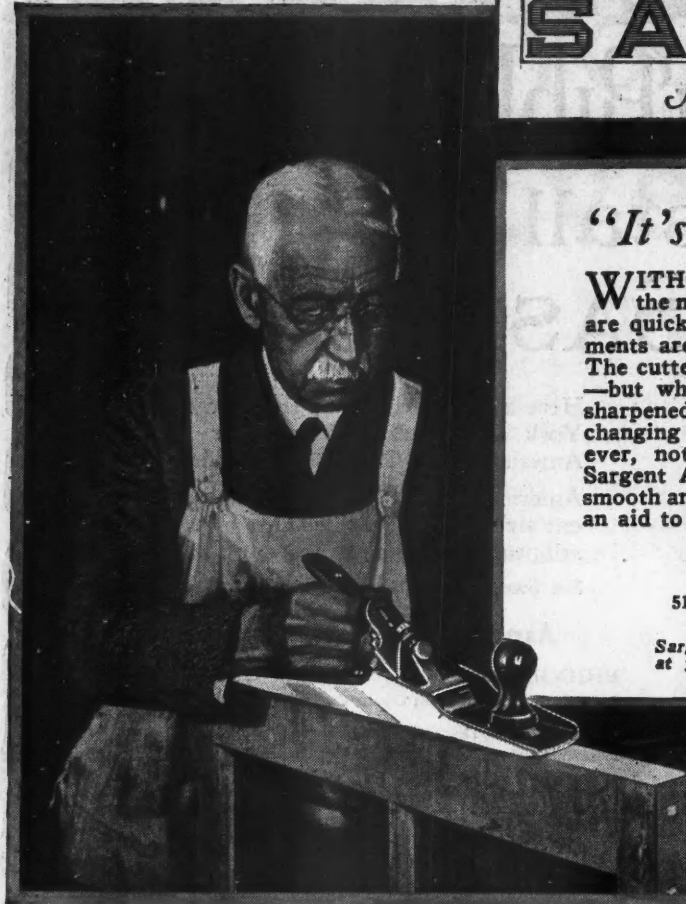
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 GIANT
 for WORK*

The **LAST WORD IN TILTERS!** A speedy, sturdy portable tilting mixer that will double your production with half the men. **ONE MAN** and a "Bulldog" can do the work of five or six. Take it right to the job and pour direct into forms. Speed means **PROFIT**. Learn more about this wonderful mixer today. It handles any kind of concrete mix or plaster. Its low first cost and long life means genuine satisfaction!

Write today for Folder No. 42. No Obligation.

RABER & LANG MFG. CO.
 828 MILL ST.
 KENDALLVILLE, INDIANA



**SEND THIS
 COUPON NOW!**

Raber & Lang Mfg. Co.,
 828 Mill St.
 Kendallville, Indiana

Gentlemen: Please send me your circular No. 42 about the profitable Bulldog Tilter Concrete Mixers, with prices

Name _____
 Town _____
 State _____

Also makers of

- "Crescent" Continuous Mixers
- "Bulldog" Power Batch Mixers
- "Crescent" Power Block Tampers
- "Crescent" Power Brick Machines
- "Crescent" Foot Power Brick Machines
- "Crescent" Sewer Pipe and Tile Molds
- "Little Wonder" Hand Brick Molds

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WHEELING HAND DIPPED Conductor Pipe

THE newly developed WHEELING HAND DIPPED CONDUCTOR PIPE offers the first practical solution of the question of a dependable, permanent conductor at a moderate cost. It affords triple protection against rust through a combination of the following three features—

- 1 The metal itself is copper bearing steel, a well known rust resistant.
- 2 The terne coating (lead and tin) adds to its resistive quality.
- 3 Hand dipping in melted zinc after forming adds extra weight to the coating and seals all seams and edges, effecting an even, unbroken coat.

WHEELING HAND DIPPED ZINC CONDUCTOR in Plain Round, Round Corrugated and Square Corrugated is carried in complete stocks and sizes at all our warehouses. Write the nearest one for complete information.

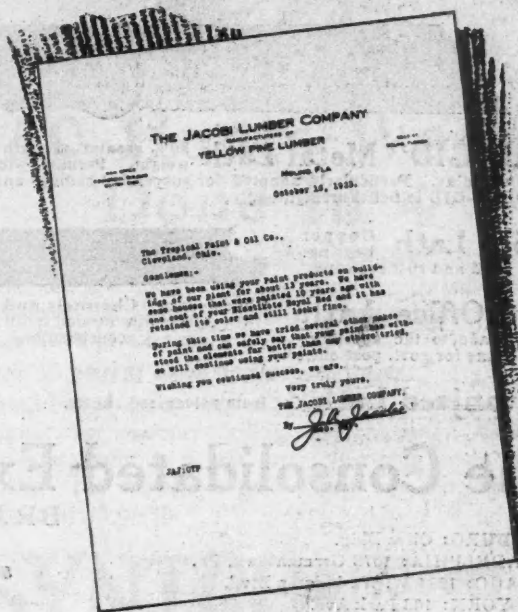
Wheeling Corrugating Company Wheeling, W. Va.

New York Kansas City Chicago Philadelphia
Richmond St. Louis Chattanooga Minneapolis

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

One Coat of ELASTIKOTE Lasts Ten Years

Read this Letter for Proof:



ELASTIKOTE Will Save Money for You

Elastikote is made in a different way—that is why it covers more surface per gallon, has greater hiding power and lasts longer than any other exterior paint. Write for copies of letters from users that prove these claims.

Elastikote costs less per square foot of surface covered than any other reliable exterior paint you can buy. We sell direct to Building Contractors. Send the coupon for complete information and prices.

The Tropical Paint & Oil Co.

"The Right Paint for Every Surface"

1232-74 West 70th St. Cleveland, Ohio

Send this coupon for more facts about Elastikote

The Tropical Paint & Oil Co.,
1232-1274 W. 70th St., Cleveland, Ohio.

Please send me letters from users, illustrated color card, circular and Building Contractor's prices on Elastikote.

Am also interested in paints for _____

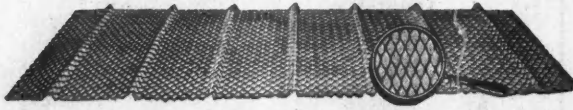
Name _____

Street No. _____

City _____ State _____

For Every Metal Lath Requirement

"STEELCRETE" Metal Lath A standard diamond lath, known wherever Metal Lath is used.



"RID-GID" Metal Lath 30% greater strength with no added weight. Permits wider spacing of studding. Particularly adapted for suspended ceilings and similar work. RID-GID is Self-Furring, too.

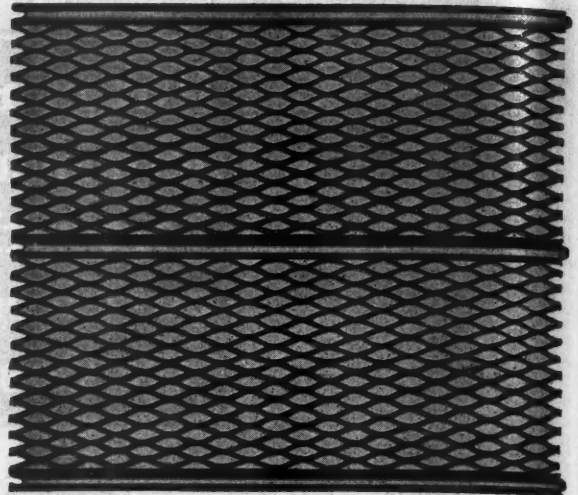
Copal Lath Copper bearing. Acid and rust resisting.

Post Office Lath Made to the specifications for govt. post offices.

Galvanized Lath Cut from galvanized sheets.



"Steelcrete" Channels and Corner Beads Accessories needed in all fireproof construction.



"Steelcrete" Rib Lath

A diamond mesh Metal Lath with solid ribs giving stiffness and strength. A time and labor saving lath that is gaining tremendous popularity.

Send for the "Steelcrete Products" booklet giving weights and sizes; also ask for bulletins on "Steelcrete" Rib Lath, and Copal or RID-GID Metal Laths.

The Consolidated Expanded Metal Companies

BRADDOCK, PA.

PITTSBURGH: Olive Bldg.
PHILADELPHIA: 1075 Germantown, Pa.
CHICAGO: 1234 W. Washington Blvd.
NEW YORK: 103 Park Ave.



CLEVELAND: 450 Leader News Bldg.
DETROIT: Majestic Bldg.
MINNEAPOLIS: Builders Exchange.

"ANTI-HYDRO" KEEPS a Canal Out of This Building

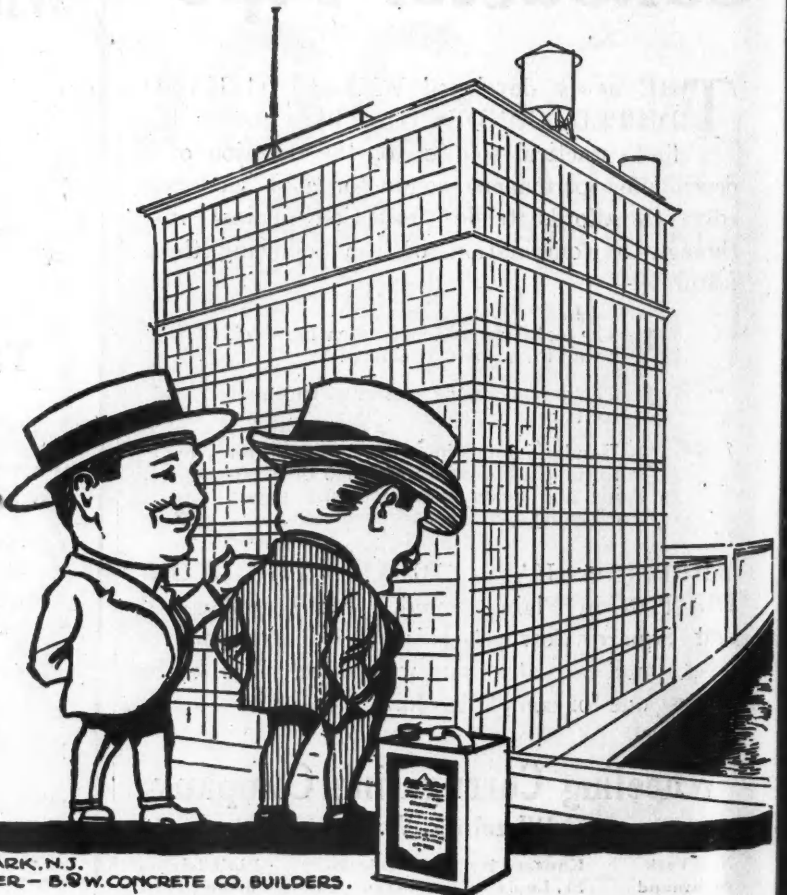
The concrete basement wall is also the canal wall. Water flows continually against the outside, but the inside of the wall is dry as a bone.

This concrete wall was waterproofed with "ANTI-HYDRO" eleven years ago. Not a drop of moisture has ever penetrated through it during all these years.

"ANTI-HYDRO" waterproofs concrete permanently against any head of water. It also increases both the tensile and compressive strength of concrete and makes it extremely hard, all in one operation.

Being a liquid integral compound, "ANTI-HYDRO" is easy to use. It mixes readily with the gauging water without the aid of skilled labor. For 20 years "ANTI-HYDRO" has been the accepted standard. Be sure to use it on your next job.

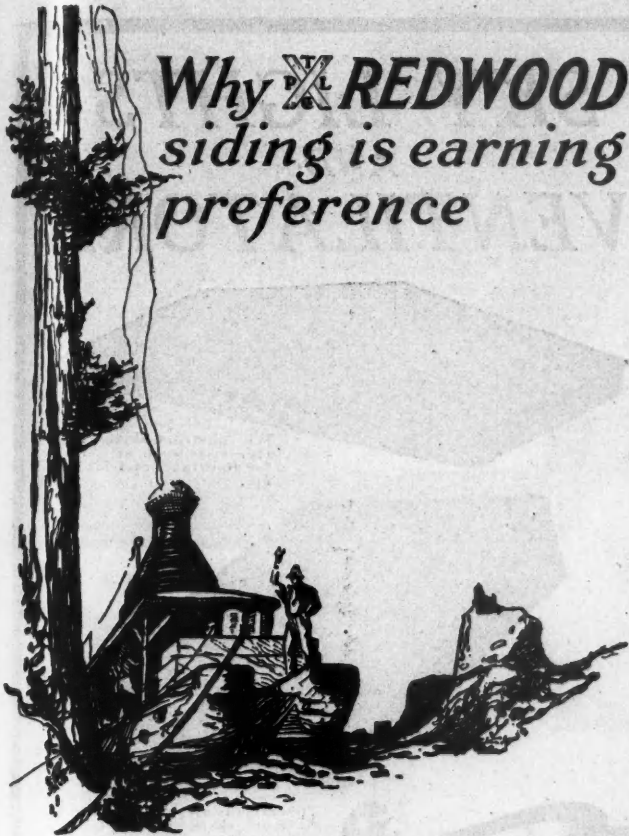
ANTI-HYDRO WATERPROOFING CO.
265 Badger Ave. NEWARK, N. J.



STOUTENBURGH BUILDING, NEWARK, N.J.
FREDERICK PHELPS, ARCHT. - M.N. SHOEMAKER, ENGINEER - B.S.W. CONCRETE CO. BUILDERS.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Bunga
or
Colon
Sidin



Why ~~X~~ REDWOOD siding is earning preference

Bevel Siding

ALL TPL Co. bevel siding is trimmed to exact length, which not only makes close specification easy but also saves carpenter's labor and cuts down the expense of the job.

Each length is bundled separately and each bundle is stencilled with total surface measure footage, grade and the TPL Co. trade-mark. This makes it easier to supervise and check both grade and quantity.

Sizes are 1/2" by 4", 5" and 6", lengths 3' to 7' and 8' to 20'.

Supplied in 3 grades—clear all heart stock for the highest grade work—"A" practically clear except for bright sap—"B" for cheaper construction where slight defects are not objectionable.

Bungalow or Colonial Siding

MADE from 1" and 1 1/4" rough lumber in 8", 10" and 12" widths, lengths bundled separately and stencilled with grade and trade-mark. Clear and A grades only.

In comparing the price of Redwood with that of other woods whose initial cost may be slightly less, consideration should be given to Redwood's great durability, its resistance to fungus decay and its non-shrinking and non-warping qualities. With labor cost at present levels it is doubly important that the best and most durable lumber should be specified.

For best results we recommend that all siding be primed before laying. This eliminates absorption of moisture which is the common cause of many difficulties in exterior painting and interior finishing.

We will gladly send lists and detailed information on all items of Redwood millwork and lumber for building construction and architectural purposes. Write for them today.

THE PACIFIC LUMBER CO. of Illinois
 CHICAGO 3066 McCormick Building 933 Perishing Square Building
 332 South Michigan Avenue 100 East 62nd Street
 THE PACIFIC LUMBER CO.
 SAN FRANCISCO 311 California Street
 LOS ANGELES Central Building
 6th & Main Streets

The Pacific Lumber Co. Redwood

The Largest Manufacturers and Distributors of California Redwood.



Just plug into any lamp socket

50 Hours Work Done In 4

The Montgomery Iron & Steel Co., Philadelphia, writes, "We had 250 holes to drill in concrete. By hand it was a 50-hour job. With a Syntron Electric Hammer one man did it in 4 hours."

Over 90 percent saved in time and wages!

Hundreds of contractors and industrial plants use the Syntron for masonry drilling and chipping. Carried about as easily as a suit case. Just plug into a lamp socket. No motors or gears—only one moving part instead of 25 or 30.

SYNTRON Electric Hammer

National Electric Manufacturing Co.
 907 Chatfield-Woods Bldg. Pittsburgh, Pa.



Only the Piston Moves

Send for Specification Sheet and complete data on this remarkable tool.

National Electric Mfg. Co.
 907 Chatfield-Woods Bldg., Pittsburgh, Pa.

Send me, without obligation, full details and Specification Sheet for the use of the Syntron Electric Hammer.

Name.....
 Firm.....
 Business.....
 Street.....
 City..... State.....



These side sashes are operated singly or in batteries. The sashes are pivoted and very easily operated.

Willis offers one of the country's most complete line of ventilators and skylights. Made in varying design and sizes to fit every need, these products command the attention of all classes of builders.

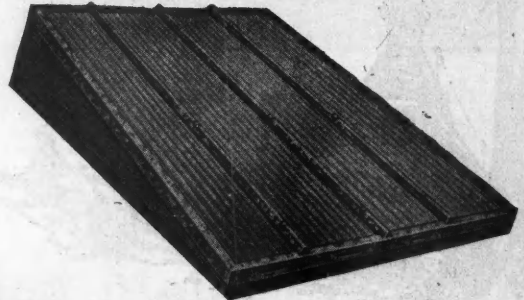
They are so simply designed that any carpenter can install them quickly and easily with a hammer and nails.

Ask for the Willis catalog of sheet metal products.

SKY LIGHTS AND VENTILATORS



We construct skylights of this style such as is used for lighting hotel lobbies, etc.



This style is also made as a continuous skylight for factory buildings.

WILLIS MANUFACTURING CO.
GALESBURG, ILL.



TRAVEL TO NEW YORK BY SEA

PLAN YOUR TRIP NOW California to New York

OR VICE VERSA
VIA PANAMA

A comfortable sea cruise, visiting nine ports in six foreign countries—a month of rest, comfort and pleasure.

Pacific Mail Liners are built especially for cruising in tropical waters, with broad, breeze swept promenade decks. The staterooms each contain two lower beds and are commodious, attractively furnished, and equipped with electric fans and electric reading lamp at every bed. Cool lounges, luxurious social halls. Music, dancing. Spacious dining room, open to breezes on all sides.

Low, attractive **\$250** and first class fares **up**

For reservations and complete information apply to

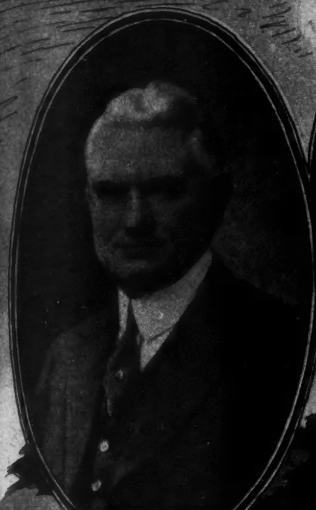
Pacific Mail Steamship Company

508 California St., San Francisco, Cal.
503 So. Spring St., Los Angeles, Cal.
10 Hanover Square, New York, N. Y.

- Sailings from San Francisco every 28 days
- S. S. ECUADOR.....Sails July 22
 - S. S. VENEZUELA.....Sails August 30
 - S. S. ECUADOR.....Sails September 30

Steamship and Tourist Agents everywhere will also furnish full details and sell tickets

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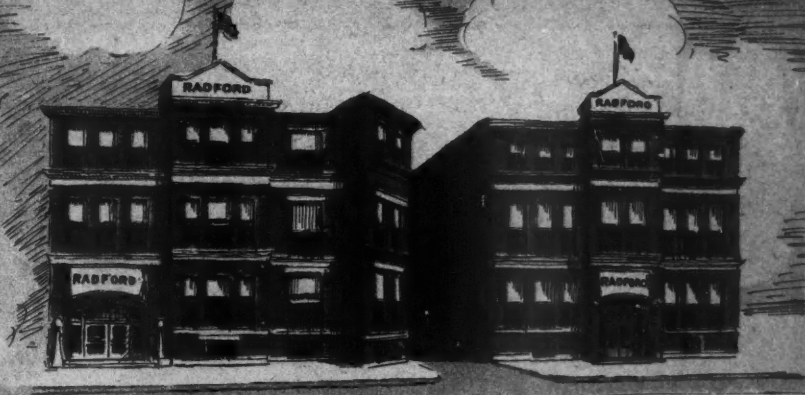
Wm. A. Radford



R. D. Radford



Wm. A. Radford, Jr.



Home Offices of
Radford Land Organization
1827-1901 Prairie Ave. Chicago, Ill.

Radford Land Organization Is Nation-Wide

OUR representatives, located in the principal cities and land centers of the United States are men competent by training and experience to lend the most expert aid to those who want to buy or sell land. Each has an intimate knowledge of land values in his locality. Each knows of the most desirable places that are to be had—farms, orchards, poultry farms, ranches, plantations or estates.

Radford Land Organization Brings Land Buyers and Sellers Together

Whether you wish to buy or sell land, Radford Land Organization can be of the greatest service to you. It is a clearing house to which both may come to their advantage. No matter where you are, where you want to be, or what type of land you want to buy or sell, Radford Land Organization is at your service.

Many Who Live In Cities Would Like To Own Land

Many land owners for a variety of reasons would like to dispose of their places and acquire land in some other locality—some other climate, or engage in a different type of activity. To both city men and land owners Radford Land Organization offers a service that is unexcelled. Its representatives are men whose judgment can be relied upon—they have been educated in the school of land experience—they can be depended upon to give real service to either buyer or seller.

If You Are Considering a Purchase of Land

anywhere in the United States write telling us of your wants—There is no obligation on your part.

If You Have Land to Sell

send us a full description of it. It will be included in our list, compiled for those who are seeking land. This listing is absolutely free.



This is the first of a series of four-page advertisements to appear each month in Farm Mechanics Magazine. They will contain some wonderful opportunities. Watch for them.



Radford Land Organization

1827-1901 Prairie Avenue

Chicago, Illinois



Independence The land owner is the most independent man on earth. He is at the head of his own business. His home is his own—he owns his land—the fruits of his fields add to the health and happiness and prosperity of himself and his family. Industries may fail—commercial enterprises may be wiped out—but land is always land—it does not change, and always produces a comfortable living.

