

Southern Architect and Building News

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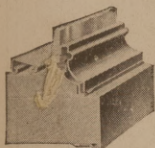
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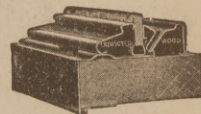
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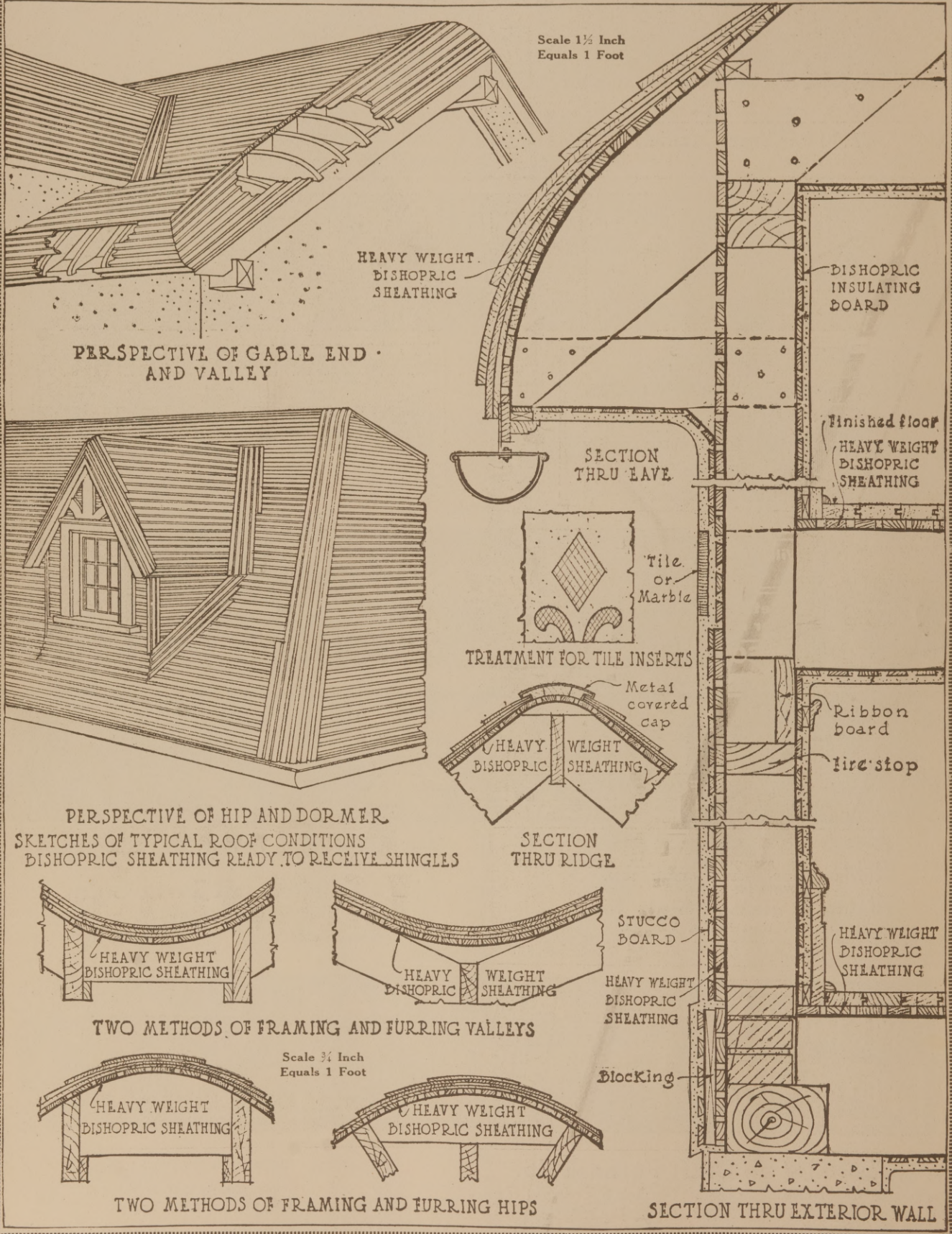


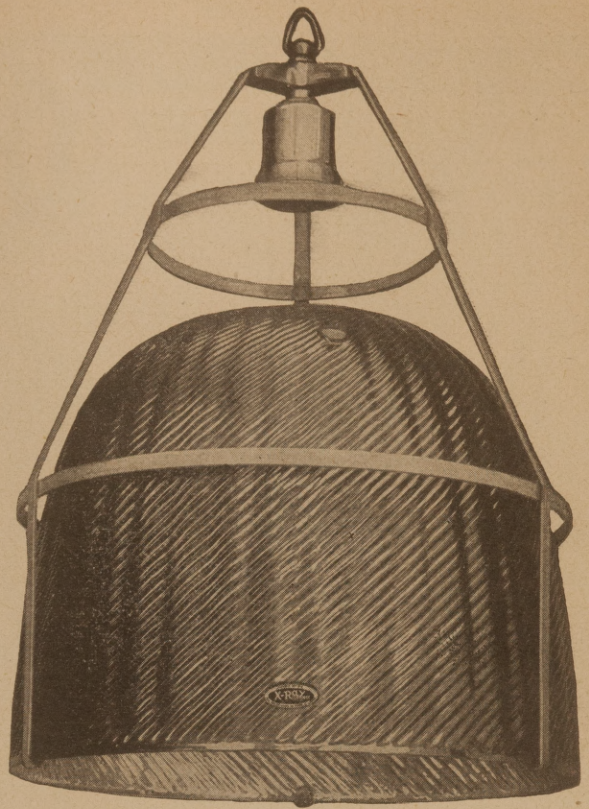
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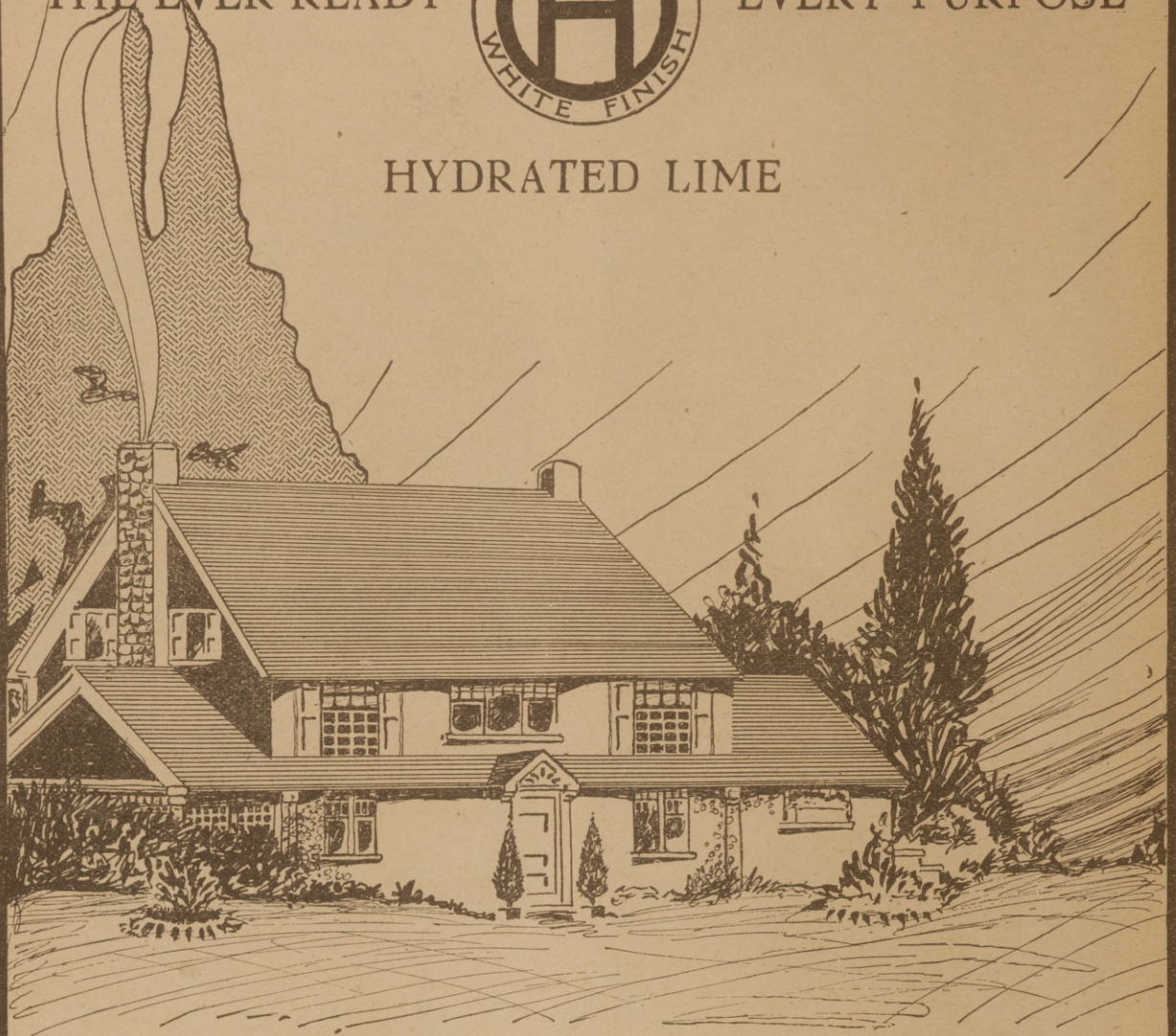
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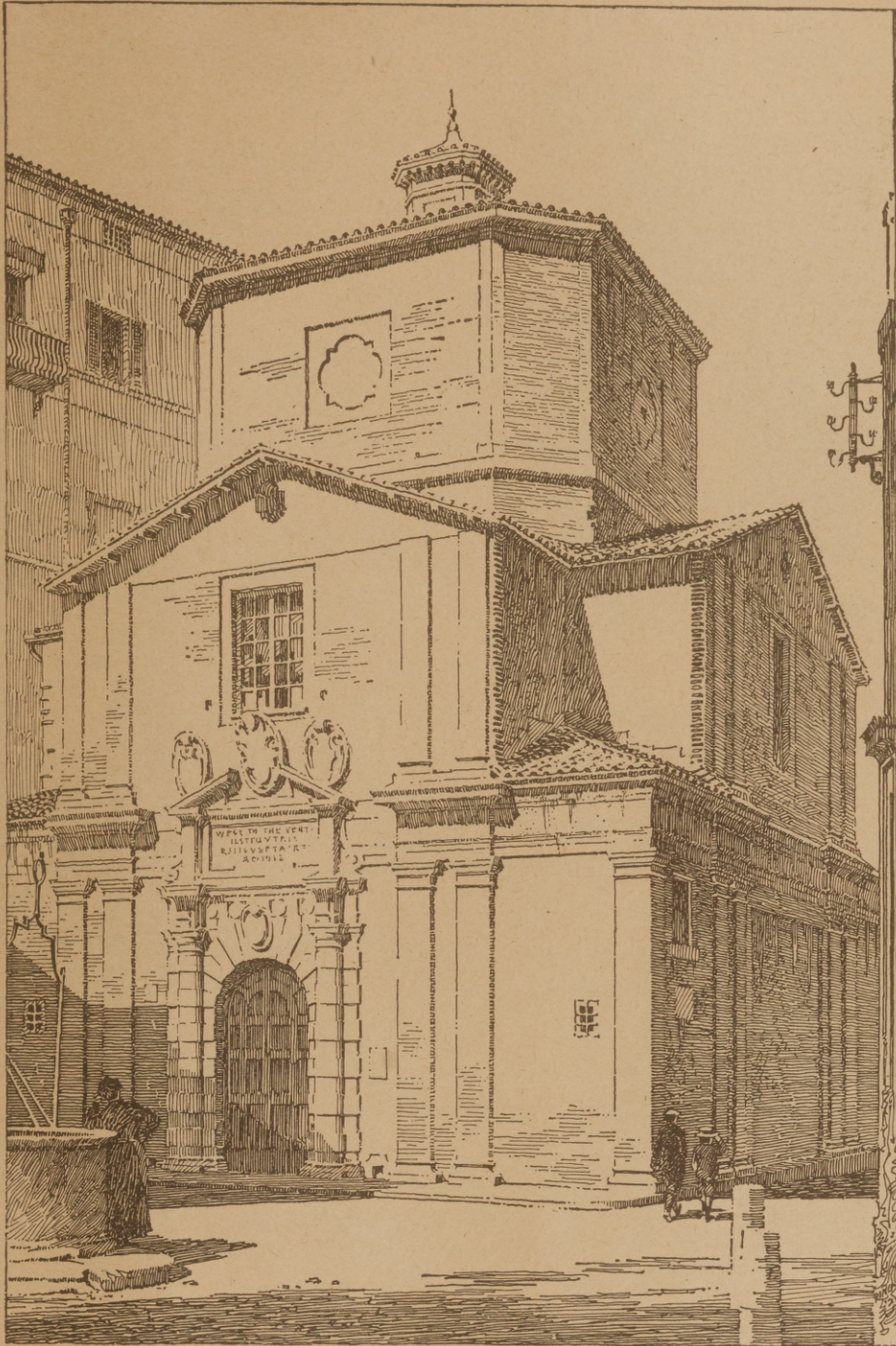
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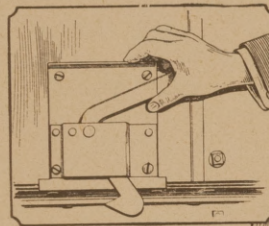
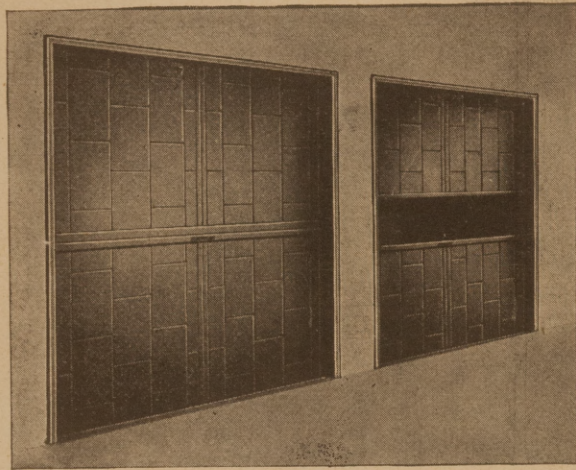
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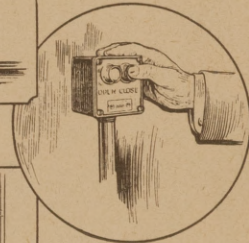
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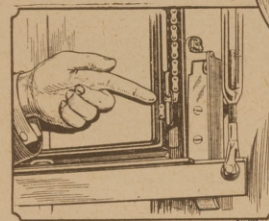
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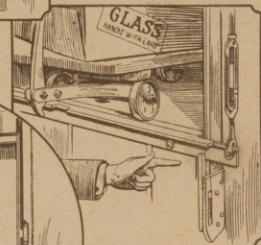
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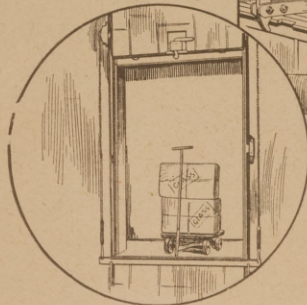
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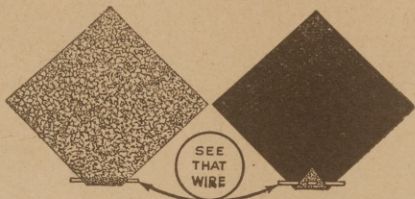
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Southern Architect and Building News