Health Neither man nor science has been able to improve on Nature's health producers—fresh, pure air and sunshine. Land owners are blest with these in abundance. Those who are seeking the most healthful mode of life will find it on the land. Pure, rich food—milk, butter and eggs and fruits and vegetables—are to be had at its finest in the country—right at its source.

Happiness What is finer—more conducive to satisfaction with life than to live in the country. The wide acres, the orchards, the woods and the hills all provide a healthful playground for the children, and clean, comfortable surroundings for the older members of the family.

Prosperity Not every land owner becomes rich, but with few exceptions he accumulates a comfortable estate. This is something that the average city man cannot do. Operating a farm is steadily becoming more easy. Farming today is not the hard job of our fathers. Modern machinery and methods have enabled present-day farmers to be big producers with a minimum amount of labor. Power and machinery now do what brawn and muscle did formerly.

There are wonderful opportunities on the land. Investigate them. Radford Land Organization will help you.

If you have land for sale it costs you nothing to list it with Radford Land Organization.

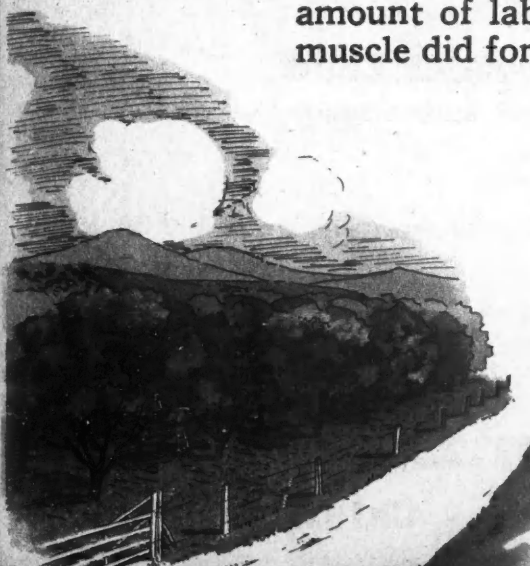


Watch for our big four-page advertisement in Farm Mechanics Magazine each month. There are great opportunities awaiting you.

Radford Land Organization

1827-1901 Prairie Avenue

Chicago, Illinois



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Do You Want to Buy Land?

A Farm Farm lands have recovered from their post-war inflation. Farm lands can now be secured at a price that will enable owners to reap a comfortable return on their investment. Deflation and other circumstances over which land owners had no control have forced some to sell—forced sales in the settlement of estates have created some wonderful bargains in farm lands. The wise investor puts his money in land. It is the safest investment on earth. Now is the time to secure that farm that you have been wanting. **Radford Land Organization** is in a position to put you in touch with land bargains. Farms of every description, grain, dairy, poultry, garden truck, or fruit farms all may be secured now at a price that insures stable returns.

A Ranch Land peculiarly suited to livestock raising is available in many sections. Many of these ranches are being offered for sale at prices that will bring a handsome return. Fruit ranches make a most attractive proposition. They combine high returns with the most desirable of country homes. Foremost judges of these two types of ranches are members of **Radford Land Organization**. These men offer a type of service that cannot be found elsewhere. Their services and knowledge are available through the **Radford Land Organization**.

A Plantation Farming on a plantation in the Sunny South has brought enormous returns during the last few years. Cotton, sugar cane and early fruits bring high prices. For various reasons some of these plantations are being offered for sale. **Radford Land Organization** can be of service to those who want to locate in a milder climate and combine with a pleasant life a most profitable type of agriculture.

An Estate Business men who are forced to spend a part of their time in the cities find it healthful, pleasant and profitable to have a country estate. Whether it be plain farming, breeding pure-bred livestock or maintaining a country place for the family and for the entertainment of guests, an estate brings large returns in satisfaction and pride of land ownership. **Radford Land Organization** can be of greatest assistance in helping those who want country estates to find exactly what they desire.

Remember Your land listed without any cost to you. Get your listing in early. Watch for the next of the series of four-page advertisements appearing each month in *Farm Mechanics Magazine*.

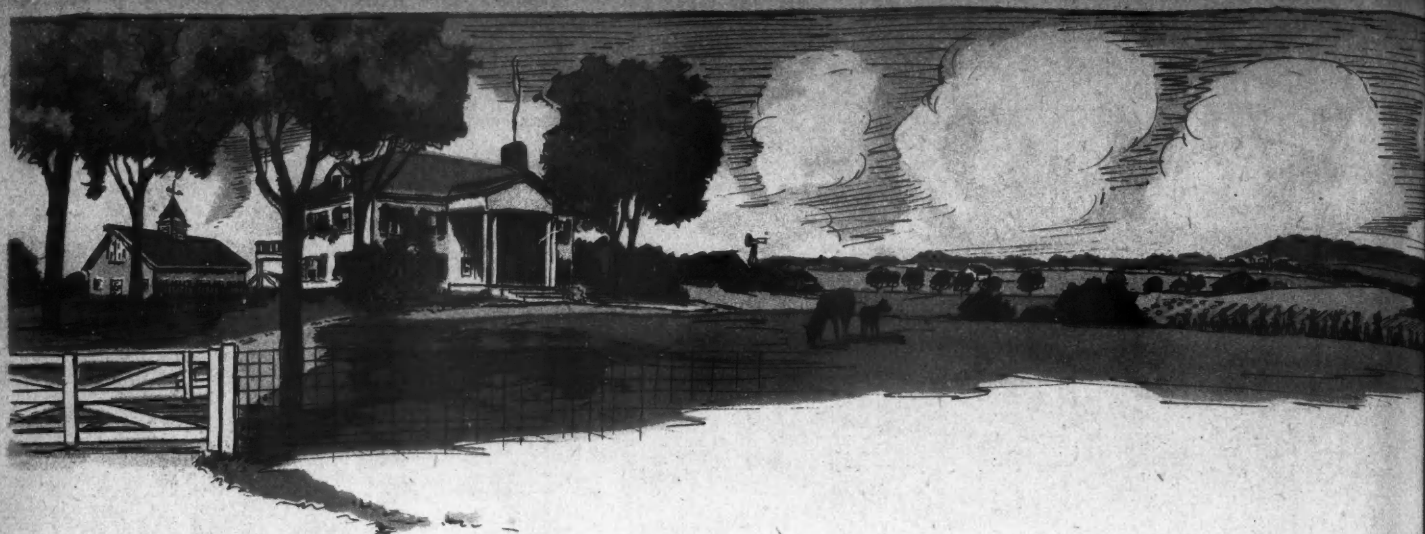
RADFORD
3

Radford Land Organization

1827-1901 Prairie Avenue

Chicago, Illinois





List Your Land for Sale With Radford Land Organization

THERE is a buyer waiting for every piece of land. Slow movement of land merely means that you have not the ability to get in touch with the persons who are seeking just the type of land you want to sell.

Radford Land Organization Lists Your Land FREE

THERE is no charge made for listing land that is for sale. This **FREE LISTING** is of great value to you. It puts your property before thousands of those who want to buy land. It is the clearing house where buyer and seller are brought together. The more quickly you list your land, the greater opportunity you have to make a quick sale.

Representatives in Land Centers

HOME offices of Radford Land Organization are in Chicago (see pictures at top of page 1). Chicago is ideally located to bring together the land owners and buyers of the West, East, North and South. It is the hub of the land sales of the country. Radford Land Organization offices in the large cities of the country mean added service to you—whether you are a buyer or seller.

Great FREE LISTING of Radford Land Organization

Radford Land Organization offers to prospective land buyers an efficient purchasing personnel. To those who have land to sell Radford Land Organization is in a position to get your offer before the greatest number of prospective purchasers. Lands for sale are listed absolutely free.

Make Your Wants Known Through Radford Land Organization

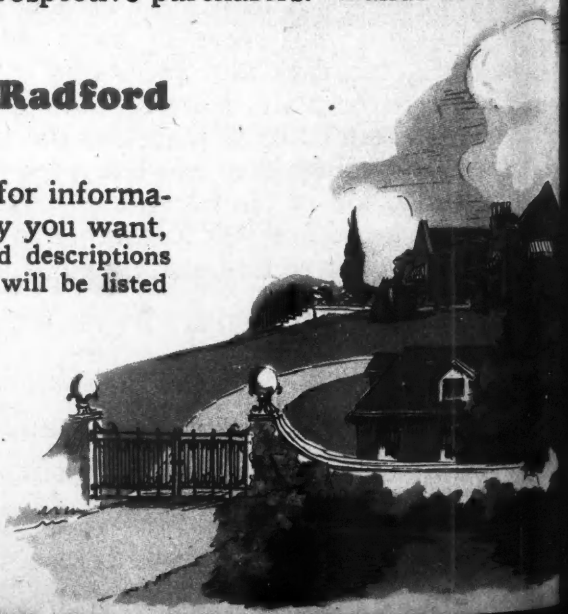
Write today to Radford Land Organization asking for information about land for sale. Tell us what sort of property you want, where located and the size place desired. Land owners send descriptions of your property in as great detail as possible. These lands will be listed **FREE**.

Follow these advertisements which will appear each month in Farm Mechanics Magazine. They will be profitable to you.

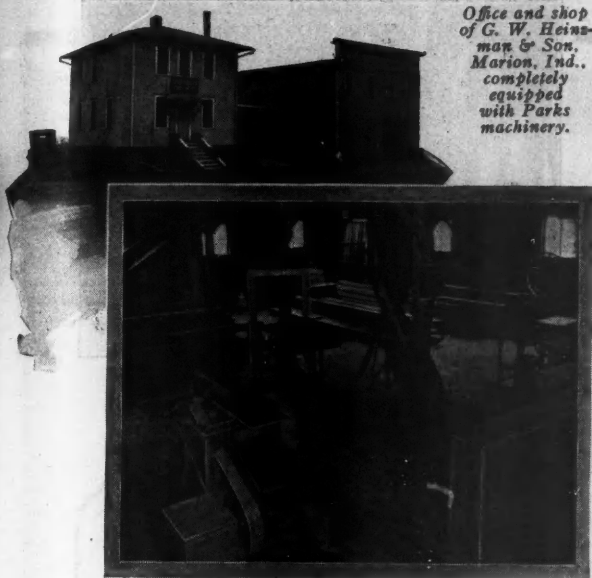
Radford Land Organization

1027-1001 Prairie Avenue

Chicago, Illinois



Office and shop
of G. W. Heins-
man & Son,
Marion, Ind.,
completely
equipped
with Parks
machinery.



Get a Parks! and Make More Money

Thousands of prosperous contractors—*men like you*—are making more money for themselves by using Parks machinery in their shops and out on their jobs.

They cut framing costs 50% with their Parks machines.

They do all sorts of finish work and save the extra money they would pay the mill.

They do their form work in half the time it takes by hand. They save time, labor, material.

They handle *two contracts* to the other fellow's *one* and double and triple their earnings for the season!

The savings a Parks makes for the contractor more than pays its cost *on the first job*. Get a Parks!—it will prove to be the best money-maker on your pay-roll.

Send for complete catalog of Parks machines

The Parks Ball Bearing Machine Co.

Fergus Street and C. H. & D. R. R. 15

Cincinnati, Ohio

Canadian Factory:

200 Notre Dame East, Montreal, Canada

PARKS

WOODWORKING MACHINES



NATIONAL FOLDING IRONING BOARD

*Complete in a Cabinet
Ready to Set in the Wall*

SPECIFICATIONS:

Dimensions: 6 ft. 9 in. high, 14 in. wide, 4 in. deep. Fits between standard studding (even with 2 1/4 in. studs).

DESCRIPTION:

The Cabinet is made of Douglas Fir or Redwood with Pacific Wall Board back.

The Ironing Board is the patented National Folding Ironing Board—which folds back and down into the cabinet—safe against falling out.

There is an ironing surface 4 ft. 6 in.—and a folding sleeve board—also a steel iron stand.

The cabinet has three shelves for holding supplies. It is made of dovetail joined Lindermannized stock that is guaranteed not to warp. Ends are cleated to prevent splitting.

Easily and Quickly Installed

National Mill & Lumber Co.

60 Trinity Place

New York

DEALERS AND DISTRIBUTORS

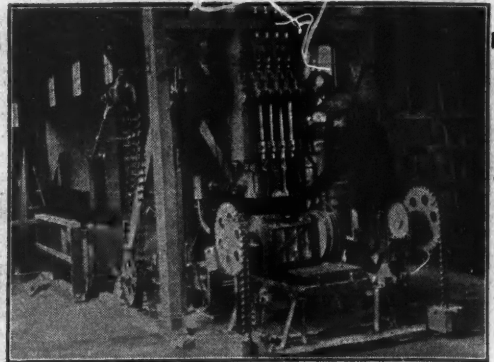
We want dealers and distributors of building material and builders' supplies in many open territories in all parts of the United States. If you handle Wall Board, Sash, Doors, Trim or Built-in Specialties please write for the complete proposition.

The World Knows and Respects the

Ideal Roll-Over Stripper

EVERY one is built with the care and attention that we would use if it were the only machine we were constructing. The *best*—and no other policy—rules at the new Ideal plant. So you should enjoy the same confidence in your Ideal Roll-Over Stripper that we enjoy.

This remarkable machine produces good Stripper Block and Tile rapidly, using the same wood pallets for all sizes of block or tile—also 4-inch veneer block, two at a time, using cinder or gravel as an aggregate. Combines speed of an automatic with simplicity of a hand machine. Feeds and tamps at same time, producing an exceptionally well-tamped block. Uses up to $\frac{3}{8}$ or $\frac{1}{2}$ -inch aggregate which produces the strongest block.



Trade
Mark



Reg. U.S.
Pat. Off.

The Ideal Concrete Machinery Co.

5014 Spring Grove Avenue
CINCINNATI, O.

“They paid for themselves on the first job I used them.”



Reliable Scaffold Brackets always pay for themselves on the first job or two. Ever after that they will increase your margin of profit on each job by saving time, lumber and money. This is what one builder says—

Elite Mfg. Company, Ashland, Ohio Cadiz, Ohio

Gentlemen:

I like your Reliable Scaffold Brackets so well I have just bought several more. I have been using them on a job of repairing an old house and I feel that they paid for themselves fully on the first job I used them on. I consider them safe and all right in every way. The best I have ever worked on or ever have seen.

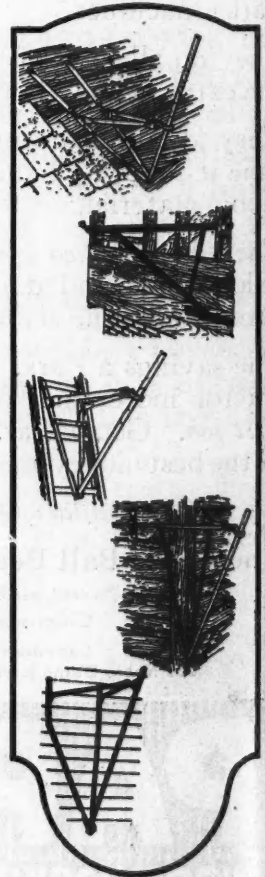
(Signed) Chas. J. Dickerson.

How about you? Isn't it time for you to increase your profits? Then pick out a selection of the brackets illustrated—Roofing Bracket, Hook Type Bracket, Ladder Bracket, Corner Bracket and the standard Scaffold Bracket.

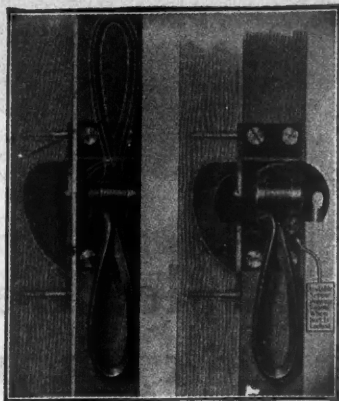
Send in your order now. We ship C. O. D. so you can see the brackets before you pay a cent.

ELITE MANUFACTURING COMPANY
Dept. AB-7 ASHLAND, OHIO

Reliable Scaffold Brackets
No holes to plug after they are removed



Allith Drawtite Door Bolt



No. 396

For swinging as well as sliding doors. Makes doors weather-tight by drawing them tightly together or against building. When locked with padlock, it cannot be operated or removed. Made of rust-resisting, non-breakable certified castings.

The "Drawtite" bolt is simply one of the many unique specialties in the A-P line of satisfying hardware.

Allith-Prouty Company

DANVILLE ILLINOIS

Manufacturers of

Door Hangers	Overhead Carriers
Garage Door Hardware	Rolling Ladders
Fire Door Hardware	Spring Hinges

Representative Jobbers Distribute A-P Products Throughout the United States.

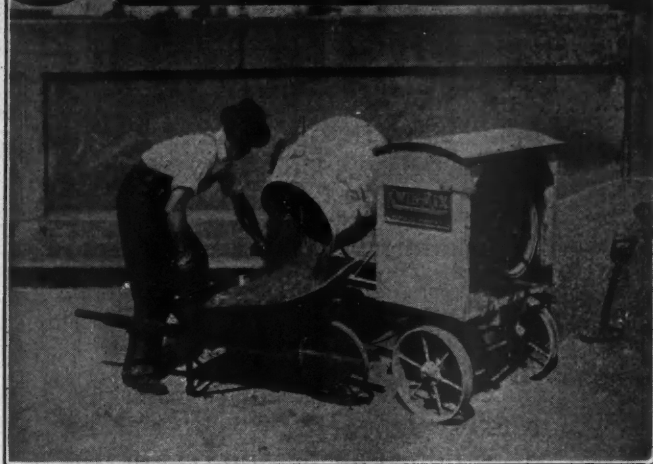


"The Sign

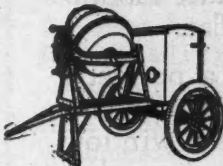
of Quality"

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Kwik-Mix



Note the rapid discharge. This photograph is untouched



Kwik-Mix Trailer
Capacity 3 and 4 cu. ft. mixed. Comes equipped with pneumatic tired wheels and power.



Kwik-Mix No. 4E
Capacity 4 cu. ft. mixed. Comes also in 3 and 3 1/4 cu. ft. sizes. Can be had on trucks, without engine.



Kwik-Mix No. 4LH
Capacity 4 cu. ft. mixed. Also furnished in 3 1/4 cu. ft. size. Shipped complete with Engine and Housing on Trucks with Loader and Builders' Hoist, all ready to run.

One Kwik-Mix Worked on 76 Buildings!

Regularly, from all parts of the country, users of Kwik-Mix Mixers testify to the satisfactory manner in which their machines are performing. For the most part they emphasize the fact that Kwik-Mix Mixers are well named "Kwik-Mix" and make good all that the name implies. This is what Cermak & Novotny, Chicago contractors, say about their mixer:

"The Kwik-Mix Mixer we have used is a money-maker. We have used it for two seasons on 76 buildings in our subdivision and the grade and quantity of the concrete turned out more than met our expectations."

It is performances such as this that is making the Kwik-Mix line of mixers more popular every day. Kwik-Mix Mixers are made in sizes ranging in capacity from 2 cu. ft. to 7 cu. ft. You can get them with or without engine, loader or hoist-rubber-tired wheels as optional equipment.

Fill in coupon below for our latest catalog.

KWIK-MIX CONCRETE MIXER CO.

Port Washington,
Wisconsin

Kwik-Mix Concrete Mixer Co.
Port Washington,
Wisconsin

Without obligation to me, please mail me your valuable New Kwik-Mix Catalog.

Name.....
Address.....
City..... State.....

FOR your greenhouse ~ For dwelling 'the Best glass' is unexcelled ~

"THE Best glass" is the ideal covering for all large glass areas. It has greater tensile strength and a higher modulus of rupture than any other window glass, plate glass, or rolled glass.

The uniformly high quality of "the Best glass" assures permanent protection, while the clear flat surfaces admit the maximum of sunlight.

Successful plant raising requires perfect transmission of light without distortion. Our new process of flattening enables us to produce window glass that is absolutely flat.

"The Best glass" has a perfectly smooth surface and a brilliant polish unequalled by any other window glass. It is machine blown from glass produced in the largest melting furnaces in the world.

From the selection of the raw materials to the final packing in well made boxes, modern methods are used; each process is conducted on scientific principles.

"The Best glass" is graded to the highest standard of quality. Our grading is the recognized standard for the United States, and is higher than the foreign standards.

"The Best glass" is the choice of leading architects and discriminating builders everywhere.

Ask for "the Best glass" by name,
and see that you get the genuine.

AMERICAN WINDOW GLASS CO.

GENERAL OFFICES--PITTSBURGH, PA.

Branches in Principal Cities



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



New Sales Helps For Oak Flooring

One of the most attractively illustrated booklets on oak flooring is now ready for distribution among prospective homebuilders.

It tells the whole story of Perfection Brand Oak Flooring. You will find it of immense help in making sales.

We also have some very successful envelope stuffers for general distribution that we are supplying free.

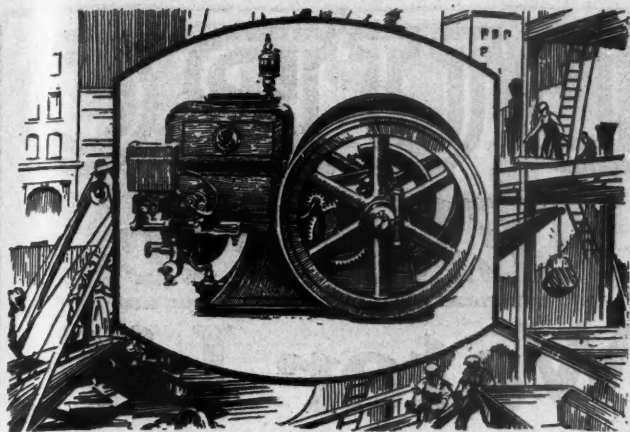
Write today for these selling helps and full information about Perfection Brand Oak Flooring.