WITH WHICH IS CONSOLIDATED "SOUTHERN BUILDING RECORD"

VOL. LXV.

DALTON, and ATLANTA, GA., SEPTEMBER, 1920.

No. 5

The Southern Architect And Building News

Southern Architect and Contractor, Atlanta, Ga., and Southern Building News, Memphis, Tenn., and Southern Building Record, Nashville, Tenn., Consolidated.

Entered as second-class matter May 27th, 1911, at the Post Office at Dalton, Ga., under the act of March 3d, 1879.

This paper is issued and mailed from our printing house at Dalton, Ga. Business office, Atlanta, Ga. All letters should be addressed to the Atlanta office.

Price \$2.00 Per Year.

TO OUR ADVERTISERS

Our advertisers are requested to have copy and cuts for changes for advertisements in this office not later than the 5th, preceding the month of publication.

We cannot be responsible for changes not made, when copy and cuts are received later, or submit proof.

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Growing Georgia Cities.

Census bureau announcements of the past few days were very complimentary to numbers of the smaller cities and towns of the Southeast.

Brunswick, Ga., increased 4,131 or 41.6 per cent in population during the past ten years, its population now being 14,413. Among the Georgia cities of importance, Brunswick ranks third in respect to percentage of increase, LaGrange coming first and Columbus second.

Decatur, Ga., made a notable record, increasing 3,684 or 149.4 per cent, its present population being

officially given as 6,150. DeKalb county, of which it is the county-seat, is now the sixth county in Georgia in population.

Manchester, Ga., has 2,717 population, an increase of 194.7 per cent, and Bradentown, Fla. 3,868, an increase of 1,982, or 105.1 per cent.

Why Build Homes?

A building operator, who in former days was accustomed to receive, on the average, a hundred applications a year from persons who desired to purchase lots for home development, declares that today he is receiving none at all. And yet the demand for housing is so acute that all sorts of radical measures have been resorted to, as in New York, or proposed, as in the New Jersey Legislature at the last session.

At the very time when so little effort is being made, by those who are looking for homes, toward providing places to live in, money for construction is flowing freely into other lines. In New York, for example, while 160,000 apartments are needed, permits show that garages and theaters are planned in great numbers. For the month of July in Manhattan permits showed plans for only one dwelling and only one tenement, as against five theaters and 115 stables and garages. Here in Newark moving picture theaters and garages are building at a lively rate, but housing stands practically still.

Why money has not gone into housing in New York, and Southern cities as well, has been suggested in these columns before. There are the high cost and the uncertainty of labor and materials, and these are real deterrents here, too. There are also restrictive laws, artificial discouragements, intended to promote housing and serve the public need but actually defeating their own end by putting a stop to construction without curbing rents. But there is yet another cause, and this seems to be indicated by the sort of building that actually is going on, both here and in New York, as well as by the falling off in home-seekers who are willing to shoulder the responsibility of purchase.

It pays to put money into amusement places, such as the theaters, or luxury uses, such as garage construction, because the people are spending their money for amusements and for luxuries rather than for homes.

The inconsistency of this needs no argument. How can builders be expected to put their funds

into dwellings as long as they must forego larger returns from other enterprises by so doing, and face hostile and perhaps discriminatory laws and administrations into the bargain? Would the home-seeker turn from the expenditures he prefers to the expenditures he avoids? Why, then, should the investor or builder hold his money out of profitable undertakings merely to carry the burden for home-seekers who shrug their shoulders at the thought of assuming any part of the responsibility?

The housing trouble is partly economic, partly psychological. It does not pay to build homes while the public pays more for other uses of construction funds. That is the economic side. And the psychological side is that, in an era in which people are looking for ease and enjoyment, the old-fashioned purpose to save and buy a home has been weakened and rendered ineffective.

More housing will come when men and women learn once more to put the desire for a home above the pleasure of spending, for then it will pay to build homes for them—or what is better, they will build their own by instalment plans, singly or co-operatively—provided the legislators and municipal governments can be induced to let the law of supply and demand work out its own results.

Model Making at Columbia.

New methods of teaching, designed to remove "the malicious influence" which pure paper has upon the imagination of the student and to avoid mistakes in the design of buildings which would stand as glaring faults through many generations, are now being employed in the School of Architecture at Columbia University.

The student is no longer restricted to architecture portrayed wholly on flat paper, but is required to construct models which bring into play the same skill and perspective demanded in the actual practice of the architectural profession. Model making as a means for instruction in architecture is a long step in advance and is in accord with the most advanced practice in the profession.

"It has long been appreciated that the student of architecture is trained largely in a feeling for architecture presented entirely upon paper, and in the form of a plain elevation drawing," H. Vandervoort Walsh of the Columbia teaching staff said in describing the system of model making now used to train Columbia architectural students.

"The student never has the opportunity which the practicing architect finds of observing his design completed in all three dimensions. This privilege

only belongs to the architect who has secured his commission, and has had his building erected at the expense of his client. Many architects have been astonished and surprised at mistakes in their design, due to the inability of drawings to fully represent the truth as it would appear in three dimensions. When the building is completed he has no opportunity of changing the form, and his mistake must stand as a glaring fault through many generations.

"The student of Architecture who has the opportunity of designing a building or a group of buildings first on paper, and then completing the same in the form of a model, has an opportunity to observe the mistakes of his design without the cost of erecting the building. Moreover, he has removed the malicious influence which pure paper design has upon his imagination.

"Many a designer who has unusual skill in drawing and rendering, and who is blessed with an extremely fertile imagination is often able to mislead himself with his pictures and comes to regard the thing he has erected on paper as beautiful architecture, while if it were constructed in three dimensions, in the form of a model it would appear entirely absurd and ridiculous.

"The manner in which model making is carried on in the School of Architecture of Columbia University is extremely simple. A squad of students is given a problem as say 'A Club Colony in Florida.' Each member of the squad then tries to solve this problem on paper according to his own ideas. These sketches are then judged by a jury consisting of the critics in design, and the best design is selected for the model. The students are then assigned to various parts of the model, some to making the landscape, others this building, and others that building of the group.

"The models of the buildings are constructed entirely of heavy illustration board. All elevations are drawn upon it, and minor projections, mouldings, windows, doors and ornamental features of this type are rendered not in the usual architectural manner, but with a very hard, contrasting technique, so that these features will stand out strongly and realistically in the completed model. Large projecting members like cornices, columns, chimneys and dormers, etc., are made from anything that the student may be clever enough to use.

"In fact, the ingenuity displayed in the construction of a model is one of the fascinating features of the work. As for landscape gardening, grass made from stained saw dust, trees made from sponges, colonnades made from tooth picks, water falls and fountains made from glass are a few suggestive ideas of the possibilities in these models."