**ARKANSAS OAK
FLOORING COMPANY**
Pine Bluff, Arkansas

PERFECTION

BRAND OAK FLOORING



HERCULES

powerful, economical engines backed by nation-wide service

From pig iron to paint the entire Hercules Engine is built, not assembled. Built in what engineers consider to be the most modern equipped engine plant in the country. Hercules Engines attain a standard of efficiency and perfection utterly impossible in engines that are merely assembled. Every Hercules is a sturdy, compact, powerful unit that runs with remarkable economy. Each engine will develop the full rated horsepower. It is absolutely guaranteed for five years.

The Hercules is equipped with the wonderful Wico Magneto. So you are sure of an engine that is absolutely reliable. No need for coaxing—no waste of time and energy when you want to start it. One turn and she's off! The Wico Magneto delivers a big, red-hot spark that keeps your engine at work all day long. A Hercules never stalls even when pushed to the limit of its capacity, and under the worst of weather conditions.

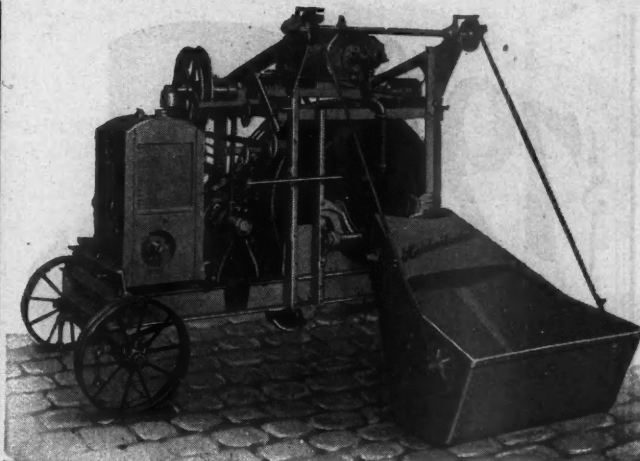
Hercules Engines are economical to operate. They require a minimum of repair costs. These are two reasons why there are 350,000 Hercules Engines doing satisfactory work today. Such a distribution necessitates a nation wide organization. This insures you prompt and efficient service. Accidents are rare with the Hercules—but if they occur they do not hold you up. There's always a Hercules dealer near by.

The Hercules Corporation

Engine Dept. G

EVANSVILLE, IND.

HERCULES ENGINES



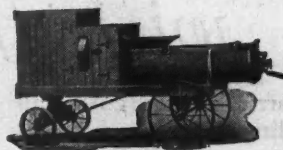
7-S Knickerbocker

Built to Cut the Cost per Yard of Concrete—and does it—

No thought of cutting corners in building it to aid production—nothing else to consider but just this one thing, to build it to CUT THE COST PER YARD OF CONCRETE.

Shut-downs increase your cost per yard of concrete more than any one thing—can shut-downs be eliminated? They can and have to a marked degree by the KNICKERBOCKER.

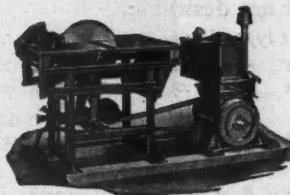
How does the Knickerbocker CUT THE COST PER YARD OF CONCRETE? By increased yardage because of operating features carefully studied out for that purpose—and by designing and building shut-downs out of it—the proof of all of this is up to you—try one.



Mortar Mixer



7-S Low Charger



Swing Cut-Off and Ripping Machine

Knickerbocker Equipment is complete—all sizes and types of concrete mixers, mortar-mixers and saw rigs. Send for catalogs, coupon below.

The Knickerbocker Company
525 Liberty St., Jackson, Mich.

To the Knickerbocker Company,
525 Liberty Street, Jackson, Mich.

Please send Concrete Mixer Catalog — Saw Rig Catalog —
Mortar and Plaster Mixer Catalog —

Name

Street Number

Town State



Think of it! This genuine guaranteed Duro product complete for \$79.50. May be placed on floor or attached to wall. Extra charge for wall bracket as shown, \$2.50.

DURO

Electric

Water Lift

Here is a *new* Duro Product—designed particularly for Contractors and Builders who have been using troublesome water motors in popular-priced houses.

The Duro Electric Water Lift is a modern electric pump, automatic in operation, having a high-grade two-pole switch, and built to give long life and lasting satisfaction. It costs less to install than the old-style wasteful water motor.

The water motor has never had anything to recommend it but its price. And now, with this new and important addition to the well-known Duro line, progressive builders may have a *modern* Duro Electric Water Lift at a price that is the wonder of the industry.

Write for details or see the nearest Duro dealer.

THE DURO PUMP & MFG. CO.

107 Monument Ave.

Dayton, Ohio

*Are you familiar
with this type*

of window

Made possible by Carrier's Quadrant Adjuster. For use in public buildings, schools, hospitals or residences where maximum ventilation, convenience and artistic effect are desirable.

Advantageous features of this type of window are—

- 1—Not necessary to move screens to open or close windows.
- 2—Window is automatically locked in any position.
- 3—There are no fasteners or hinges required.
- 4—Eliminates any possibility of rattling or sagging.
- 5—Both sides of window easily cleaned from within the room.
- 6—Quickly and easily installed at a low cost.

Write for our Architectural Leaflet which contains detailed drawings and specifications

Sweets and Architects' Samples Corporation, New York



CARRIER ADJUSTER COMPANY

Caseament Window Hardware

Jacksonville, Fla.



Looking in—Easily installed on any stock casement sash—Simple in design. Made of rust proof bronze.



Looking out—Operated by worm gear, turned by a small control lever. Cannot stick.

FISK

NON-SKID SOLID
TIRES

Three Qualities Necessary for Economical Truck Operation

For real economical truck operation you need solid tires that have in a marked and full degree mileage, traction and cushioning qualities.

The Fisk exclusive non-skid Button Tread is made of a specially tough resilient compound so designed that by proper rubber displacement the greatest cushioning effect is obtained, friction is reduced and mileage increased.

You will find Fisk Solids give you positive traction and the greatest mileage with maximum protection for your truck and load.

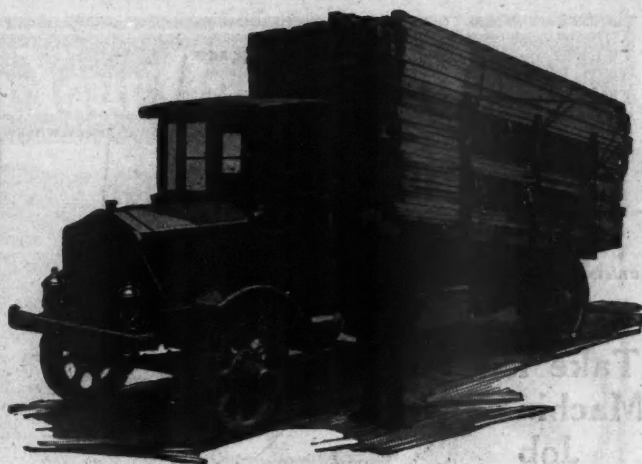
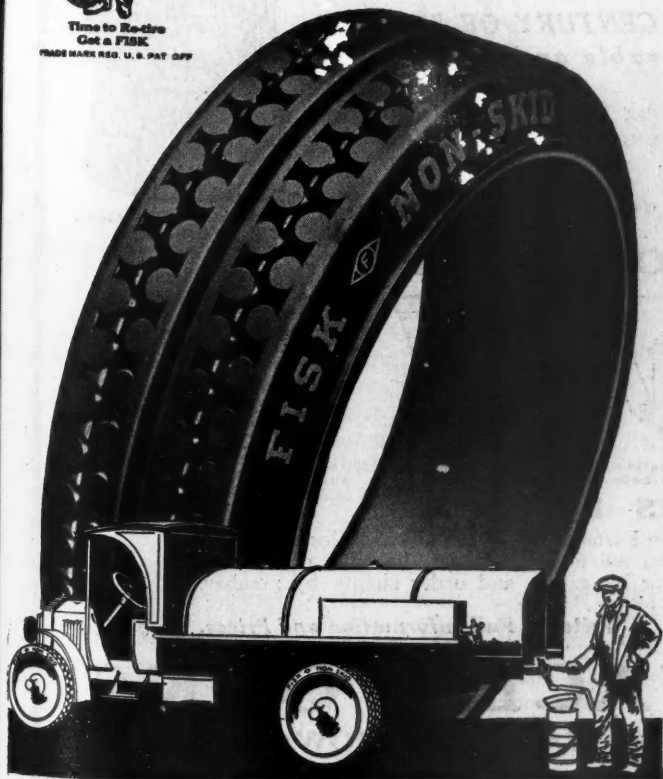


THE FISK TIRE CO, Inc.
CHICOPEE FALLS, MASS.

Fisk Truck Cords in all standard sizes for work requiring pneumatic equipment.

Time to Re-tire
Get a FISK

TRADE MARK REG. U. S. PAT. OFF.



Is It Good Business to Drive Over Dollars to Save Pennies?

IS the operator of trucks who postpones equipping them with Gruss Air Springs, because of their initial cost, like the man who walks over dollars to save pennies?

Check up the saving Gruss Air Springs are effecting for other truck operators and then answer this question yourself.

Find out from the thousands of operators who have standardized on Gruss Air Springs how the air cushions absorb road shocks and vibration and thus lessen breakage and repair bills, lengthen the life of the truck and keep trucks in constant service.

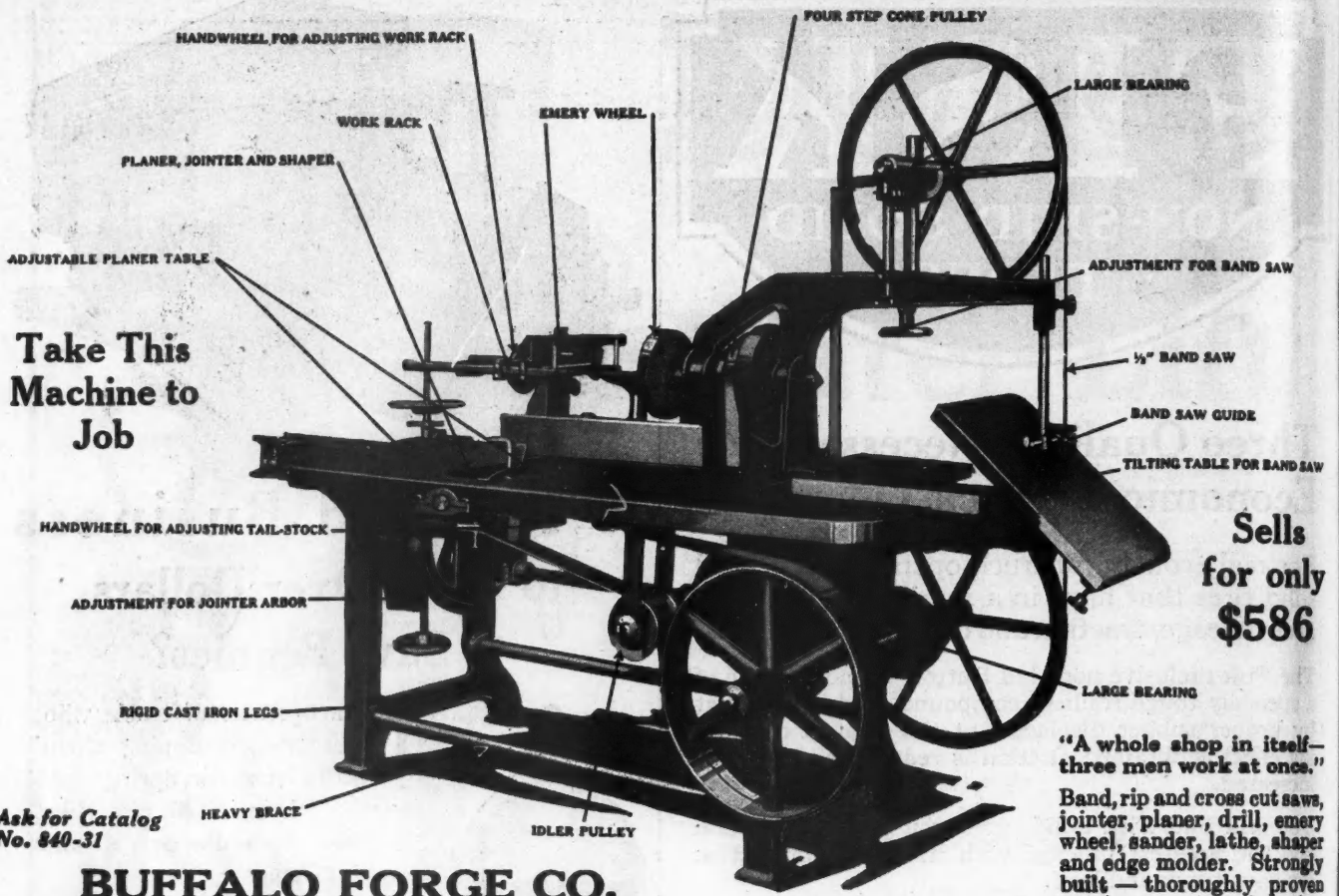
Remember that after a careful study by their respective engineers 10 different truck manufacturers now offer Gruss Air Springs as either optional or standard equipment.

Gruss Air Springs are made in 5 different sizes for light, medium and heavy trucks, buses and passenger cars. Shall we send you complete details?



The Cleveland Pneumatic Tool Co.
Cleveland, Ohio





Take This Machine to Job

Sells for only \$586

"A whole shop in itself—three men work at once." Band, rip and cross cut saws, jointer, planer, drill, emery wheel, sander, lathe, shaper and edge molder. Strongly built — thoroughly proven out in many years' service.

Ask for Catalog No. 840-31

BUFFALO FORGE CO.

484 Broadway

BUFFALO, N. Y.



Bovee's Horizontal Wood and Coal Furnace

BOVEE FURNACES

OVER A QUARTER OF A CENTURY OF SERVICE
Absolutely Reliable, Durable and Economical

Manufactured in all sizes having 20-inch to 36-inch Fire Pots. Combustion chamber more than double the size of the average furnace.

Save 40% in Fuel



Compound Radiator Furnace

SPECIAL TO CONTRACTORS



STOCK—STYLES—FITTINGS

We carry in stock for all sizes and styles of Bovee Furnaces, all of the above styles of fittings. With our illustrated Price List a contractor can tell in two minutes the exact cost of the entire Heating Plant for any ordinary house or bungalow, and order simply by number.

Very Easy to Install. No Tinner Required. Write for Full Information and Prices.

BOVEE FURNACE WORKS

50 West 8th Street

WATERLOO, IOWA

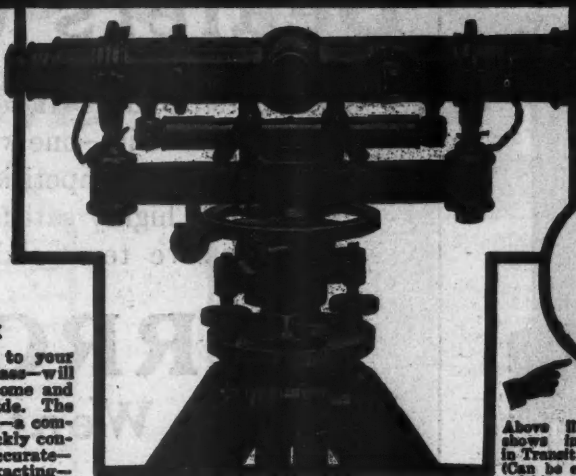
Level and Plumb With Your Own Instrument

\$5.00

BRINGS IT TO YOU

Better, Quicker Work

This instrument will add immeasurably to your efficiency and put you in the big builder class—will do more to increase your business, income and prestige than any investment you ever made. The Aloe Convertible Level is the world's best—a combination of both level and transit and quickly converted to the use of either. Absolutely accurate—satisfies the requirements of the most exacting—yet so simple that anyone can use it.

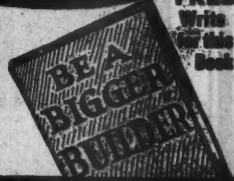


FREE TRIAL



Above illustration shows instrument in Transit position. (Can be easily and quickly converted.)

FREE Write for this Book



Aloe Convertible Level and Transit Combined

You Learn to Use It In An Hour

No technical knowledge necessary. No previous experience needed. With our simple and complete instruction book, included free with every level, you can immediately put the instrument to work. It is a level and transit combined—takes sights either above or below the horizontal. You can use it for leveling foundations, walls, piers, streets, walks or curbs—also to run straight lines for fences or drains—boundary lines for fences or trees—surveying lots and fields—plumbing walls, shafts, trestles, posts and pillars.

Easy Monthly Payments

Just \$5.00 brings it to you—for a free trial. If perfectly satisfied, pay the balance in small monthly payments. The instrument will be sent at once and from the first day it will be working for you—paying for itself by saving you the cost of borrowing an instrument or the fees you have been paying other men for this work.

Write for Free Book

Our free book—"Be A Bigger Builder"—tells you how to increase your income—how to get the profitable jobs and become a bigger man in your community. Write for this book today.

MAIL COUPON

A. S. ALOE CO., 621 Olive St., St. Louis, Mo.

Without obligation, send me your FREE book, "Be A Bigger Builder". Also full particulars about the Aloe Convertible Level and details of your easy payment plan.

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Address _____

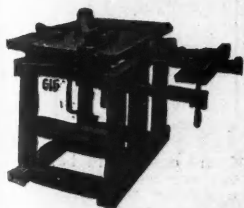
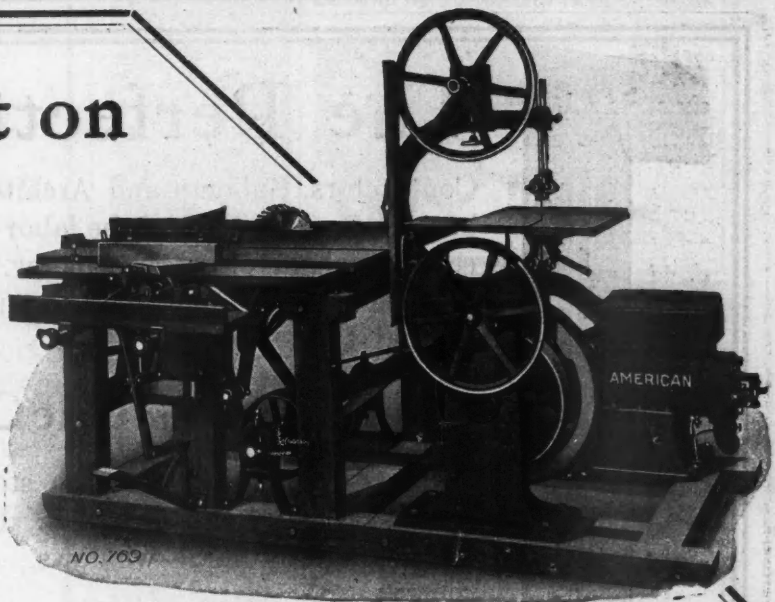
A. S. ALOE CO., 621 Olive St., St. Louis, Mo.

Saves Its Cost on the First Job

This American Portable Variety Woodworker with 20-inch band saw lets you do any woodworking operation of either a routine or special nature right on the job. Figure the savings over hand or shop work! Hundreds now in use.

This one machine may be used as a rip, band or cut-off saw, as a dado, gaining, grooving, rabbeting, tenoning or boring machine, as a jointer or planer, a matcher, molder or sander, and as a hollow chisel mortiser.

Let us send you our bulletin No. 80 which describes this and other "American" cost cutters.



American "Combination" Saw Bench

A rigid rip and cut-off saw with boring attachment

American Saw Mill Machinery Company

60 Main Street, Hackettstown, N. J.
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Manufacturers of woodworking machinery for use on the job or in the shop



Dealers Wanted

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BURROWES

Metal Weatherstrips

We manufacture the finest weatherstrips human skill can devise. Our financial stability and manufacturing facilities enable us to give our licensed dealers the kind of support that makes big incomes possible.

*Write for full particulars at once,
stating territory desired*

BURROWES WEATHERSTRIP CO.
1930 South 52nd Ave. CHICAGO, ILLINOIS



The Perfect Sash Weight

Contractors, Builders and Architects prefer the Perfect Sash Weight because it saves 50% of the labor installation and about three feet less cord or chain on each window. It enables quick and accurate balance of any window with the use of two weights in place of four of the old type.

One Weight and One Cord Serves Both Sashes

Weights are manufactured in stock sizes of 3½ lbs., 7 lbs., 10½ lbs., 14 lbs., 17½ lbs. and larger units for large windows.

Intermediate sizes may be obtained by adding one or more ½ lb. or 1 lb. balance slug to each stock weight.

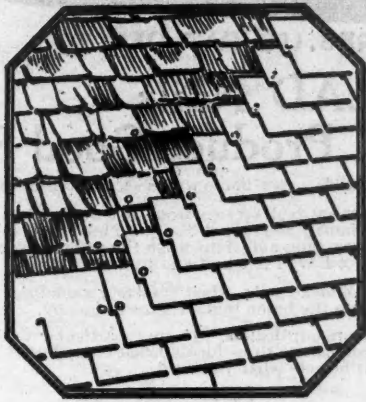
*Ask your favorite dealer or write direct
for full particulars.*

American Sash Weight Foundry Co.
Davenport, Iowa



One half and one pound balancing units, that are used as necessary with the Perfect Sash Weight to adjust different sashes.

TWO ROOFS IN ONE



with REX FLINTKOTE STRIP SHINGLES

**Right Over the
Old Wood Shingles**

TIME HAS PROVED THE VALUE of this method—used every day in many parts of the country and successfully. Less expensive, simpler, cleaner and quicker than to remove the old wood shingles first. Aggressive contractors and builders' salesmen are pulling doorbells where wood roofs need recovering. There's an immense volume of this work!



FLINTKOTE ROOFINGS
"Better Roofings for Less Money"

THE FLINTKOTE COMPANY
NEW YORK BOSTON CHICAGO
Pershing Square Bldg. 800 Park Sq. Bldg. 1353 Peoples Gas Bldg.

LANSING CO.

Lansing, Mich.