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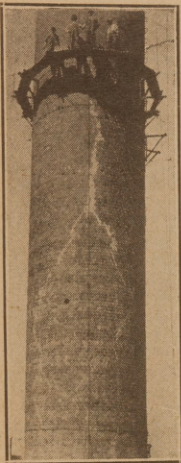
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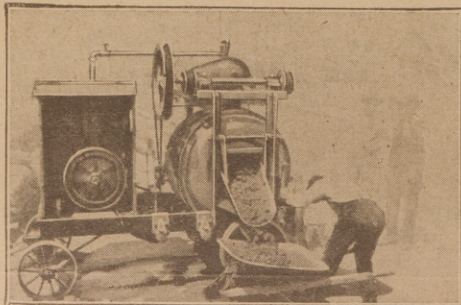
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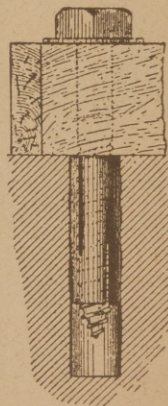
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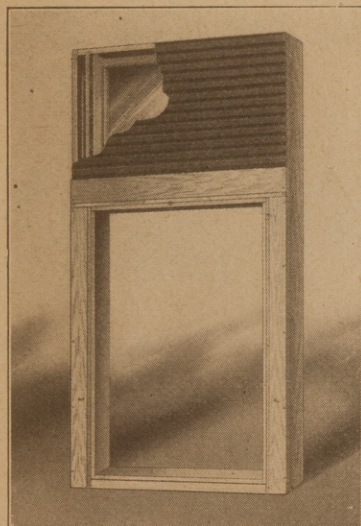
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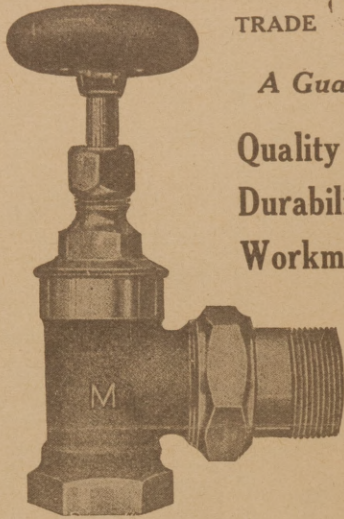
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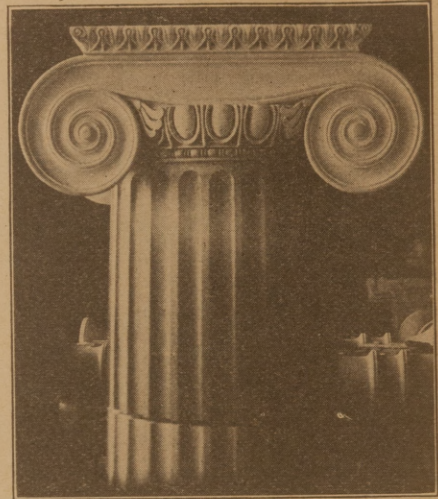
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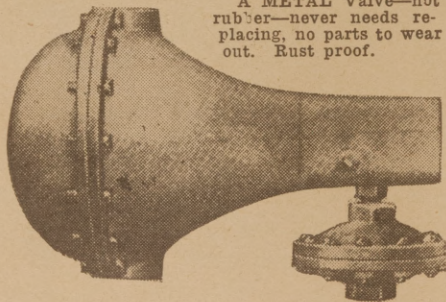


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Ofeldt Automatic Water Regulator

has proved a remarkable success wherever used.

Maintains at all times proper water level in boiler.



A METAL Valve—not rubber—never needs replacing, no parts to wear out. Rust proof.

Oscillates with action of water passing through it, which keeps it clean and free from dirt.

Light, compact, yet rugged in construction.

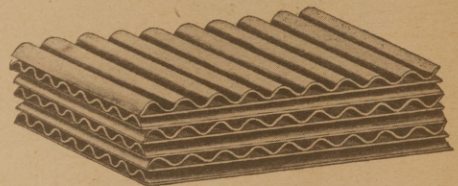
This device is not a pump, injector or trap, but a highly efficient water regulator.

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The Ofeldt Gas Fired Boiler Co., Inc., Nyack, N.Y.

Makers of Water Tube Boilers for 25 years

Asbestos Air Cell Blocks



For lining ceilings, covering boilers and other hot surfaces these blocks have proven to be very efficient. They are made of corrugated asbestos paper which leaves small spaces for confining of air.

Whenever in need of Pipe and Boiler Coverings or kindred articles, remember that there is a "Diamond N" product that is built for that particular purpose. If a job puzzles you, ask us what we have for it.

Write for prices

Norristown Magnesia & Asbestos Co.

Norristown, Pa.

Inexpensive Living Quarters.

In many cities people have tried to meet the scarcity of dwellings, by a mushroom growth of cheap houses, put up so close to each other as to constitute fire traps, to destroy all feeling of beauty and all home pride. People won't settle down and become good citizens, anxious to improve their home towns, if huddled in sheds where the only view is of their neighbors' wash lines and rickety back piazzas.

Great numbers of these dwellings are put up in the form of cheap wooden "three decker" tenements. The houses are devoid of all attractiveness, as square and repellent as a dry goods box. Undoubtedly they are economical. If a builder would only spend a little more money, he could put up a house that would seem like a home and attract intelligent people and build up good citizenship.

You can often see in growing towns examples side by side of what a little taste can accomplish as against mere sordid ugliness. One tenement will be as unattractive as a barn with the roof cut off. Another one near by will have pretty sloping roofs, but with every inch of space utilized.

By spending a little more money, the dry goods box three decker can be converted into a prettily designed four apartment dwelling, two suites on the ground floor, and two above, and every one of them made to look like a real home.

Undoubtedly people have got to live in smaller quarters than formerly. Life must be simplified. Smaller quarters mean less work, more time for leisure, out door diversions. But the small dwelling can be made to look home like, to encourage neighborhood pride and desire for ownership. No community life is built on a sound foundation unless people become rooted to the soil, and you can't root them in ugly surroundings.

As to Building Costs.

When will building costs be cheaper?

By way of answer the Manufacturers' Record, that ever vigilant and conservative student of the industrial trend, reminds us that the country's normal construction program is still from eighteen to twenty-one months behind and that to overtake the shortage there must be expenditures aggregating some three and a half billion dollars.

So much for demands, or needs. The other factors are wages and prices of materials. That there will be appreciable reductions in the former at any early date is not expected, in view of the scarcity of labor and the commonly accepted opinion that "without a struggle which would demoralize economic conditions" the high wage scale will continue for some time to come. As for materials, it is point-

ed out that in New York since January last there has been an advance from twenty-five to thirty-three dollars a thousand in brick; fifty-eight to seventy dollars a thousand feet, board measure, in lumber; and from ninety-five to one hundred and thirty-five dollars a ton in steel.

"There is just one measure," the Manufacturers' Record quotes the chief planner of a great construction company as saying, "that may be looked to for reducing the cost of building as well as the cost of every thing else. That is greater efficiency in production—more accomplishment per man per hour. In construction work this can hardly mean greater speeding up of individuals, except as more and more mechanical plants may be utilized to minimize hand labor. In general, it will mean increasing skill on the part of management in so planning and conducting the work of the men on a job that waste time and waste motion are eliminated."

The conclusion of the matter is, however, that where needs are urgent and business justifies the expenditure, "it is far wiser to build now and enjoy the benefit of the improvements than to wait and lose the use of this money-making space for several years, and then build at costs which may be even higher than those of the present time."

New Treasury Tax Regulation.

"Because of the impracticability of determining accurately the costs properly assignable to each species, grade and dimension of lumber making up the product of the mill, lumber manufacturers may use as a basis for pricing inventories the average cost to the manufacturer of producing the inventoried products during the taxable year for which the return of net income is made.

"If the quantity of lumber on hand at the time of inventory is greater than the total quantity of lumber produced during the current taxable year, it is evident that the excess stock has been carried over from the previous year's production, and such excess shall be valued at the average cost of production for the preceding taxable year.

"A taxpayer who regularly allocates in his books of account such average cost to the different kinds and grades of lumber in proportion to the selling value of such kinds and grades may, subject in each case to the approval of the Commissioner upon audit of the return, make his return of net income on that basis."

Low Buildings Pay Best.

Low buildings erected on expensive lots are more profitable than skyscrapers towering into the air, in the opinion of various members of the National Association of Building Owners and Managers, expressed at their annual convention here. This is

contradictory to the generally accepted theory of realty men.

Reading a paper at one of the sessions on "Analysis of the Comparative Investment Value of Office Buildings of Various Heights," Edwin S. Jewell, of Omaha, an advocate of the low-building theory, said that, since land values are enhanced by the increase in population in a section and not by the size of buildings on it, structures under ten stories in height were more profitable, in that a saving would be made on the tremendous cost of foundation and enormous elevator equipment.

"If a builder erects a six to eight-story building in a part of the city that is the business section," Mr. Jewell said, "and if that business section shifts in a decade or two, the structure can readily be used for a factory, warehouse, or other purposes. It is still a marketable building. The same is not true of the skyscraper.

"When builders begin to erect low buildings in our cities, the tremendous amount of money now being used for building foundations and sub-basements can be put into other buildings. The money put into elevators, heavy framework and other incidentals necessary to the erection of a skyscraper

would pay for a good, practical office building four to six stories high covering the same piece of ground."

Mr. Jewell, who is chairman of the operating experience committee of the Building Owners and Managers' association, also asserted that the low office building plan would spread the business districts of cities over wider areas and raise more revenue for schools and other public improvements.

"The low-building plan," he said, "would prevent congestion, promote safety and good health, and, by forcing the spreading of the business district over a wider area, provide more stores, which would result in greater competition and lower prices to the buying public."

A low building, Mr. Jewell asserted can be built for 14 cents per cubic foot cheaper than a tall building of the same quality, because cement can be used instead of steel.

Mr. Jewell asserted he had made a study of revenues from a large number of office buildings in more than fifty cities, adding that the receipts and expenditures from 143 buildings in 1919 showed an average income of about \$1.41 per square foot, whereas it would require \$2.64 per square foot to make the investment realize 6 per cent.



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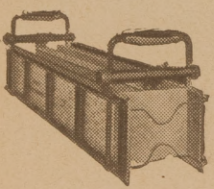
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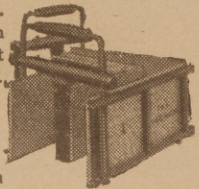


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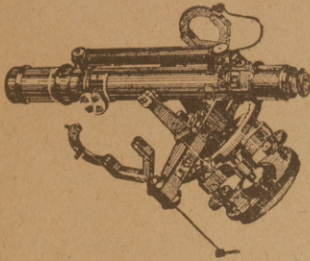
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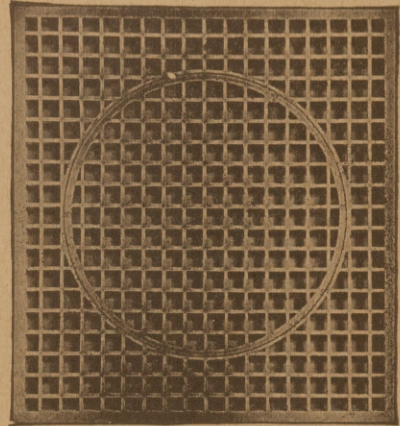
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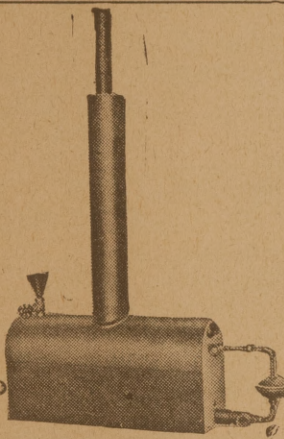
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Something New

Water heated without additional cost while cooking on gas range, by use of the

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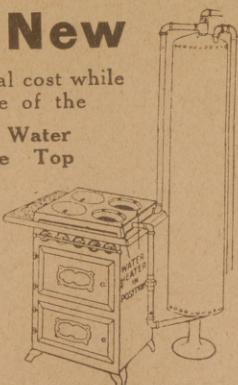
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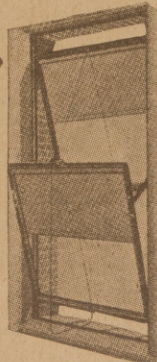
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All Solid Rolled Steel