Dealers Everywhere

LANSING No. 7 S MIXER

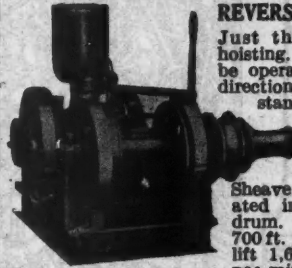
with power side loader. A real one-bag mixer. 7 cubic ft. capacity.

Inside drum dimensions 42" x 34". 18 R. P. M. 6 H. P. Engine



REVERSIBLE HOIST

Just the thing for hoisting. Drums can be operated in either direction with sheave standing still.



Sheave can be operated independent of drum. Drum holds 700 ft. 3/4" cable—will lift 1,600—100 feet per minute.

LANSING No. 5 BRONCHO TRAILER MIXER

Capacity of 4 cubic feet. (1-3-6 mix.) Weight, 1,400 lbs. 2 H. P. gasoline engine. May also be furnished with steel wheels.



LANSING No. 15 MIXER

Power loader and four-cylinder Le Roi Engine. A heavy duty mixer, large capacity, continuous service.

Furnished with gasoline, steam, electric power or without power, with water tank power loader or low charge hopper.



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Tray shaped for easy pouring. Capacity 4 cu. ft. Size 35 in. long, 25 in. wide at front, 24 in. wide at back. Tray built of 16 gauge steel. Top rolled on a 5/16 in. rod. Reinforced throughout.





Zinclad

REG. U.S. PAT. OFF.

ZINCLAD Nails Produce Good Roofs

The man who builds a new home wants service out of his roof.

But he will never get real service from that roof unless you nail his shingles with Zinclad Rustproof Nails. The finest shingle in the world will not stay snug and tight when the nails which are supposed to hold it in place have rusted off and broken.

Use nothing but Zinclad nails—their everlasting qualities will pay you and they will save the home builder a lot of money.

Lumber dealers are our dealers. If your particular dealer does not have Zinclad nails, write to us for information and send us his name. We will see that he gets what you need.

Manufactured Exclusively by
W. H. Maze Company
Peru, Illinois

"A Good Half Inch"



ROCBOND
Exterior Stucco

The Permanent, Economical Exterior Building Material

The ever increasing demand for Rocbond Stucco through twelve years of successful manufacture proves its popularity as a building material. Rocbond has economical advantages over ordinary forms of construction and is free from repairs.

- Has Extraordinary Structural Strength and Unusual Flexibility.
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- Works Easiest Under the Trowel.
- Spreads Long and Freely.

Every Bag Contains the Same Uniform Quality.

Rocbond Stucco is made by a company with substantial business responsibility.
The Strongest Selling Line the Dealer Can Handle.

Use the coupon. It will bring information you desire.

The Rocbond Co. A.B.
Please send me "HOMEY HOMES." No obligation assumed.

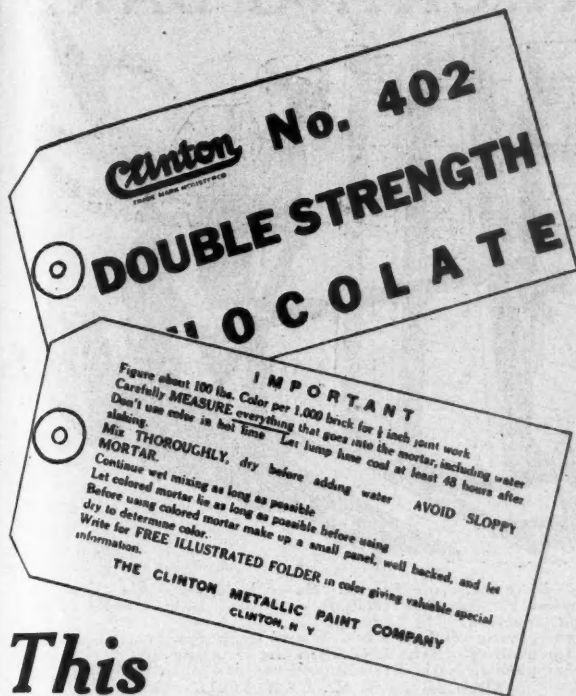
Name.....

Town.....

Four Plants — Write the one nearest you

THE ROCBOND COMPANY

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This Tag is Important

This green tag is now being attached to every bag of genuine Clinton Mortar Color. It gives absolutely accurate directions for mixing color with mortar, so that the brick mason can't go wrong. This is our latest effort to improve Clinton Service.

Color card and folder giving complete information on the use of Clinton Mortar Colors gladly sent free on request.

Write today for interesting literature

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Nature's Permanent Colors Made Since 1887



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"Every hour I spent on my I. C. S. Course has been worth \$95 to me! My position, my \$5000 a year income, my home, my family's happiness—I owe it all to my spare-time training with the International Correspondence Schools!"

Every mail brings letters from some of the two million I. C. S. students telling of promotions or increases in salary as the rewards of spare-time study. What are you doing with the hours after supper? Can you afford to let them slip by unimproved when you can easily make them mean so much?

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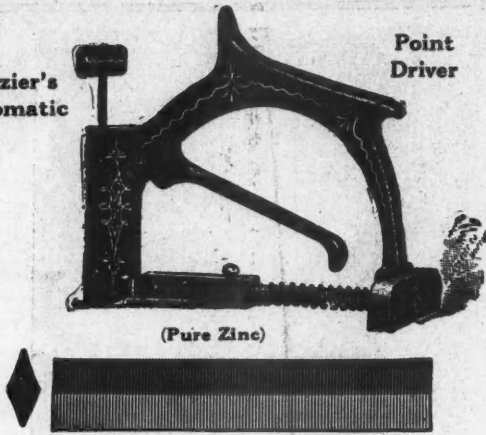
Explain, without obligating me, how I can qualify for the position, or in the subject, before which I have marked an X:

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| <input type="checkbox"/> Architectural Draftsman | <input type="checkbox"/> SALESMANSHIP |
| <input type="checkbox"/> Reading Architects' Blue Prints | <input type="checkbox"/> ADVERTISING |
| <input type="checkbox"/> Contractor and Builder | <input type="checkbox"/> Window Trimmer |
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| <input type="checkbox"/> Concrete Builder | <input type="checkbox"/> BUSINESS MANAGEMENT |
| <input type="checkbox"/> Structural Engineer | <input type="checkbox"/> Private Secretary |
| <input type="checkbox"/> Structural Draftsman | <input type="checkbox"/> Business Correspondent |
| <input type="checkbox"/> Plumber and Steam Fitter | <input type="checkbox"/> BOOKKEEPER |
| <input type="checkbox"/> Heating and Ventilation | <input type="checkbox"/> Stenographer and Typist |
| <input type="checkbox"/> Plumbing Inspector | <input type="checkbox"/> Higher Accounting |
| <input type="checkbox"/> Foreman Plumber | <input type="checkbox"/> COMMERCIAL LAW |
| <input type="checkbox"/> Sheet Metal Worker | <input type="checkbox"/> Common School Subjects |
| <input type="checkbox"/> CIVIL ENGINEER | <input type="checkbox"/> Mathematics |
| <input type="checkbox"/> Surveying and Mapping | <input type="checkbox"/> GOOD ENGLISH |
| <input type="checkbox"/> ELECTRICAL ENGINEER | <input type="checkbox"/> ILLUSTRATING |
| <input type="checkbox"/> Electric Lighting and Rys. | <input type="checkbox"/> Railway Mail Clerk |
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| <input type="checkbox"/> Telegraph Engineer | <input type="checkbox"/> Mining Engineer |
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| <input type="checkbox"/> Mechanical Draftsman | <input type="checkbox"/> Textile Overseer or Supt. |
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Name _____ Business Address _____ 3-6-24
 Present Occupation _____
 Street and No. _____
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Canadians may send this coupon to International Correspondence Schools Canadian, Limited, Montreal, Canada.

Glazier's Automatic



Point Driver

(Pure Zinc)



No. 1 Points 1/4 inch long for No. 1 Driver
45,000 Points to a Box (9 Packages of 5,000 Each)

5 Times Faster Than the Hammer or Ordinary Driver

Saves Time and Temper No Points Wasted

No. 1 Point Driver \$3.00—Discount in Quantity

No. 1 Points, Per Box Containing 9 Packages (5,000 each) \$5.50

2 Box Lots, Per Box \$5.40 4 Box Lots, Per Box \$5.25

Prior on Larger Quantities on Request. Prices Are F. O. B. New York.
Prices F. O. B. San Francisco Are Slightly Higher

Write for prices on Screen Hangers, Screen Makers' Machinery, Screen Numeral Nails, Corrugated Fasteners, Glue Brushes, Crayons, Carpenters' Chalk, etc.

WRECKING BARS

For Taking Up Old Floors



For Wrecking Buildings

For taking down concrete forms. Saves lumber, saves time, increases efficiency. Pays for itself on one job. Miles ahead of the old claw-bar method.

No. 3 Bar for prying off heavy braces and supports.

No. 2 Bar for pulling off the 2x4s from the sheeting.

No. 1 Bar for pulling nails straight and rapidly from sheeting.

PRICES F. O. B., NEW YORK

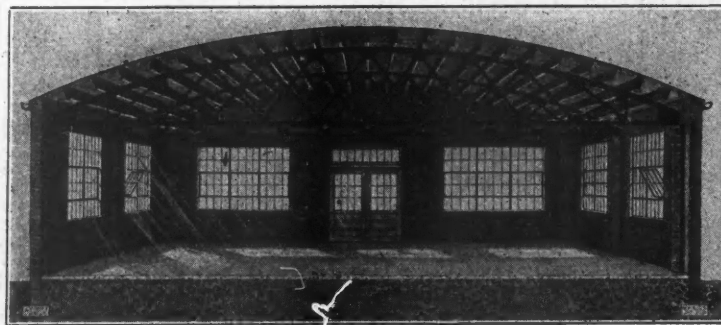
No. 1, \$2.50 each; No. 2, \$3.75 each; No. 3, \$5.00 each.

Complete Set, \$10.00

LOU MARKWELL CO. 174 Franklin Street, New York
75 Steuart Street, San Francisco

- Air Grates
- Anchors
- Angles—Steel
- Ash Pit Doors
- Beams
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- Bolts
- Bridges
- Ceilings—Steel
- Cellar Doors
- Coal Chutes
- Columns
- Cornices—Galvanized
- Dampers—Fireplace
- Doors—Fireproof
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- Elevators—Freight
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- Guards—Wire, Steel
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Write for "Garage Illustrations" showing at least 50 Modern Buildings designed by us.



Steel Roof Trusses

for

ALL CLASSES OF BUILDINGS

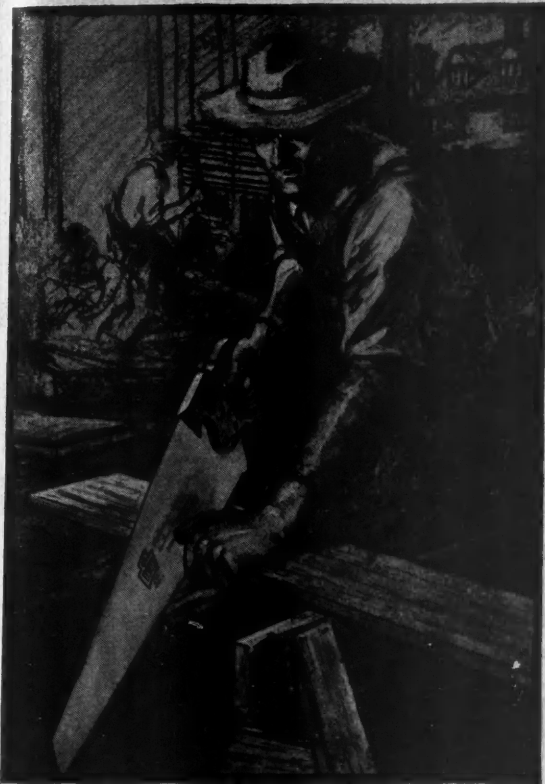
INTERNATIONAL STEEL & IRON CO.

Dept. 18,

Evansville, Indiana



- I-Beams
- Joist Hangers
- Kick Plates
- Ladders—Steel
- Lintels—Steel
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- Steel Stairs
- Store Fronts
- Skylights
- Thresholds
- Treads
- Trusses
- Ventilators
- Wheel Guards
- Window Guards
- Windows—Steel



What would a Disston roll-call show?

A Pennsylvania saw-filer recently wrote the Disston Offices:

"I am a saw-filer for a large construction company and file a large number of all kinds of saws. There are more Disston Saws on the job than any other make. Your D-8 is the favorite among our carpenters."

Most carpenters DO use Disston Saws. Since the first half of the nineteenth century DISSTON SAWS, made from Disston-made steel by Disston saw-craftmen (many of lifelong experience), have been the saws chosen by skilled carpenters who know good steel, a good edge and a good saw.

Make a roll-call on any job and note the carpenters who use only Disston Saws—and tools.

Disston Tools are equally important to the good workman. Disston Levels, Try Squares and Gauges are all highly perfected tools for high-grade work.

Standardize your kit with Disston Saws and Tools.

Henry Disston & Sons, Inc.

Makers of "The Saw Most Carpenters Use"
Philadelphia, U. S. A.

DISSTON

SAWS TOOLS FILES

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IT is specially woven for its particular purpose. Chemically treated to be and remain waterproof, to resist dry rot and mildew. Will not rot, shrink, curl or peel. It is not affected by heat or cold. It contains all the qualities to go to make a good roofing material, and makes a most attractive and durable covering for porch roofs and floors, balconies, sun parlors, roof gardens and similar exposed surfaces.

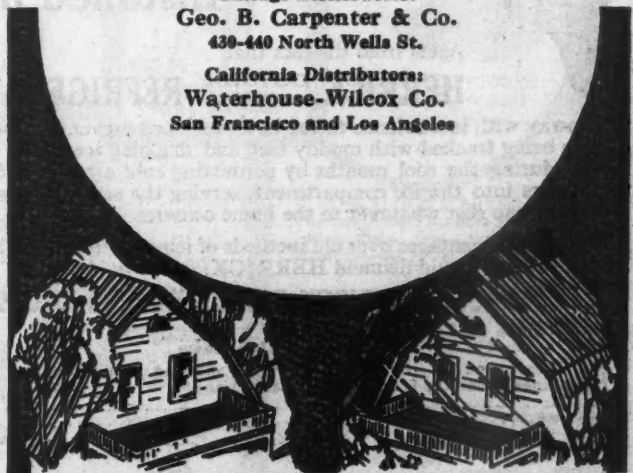
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and Figures"

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CONCRETE
MIXERS**



EXACTLY the right mixer
—at the price you want to pay.
That's what the STEWART
line of 20 models and five sizes
enables you to select. And
whichever one you choose will
unfailingly deliver uninter-
rupted, economical, trouble-
free service.

**Write
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Complete stocks in most princi-
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plete descriptions and prices.

Stewart Manufacturing Co.
157 Rath Street, Waterloo, Iowa

**BUILT
ON
THE
SQUARE**



**SOLD
ON
THE
SQUARE**



The Cold Breath of Winter

Cuts Icing Costs When HERRICK Outside Icing Is Installed in Homes

Aside from the fact that
HERRICK OUTSIDE ICING REFRIGERATORS
do away with inconvenience to the housewife and prevent kitchen floors
from being tracked with muddy feet and dripping ice; they save ice
bills during the cool months by permitting cold air to pass from the
outdoors into the ice compartment, serving the same purpose as ice,
but with no cost whatever to the home owner.

These big advantages over old methods of icing are reasons why every
home owner should demand HERRICK.

MAIL THIS COUPON FOR FREE BLUE PRINTS

HERRICK REFRIGERATOR CO.,
108 River Street, Waterloo, Iowa

Please send me free set of Blue Prints showing dimensions and various
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Street No.

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Please Check—I am—Architect Contractor For my new home.



Exclusive
volving tab
doubles pr
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Face-up
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\$100.





Start NOW

In the Concrete Tile Manufacturing Business

AMBI CONCRETE TILE ROOFING MACHINES OPEN THE WAY TO BIG PROFITS

You will awake men who are looking for a chance to be independent—look into the concrete tile roofing manufacturing business. This is no "Pipe Dream." It is a *safe, sane*, practical business. Tile roofing is coming more into vogue every day. **AMBI** tile machines make a variety of tiles to suit every taste. Styles range from richly toned Spanish style to the artistic French and severely simple design.

AMBI tile machines are built strong and have few wearing parts. This means long life and service. They mechanically tamp, trowel and color the tiles, making them uniformly perfect. We supply a complete line of accessories, including molds for special forms, **AMBI** cement colors, **AMBI** color mill, etc., which can be added to your equipment as your business grows.

Send today for Bulletin A

American **AMBI** Corporation, 218-232 West Fortieth St., New York, N. Y.

Deal With Concrete Equipment *It Pays!*
Direct! Headquarters

ARE you looking for the BIG money in the concrete business? Then you need the latest, best, most economical, labor-saving equipment—UTILITY.

Among recent additions are the remarkable new Power Machines for making Light-Weight Block and Concrete Brick.

Investigate! You will find that the way to greatest profits is through the use of UTILITY Equipment.

Order direct or send for MONEY-SAVING CATALOG Free on request

Concrete Equipment Co.
500 Ottawa Street
Holland, Mich.



Exclusive revolving table doubles production. Face-up method; 12 distinctive facings.

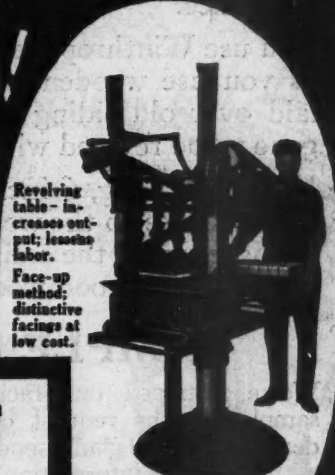
THE NEW UTILITY POWER MACHINE—for Light-Weight Block.



\$68.00 Utility Hand Block Machine



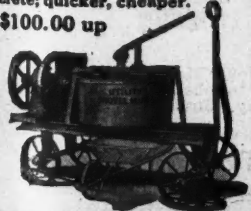
\$69.90 Utility Hand Brick Machine



Revolving table increases output; lessens labor. Face-up method; distinctive facings at low cost.

THE NEW UTILITY POWER MACHINE—for face and Common Brick.

UTILITY SHOVEL MIXER (Truck Mounted) Produces more plastic Concrete; quicker, cheaper. \$100.00 up



\$24.80 up Vase Molds Several Designs



Pipe and Culvert Molds. Slush and Tamp Systems. All standard sizes \$16.00 up



Flower Box Molds. All Sizes--\$23.00 up



THE UTILITY MIXER For Concrete Products Plants Insures Better, Stronger and More Plastic Concrete at Lower Cost. \$69.00 up



He likes it and so will you

J. A. C., Contractor and Builder, wrote: "I am more than pleased with the siding and you may refer any doubtful prospect to me and I will gladly tell them what I know about it."

He had just finished using about 2000 feet of Winthrop Beveled Siding on a job when he wrote us.

Do you think he would have written as he did if both he and his customer were not entirely satisfied?

In a few months' time this siding has won high standing all over the country. It is made by the makers of the famous Winthrop Tapered Asphalt Shingles.

Winthrop Beveled Siding has a surface of crushed fire proof material. It will not rot. It never needs painting. There is a choice of colors. It has a solid, enduring beauty but the shadow lines of the thick edge prevent monotony of surface.

You use Winthrop Beveled Siding just as you use wooden siding. It can be laid over old siding that's too nearly gone to be revived with paint.

It is 8 feet long, 6 inches wide, and is laid 5 inches to the weather. Nails are furnished with the siding. The cost is about that of good wood siding.

SAMPLE FREE

We've swamped our facilities sending out samples at the request of contractors and dealers, but we'll gladly send you one, too, along with complete information. Write us today.

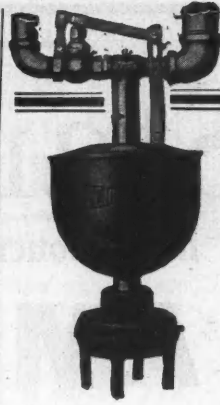
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111 W. Jackson Blvd., Chicago, Ill.

Factories at Argo, Ill., and Detroit, Mich.



Winthrop BEVELED SIDING



Automatic Cellar Drainer

Every Home a Live Prospect

The average home owner may not know what the Penberthy Automatic Cellar Drainer is or does, but most of them have experienced the discomfort, inconvenience and expense of flooded basements and would be quite willing to exchange a few dollars for such a device that insures against the repetition of such an occurrence.

You make more money selling and installing a Penberthy Cellar Drainer than on a back water trap—and you give your customer something he can depend upon, absolutely.

Your jobber sells them.

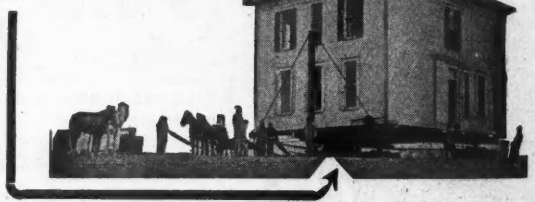
Dept. A

Penberthy Injector Co.
Established 1866

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M. H. Ireland moves 10 Room House 5 miles in 5 Days



Big money—sure profits—easy work. Wonderful opportunities for the contractor—\$100 to \$300 on a job. Read what M. H. Ireland says: "I am enclosing a picture of a ten room house, size 34x40, lined with brick, which I moved five miles in five days over pasture and broken fields." You can do as well, no matter whether you have had experience or not; we show you how.



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**From the cheapest that's good,
To the best that's made.**

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"SIX LIVE WIRES"—Nevada 1200-1-2-3-4-5

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are not ordinary cedar closets. Kilmoth is prepared to retain its moth preventative qualities—a volatile oil. Insist on Kilmoth with the "good" left in.

Apartments, apartment hotels, large or moderate homes are given a remarkably increased rental and sale value when finished with Kilmoth Red Cedar Clothes Closets.