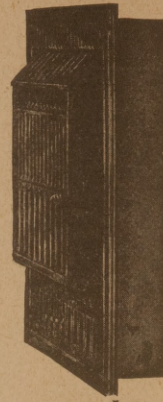
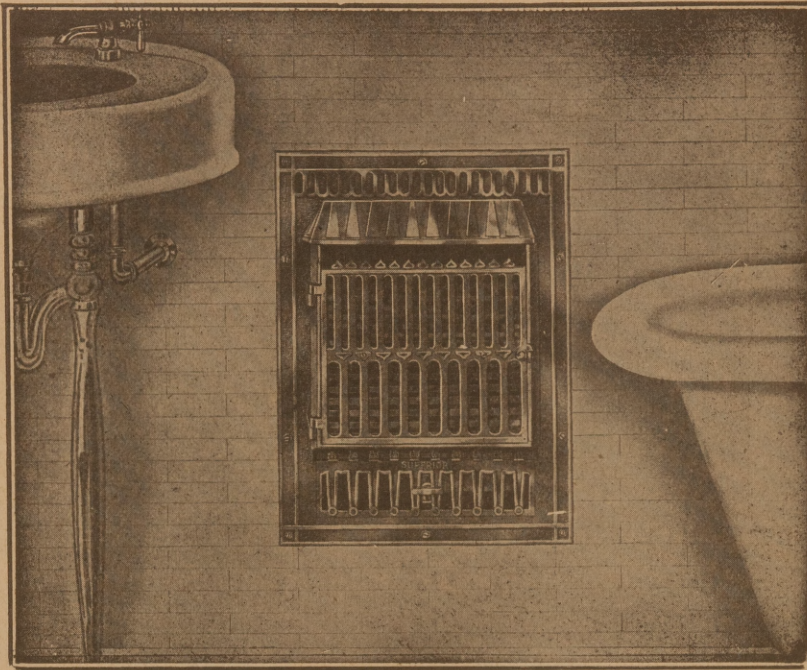
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Side View
Side of Cast
Front:
14 ins. wide
18 ins. high
Size of Body
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12 1/2 ins. wide
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For Natural and Artificial Gas

THE Superior bathroom heater differs materially from any other device for bathroom heating. The front is of Colonial design, cast iron, heavily plated, which is fitted with a door for convenience in lighting without danger of being burned. It is constructed to be used in the regular wood partition, tiled or plastered wall of the bathroom and has the appearance of a hot air register, set 14 or 18 inches from the floor.

It is fuelless and odorless, as the flames come in contact with nothing but air, (thereby eliminating asbestos and other artificial substances commonly used in all other types of heaters, which become soiled and unsightly.) Its construction is such as to make it entirely free

from any danger whatever from fire, the body of the heater being lined both inside and outside with heavy asbestos, as well as having a large circulating cold air space around the inner frame which contains the burner. The inner frame also is covered with heavy asbestos. The burner, which is made of Imported Lava Tips, is fitted with an adjustable check for regulating the combustion on the different pressures of gas. No air mixer is used, as the gas comes in contact with the air through very small lava tips; it mixes and purifies itself, leaving no odor from the gas whatever. It is made so that the heat from the gas jet causes the air furnished to be drawn from the floor through the fender and pass up over the flame, discharging itself back into the room, thus creating a continuous circulation of pure air through the room at all times.

ODORLESS AND FLUELLESS

This heater is equipped with lower corrugated copper reflectors and an upper corrugated deflector, also, upper reflector and baffle plate on the cast door for directing the products of combustion back to the point where it comes in direct contact with the air drawn from the floor, which greatly purifies it. The deflector plate not only directs the heat, but hides the gas jets and reflects the light down upon the lower reflectors, giving a very luminous and pleasing effect. This method of heating a bathroom is not only convenient, but very economical and safe, doing away with the objectionable bathroom stove.

The Superior Bathroom Heater not only ornaments the bath-room handsomely but it quickly heats it to just the desired temperature at the least expense. By its use it is possible to bathe and complete the toilet in perfect comfort without firing an expensive furnace which too frequently destroys the delightful coolness so much appreciated in all other parts of the house during warm weather. In fact, it is a necessity in every up-to-date modern home.

Leading architects and designers throughout the United States and foreign countries always specify "Superior" Bathroom Heaters when the best is desired. The front is heavily plated and polished as handsomely as a watch case.

This heater is made for either outside or inside connection, and whenever neither kind is specified in the order, the kind for outside connection will invariably be sent, as that style is generally preferred when the gas line is not inside the wall. In plan for new house the pipe should be about 5 inches to the left of center of opening and come up just as high as the bottom of same, for convenience in setting.

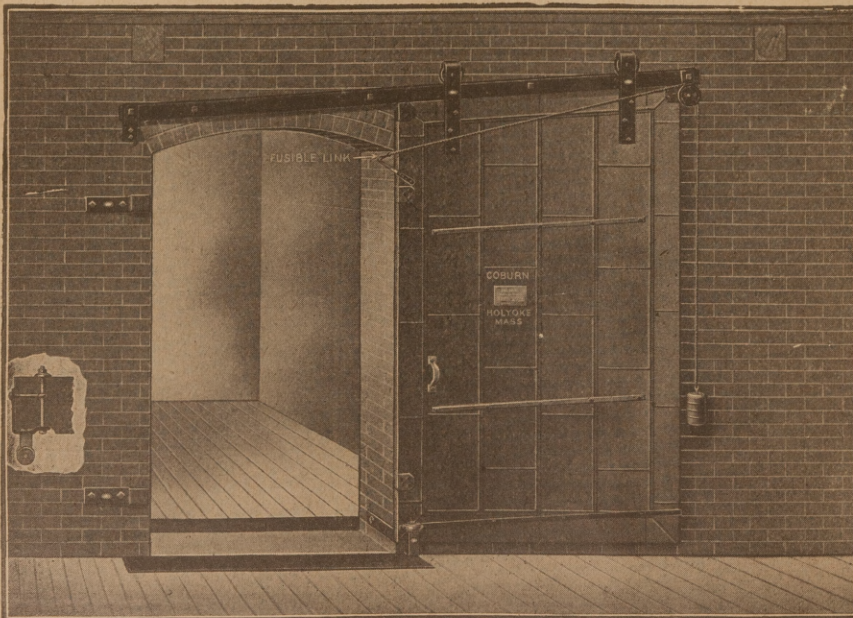
FINISHES:—NICKEL, JAPANESE BRONZE, or BRIGHT BRASS.

Be careful to specify finish and to state whether outside or inside connection is wanted when ordering.

Complete with valve and adjustable check. Bright Brass, Nickel or Japanese Bronze Finish.
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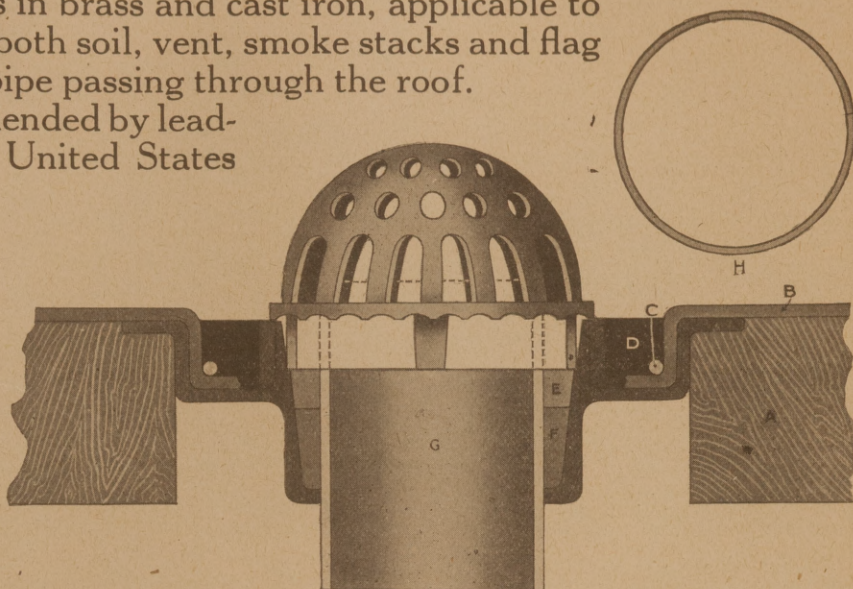
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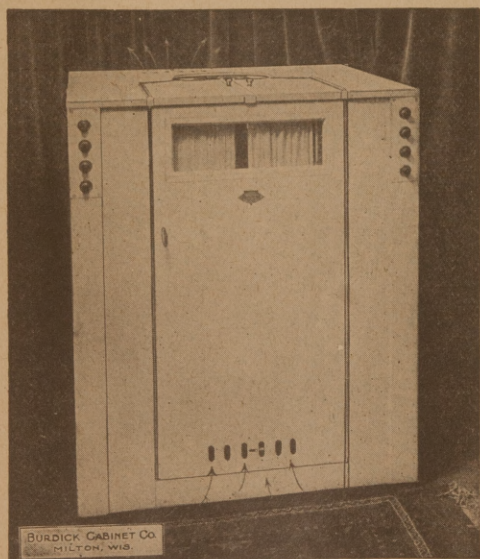
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Are constructed upon basic principles of Therapeutic efficiency which have secured for them the highest awards by recognized authorities.



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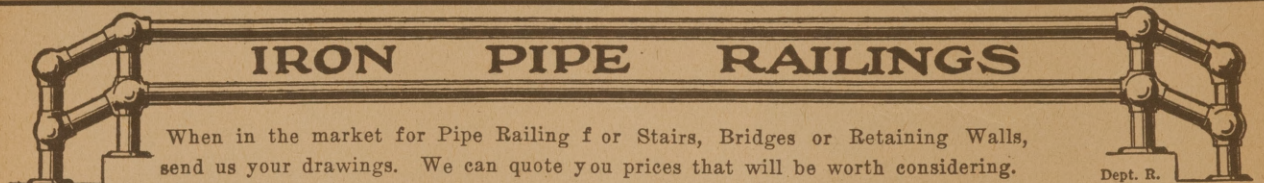
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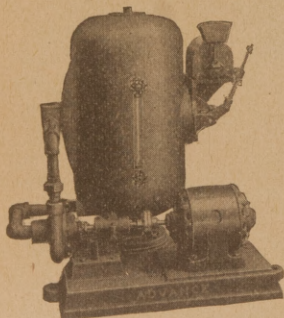


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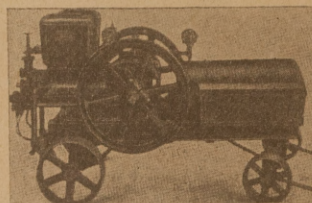
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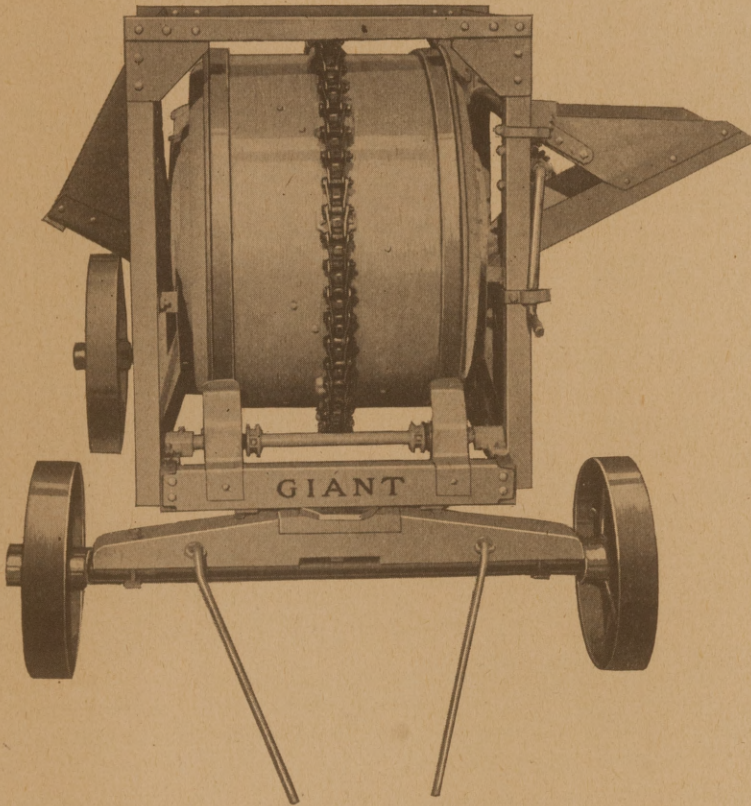
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PRICED AT AN ATTRACTIVE FIGURE

That would make it worth your while to

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HIGH GRADE WINDOW AND DOOR SPECIALTIES

Write for Illustrated Folder.