Write for further particulars

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KILMOTH

GENUINE AROMATIC RED CEDAR

OLD EUROPEAN SLATE ROOFS

Exactly duplicate the old slate roofs of Europe with their rich colorings and strong natural texture.

Roof Suggestions on Request.

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Gentleman:
Please send me complete information on the following:

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This device may be easily and quickly installed on your present window shades, as it will enable the user to—

1. Adjust the shade so that it will eliminate the sun's glare, thereby minimizing the necessity for awnings.
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CAPITAL EQUIPMENT COMPANY
P. O. Box 368-B, Penn Ave. Station, Washington, D. C.

A Friend in the Basement!

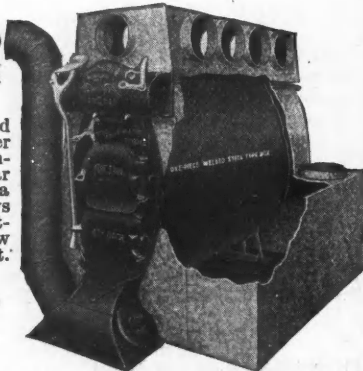
The FarQuar system goes farther than any other furnace to make friends. It not only heats every room thoroughly, but does it with fresh air! It ventilates the home without flooding the rooms with dust, dirt, smoke, gases, and fire poisons. Also, the heat is evenly distributed to every room,—no hot and cold spots and no drafts along the floor.

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THE FARQUAR
HEATING AND VENTILATING SYSTEM

Don't breathe stale, devitalized and contaminated air any longer—the product of so many ordinary furnaces. Let the FarQuar keep your home filled with a healthful warmth that is always refreshingly pure and invigorating—and at a surprisingly low cost. Write for interesting booklet.

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The Improved Anchor Stripper

Incorporated in this machine are all the advantages of the old type stripper and in addition there are many new improvements that increase the efficiency of the machine. The new stripper is built low—strips easily with a lever range far less than any stripper machine on the market.

Anchor Jr. Stripper with floor tamper, power feeder and elevator. A practical machine adaptable to any sized plant.

Write for details on the improved Anchor line of Concrete Products Machinery.

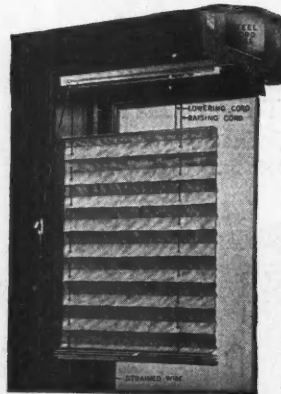
ANCHOR CONCRETE MACHINERY CO.
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ANCHOR

COMPLETE BRICK, BLOCK AND TILE EQUIPMENT

Athey Perennial Window Shades

Leading buildings of all kinds—Schools, Hospitals, Hotels, Office Buildings—are installing Athey Perennial Window Shades because they permit shading just the part of the window that needs shading, without shutting out all the light and air.



Furthermore they have discovered that in the end they actually cost less money than ordinary shades. Many of the first Athey Shades built—ten years ago—are still on the job and in excellent condition.

There's money for you in selling them. Ask us about an agency.

Athey Company

6074 West 65th Street Chicago, Illinois

Add Pep to Your Hardwood Flooring Sales



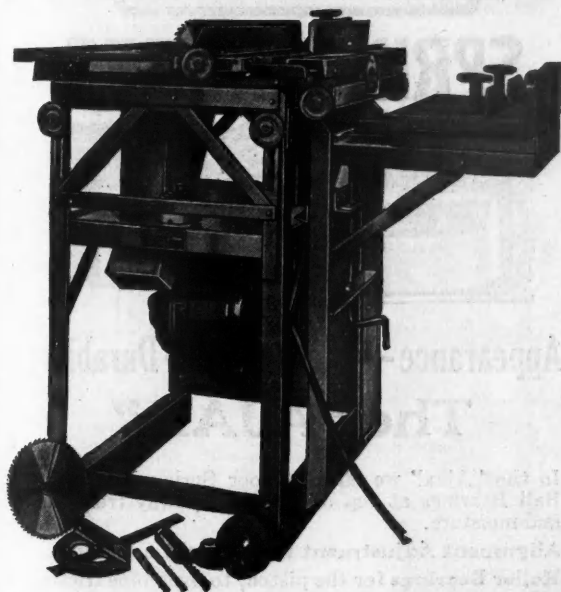
Hardwood Flooring is desired by every home owner and home builder. Go a step further, put yourself in an exclusive class. In many of the medium and large cities large floor laying firms have a very profitable business doing nothing but handling our beautiful parquetry flooring. Probably 75% of this product is used in old residences.

Our colored catalogue and our book showing installations all over the continent would enthuse any owner. There is a profitable business for you right in your own locality.

Don't put aside this incentive to profitable flooring sales, but send now for our beautiful catalogue showing parquetry and flooring in natural colors.

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Rips, Cuts off, Plows, Grooves, Dados, Rabbits, Gains, Joints, Bores and Grinds. Ideal for Shop or on the Job. Self Contained, Economical and Efficient. Portable, Motor Power. Very Moderate Price.

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Telescope 12 in.; magnifying power, 18 to 20 diameters; horizontal circle, 3½ in. diameter, complete accessories, tripod, box, etc.

What caused it, Jack?

"The work will have to be done over. It means another week and a big cut in our profit. When we figured on the job we did not consider mistakes like this."

"Poor judgment on my part, Bill. All Builders Levels looked alike to me. But I know now that there is a difference. If I had bought a DIETZGEN No. 6380 Level, this would not have happened."

It pays to specify the name DIETZGEN

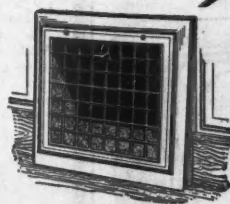
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Right goods at right prices
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"They Sell Homes"
By Their
Economy and
Lasting Service



The Sign of Quality

NO STREAK Registers are GUARANTEED not to discolor walls, which assures economy of decorating for you and the Home Owner.

The initial cost is insignificant compared to the saving. For example, the usual life of the wall decoration is three years and the average cost \$18.00 per room, or \$6.00 per room per year.

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Our guarantee to prevent discoloration assures you of this saving and will sell your homes.

Specify the Only No Streak register manufactured because the cost is no more than other registers.

Useful Booklet and Souvenir Mailed
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You may send FREE BOOK and complete information.

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WITH THIS HELM IMPROVED SIMPLEX

and one of our Helm presses you can make money in the block and brick business the year around.

Twenty years of manufacturing, jobbing and using concrete mixers of various types has enabled us to produce a faultless machine.

The Helm Improved Simplex has direct chain drive, mixer drum of 1/4" steel and steel drum heads 1/4" thick, double mixer blades, full batch hopper, Novo engine, standard tread wheels, and 5"x2" channel iron frame.

The Helm press makes the famous dry wall bricks and blocks. With a Helm press you can turn out 15,000 concrete brick or 1,500 concrete blocks in one day.

Write for our catalog today. You can't go wrong if you use Helm Machines.

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\$50. Starts You IN BUSINESS

With an Electric Rotary Floor Surfacing Machine

you can make from \$20.00 to \$50.00 a day.

The Electric Rotary machine is universally recognized as the most efficient and economical floor surfacing and polishing machine on the market.

It cleans, sands, polishes, waxes, scrubs. Wood, Marble, Mosaic, Terrazzo, etc.

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You can save money if you buy now. Our easy payment plan makes it possible for you to start a profitable business of your own with a very small capital.



Put the BULL-DOG on your Pay-roll

SAVE \$43.97

on every 1,000 sq. ft. of floor

Every Architect, Contractor and Builder who analyzes the problem of laying wood floors over concrete will appreciate the fact that

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Made for 2", 3", and 4" strips.

save over 4 cents per square foot by eliminating cost of material and labor for a concrete fill and by using 2x2 un-beveled sleepers in place of 2x3 sleepers.

This is only one of the many advantages obtained by using Bull Dog Floor Clips.

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TRADE **CHICAGO** MARK

SPRING HINGES



Appearance — Economy — Durability

The "AJAX"

In the "Ajax" we offer a Floor Spring Hinge with Ball Bearings at top of the Hinge, away from dust and moisture.

Alignment Adjustment that is easily accessible.

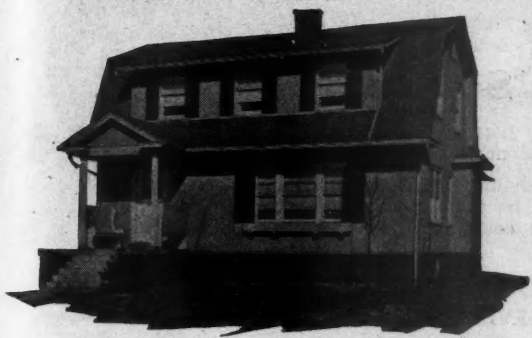
Roller Bearings for the piston, to overcome friction.

Durability, Economy and Appearance, backed by our REPUTATION.

Send for Catalogue C 39.

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"Lasting Satisfaction Counts"



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Is Waterproof, Fireresisting, Insulator against heat and cold.

It is made right, sold right, put on right and stays right. Lyon Stucco is a Magnesite Stucco. It is scientifically prepared. It contains no lime or cement. It can be used the year round. It does not freeze.

Lyon Stucco is factory mixed; made from highest quality materials. It is uniform in texture and dependable.



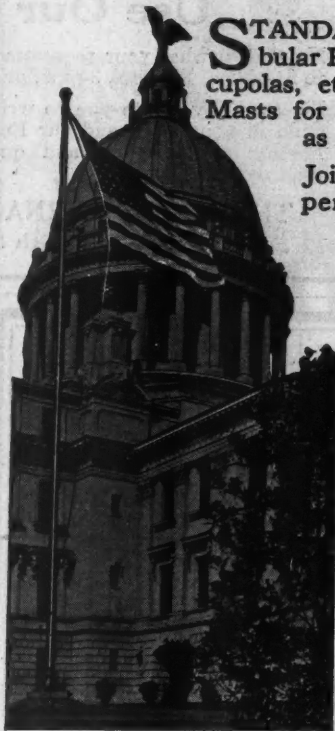
Lyon Stucco for exterior use can be applied over wood lath, galvanized wire, hollow tile, brick and well cured concrete.

The stucco may be sand floated, stippled or dashed with our marble or granite dashes. We have the best jobbers and dealers contract for quality stucco. We protect you in your territory. Write today.

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STEEL POLES

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STANDARDIZED Steel Tubular Poles for roofs, domes, cupolas, etc. Main and Top Masts for ground setting, and as high as 200 feet.

Joints constructed to be permanently weather-tight. Sections proportioned for best appearance and most economical transportation.

Twenty years' service in making and installing Steel Flag Poles insures utmost satisfaction.

Write for catalog and price list. For installation sketch and proposal, give full details.

THE POLE AND TUBE WORKS, Inc.
Exclusive Pole Specialists
NEWARK, N. J.



Drop all Waste Here—then FORGET it!

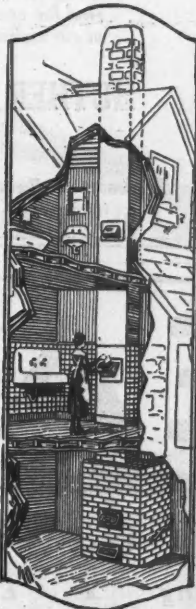
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BECAUSE it banishes the nuisance of garbage can and rubbish pile, the KERNERATOR is reducing tenant-turnover in apartment buildings everywhere. It is a powerful factor in keeping the renter contented. It cuts janitor costs and preserves tidy premises.

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(Consult Sweet's 1923) pages 2340-41 or write—

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KERNERATOR
Built in the Chimney

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Put your flooring problems up to our experts. We will gladly serve you without obligation



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Can you figure quickly the amount of oak flooring required on a job?

How to do it accurately is contained in this book, free to contractors and builders, with tables of exact percentages required for each width of flooring.

Also full information on such points as: grading rules for oak flooring; standard measurements, thicknesses and widths (illustrated full size); standard weights and counts; proper use of different grades; handling oak flooring; laying, scraping and finishing; advising the owner how to care for oak floors.

Send for your supply of these helpful booklets.

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Please send me _____ copies of "How and Where to Use Oak Floors."

Name _____

Address _____



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MONCRIEF FURNACES

BUILDERS:

Use Our Free Service

No matter what your requirement may be there's a Moncrief Furnace to fit—Pipe, Pipeless, 3-pipe, or Majestic-Moncrief.

We cordially invite you to write us all about your heating problems. Send in your plans and our Engineer will be glad to draw up detailed heating specifications and quote prices complete for all materials required on the job.

THE HENRY FURNACE & FOUNDRY COMPANY
3471 East 49th Street, CLEVELAND, O.



This Fiske Brick Offers Double Saving

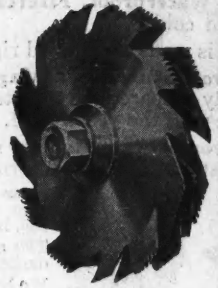
"FISKLOCK" has the rough texture and varied coloring of Fiske "Tapestry" brick. The size, and the ease with which it is handled, makes "Fisklock" the most economical type of face brick construction. Three air spaces in each course of a "Fisklock" wall reduce heating costs—as they afford better insulating qualities than any other material.



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THE TWO-IN-ONE BRICK

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The saw that makes intricate cutting and grooving simple.

This saw, developed from our own patents, consists of two outside cutters and of sufficient quantity of inside ones to perform the required cut. The outside cutters can be used singly or in pairs as required.

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Write for complete information and prices, or send for one on approval. It may be returned at our expense if unsatisfactory.

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Makers of Better Saws for More Than 50 Years

STEELEAD

The Everlasting Skylight Construction

No Paint No Putty No Packing Easily Installed

AMERICAN 3 WAY-LUXFER PRISM COMPANY

Skylight Engineers

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358-368 Webster Ave., Long Island City, N. Y.

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\$35⁰⁰

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10%
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Complete

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Send us \$5.00. Give this instrument a trial. Then if you are perfectly satisfied, remit \$5.00 per month for the next six months. If you are not satisfied the deposit will be cheerfully refunded.

This instrument has wonderfully clear and powerful lenses together with all other necessary features of an accurate, reliable, convertible level and transit combined. Instruction book furnished free. Send for full information. Ask for circular "E."

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Troy, N. Y.



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MOST REASONABLY PRICED MIXER IN AMERICA

Built in All Sizes and Types.

Get New Prices—Terms. Just off Press.

The American Cement Machine Co., Inc.

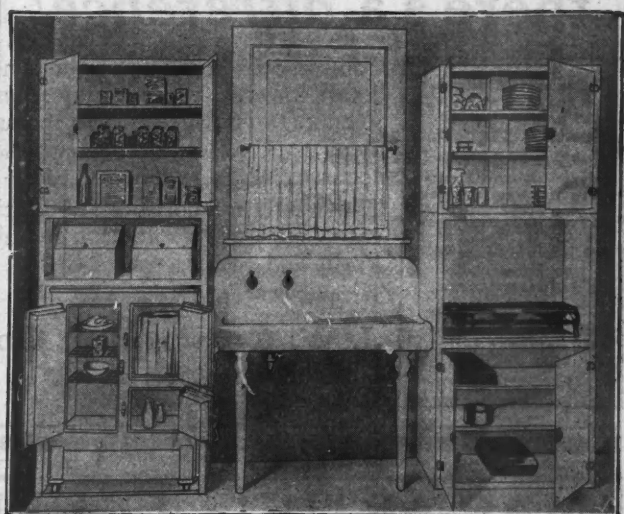
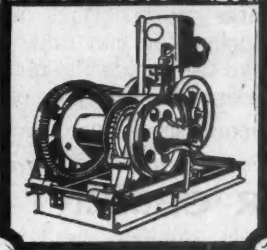
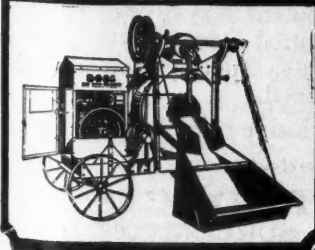
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BOSS HOISTS - \$125⁰⁰ UP



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Because of the economy of building apartments and bungalows in which Betzco Kitchunits are specified in the plans, this equipment is of genuine interest to the architect, the builder, and the owner.

Especially interesting is the fact that Betzco Kitchunits not only save space in building, and lower building costs, but they do so without detracting from the desirability of the finished apartment, rather adding instead a snug convenience which appeals to the tenant, increasing rental values. Write for complete literature.

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Occupation.....
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City..... State.....

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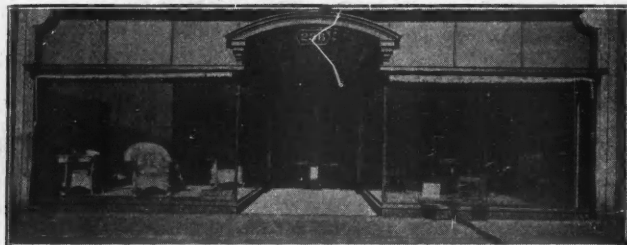
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PRACTICAL METAL THE DIAMOND WEATHER STRIPPING WAY

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STORE FRONT CONSTRUCTION
there's a difference!

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- Highly endorsed by Insurance Underwriters.
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- Many distinctive and original designs for you to choose from.

Coulson construction overlooks no detail, however minor it may seem, to make the finished front a monument to Coulson distinctiveness, accuracy and permanence. The wise contractor will investigate Coulson Construction for his Profit and Prestige sake. Drop a postcard now, to

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Everlasbestos Floors
Make Friends

Laying Everlasbestos Flooring is a good business—easy to get and keep, giving indoor, steady work, where one good job leads to many others. The market is either in business buildings or home buildings. An Everlasbestos Floor is always needed in offices, lunch rooms, rest rooms of factories; stores, schools, churches, public buildings; kitchens, bath rooms, enclosed porches.



Laid like cement 1/2 in. to 3/4 in. thick. Hardens in 24 hours. Can be laid in one piece with cove base or wainscot. Bonds with any foundation. Good man can lay 200 sq. ft. per day. Valuable instruction Manual free with order. Colors Red, Buff, Gray. Shipped in bags ready for use. Shipping weight 4 1/2 lbs. per sq. foot.



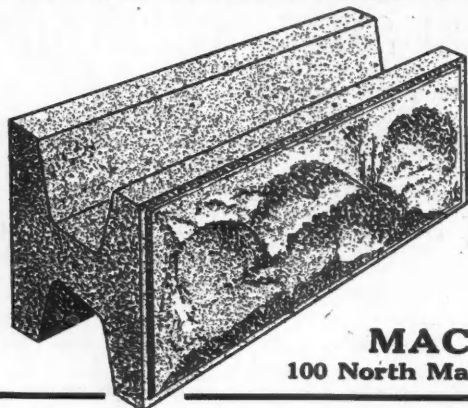
An Everlasbestos Floor in Drug Store

Long Wear—Low Cost
Combines as does no other floor moderate first cost and long service. Smooth, sanitary, no seams to collect dirt.

Good Results Assured
by superior ingredients and perfected formula in Manual of Instructions for laying. Write for description and sample. Everlasbestos Flooring Co. Dept. B, 95 North Street, Rochester, N. Y.

Everlasbestos Flooring

MAC ARTHUR Poured CONCRETE BLOCKS



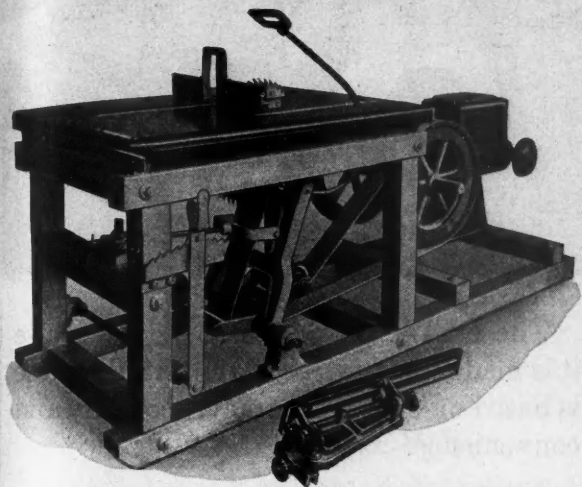
Will secure new business and large profits for you. We make high grade Poured Concrete Blocks for buildings now being built with Pressed Brick and cut stone. A small investment starts you. Additional molds can be added as your business grows. With our patented system of making and facing blocks, you can make Poured Concrete Blocks one day and remove the molds the next day. Blocks are made face up and any desired face may be obtained. Don't let someone else secure the exclusive right for your town.

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BURLINGTON, IOWA

Did You Get the Job Finished When You Promised?

With a No. 4 Superior Contractor's Swing Cut-Off and Rip Saw you would have saved a lot of time. "They always go."



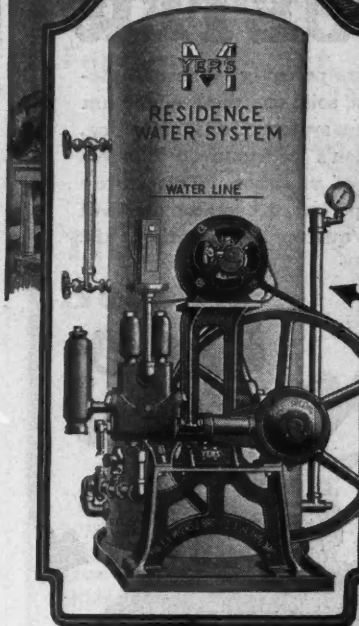
No. 4 Superior Contractor's Swing Cut-off and Rip Saw

They Sure Help on a Reinforced Concrete Job

We Would Like to Send You Our New Bulletin

JONES SUPERIOR MACHINE CO.
1258-70 West North Avenue CHICAGO, ILL.

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Myers Water Systems are pumping the water supply for thousands and thousands of homes, farms, public and private institutions. Some are being pumped by hand others are being operated by wind power, while many are connected up with a gasoline engine or an electric motor. Each one in its particular field is giving enduring satisfactory service

and its installation has brought profits and more business to the dealer who installed it. To find out more about them is but to drop us a line for a catalog, information and trade prices.



THE F.E. MYERS & BRO. CO.
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Manufacturers for over Fifty Years of MYERS' HONOR-BILT PUMPS for Every Purpose WATER SYSTEMS - HAY and GRAIN UNLOADING TOOLS - BARN, FACTORY and GARAGE DOOR HANGERS - STORE LADDERS, ETC.

Kimball Straight Line Drive

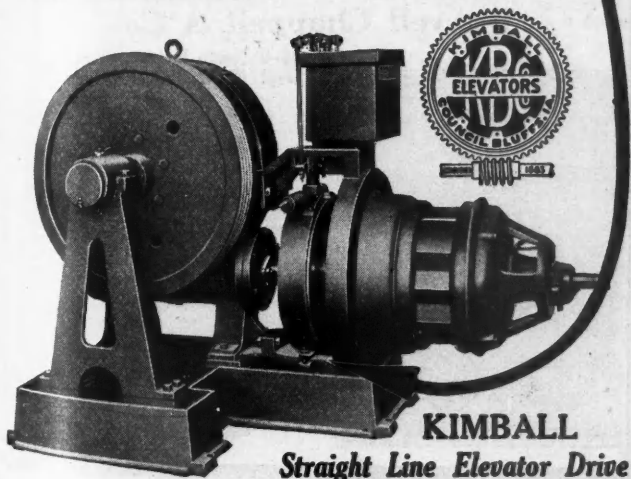
This Kimball Straight Line Elevator Drive eliminates the possibility of disalignment between the worm shaft and the motor rotor because the motor is bolted to the machine frame as an integral unit.

Write for further information.

There is a Kimball Elevator built for every requirement

KIMBALL BROS. CO.

989-97 South 9th Street Council Bluffs, Ia.



KIMBALL
Straight Line Elevator Drive

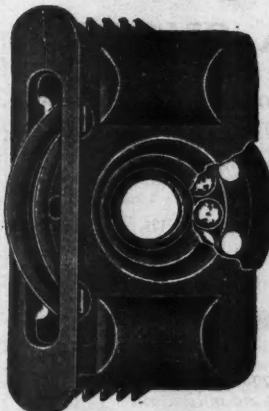
"GRAND RAPIDS" All-Steel Sash Pulleys

are **LIGHTEST** yet strongest. Two-thirds of your freight is saved, yet a **BROKEN PULLEY IS UNKNOWN** in our product—and these superior **ALL-STEEL** goods cost no more than the common pulleys made of cast iron.

The No. 10 Ball Bearing Pulley illustrated here is one of our best known styles.

This Pulley has the automatic saw-tooth fastening feature which saves time and labor. No nails or screws required, yet the Pulley is held in place more securely than when fastened by any other method.

No. 10 Ball Bearing



The bearing contains eleven 1/4-inch solid steel balls running in lubricant, insuring a noiseless, easy running wheel under any load. This feature makes an excellent talking point for your window frames.

See this Pulley at your dealer's.

Mail Coupon for FREE Sample

Grand Rapids Hardware Co.
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Grand Rapids, Mich.

GRAND RAPIDS HARDWARE CO.
I am interested in your No. 10 Ball Bearing "Grand Rapids" All-Steel Sash Pulley. Please send me sample.
Name _____ Address _____ City _____ State _____

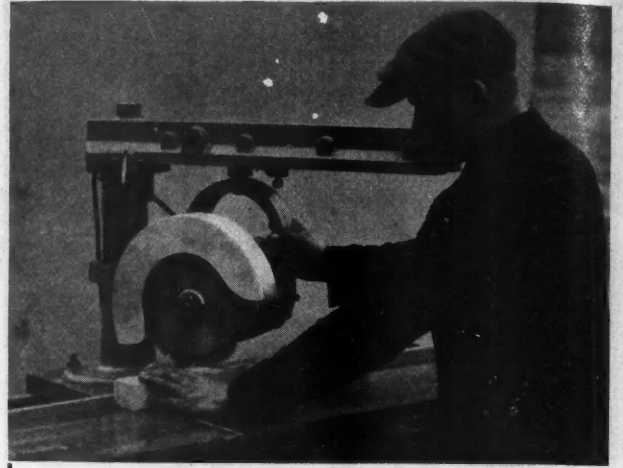
The Improved SCHLUETER

Owes its popularity to its perfectly balanced automatic roller, silent chain, solid one piece aluminum dust pan, perfect vacuum system of dust collecting, its ability to do six men's work and do it better and the total absence of vibration. This sturdy machine requires no experienced operator and will surface right up to the quarter round without the use of an edge roller.

A Five Year Guarantee and a Five Day Free Trial offer absolutely protects the purchaser and makes owning a SCHLUETER easy for both large and small contractors. It will usually pay for itself with the profit on one large job.

Write for our proposition

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The DEWALT makes friends, because it is made for service. DEWALT service is based on speed, accuracy, economy and convenience.

VERSATILE—ALL JOBS

Portable—285 lbs. Mounted on bench 29"x 59".

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24 YEARS A SUCCESS

We are pioneers in concrete equipment manufacturing. Our products are guaranteed to give long service. Low prices—low upkeep.

Block machines, power tampers, mixers and molds include some of the Miles Equipment.

Where there is "MILES" there are smiles.

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THE Wayvell Chappell Automatic Ball Bearing Electric Floor Surfacing Machine is what you need to finish your new or old wood floors quickly and just the way you want them.

The machine is simple, easily handled, made correctly, built to last—the result of years of experience in building this specialty.

As **QUALITY** of work is the first essential in finishing floors, particularly new work in residences, flats, apartments, etc., all roller vibration must be done away with. It is remarkable how smoothly and steadily this ball bearing machine operates.

Only surfacing machine having roller sanding even with baseboard from either side of machine, doing away with uneven work of edge roller attachment. Removes old varnish, paint, oil-soak, black, etc., rapidly, or cuts downwarped edges quickly. Four sizes—for the largest areas or the smallest rooms.

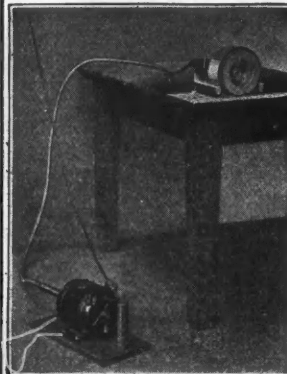
The Little Automatic Electric Surfacing Machine (on table) is a wonder for removing varnish from desk tops, counters, etc., or for new work, show windows, sills, doors, in corners, closets, or other confined spaces.

Write for folders. Accept our free trial offer.

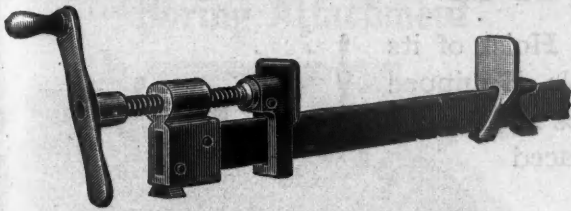
Manufactured by

Wayvell Chappell & Co.

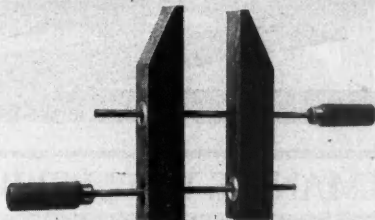
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BLACK BROS.



GLUING CLAMPS



**AND
HAND SCREWS**

are the product of one of the largest and oldest makers of glue room equipment. There are none better made. Their appeal is not through a single feature, but through every detail of design, material and workmanship. They make friends with dealer and user alike.

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Manufacturers of
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GLUE ROOM EQUIPMENT, ETC.

The BESSLER Makes Money

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The only
patented
stairway in
the U. S.

The Bessler Movable Stairway

You do the house owner a good turn when you show how the Bessler provides access to the attic without taking up \$1,000 worth of space below. Easy to operate, easy to install, substantial and good looking. Guaranteed to give satisfaction or money refunded.

Ask Your Dealer or Send for Booklet

The Bessler Movable Stairway Co.

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Akron, Ohio

New York Office
103 Park Ave.

Perfect Mortises ALWAYS

with

The New Improved

Champion Mortiser

Cuts a Perfect Mortise in a Minute or Two

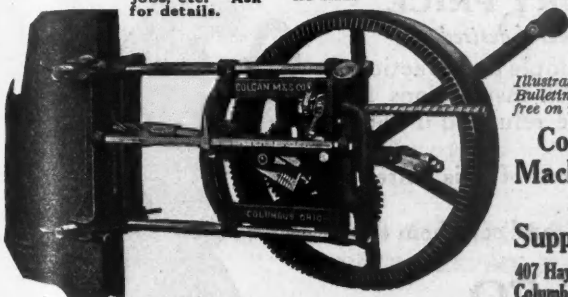
No matter how hard or soft the wood may be,—whether it is cross-grained, end wood, or full of dowel pins, you can always make a perfect mortise of uniform depth, straight sides and smooth bottom when you use the Champion Mortiser. No guess work. No hammer or chisel necessary. Anyone can operate it. Saves time, money and labor. Merely select and insert proper sized bit in the machine, attach machine to stock to be mortised, turn the handle and the job is done.

Year's guarantee with each machine. Price complete with choice of any two bits— $\frac{3}{4}$ " to $\frac{3}{4}$ " \$40.00 f. o. b. factory. Extra bits any size up to $1\frac{1}{4}$ " \$2.00 each.

Satisfaction or Money Back

We also make a motor driven machine for use on large jobs, etc. Ask for details.

If not satisfied after ten days' trial, return machine at our expense and get your money. Send TODAY! You run no risk.



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407 Hayden Bldg.
Columbus, Ohio

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Architects Convertible Level

Progressive builders find this combined level and transit a complete instrument for their needs.

Whether exterior or interior work; horizontal or vertical sights;—it saves \$2 worth of time and labor every day you use it.

The cost? Based on the length of accurate, dependable service it gives, the cost is less than 2c a day.

The best way to prove that a modern Beckmann instrument will save YOU time and money, is to use one for 10 days at our risk. Full details will be sent on return of the coupon.

The L. Beckmann Co.
500 Adams Street Toledo, Ohio



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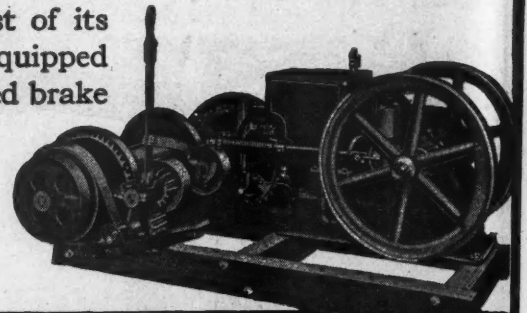
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Wonder Hoists

The highest grade Reversible Hoist of its size. Simple, compact, dependable. Equipped with adjustable, positive asbestos lined brake—internal expanding asbestos faced clutch—builders' sheave.



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RELIABLE RYBOLT FOR WARMTH FURNACES

The mechanical and scientific correctness in design of RYBOLT FURNACES assures

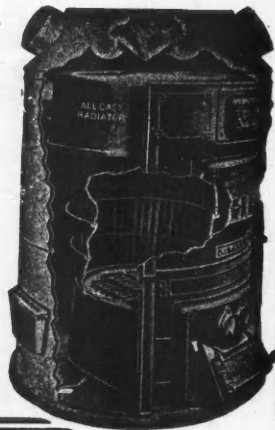
the user of maximum furnace efficiency. Whether your need is of a pipe or pipeless furnace, you will find a correct model in the RYBOLT line.

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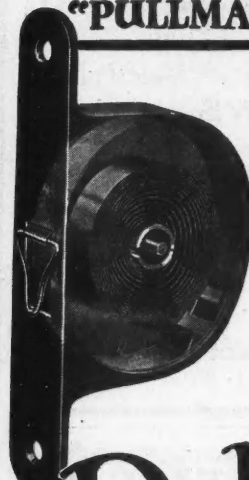
Get in touch with us today to need is of a pipe or pipeless furnace, you will find a correct model in the RYBOLT line. We are ready, are you?

RYBOLT HEATER CO.
Ashland, Ohio

CINCINNATI INDIANAPOLIS



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Over 6,000,000 Pullman Sash Balances in use, a fact that gives them an assured standing of practicability, reliability and durability.

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Installations with a record of more than 25 Years of Continuous Satisfactory service proves their wearing qualities.

Pullman Sash Balances with the New Tape Hook

Sold on a ten Year Guarantee
Free Illustrated Catalogue, full of modern window operating information on request.

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This new Tape Hook makes it possible to fasten or unfasten the tape from the sash while sash is in place. No fussing with the stop; no mars or scratches; no refinishing; no lost time.



THIS WISSLER PATENTED LEVEL IS NOW OFFERED DIRECT AT FACTORY PRICE

Write at once for CIRCULAR and FREE TRIAL—TERMS if desired.

A Transit and Level combined. Saves time and money. Simple and practical—always ready for use. It costs you nothing to try it. Full instructions free. Sent on approval to any established builder—money will be refunded if not entirely satisfactory.

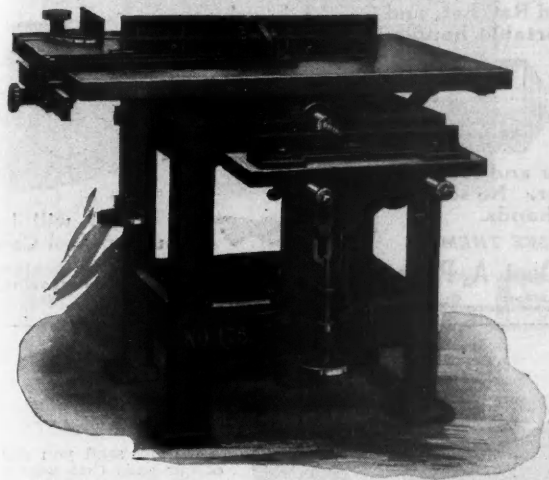
Beware of imitations. We are the inventors and sole owners of this Patented Level. All infringements are liable to prosecution.

We also manufacture a complete line of Transits, Levels, etc., and sell them direct at factory prices.

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653 N. Broadway ST. LOUIS, MO.



No. 175 Portable Saw Bench with Boring Attachment



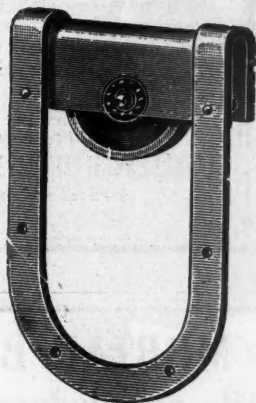
Arranged for motor drive or driven by gasoline engine mounted on skids. Detailed information and prices will be sent on request.

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"Get an H. & B. Quotation—It Pays"

Hall & Brown Wood Working Machine Co.
Home Office and Factory 1913 to 1933 North Broadway
Saint Louis, U.S.A.

Lane's Special Door Hangers



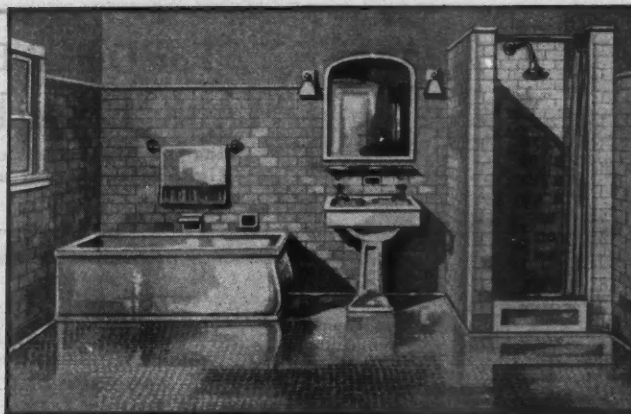
SPECIAL

These Hangers have U-Shape frame, the form of the original Lane. The roller-bearing wheels are completely covered and will run on any length of track.

Sold by the hardware trade everywhere

Manufactured by

LANE BROTHERS COMPANY
Carroll Street POUGHKEEPSIE, N. Y.



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Make your bathroom as attractive as the rest of your house. Give it that spick and span clean look which tile floors and walls always have.

Why not use tile? It's more economical than other materials. You don't have the expense of painting walls or replacing worn out prepared floorings. Your bathroom will have that cheerful appearance which means less work for the housewife and more enjoyment for every member of the family.

Send for our attractive catalog illustrating the different designs. It's a mighty handy book to have for future reference. There's no tile better than Hornet Tile, and our prices are right.

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ADJUSTABLE SILC. AND CAP. MACHINES

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Write for this 40-page catalog describing the most complete line and greatest value in existence.

BATCH MIXERS OF VARIOUS TYPES

STAND-MOUNTED MIXERS

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ADJUSTABLE BLOCK MACHINES

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LEADER AUTOMATIC BLOCK MACHINES

Write name and address in margin, tear off and mail. Catalog will be sent promptly.

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Established 20 Years 14 Front St.

9 SIZES
2, 3, 4, 5, 6, 8, 10 —
12 and 30 in. Blades

For Quick, Easy Driving
"YANKEE" Ratchet Driver No. 10

Has the Right and Left Hand Ratchet, and Rigid feature, and a comfortable handle.

Fits the Hand



Drives and draws screws quicker and easier in any place, than a rigid driver. No sore wrists or blistered hands.

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Edwards METAL SPANISH TILE Roofing

Its scores of vital, practical advantages cost no more than common roofing, yet mean tremendous economy—it needs no repairs and outlasts several ordinary roofs because of its practically indestructible metal construction.



Note the construction of patent Interlocking Device used on Edwards Metal Shingles and Spanish Tile.

It is absolutely wind, weather, storm, fire and lightning proof.

Home-Builders—Simply send us today the dimensions of your building and we will tell you by return mail exact cost of all material. Our new book on beautifying the modern American home by use of Metal Spanish Tile is yours for the asking. A postal will bring it.

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The World's Largest Makers of Metal Ceilings, Metal Shingles, Metal Roofing, Siding, Rolling Doors, Metal Lockers, etc.



We will send you one of our nails that was in actual service for 40 years, if you will send us your name and address.

Everlasting

ZINC COATED NAILS

Manufactured by the Malleable Iron Fittings Co.

are truly Everlasting. The heavy zinc coating applied by the "hot-dipped" process makes them so.

You contractors in erecting buildings of quality cannot afford to use a cheap, inferior nail.

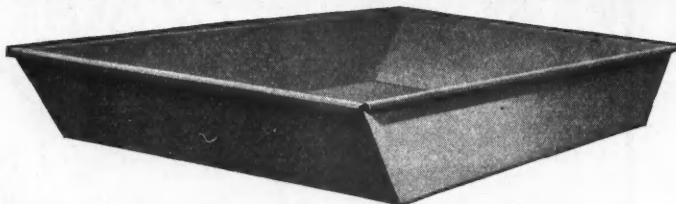
M. I. F. Co. Heavy Zinc Coated Nails have been put to the severest tests and have proved over and over again that they are rust-proof, and the most durable nails in the world.

If your dealer does not handle our nails we will sell you direct.

MALLEABLE IRON FITTINGS CO.
Branford, Conn.



ASHLAND STEEL BATCH BOXES AND MORTAR BOARDS



All-Steel Mortar Board
30" x 30" top and stands 5' high

Ashland Steel Batch Boxes have one piece bottoms made of 12 ga. steel (Nearly 1/8" thick) with sides electrically welded on the outside making a one-piece box of great strength.

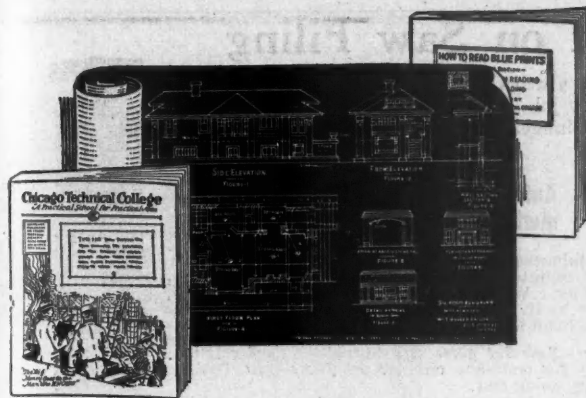
The inside is perfectly smooth so there is no chance for the mixing hoe or shovel to catch. A channel is formed around the top making it very rigid and is conveniently handled by two men.

THE ASHLAND PRODUCTS COMPANY

No. 1 Batch Box. 3 ft. 6 in. wide, 7 feet long 10' deep, weight 175 lbs.
No. 2 Batch Box. 3 ft. wide, 6 ft. long, 9' deep, weight 150 lbs.

Special sizes made to order. See your dealer or write direct.

ASHLAND, OHIO



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CHICAGO TECHNICAL COLLEGE Dept. 736
Chicago Tech. Building, 118 East Twenty-sixth Street, Chicago

THE AMERICAN SASH TRIMMER

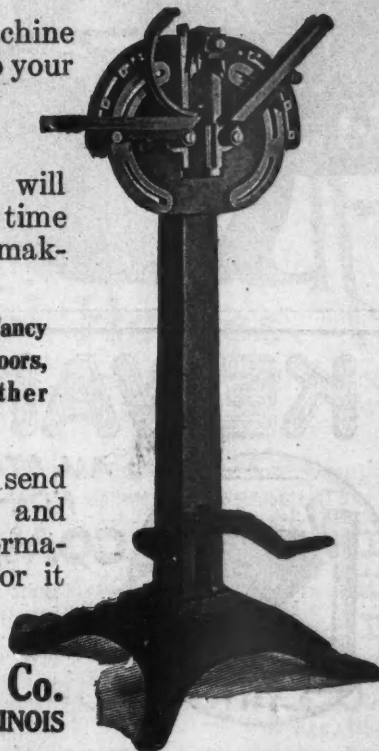
Is a handy machine for speeding up your production in the shop.