Others Discuss Some Timely Topics

"Home Building a Pastime."

This is the attractive and rather stimulating headline of an editorial in The Florida Times-Union. The editorial under it is also interesting and stimulating. Incidentally, it is a good pen-picture of Florida progress:

"One of the newest towns in Florida is Sebring, down in DeSoto county, beautifully situated on Lake Jackson. It was originated by a man named Sebring from Ohio and was planned by a noted landscape architect from Cleveland. Started since the 1910 census was taken and the census not yet being announced for 1920, the population is not officially known, but it is understood to be about 2,000. It is said to be one of the prettiest towns in Florida and has attracted many wealthy tourists and settlers by its attractiveness and individuality.

"In the last issue of the Sebring White Way, owned and edited by Mr. and Mrs. P. A. Ruhl and son, the feature head on the front page is Home Building Is Pastime in Sebring and the extended article proceeds to tell of a hundred bungalows and residences that are now in course of construction and will be completed before the first of the year. Some of these homes are to cost from \$10,000 to \$25,000 each and the average is from \$3,000 to \$5,000.

"Here is an example of progress and development that should stir the ambition of every town and city in the state. This young town is setting an example that might well be emulated by scores of other places in Florida. It makes a pastime of what others are hesitating about. It has cultivated optimism to the nth degree and cast out pessimism entirely. The high price of building materials and labor are ignored and this gem set in the midst of the famous lake region marches forward to success and prosperity.

"The demand for houses is a distinct reality in Florida and those who realize this condition and take advantage of it will prosper and grow. Hundreds of thousands of new people are coming to Florida every year and many are anxiously seeking locations. Naturally, they will go where they can

be accommodated. The cities that have had the prophetic vision and have built to take care of the great influx of new people have grown the most rapidly.

"Look at Miami and St. Petersburg and Palm Beach. They have increased 300 and 400 per cent in the past ten years. Why? Because they have never stopped building. On the other hand those towns and cities that have hesitated and stumbled over the high prices have made but limited gains and still all are playing to capacity, proving our prediction that the places that provided accommodations would get the people and growth. And the best of it all is that the builders have all made money and have found no difficulty in selling everything they could build at prices in proportion to the cost of the buildings, making a good profit in every instance.

"Building has really become a pastime in these progressive cities. The people who are building their own homes enjoy the creation of their future abiding places and the builders who are constructing homes for sale take much enjoyment from their work, because they feel that they are providing attractive places for good citizens.

"We are glad to encourage the cultivation of this pastime because we feel that Florida is on the eve of the great influx of new people in its history and the next ten years will see a growth and development that will be unparalleled in the history of any state in the Union."

Sees Timberless Age Ahead.

According to the Jackson News (Jackson, Miss.), "The time is not far removed when we must see a timberless age. It is predicted by qualified persons that the great pine forests of the South, for instance, will be exhausted within the next fifteen years. If this is true, that great lumber industry will pass out along with the oil industry and two fruitful sources of wealth will have vanished. The inexcusable pity of it is that it is unnecessary."

Perforated
Radial Brick

CHIMNEYS

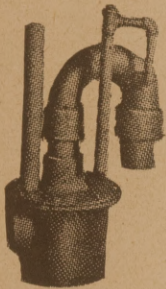
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The Ath-A-Nor Furnace has been giving service for 25 years and now we present the latest in Warm Air Heating, The Ath-A-Nor Pipeless. We have made extensive tests on this furnace and have been successful in overcoming the faults of most pipeless furnaces.

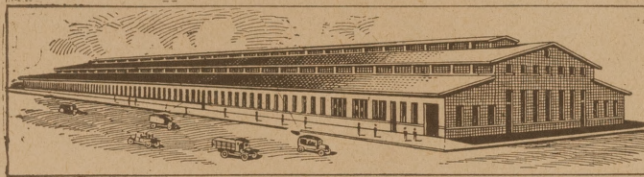
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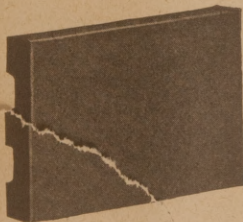
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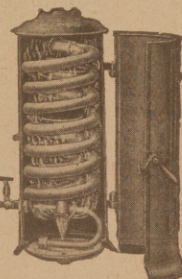
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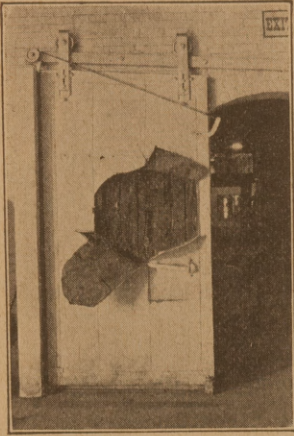
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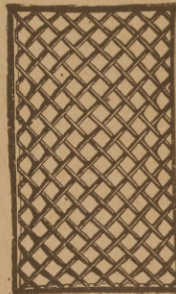
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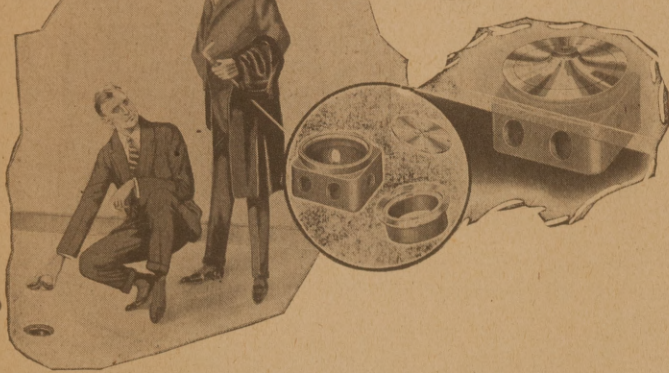
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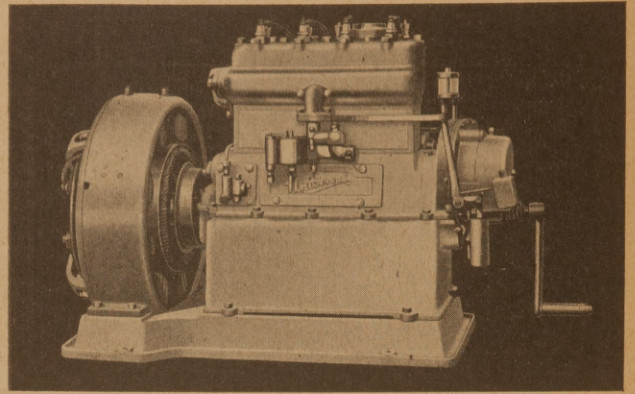
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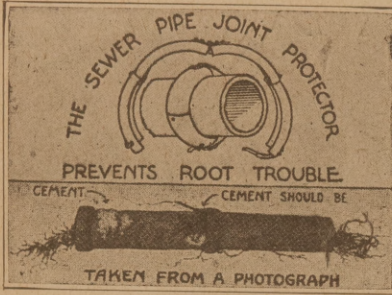
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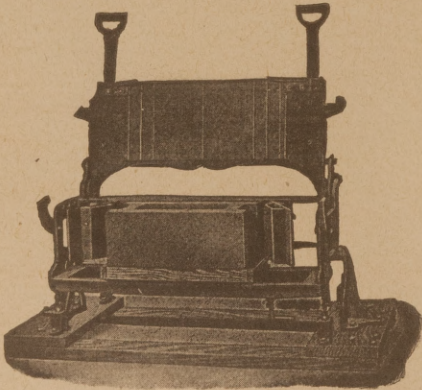
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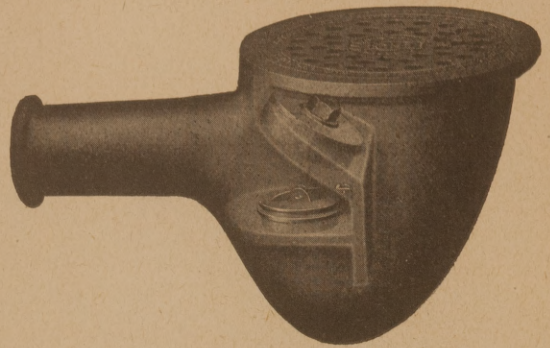
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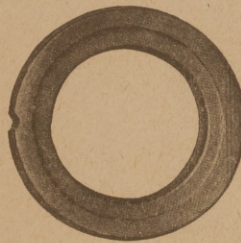
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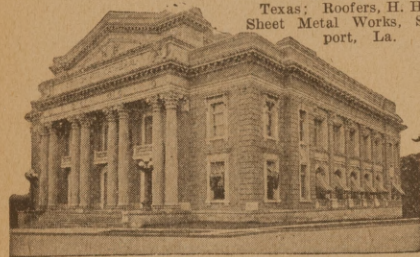
Our only stipulations are that The Barrett Specification revised April 15, 1920, shall be strictly followed and that the roofing contractor shall be approved by us and his work subject to our inspection.

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Take Shreveport, La., for instance—This thriving city—the center of one of the richest sections of the South—is carrying forward an ambitious program of civic improvement and commercial expansion.

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And nearly all the important buildings erected in Shreveport in recent years are covered with Barrett Specification Roofs.

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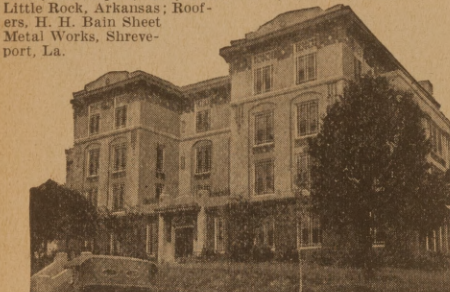
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Weay Dickinson Sales & Garage Co. Arch., E. F. Neild; Roofers, H. H. Bain Sheet Metal Works, Gen'l Cont., W. H. Werner. All of Shreveport, La.

Southern Architect and Building News

VOL. LXV.

DALTON, ind ATLANTA, GA., SEPTEMBER, 1920.

No. 5

All Architects are Appealed To Can Help in Glass Situation by Co-operation with Companies

ACCORDING to the Eastern Underwriters, if architects could be brought to a realization of the unusually unsatisfactory conditions in the plate glass manufacturing field, and would draw their plans accordingly, much heavy expense and serious trouble might be saved owners of stores and mercantile establishments. Glass is now so excessively expensive and insurance premiums so high in consequence, that unless property owners are to be saddled annually with an added and unnecessary expense, more consideration must be given to the size of plates used and the manner in which they are set.

The craze for large lights in stores and for large elaborate fronts in which clamped glass is used, is still indulged in to a surprising extent, in view of the practical impossibility of obtaining glass of the size necessary to make replacements.

Insurance companies that insure glass have at their disposal much valuable information concerning the cost of various sizes of glass and what might be saved by property owners if they could be induced to use sizes within certain limits. Also, they can tell how the use of certain sizes and setting them in various way will affect the glass insurance premiums. In a surprisingly large number of cases in apparently slight difference in the method of designing a store front would save the owner many hundreds of dollars in insurance premiums and at the same time render him far less susceptible to loss and annoyance. Particularly is this true now when glass is so difficult to obtain.

Would Help Architects.

The insurance companies stand ready and willing to give this information to architects and property owners if they would co-operate with the insurance companies when contemplating new work or alterations.

Plate glass insurance premiums have been advanced more than 300 per cent and the insurance companies are not to blame, because the price of glass has gone up in greater proportion than have the premiums. Fortunately for the companies they now have the means of knowing, through the investigations of an expert rater just what their losses are in given localities and on specified types of

glass settings. They are prepared to give valuable advice concerning whether certain installations are advisable in a given location. They know now more nearly than at any time in glass insurance experience what rate they should get for various kinds and sizes of glass.

The companies are losing business every day because of the high rates they find it necessary to charge. There isn't anything the companies would welcome more than a reduction in the cost of glass, so that they might begin a downward revision of their rates. Even where companies are confronted with the loss of business they now believe that it is better to let the business go than to accept it at a reduced rate. In the West the Lion Bonding & Insurance Company is accepting business at reduced rates. It is one of the few companies that does not follow the rates in use by 99 per cent of those in the glass insurance business.

Condition of Market.

There are many opinions among glass insurance men as to just why glass is now so high. Some charge it to speculation. However, the condition exists and there appears no immediate relief so the only solution of the difficulty seems to lie in co-operation among insurance companies, property owners and architects to so lay out plans that breakage will be reduced to the minimum and replacements be made possible, if not easy.

Plate glass is now being sold to the highest bidder, practically. This is particularly true of the larger sizes. A large light is worth anything the manufacturer or jobber can get for it. There is no market, one may say. Insurance companies find it difficult to do business with manufacturers direct. They often have to do business with others, which leads to the opinion that prices are being manipulated by speculators. Besides there is the tremendous uncertainty in deliveries, the difficulty in having glass set and innumerable annoyances all along the line.

Getting back to architects; if they would use their influence with property owners to have smaller lights put in and the glass placed in substantial settings, they could do much to relieve the situation. Most architects do not realize how much a

property owner might save by using lights of a size more easily obtainable in the present market. Take, for example, a light 144 x 184 inches. The annual insurance rate on this light would be \$441.60 to which must be added 25 per cent for replacement with but one light. This makes the premium \$552.20.

Now suppose that this light could be replaced with two 92 x 144 inch plates. Each of these smaller lights could be insured for a premium of \$31.24, or \$62.48 for the two. This is just about 12 per cent of the premium for the one big light.

Chance for Agents.

Insurance agents who wish to render a real service to property owners could not do better than inform their clients of the methods by which they may avoid excessively high insurance premiums and also reduce the likelihood of breakages and long delays in making replacements. Such service comes distinctly within the province of a live insurance agency.

Many glass insurance companies are encouraging the splitting of big lights and some property owners are having it done, notwithstanding that they prefer the large lights. This splitting of existing glass store fronts is sometimes done horizontally and sometimes perpendicularly. The former is preferred by insurance companies, as they consider that it looks better and is less noticeable from the street. They advocate what they term a landscape line. This is effected by a bar of sufficient strength inserted horizontally about two-thirds up from the bottom of the light. This takes the break out of the line of vision of those in the street who view the contents of the window.

It does not cost much to make these splits. It may be \$10, \$15, \$25, and in extreme cases \$50, according to the setting of the glass, the wood-work finish and other conditions. But in any event the cost is so small as compared with the difference in insurance premium, as to make the proposition highly attractive to owners who might be seriously inconvenienced if a large light broke.

In New York today it is almost impossible to get large lights and when they are obtained, the price may be anyway from \$1,500 to \$2,800. The insurance companies are steadily refusing to write this class of business and, where it is taken, they insist upon a clause in the policy permitting them to replace with two lights instead of one. Where one light is insisted upon, 25 per cent is added to the rate, but this doesn't do the insurance company much good. The advance is too small considering the extra risk assumed. It is noticed that while many houses are refusing to carry plate glass insurance at the present high rates, others who

never carried it before are coming into the market. They become frightened when they realize what it would cost to make replacements.

On Beautifying Washington, D. C.

These resolutions have recently been adopted by the Washington, D. C., Rotary Club:

The committee appointed by you for suggestions on the proposed zoning law report the following for the consideration of the Rotary Club:

We all agree that a proper administration of a good zoning law would be a good thing for the city, and we feel that the present zoning commission is doing all in its power to get the best results.

1. We recommend that the heights and areas for buildings in the high value commercial district remain the same as now prescribed by law.

2. We suggest that this district cover the area from 1st street to 22nd street, and from B. street to M street, excluding 16th street, from Lafayette square to M street.

3. That in the residential districts buildings may be erected not to exceed four stories in height, but due consideration should be given to the subject of apartment houses, hospitals, schools and other institutions in this area, so as to safeguard the light and air for such buildings, giving due consideration to adjoining property.

4. The commercial districts along the main streets entering the city should be given special attention before finally deciding on the same for business. In some cases we think the property should be classed as residential.

5. The area proposed for industrial purposes we think should be large enough to provide ample space for future development of such industries as are needed here by our citizens. All areas that now front on railroads, canal, river, etc., or sections that will be available for such purposes in the future should be set aside for this purpose, eliminating space, now or in future, to be occupied by parks or driveways.

Respectfully submitted.

FRANK P. MILBURN, Chairman.

Suggestion for Plumbers.

A plumber working in a north side home recently encountered unusual hospitality, Katherine, age six, was watching the plumber cut the concrete floor in the basement in order to get to a pipe. After working several minutes the plumber leaned back against the wall and remarked that the concrete was certainly hard to cut.

"If you are tired, come upstairs and take a bath and then take a nap," was the child's suggestion.—Indianapolis News.

Architecture as She is Spoke

What is Wrong with Our Residential Districts? A Plea for Better Design

ALTHOUGH it is almost universally recognized that the small-house architecture of the country is of an exceedingly low order, no one seems to offer any remedy. Here is an effort to point out the cause of the trouble, and it is hoped that some good may result.

The whole difficulty seems to be that only about three per cent of the houses erected each year have been designed by architects at all, and such an amazing proportion of activity without advice from the source from which it would seem it should come seems almost incredible, the same sort of policy in other lines being unheard of. To ignore trained men when in need of a physician would often result fatally, and when in legal difficulties might land us in the poorhouse or in jail.

But architecture seems to be regarded as such a simple thing that almost any one can master the whole subject overnight, and so we find the country flooded with horrors. How often we hear, "I can easily get along without an architect. I know just what I want, and all I need is a builder to help me a little with the stairs!" Such self-confidence is all too common.

There seems also to be a peculiar popular impression that the designing of a house consists of deciding upon the number of rooms wanted, and the forming of some sort of general idea of their relative locations; whereas, as a matter of fact, in the determining of these points you are no nearer to designing a house than you would be toward the practice of medicine if you were to go to a doctor and tell him that you are a little over weight and that you have a pain in your left side. You have simply stated your symptoms, and unless you have had some previous training you had best stop at this stage and call loudly for help.

I believe that houses should be homes, but no home-made, and when I see a man, without the least architectural training or even good taste in design, pause in the pursuit of his shoe business, or some other far cry from architecture, to design his own house, I wonder why one possessed of such extraordinary versatility does not go still further and spend an evening or two in dashing off an appropriate water-color frieze for his living-room, writes N. Montgomery Woods in *Pictorial Review*.

It is assumed that one of our versatile friends wants to build a house, has seen the original and

desires to duplicate it. But for the reason that he "knows just what he wants," and architecture being such a simple thing, he has no need for architectural assistance; and so, with a photograph of the house he starts in to make his "plans." Even with the aid of the carpenter it is at once discovered that the copying of a design shown only in perspective, and to no particular scale, does not come so easy. And then the carpenter advances the idea that architects are impractical creatures anyhow, and that the house is set too close to the ground, the attic is too low, and that "in my brother-in-law's house we had an arrangement like this," etc., until our shoe merchant owner and his professional adviser, the carpenter, have "improved" and "made practical" the original design, until the community is treated to an eye sore, and another city block is started on its way to ruin.

Now regarding the above reference to what "brother-in-law" has done, let it be remembered that, in architecture, precedent is a most dangerous thing; the fact that you have seen some freak of design somewhere executed proves absolutely nothing in its favor. On the contrary, from the figures given above, it would appear that there is about a 97 per cent chance against its being architectural-ly correct, or even passably attractive in appearance.

In another design I have deliberately set about making a mess of things, in order to show how a house of identically the same floor-plan may be completely ruined through a total disregard of architectural design and good taste. And while it is undoubtedly awfully atrocious, and should be prohibited by law, I think it is quite as good as many of the self-created spasms which are to be seen in almost any city or town. All of the artistic effect has been thrown to the winds; with the increased height, the substitution of the slender concrete block pier for the massive, tapering stone (the taste of the home-grown designer seems frequently to run to concrete blocks), the misplaced openings and the general out-of-scale, poorly designed features, one and all, and yet, please note that a layman's description of the two houses might be almost the same.

Both have the same plan arrangement, and if people were only all blind, instead of just a portion of them being architecturally so, all would be well.

Now you will say, "Well, how are you going to put all of these discriminating ideas into practice?"

There are only two or three architects in my town and I don't like what they offered me." Well, if your wife should spend some days in the millinery shops without finding a hat which she thought becoming, would you advise her to go home and make herself a sunbonnet, and wear it the rest of her days? Surely that is not the only solution.

Now for fear you may feel that all of the world's conceit is centered around the architectural profession, or perhaps in the vicinity of this particular section of it, let me hasten to explain that architects, when in need of assistance in lines other than their own, do not presume for one minute that they need the help of no man in the preparation of their own legal documents or in prescribing for their own ills. And even within their own and closely allied professions, they are far from believing that they know all. Instead, it is universal practice among them to spend real money in engaging specialists in steel, and electrical and mechanical engineering, on the larger buildings; and even when commissioned to design the simplest small house, in many cases a highly paid specialist in residence design is consulted on the fundamental principles.

Now the real humor of all this is that, just as sure as I live, I am going to receive a letter from some one out in the sticks, or more likely from the heart of New York City, who will say, "Howsomever, I like No. 2, and I am going to build it, with some improvements of my own." And if I do re-

ceive such a communication I hope it will come from some place not too far distant, for I have had so much trouble with No. 2, I would be greatly interested in seeing just what else could be done to it.

But seriously, there must be somewhere a remedy. A few years ago the Building Departments of our cities, now so common, were unknown. The owner of a piece of property was at liberty to erect just what he pleased, how he pleased, in construction as safe or unsafe as he might choose, and as unsanitary as he might dare. Now, however, these things are in most localities carefully guarded by law, but appearances are still permitted to take care of themselves. Is there not some way of including this consideration in the restrictions? I have considered a number of ways, but the working out of the details would most likely require much thought, and space will not permit of going into them. My hope is, however, that this article may lead others to take up the subject, and that in time some solution may be offered and put into operation.

London Sawmills Now Making Flooring.

The high prices that are being asked in England for imported timber have led to a revival of the almost defunct trade of preparing flooring in the London sawmills, where importers are making seven-eighths-inch floorings from unsorted Finnish battens for less than the cost of imported planed goods. Consul Keith Merrill reports that it is anticipated this business will continue to develop.



A Fine Type of the Western Bungalow.

Many New Homes Springing Up in St. Louis

City Devises and Puts Scheme into Successful Operation that will Relieve Shortage.