This machine will save you much time and money in making

Divided Light, Fancy Sash, French Doors, Screens, and other like Products.

We will gladly send you circulars and detailed information. Write for it at once.

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BRADLEY, ILLINOIS



Worth 5 Times Its Cost

That's what Fred Cayes, Contractor, of Plymouth, N. H., said about

The New Fifth (1924) Edition

of
The Building Estimator's Reference Book and The Vest-Pocket Estimator (Not Sold Separately)

Ochs. Const. Co., Allentown, Pa., said:
We find The Vest-Pocket Estimator to be one of the most useful little books for contractors that we have ever come across.

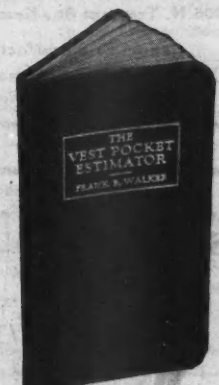
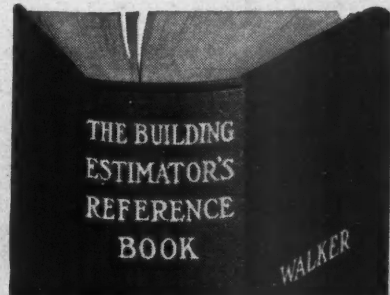
CONTRACTORS AND ESTIMATORS EVERYWHERE SAY THEY ARE THE BEST ESTIMATING BOOKS THEY HAVE EVER SEEN

Examine These New Books Free
These new books sent on approval to contractors writing on their business letter-head, or to others furnishing satisfactory reference.

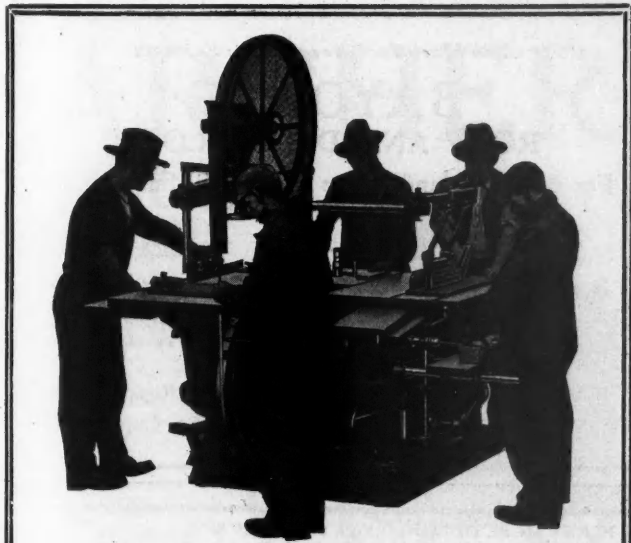
MAIL THE COUPON TO-DAY

Frank R. Walker Co., 536 E. Lake Shore Drive, Chicago
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If I like the books and decide to keep them, I will send you \$10 within 5 days after receipt by me, otherwise I will return them in good condition by Insured Parcel Post.

Name..... Business.....
Address.....
City and State.....



AB-7-24



The Overwhelming Popularity of The New Model Crescent Universal Wood Worker Nos. 101 to 112

is only another evidence that the high standard of Crescent quality is appreciated by well informed users of wood working machinery.

Ask today for illustrated price list and we will send copy of catalog giving complete description of our line of band saws, saw tables, shapers, variety wood workers, jointers, planers, planers and matchers, table cut off saws, swing saws, disk grinders, borers, hollow chisel mortisers, universal wood workers.

The Crescent Machine Co.
224 Main St., Leontonia, Ohio

Make a Profit on Saw Filing

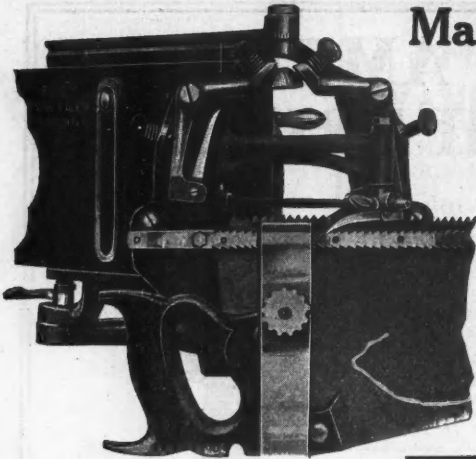
Saw filing and setting, always a slow, irksome job, has now been made a quick, easy job. You can keep your saws *always* sharp—make them last longer—do better work and make more money, with the

FOLEY Auto-matic Saw Filer

Does a *perfect* job in 5 minutes on a hand saw, and files the average band saw in 10 minutes. Makes any carpenter or mechanic an expert saw filer. Will also re-tooth a saw. Professional saw filers swear by it. Motor-driven and hand-drive models, each will sharpen hand saws, back saws, band saws.

Foley One-Minute Rotary Saw Set gives any desired set perfectly in one minute. Send today for complete circular on Foley Saw Tools. Agents wanted. Territory going fast.

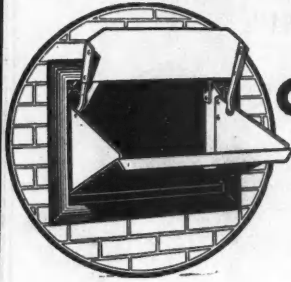
FOLEY SAW TOOL COMPANY, 3615 Portland Ave., MINNEAPOLIS, MINN.



Saw Set Cut-Open View

KEWANEE

**ALL STEEL
NON-BREAKABLE
COAL CHUTES**



**\$9.00
and up**

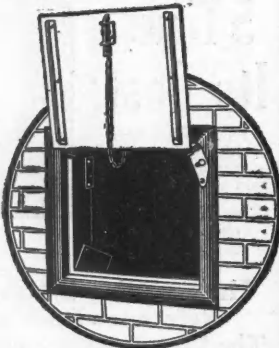
Dealers—The complete line of KEWANEE Coal Chutes is popular priced and offers you a good margin of profit. Send today for terms and discounts.

Special Builder's Circular

Ask us to send our Architects' Folder which gives specifications about all styles of KEWANEE Coal Chutes.

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506 N. Tremont St., Kewanee, Ill.

Canadian Manufacturer
Cast Stone Block & Machine Co., Ltd.
Windsor, Ontario



Built throughout of rust-resisting "Copper Steel" KEWANEE Coal Chutes give complete protection to the building.
Automatic in action, equipped with reliable safety locks and guaranteed to last a life time KEWANEEs permanently replace easily broken cast iron coal chutes and wood windows.
Send for Circulars
Write today for descriptive literature. All maintenance and renewal cost is avoided when a KEWANEE is installed.

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In the Season's Smartest Patterns and Colorings
Original Designs and Color Combinations

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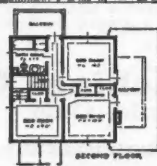
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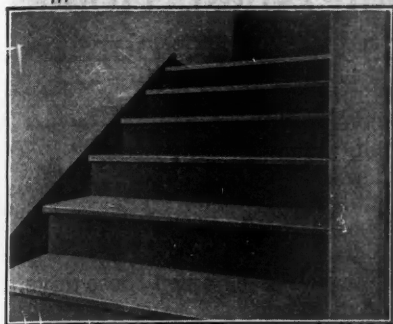
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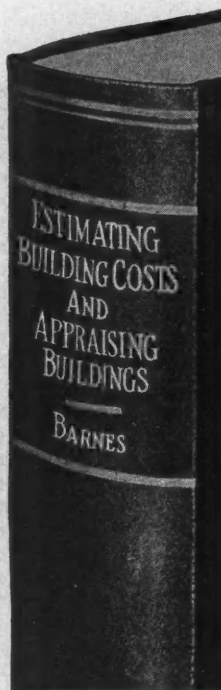
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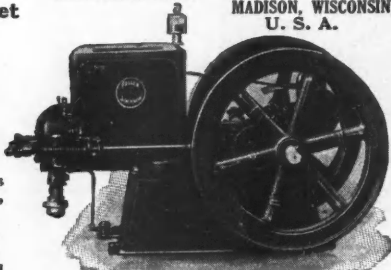
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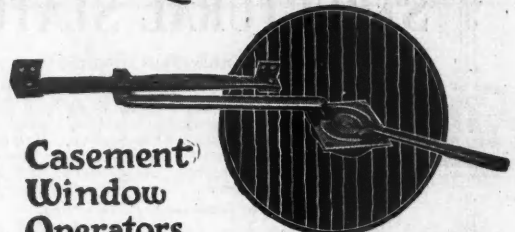
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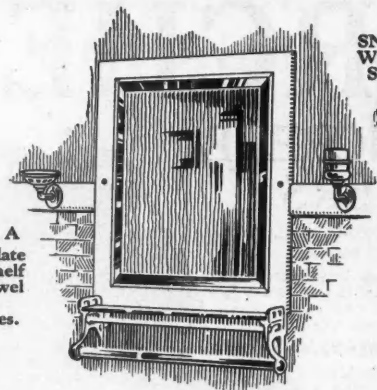
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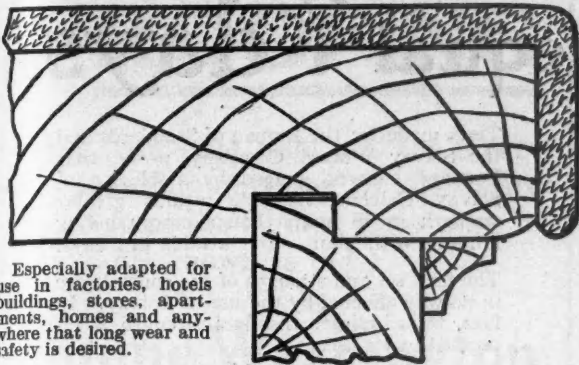
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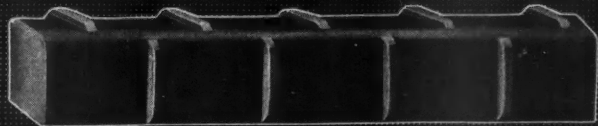
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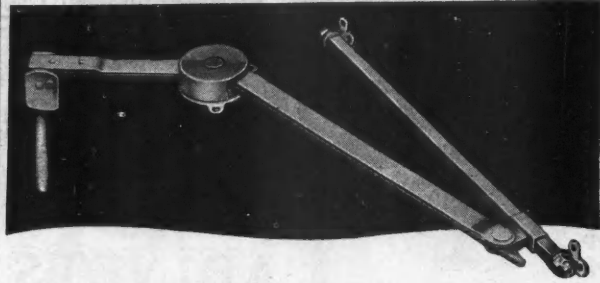
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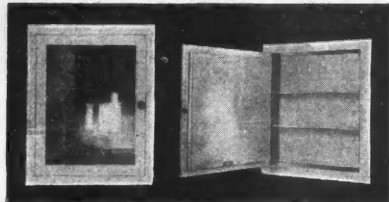
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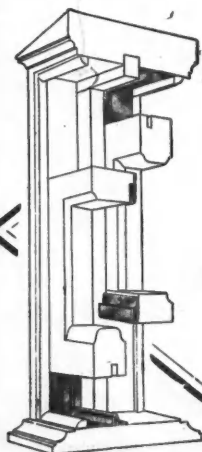
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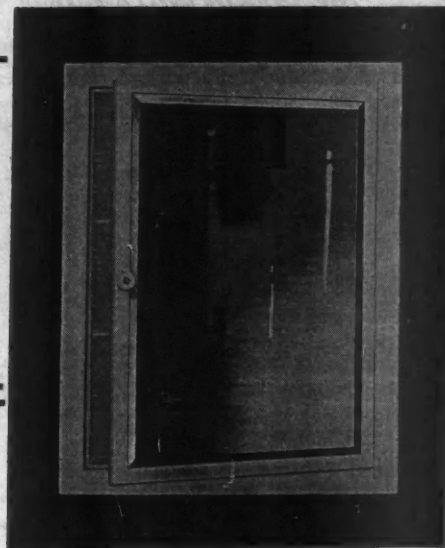
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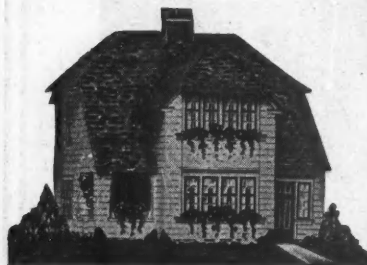
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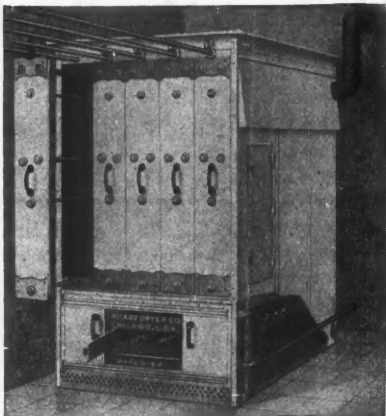
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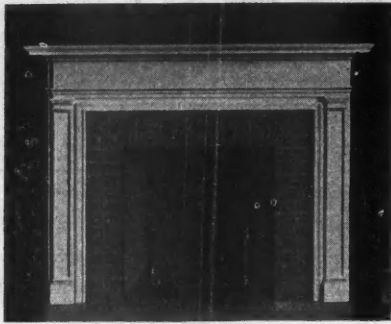
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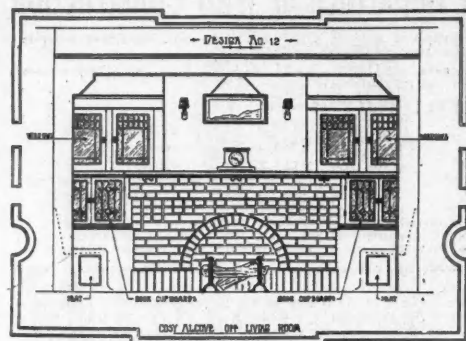
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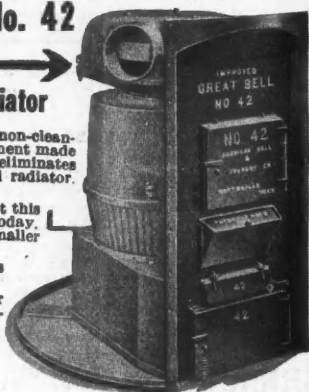
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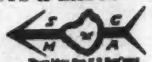
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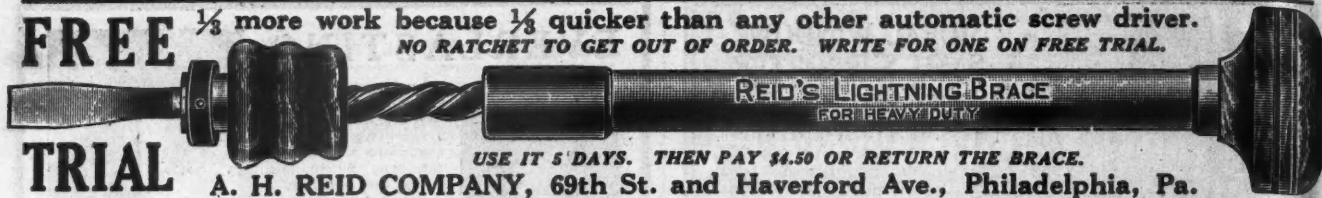
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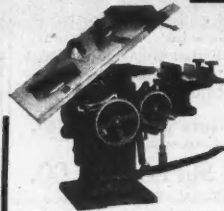
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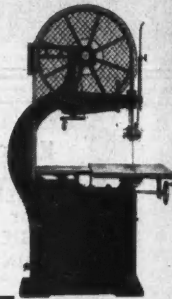
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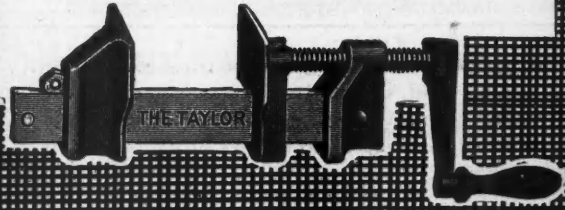
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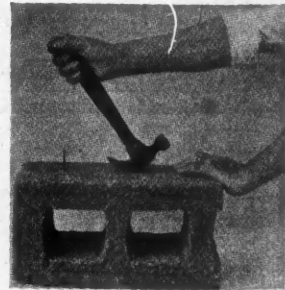
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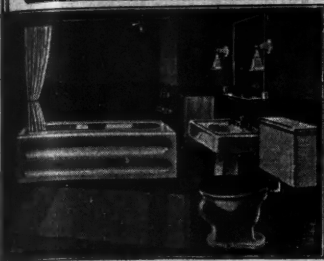
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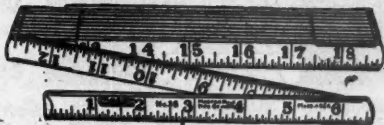
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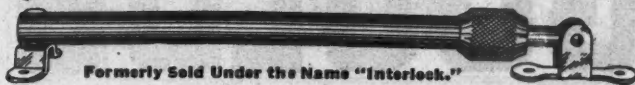
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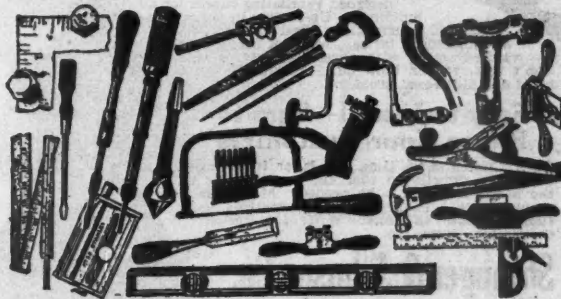
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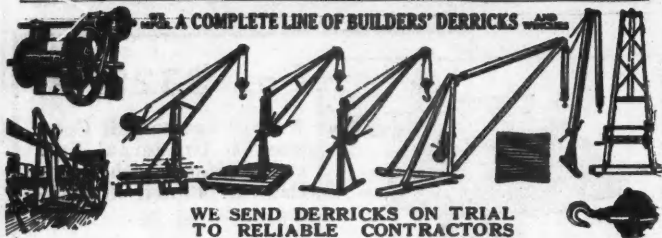
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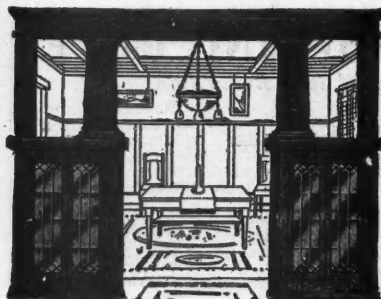
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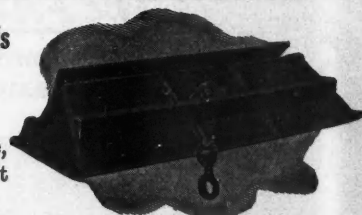
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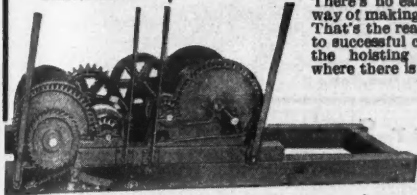
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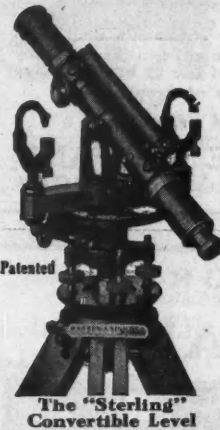
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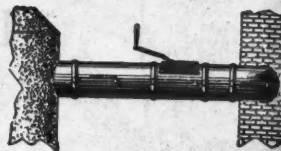


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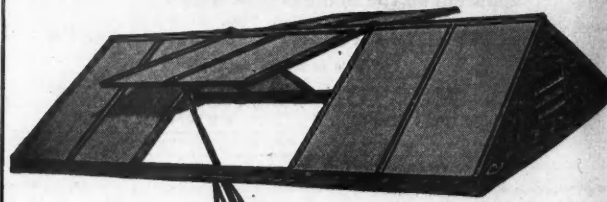


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Samples and full information gladly sent.

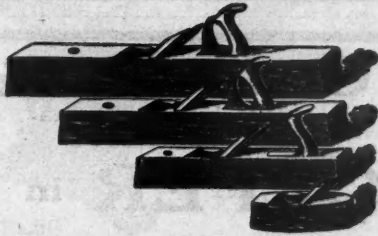
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Instantaneous in its action from levels to vertical angles, without having to be lifted out of its wyes.

Snaps in and out of position like a jack knife.

Ideal for quick plumbing of pier forms or other vertical members.

No other instrument just like it. Our patented clutch arrangement permits this rapid change.

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Removes Varnish Finishes Hardwoods

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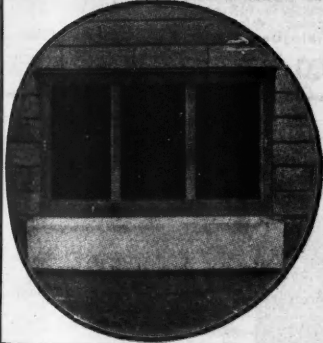
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Welded Solid Steel Sash

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Made in four standard sizes.

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- 3 light.....10 x 16
- 3 light.....10 x 20

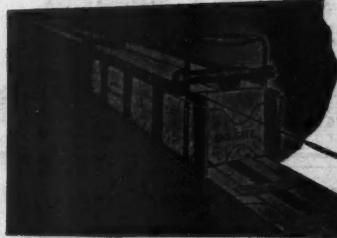
We also manufacture welded solid steel Industrial Sash, Projected Ventilator Sash, Store Front and Show Windows and Skylights.

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For 50% Build The Hollow Wall Way 50% For



Like a thermos bottle—Warmest in winter. Coolest in summer. Fire-proof. Everlasting.

Cheapest, best and most Perfect way known to the Building World.