ST. LOUIS is one of the few cities which has devised and successfully put into operation a practical scheme for relieving the housing shortage, writes Frederic J. Haskin. It is building houses—just as fast as it can get the materials with which to build them. Nearly a hundred brand-new homes have already sprung up where a few months ago there were only vacant lots, and it is expected that a hundred more will be ready for occupancy by the end of this year.

St. Louis is a great home-city and its citizens are extremely proud of this fact. St. Louis may not be beautiful and it may not be interesting, they are fond of telling you, but as a home city it is a shining example. Thus, you can see how the scarcity of houses, which has been deplored but otherwise ignored by other communities, would stir St. Louis more than any other calamity.

The St. Louis Home and Housing association was the result of this agitation. This is a two-million-dollar corporation, supported by the Chamber of Commerce and the City Commercial club, for the purpose of building cheap and comfortable homes in various sections of the city and country, wherever the need appears greatest. It was originally intended that the houses would be for the benefit of industrial workers, the manufacturers subscribing to the fund deciding that it would be more practical to club together and build in one group instead of building in separate groups for their different plants.

Workers Do Not Buy.

As it has turned out, however, the wage-earners of St. Louis have not made the slightest attempt to take advantage of the houses so far provided. In spite of the fact that they are undoubtedly bargains, at the present cost of building materials, and in spite of the fact that the working man is supposed to be rolling in wealth these days, there has been a surprising lack of response from the working classes. It seems incredible, but the only way to explain it is that the working classes cannot afford to buy the houses.

“Wage earners have only a small amount of capital and small wages to invest in real estate,” explained Mr. Nelson Cunliff, the St. Louisan, who has been placed in charge of the Home and Housing association. “They used to buy \$2,000 houses, paying \$400 cash and the balance over a long period of years. Now, with the cost of building materials 240 per cent higher than it was before the war, a house which would have cost \$2,000 in 1914 costs today approximately \$7,000 or \$8,000. This is be-

yond the means of the average working man.”

“But the houses are in great demand among the salaried people—the so-called middle class of St. Louis—who are anxious to vacate flats that have undergone a 300 per cent increase in rent. For them these houses are a very good proposition.”

He drew some photographs from the drawer of his desk. They showed the various types of houses under construction, most of them comfortable solid-looking brick domiciles, with attractive facades and neat back yards extending to an alley. We have seen many more attractive-looking houses for \$8,000 and \$9,000 but that was in the East, before the war.

St. Louis Likes Brick.

St. Louis not only loves homes, but it loves brick homes, and it has some rigid building restrictions against the use of frame, tile or stucco. Of course, this is the center of the brick industry and it is only loyal to keep the home fires burning. Anyway, the houses of the St. Louis Housing association have brick walls and contain five or six rooms, with hardwood floors; tile bathroom floors; modern toilet and plumbing fixtures and the most improved kitchen equipment. They are also located on improved streets, so that all costs of improvements are covered in the purchase price of the houses and do not crop up unexpectedly later in the form of special taxes.

The selling price of the houses range from \$5,500 to \$8,900. The prices have been made possible, according to the association, only by instituting the most rigid economies in the buying of land and in building. Whenever possible, land was bought on which the association paid \$25 a front foot. Building materials have been bought in huge quantities and at cash, so as to take advantage of all possible discounts. While the association acts as a general contractor and sublets most of the items of construction, it handles its own carpenter work, thereby effecting a saving of 25 per cent on the lowest contract price.

One of the most interesting features of this housing enterprise is the scheme of payment. This calls for 10 per cent cash on the price of the house, and the balance in 10 or 12 years. On the ten-year plan the purchaser pays \$11.35 per year on every thousand of the selling price, after the 10 per cent cash payment has been deducted. On the 12 year plan, he pays \$9.25 per thousand of debt. The association will not permit a man to invest more than 27 per cent of his monthly income in one of their

houses—a feature of the transaction which is clearly specified in the deed.

“We figure that a man can easily spare 20 per cent of his income for rent,” says Mr. Cunliff, “and 10 per cent for a good investment. If he spends more than this on a home; the payments are apt to prove a strain, and he is likely ultimately to prove a bad risk.”

Unique Form of Insurance.

Included in the selling price of the house is a unique insurance feature, whereby the purchaser is insured, on a group insurance plan, for the exact amount of his indebtedness to the association during the 10 or 12 year period of payments. Thus, if the purchaser should die or become totally disabled during this period, the insurance company assumes his indebtedness, immediately pays it off, and

the property becomes part of the deceased or disabled one's estate. Under these circumstances, as the association points out with dignity, it will never be forced to the distasteful task of foreclosing on a widow's mortgage.

While the chief object of the St. Louis Home and Housing association is, of course, altruistic—to provide homes for people who are in desperate need of them—it does not expect to lose money on the proposition. Indeed, it is planning to make a safe 6 per cent on its investment. While 6 per cent is not considered much of a return on a \$1,000,000 investment these days, the association feels that it will be fortunate if it makes that in an enterprise which has failed only too pathetically in other cities where it has been attempted. They place their hopes securely in the character of St. Louis, however—St. Louis, the home city.

Home Building to Speed Up. Willard Suggests Plan to Get Material on Ground

RELIEF is in sight for those whose buildings and homes are being delayed because lumber, cement and other materials are held up by the railroads. Daniel Willard, President of the Baltimore & Ohio, and also chairman of the Advisory Council of Railway Executives, stated at a hearing of the Senate Committee on Reconstruction, of which Senator William M. Calder is chairman, that the railroads would cooperate with the builders and necessary building material would be shipped without delay. The hearing, which was held in New York, took up the matter of priority orders issued by the Interstate Commerce Commission. In effect, these orders give shipments of coal the preference of railway service and they have seriously hindered shipments of building material.

While defending the priority orders, Mr. Willard declared that he realized the importance of building homes and other necessary buildings. It was his opinion that the completion of repair of apartments, houses, roads and streets and other similar examples should be classed as an emergency and so far as the railroads were concerned, treated as such.

The practical workings of the plan proposed is as follows: Committees representing the construction industry have been appointed in various districts.

In cases brought to their attention, where building material is being delayed, the construction committee will pass upon the necessity for the building, and upon the construction committee's recommendation, a committee of railroad officials will see that the material arrives. W. H. Truesdale, President of the Delaware, Lackawanna and Western Railroad, will be in charge of all the railroad committees.

The construction interests will be represented in the following cities by:

NEW YORK: Dr. J. T. Duryea, Pierce, Butler & Pierce Mfg. Corp., N. Y., Heating Appliances; C. A. Crane, Constructors' Association, 57 Chambers St., New York; F. L. Cranford, 149 Remsen St., Brooklyn, Contractor; C. J. Curtis, Farnun-Cheshier Lime Co., 39 Courtland St., New York; J. S. Davis, Cross Austin & Ireland Lumber Co., Brooklyn; James C. Ewing, Goodwin-Gallagher Sand & Gravel Co., New York; Otto Eidlitz, Marc Eidlitz & Son, Inc., 30 E. 42nd St., New York; T. N. Gilmore, Dwight P. Robinson & Co., 125 E. 46th St., New York, Power Plant Contractors; Calvin Tomkins, Tomkins Cove Coal Co., 30 Church St., New York, Limestone.

PHILADELPHIA AND BALTIMORE: H. B. Allen, General Crush Stone Co., North American Building, Philadelphia, Pa.; J. L. Durnell, Knicker-

bocker Lime Co., 804 Finance Building, Philadelphia, Pa.; Geo. J. Frye, Duquesne Slag Co., Philadelphia, Pa.; Robert C. Lea, Limestone Quarriers' Assn., Philadelphia, Pa.; W. D. Lober, Vulcanite Portland Cement Co., Land Title Bldg., Philadelphia, Pa.; Chas. Warner, Charles Warner Co., Wilmington, Del.

PITTSBURGH: Capt. Charles W. Brown, Pittsburgh Plate Glass Co., Pittsburgh, Pa.; F. R. Babcock Lumber Co., Pittsburgh, Pa.; Sam A. Porter, Dwight P. Robinson & Co., Pittsburgh, Pa.

BOSTON: Joseph B. Willcutt, L. D. Willcutt & Sons Co., 146 Summer St., Boston, Mass.; Edwin P. Bliss, H. P. Conversé & Co., 88 Broad St., Boston, Mass.; Linton Hart, Rollin Construction Co., 80 Boylston St., Boston, Mass.; James W. Rollins, Holbrook, Cabot & Rollins Corp., 6 Beacon St., Boston, Mass.; Parker F. Soule, L. P. Soule & Co., 80 Boylston St., Boston, Mass.; James T. Scully, 39 Cushing St., Cambridge, Mass.; Morton C. Tuttle, Aberthaw Construction Co., 27 School St., Boston, Mass.; Arthur C. Tozzer, Turner Construction Co., 178 Tremont St., Boston, Mass.; Fred A. Wilson, Master Builders' Assn., Summer St., Boston, Mass.

CLEVELAND: C. F. Lang, Lakewood Engineering Co., Cleveland, O.; John A. Kling, Kelley Island Lime & Transport Co., Cleveland, O.; S. B. Newberry, Sandusky Cement Co., Engineers' Bldg., Cleveland, O.; A. P. Sandless, Ohio Stone Assn., Columbus, O.; Ralph P. Stoddard, Common Brick Mfg. Assn., Schofield Bldg., Cleveland, O.

CHICAGO: G. F. Perkins, Chairman, Secretary-Treasurer, Illinois Brick Co., 111 West Washington St., Chicago, Ill.; L. L. Barth (Lumber) Vice President, Edward Hines Lumber Co., Chicago, Ill.; G. P. Longwell (Sand) Consumers Co., 111 West Washington St., Chicago, Ill.; W. L. Hodgkins (Stone) Brownell Improvement Co., 133 West Washington St., Chicago, Ill.; F. T. Bentley (Cement) Traffic Manager, Universal Portland Cement Co., 210 South La Salle St., Chicago, Ill.; W. A. Rogers, (Contractor), Chicago, Ill.

Bungalow on Top of Skyscraper.

Earl Carroll, song writer, lyricist, playwright, producer and stage manager, has found during his life four things he loves better than all others—writing songs, being high in the air, a California bungalow and, of course, a wife.

And, hence a young man of no small amount of perspicacity, perserverance and pep, he is now possessed of all four of them in the strangest of all places—on the top of a twenty-story New York office building.

Carroll started at 18 as a playwright, but when he finally discovered he wasn't really earning anything writing plays, he turned to music. He couldn't play a note, but he could whistle. And he proceeded to whistle tunes to a chorthand music reporter to the tune of thousands of dollars. "Canary Cottage" being the one that literally lifted him to the heights of fame and took him to California where Earl learned to love California bungalows just as he had already learned to love writing songs.

Then he came back to Broadway to see his name for the first time on a Broadway program, having written the lyrics to Fritzi Scheff's play, "Pretty Mrs. Smith." He also met and married Marcelle Hontabat of movie fame.

And then came the war and Earl hiked off to Texas to learn to fly. He did.

After the war Carroll started casting about for a home. The suburbs were too far away. The land in town was too expensive. So he applied for a lease on the roof of the Godfrey building at Forty-seventh street and Seventh avenue.

He got it and proceeded to build there a \$50,000 California bungalow and move into it his typewriter and his wife.

The bungalow has every modern convenience, is built of stone and concrete, has in the "yard" a tennis court, a study, and a vegetable garden, and has the advantage of being near enough to Broadway to be convenient and yet high enough in the air to be secluded.



Advantages of Lime in Construction

By TYRRELL B. SHERTZER,
Construction Engineer Eastern Bureau Nat. Lime Ass'n.