The reason the most wall can be built for the least money with our forms is — because they are **STRONGEST — LIGHTEST — SIMPLEST** and most **PERFECT**

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— BUILT COMPLETE —

FIG. 466

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Capacity 1/2 Bag. Built in Hand or Power on Legs, skids, wheels, steel or rubber tires, on turntable which loads or dumps at any point in nearly a full circle; with or without engine, electric motor. Often saves its cost on one job. Write for catalogue today.

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Adjustable to hold material from 3/4" to 1 3/4". Will hold doors or lumber on edge while sawing, planing, and fitting hinges. It grips and releases automatically. Sets on bench or saw horse for holding cornice boards or trim. Weight less than a pound in aluminum. Price \$2.00

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The Perfect Bond for Concrete
Contains no acid. Therefore cannot injure concrete or steel. Forms a bond stronger than the concrete itself.
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Cuts any Angle Table Tilts to 45° Angle

Without Motor \$25.00



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Is the best Floor Surfacing Machine ever manufactured. This improved machine is made by master workmen who have been making Floor Surfacing Machines for years. That is why we can say it is better.

S. K. F. Ball Bearings. The New Improved "Lightning Electric" has the celebrated S. K. F. Ball Bearings in the fan to make it run easy with less oil—Ball Bearings are also in the Dust Proof Motor and the Sanding Roller—also wonderful new oiling system. If you are not satisfied with this machine we will take it back at our expense.

No Old Fashioned Side Roller. You can surface right up to the quarter round without the use of the old fashioned, dust throwing side roller. Leaves no waves or chatter marks in roughest floors—will not vibrate.

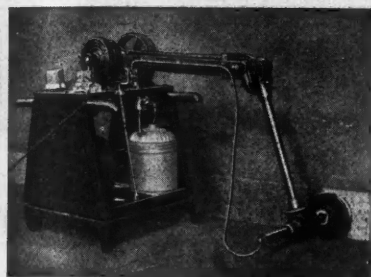
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Write for our catalog showing the different model Floor Surfacing Machines we make. It will convince you the "Lightning Electric" is a better machine and will do all we say. Machine pays for itself the first month.

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Should have this Wall and Base Rubbing Machine. The only one of its kind made. Does the work of 8 men rubbing by hand besides producing a better and more uniform surface. A real money maker and easily operated by one man. We also manufacture Rubbing Machines for Floor, Monument & Concrete products. Write today for catalogs.

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FIVE DAYS FREE TRIAL

Very economical in operation. Built to last a lifetime. Saves its cost on one fair sized job. Finishes flush to the baseboard. Regardless of price, the "Ideal" does more work at cheaper cost than any other machine made.

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The BACK SAVER

For the use of Scrubbing, Waxing, Polishing, Sanding and Grinding floors of all kinds.

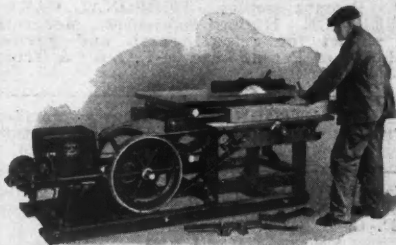


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BEACH MANUFACTURING CO. MONTROSE, PENNA.

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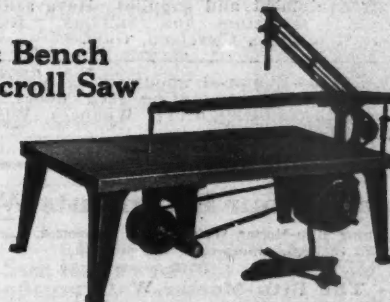
Electric Floor Sanding Machine that is practical for the small apartment house work. Lightest machine on the market, total weight 180 lbs. Only machine that can be operated from the ordinary 5 amp. meter. Guaranteed to take up absolutely all the dust. Has the best equipment that can be bought in the market today. Check this up. G. E. or Wagner 40 degree motors, Morse silent chain drive, RIV ball bearings and 50 ft. Royal rubber covered cable. Improved split sanding drum running 1450 R. P. M. 300% saving on sandpaper. Latest, Improved, Up-to-date. Patented in U. S. and Canada, July, 1923. Special price, F. O. B. Factory, \$275.00. Fully guaranteed against defect in workmanship or material.



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Portable:— take it to the job! Weight 80 lbs.



Will saw 2 inch Pine at 2 1/2 feet per minute—2 inch Maple at 1 1/2 feet per minute

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C. L. PARKER, PATENT ATTORNEY. Formerly member Examining Corps, U. S. Patent Office. McGill Bldg., Washington, D. C. Pamphlet of instruction sent upon request.

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by using Bitu-Mortar Waterproofing Compound, Liquid, for waterproofing cement coatings. Inexpensive and everlasting.

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Thirty-five years of service is assurance
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Made in painted tin, genuine re-dipped galvanized tin, sheet zinc and copper.

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A Pocket-book that Fits the Pocket

"BUILDING LABOR CALCULATOR"

consists of unit tables giving accurate constants for every building job—material quantities and labor hours.

A time and money saver on every estimate.

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Will help you increase sales

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\$50 A DAY EASILY

is not an exceptional record for Contractors and Carpenters taking orders for Kretzer Brand Lightning Protection.

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In every community to sell and install approved Lightning Protection. Write for our exclusive sales proposition.

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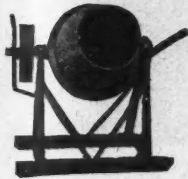
The Open Door to a Great Market

Covers the Entire Building Industry



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DOOR CHECKS**

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Park Mfg. Co. Worcester, Mass.



"JIM-DANDY" MIXER

A real Concrete Mixer at a Real Price.
Write and get our proposition before
you buy.

SUPERIOR MFG. CO.
23 Concrete Ave. WATERLOO, IOWA

STEVENS LINE AND SURFACE LEVEL

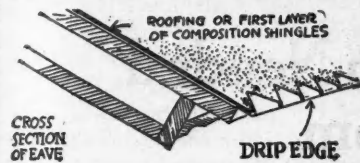
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Aluminum



Wt.
1/2 oz.

Write for Circular and Prices. Ask your Hardware Dealer.
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TRY DRIP EDGE THE METAL STRIP

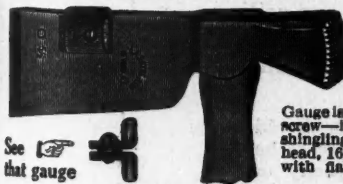


when applying flexible (asphalt, canvas, etc.) roofings and shingles. Finishing results will delight you. Good enough so that the first firm to stock Drip Edge continues to re-order to sell the roofing trade, and sold by hundreds of dealers in 36 states. Your dealer should have it. If not, drop us a line. We'll see that you are supplied promptly.

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FASTER - SHINGLING - MORE MONEY

Carpenters and Builders! That's what it means when you use the



SAYRE
Shingling Hatchet
With positive gauge—Get one today!

Gauge is positive—cannot slip. Clamps on with screw—is readily changed. Unequaled for fast shingling: ask for No. 144 (made with oval head, 160 points) price, postpaid, \$3.00. Also with flat head, No. 44, 81 points, milled. Price \$3.00 postpaid.

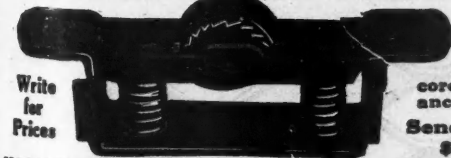
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**MORRILL
SAW SETS**
SETS SAWS
JUST RIGHT

Send for free copy of "Saw Points," "How to Joint, Set and File Saws."
CHAS. MORRILL
38 Lafayette St., New York City

The Most Economical Sash Holder



It is Automatic

No Sash weights, cords, pulleys or balances necessary.

Send For Trial Set
\$1.25 Prepaid

HARDWARE SALES CO., 30 Church St., Room 4462, NEW YORK CITY

SEDGWICK

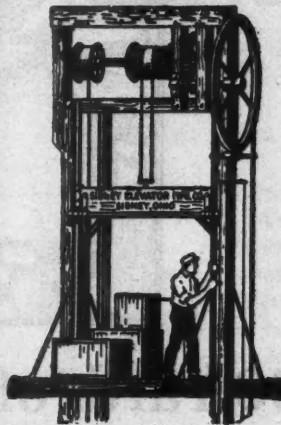
**Hand Power Elevators and
Dumb Waiters**

Made to meet any requirement; give long and satisfactory service to consumer and increase your reputation.

- Standard sizes always in stock.
- Special sizes shipped in 4 days.

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ELEVATORS

—Hand Power and Electric House Elevator
Electric Convertors for Hand Elevators
Automobile Elevators

You can Electrify your old hand elevator at small cost.

Our Elevators are time and labor savers.

Easily installed.

We send instructions for installing. Our reasonable prices will save you money.

State style of elevator wanted, capacity, size of platform and height.

Sidney Elevator Mfg. Works
SIDNEY, OHIO



DUMBWAITERS AT LOW COST

"The Highwood" complete, ready to install, 60-lb. capacity. Height 20 feet. \$34.50.

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PROFITABLE SPARE TIME WORK

BUILD YOUR OWN GRANDFATHER'S CLOCK WITH OUR HELP

We furnish blue prints, finishing material and instructions. Buy the works, dial, weights and pendulum from us at surprisingly low prices. You make a fine profit building artistic clocks for your friends. Complete Works \$5.00. Others with Chimes at all prices. Ask for our attractive Free Offer.

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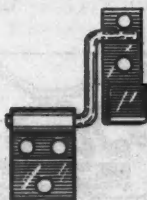


INDESTRUCTO CARPENTER'S TOOL CASES

Made of three-ply Veneer, with canvass, painted and varnished, waterproof, light and strong. Secure locks, strong handle, place for every tool, carried like suitcase.

Write or booklet and prices

WEDELL & BOERS
28 West Jefferson Ave. Detroit, Mich.



No. 27 Hauser Adjustable Screen and Storm Sash Hangers for Half and Full Size Screens

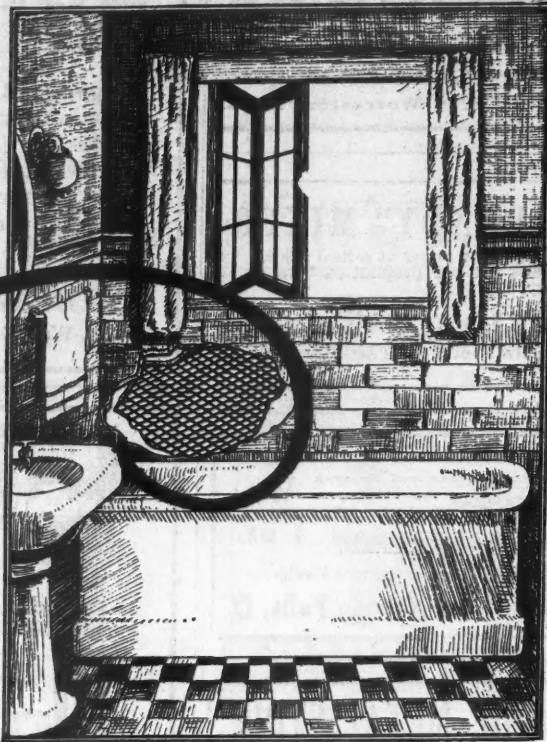
By using Hauser Hangers your screens will fit tight against stops which make them insect proof. You will save 25% on lumber and labor. Price \$1.50 per dozen sets packed with screws. Parcel Post Paid.

Samples and Catalogues sent on request.

MARTIN HAUSER MFG. CO.
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"THE STEEL HEART OF PLASTER" STOPS FIRE — PREVENTS CRACKS



Only 30 Yards of Metal Lath Needed to Protect a Bathroom

Plastering Troubles Prevented For Just One Extra "Ten Spot"

LISTEN, builders! Here is a simple, inexpensive way to rid yourself of the annoyance of cracked or falling plaster resulting from leaks, varying temperatures, overflowing lavatories, etc., and the attendant repair expense. Just reinforce the four walls and ceiling with KNO-BURN Metal Lath. It is easy to apply, and economical of plaster. And 30 yards to two bundles will be ample for any ordinary bathroom.

The labor and material for the extra strength giving coat of plaster should not cost more than \$10.00 additional. And think of the enormous advantage of having permanently smooth, crack-free ceilings and walls. When you specify or use KNO-BURN Metal Lath you will never be afraid of the question, "What is underneath the plaster?" Answer confidently "steel—the crack-preventing, fire-resisting plaster base—METAL LATH."

The quality of plastering that you secure by using KNO-BURN, its durability and freedom from cracks and streaks will please your clients and add to your reputation. You will find it *pays* to use this widely known plastering base not only in the bathroom, but in all the principal rooms.

And Here Is Another Place Where Metal Lath Is Needed



**NORTH WESTERN
EXPANDED METAL CO. N**

1203 Old Colony Bldg.
CHICAGO

FREE

Helpful Book for Builders.

Also Samples of KNO-BURN

**Kno-Burn
Metal Lath**

AROUND THE FAMILY TABLE



Honest Words of Praise for June

Editor AMERICAN BUILDER:

I had to take off almost an entire evening to carefully go through the June issue, but I assure you it was well worth while. The AMERICAN BUILDER had always been in a class by itself, but this June issue is by all odds the most comprehensive publication that has ever come to our office. You and your associates must have devoted many days and many nights, and much midnight oil in assembling this issue, which is monumental in the building industry. What a sigh of relief you must have issued when it was off the press and moving on to the subscribers. It was one whale of a job, and mighty well done, and we offer you our congratulations.

D. S. MONTGOMERY, Secretary,
Wisconsin Retail Lumbermen's Association.

Editor AMERICAN BUILDER:

Your June Historical and Reference Number is one of the finest and most comprehensive issues I have ever seen and I have no doubt all your readers will feel as I do and be just as anxious to offer congratulations.

Will you please convey this expression to Mr. Radford and also give him my very kindest regards?

E. J. CURTIS, Vice-President,
Curtis Companies, Clinton, Iowa.

Editor AMERICAN BUILDER:

You are to be highly complimented on the Historical Reference Edition of The AMERICAN BUILDER as it can rightly be considered a work of art. We are placing this edition in our reference library and are sure that we will have occasion to refer to it frequently.

M. L. BURGESS, Secretary,
Marietta Manufacturing Company, Indianapolis, Ind.

Editor AMERICAN BUILDER:

We are very much pleased with the leatherbound copy of your June Histori-

cal and Reference Number. Pleased to note that you intend sending one of these to all the public libraries; we feel sure it will be referred to a great many times.

C. A. RASEY, Advertising Dept.,
Richards-Wilcox Manufacturing Co.,
Aurora, Illinois.

Editor AMERICAN BUILDER:

I have received the June Historical and Reference Number of the AMERICAN BUILDER, and wish to compliment you upon this edition.

LEON C. WEISS, of
Weiss & Dreyfous, Architects, New Orleans.

Editor AMERICAN BUILDER:

I wish to thank you for sending me a copy of the June Historical and Reference Number of the AMERICAN BUILDER. Such an issue is indeed an ambitious undertaking, and I am glad to say that I enjoyed going through it, and found it very informing.

JOHN M. GRIES,
Chief, Division of Building and Housing,
Department of Commerce, Washington, D. C.

Editor AMERICAN BUILDER:

Your are to be congratulated upon this splendid issue of your magazine which sets forth the development of the various industries connected with the building business. This number contains in addition a great deal of valuable information for the reader desirous of keeping in touch with the latest developments in the building industry.

PAUL S. COLLIER, Secretary-Manager,
Northwestern Retail Lumbermen's Association, Rochester, N. Y.

Editor AMERICAN BUILDER:

We surely will keep the big June number of the AMERICAN BUILDER as a buying reference and hope that you will carry out your resolve to publish a

big directory or reference number like this one every year.

JOHN SUELZE, Jr.,
Fort Wayne (Ind.) Builders' Supply Co.

Editor AMERICAN BUILDER:

We have found your June number of the AMERICAN BUILDER quite a factor to us in this respect: It being a ready reference to the small dealer especially in buying material of all descriptions; we have it right on our desk.

We hope that a year from now you will be able to put out a book similar to this one.

BENJAMIN E. PLOTKIN, Manager,
The Fairfield (Conn.) Masons' Supply Co.

Editor AMERICAN BUILDER:

Your admirable historical number, the June AMERICAN BUILDER, indeed is a splendid achievement, and merits sincere congratulations.

ALBERT R. ISRAEL, Publicity Manager,
Southern Pine Association, New Orleans, La.

Editor AMERICAN BUILDER:

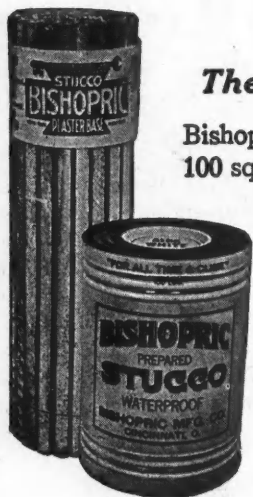
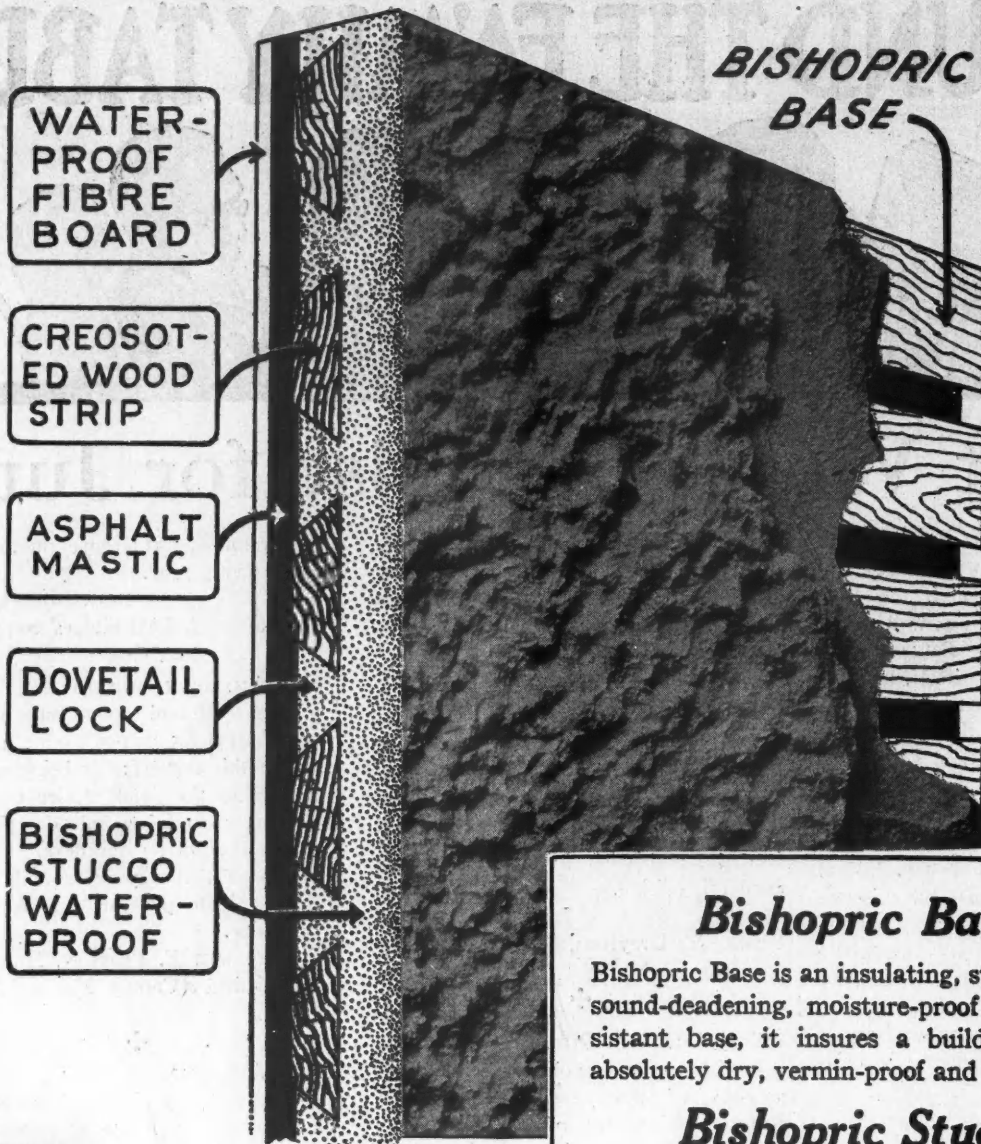
Your directory number is certainly a dandy, and I am sure will find a ready welcome wherever it is sent. We are more than pleased with the copy sent us, and wish to congratulate you in getting out such a nice piece of work.

H. L. MOUTAW, Advertising Dept.,
Beckman-Dawson Roofing Company,
Chicago.

Editor AMERICAN BUILDER:

I have just received the copy of the June issue of your publication and I am frank to say that I consider it very complete in its data on the building industry. It is an exceptional issue in this field, interesting and instructive. I want to compliment you and your organization on this work.

D. T. CAMPBELL,
J. R. Hamilton Advertising Agency,
Chicago.



The Roll and the Drum

Bishopric Base is shipped in rolls 100 square feet to the roll. It is easily handled, quickly cut to desired size and there is no waste.

Bishopric Stucco is packed in air-tight metal drums preventing deterioration and loss, either in transit or storage, or on the job.

Bishopric Base

Bishopric Base is an insulating, strengthening sound-deadening, moisture-proof and fire-resistant base, it insures a building that is absolutely dry, vermin-proof and healthy.

Bishopric Stucco

over Bishopric Base is water-proof and fire-proof. No contraction or expansion. All the elements of wear and tear have been anticipated in the manufacture of BISHOPRIC.

Booklet—"Bishopric For All Time and Clime," beautifully illustrated booklet sent on request.

Plan Book containing many attractive designs with floor plans will be sent upon receipt of 25c, coin or stamps.

Bishopric is Sold by Dealers Everywhere

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Stucco Over Bishopric Base

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