THAT engineers, architects and constructors recognize the value of hydrated lime mixtures in concrete construction is evidenced by the rapidly increasing number of specifications calling for the admixture of hydrated lime in all classes of concrete work, and also by the recent ruling of the Board of Standards and Appeals of New York City, noted in the American Contractor of May 8, 1920.

Advantages.

Briefly summarizing the advantages to be derived from the admixture of hydrated lime in concrete the following may be cited:

Hydrated Lime:

(1) Makes concrete much more plastic and workable, thus facilitating chuting and placing.

(2) Reduces the amount of water necessary in mixing concrete, thus obviating the danger of drowning cement, particles, and also overcoming the difficulties and known detrimental effects of excessive free water.

(3) Causes concrete to lie closer to the forms and reinforcement, thus giving more uniform and smoother faces, eliminating segregation and stone pockets, and reducing finishing costs.

(4) Produces denser and more homogeneous concrete.

(5) Acts as a preservative to the reinforcement.

(6) Prevents separation and settlement in carts and buggies.

(7) Imparts more uniform appearance as to surface and color.

(8) Is the most efficient integral watertightening medium as officially declared by the U. S. Bureau of Standards, and is also the cheapest material available.

That hydrated lime imparts the above mentioned properties to concrete has been observed and testified to by many of the leading professional and practical men of the country, as well as by practically all of the departments of the U. S. Government dealing with construction matters.

Highway Construction.

In view of the rapid development of automobiles and the breakdown of our rail transportation system, good roads are today imperative. For the large majority of communities a concrete road provides the most durable and satisfactory type of construction.

A number of state highway departments, county engineers, and municipal authorities have investigated the advantages to be derived from proper ad-

mixtures of hydrated lime in concrete used for highway and pavement construction, with the result that many of them have now standardized such admixtures in their specifications.

After careful study and investigation, the office of Public Roads, U. S. Department of Agriculture has approved specifications calling for hydrated lime admixtures on projects to which government aid is extended.

Careful and systematic studies conducted by the Delaware State Highway Department indicate that the following advantages are derived from the proper admixture of hydrated lime in highway construction.

(1) The compressive strength of the concrete is increased.

(2) The concrete is placed and finished with less work.

(3) The concrete is made more impervious to moisture, thus protecting the subgrade and reducing the internal stresses caused by alternate absorption and evaporation of moisture.

(4) The war seems to be more uniform and decreased as compared with plain concrete.

(5) Economy is effected in that 1-2-4 concrete with hydrated lime admixtures has proved more satisfactory than 1-1½-3 concrete without hydrated lime.

(6) Observations indicate that cracks are less frequent in concrete with hydrated lime admixtures than in the plain concrete.

(7) The free water content is reduced and the surface runs off from the finished surface.

Concrete Products.

One of the rapidly growing uses for concrete is the production of concrete products, such as blocks, bricks, pipe, battery boxes, etc. In order to facilitate the manufacture and to prevent excessive mold equipment being tied up, such products are generally made of very dry mixtures. Such dry mixtures are difficult to work, owing to the fact that there is not enough water present to provide lubrication or plasticity. Complete filling of the molds is also difficult with the dry mixtures and requires an excessive amount of work. The loss due to imperfect mold filling and breakage of green specimens on account of lack of cohesion, is large.

The admixture of hydrated lime to the mixes used for the manufacture of concrete products has, in several instances, turned a losing venture into a paying business. Lime reduced to a paste or putty

is the most plastic of all materials used in construction. The experiences of many manufacturers of concrete products have conclusively demonstrated that the admixture of hydrated lime provides workability in the mass and at the same time does not reduce the consistency to such an extent as to interfere with the rapid manipulation of the material in the molds and out of them. As a matter of fact, it has been found that the labor required to fill and tamp the molds has been materially reduced, and as a consequence the rate of production has been increased. Experience has also demonstrated that the finished products are more uniform in texture and color, denser and more impervious, harder and more durable.

Masonry Mortar.

Lime has been considered one of the basic materials of civilization ever since it has been known that a mortar composed of lime and sand would hold stones and brick in place in buildings, enabling mankind to provide more comfortable and durable housing than the primitive skin and wattle huts.

The oldest structural works of man such as the pyramids, and many other prehistoric works, now in ruins, were built with lime mortar as the material for binding the individual structural units together.

This mortar has resisted the ravages of the elements throughout the succeeding centuries, thus demonstrating the durability of the material. The monumental structures of continental Europe were all constructed with lime mortar, giving further evidence as to the time-resisting value of the material, even when subjected to the severe varying climatic conditions.

No structural material ever used by man has shown itself superior to properly prepared lime mortar made from lump or quick lime, as in ancient and medieval times.

Recent scientific investigations of the subject of mortars have conclusively demonstrated that even those composed of portland cement are greatly improved by the presence of lime.

Tests conducted at Columbia University, New York City, have conclusively proved that a mortar composed of one part portland cement, one part lime, and six parts sand (all by volume) produces brick masonry which has a compressive resistance more than a third greater than can be obtained when only portland cement and sand are used in the volumetric proportion of 1-3. Other tests conducted by equally authoritative laboratories have proved also that both cohesion and adhesion are increased by the use of lime, and that the bedding of masonry, or in other words, the area of contact between the structural unit and the mortar bed, is greatly in-

creased by the use of lime owing to the remarkable plasticity of lime putty. Another valuable property of lime, indicated by the tests at Columbia University, is its remarkable moisture-retaining power. Owing to this property the "suction," or absorbent action of structural units, such as brick, exercises a much less deleterious effect upon the mortar, due to absorbing the water from it.

Lime Plaster.

Soon after man discovered that he could build better houses by binding durable units together with lime mortar, his sense of refinement and inherent desire for order and decoration began to be awakened. He became dissatisfied with rough interiors and so smeared the rough surfaces of his structures with some of the mortar. Thus the art of plastering was born.

The chambers of the pyramids, the ruins of Pompeii, and other examples of ancient structures are plastered. At Pompeii and other ancient ruins lime plaster in many instances has resisted the ravages of time and the elements better than the surface of stone or brick to which it was applied. Many museums and private collections contain specimens of wonderful frescoes upon great slabs of lime plaster, which it was found possible to remove intact from the structural surface to which it was originally applied.

All of the remarkable examples of Greek, Roman, Byzantine, Florentine, Medieval, and Renaissance structures were plastered with lime plaster, to which were applied the priceless works of the ancient artists either by the frescoe or the "laid-in" method. The remarkable preservation of these art gems as regards both color and detail is irrefutable testimony as to the durability and stability of lime plaster.

The interesting buildings of the Elizabethan period, which were plastered both inside and outside with lime plaster, and which have resisted the climatic conditions found in England during the intervening centuries, bear further testimony as to the lasting quality of lime plaster.

No substitute yet devised can compare with properly prepared lime plaster, as to durability, stability, cheapness, and sound deadening. Lime plaster can be worked to absolutely true surfaces and angles due to the fact that it remains plastic long enough to permit perfect working. Lime has a most remarkable sand-carrying capacity, thus making for economy. Lime plaster will dry out as rapidly as any other material but requires slightly longer to attain the same degree of hardness. It is perfectly feasible to run three-coat lime plaster work from the same scaffold as is done with other materials.

When having a new home built the average man gives no consideration to what is probably the most

important element affecting his comfort and pleasure, namely, the plaster. The plaster of a home is more in evidence than any other single item, and unsatisfactory plaster or a plaster failure may cause more unhappiness and inconvenience than any other failure, aside from the foundation or roof.

Let us consider for a moment the qualities and properties which plastering in the home should possess. One of the objects of individual home building is to insure privacy both in the broad meaning of the word and also as regards personal and individual seclusion. It is, therefore, desirable to plaster with a material that will not transmit sound from room to room or from one part of the house to the other. In other words, it is desirable to use a sound deadening material. Lime plaster is such a material. It is essential to use a material that will provide at least a reasonable degree of fire protection. Such a material is lime plaster. It is essential to use a material that will provide a suitable, stable, lasting foundation for decoration by one of the several methods, such as painting, fresco, or papering, without danger of disintegration, cracking or discoloration. Such a material is lime plaster.

As the result of over two years' study and investigation, the Architects of the Board of Education, for the city of New York, specifically call for lime plaster in all auditoriums to be constructed in future school houses owing to the superior acoustical properties of lime plaster. Many public gathering places have proved unsatisfactory from an acoustical viewpoint because of unfortunate selection in plastering materials and the use of hard, resilient, sound reflecting material instead of the more porous and sound-absorbing lime plaster.

In conclusion it may truly be said that "Lime Is Eternally Essential," that it is the oldest and most time tried of any of our materials of construction, and that it was a considerable factor in the establishment of civilization, and the uplift of mankind from the sloughs of savagery and privation.

New York Housing Conditions.

Only such construction as will relieve the shortage of dwelling accommodations and such construction as is in the public interest, should be given building permits, says Mayor Hylan of New York City, urging that legislation be enacted authorizing some responsible body to pass on permits for construction. The Mayor's report on local housing conditions shows that at least 100,000 additional apartments are urgently needed to provide homes for the city's population. A total of 12,662 apartments and houses are now under construction but to meet the normal demand a sufficient number of

tenement houses must be erected each year to provide at least 50,000 apartments. Under the state constitution New York City has no power to construct municipal apartment houses and rent them to private parties, but an amendment to the constitution can be passed and the city could then go ahead with its building program in January, 1922. In the meantime, the Mayor says, there should be no standstill in the erection of homes and multi-family houses.

Atlanta's Big Building Record.

The prosperity of the South is clearly evidenced in the enormous amount of construction work now in progress in Atlanta or proposed for the near future, building permits issued for June having already reached a mark that will establish a new record for the city during any single month. While the Federal Reserve Bank's curtailing of credit will doubtless have some effect on construction, it is not particularly noticeable as yet.

Two of the largest building permits issued during June were for the new Metropolitan Theatre at Broad, Luckie and Forsyth streets, \$350,000, and the new nurses' dormitory to be constructed by the Georgia Baptists' Hospital, \$200,000.

Two large building projects recently proposed include a new 400-room hotel at Peachtree and Kimball streets, to cost \$1,500,000, and a new 10-story office building at Edgewood avenue and Equitable place, to cost \$1,500,000. C. P. Byrd, president of the Byrd Printing Co., purchased the property at Peachtree and Kimball streets for approximately \$250,000, and made the announcement of the proposed hotel. The building will be 10 stories, and Mr. Byrd is now in consultation with architects regarding the plans. The cotton interests will erect the office building, which will be occupied in the main by cotton brokers and agents, and by the Atlanta Cotton Exchange, which plans the expansion of its activities.

New Building Inspector.

James Coles has assumed his duties as building inspector for Charleston, S. C., being the first official of the kind on the city engineer's staff. This office was recently created, and is expected to result in improved building operations and a better building code. Mr. Coles is now checking up building permits, seeing that work authorized is carried out, according to the ordinances. Charleston has been doing a lot of construction, in spite of generally adverse conditions, and the inspector will have plenty of work to handle.

The Dallas Architectural Club.

The Dallas Architectural Club was organized June 2, 1920. The purpose of the organization is, primarily, the bringing together of individuals interested in Architecture and its allied arts, in and about Dallas, for the general good of the profession in the community.

The active membership is limited to architectural draftsmen. The practicing architects of Dallas have been invited into membership as "patrons" of the club, while contractors, material men and others indirectly interested in the profession may obtain membership as associate members.

It is the intention of the club to maintain an atelier beginning in the fall and, by means of exhibitions and talks on things architectural, to stimulate the public as well as the professional interest in Architecture.

Club quarters have been obtained in conjunction with The Arts Club of Dallas at 108 North Poydras Street, where meetings are held on the first and third Mondays of each month. Mr. John A. Williamson is secretary.

The post-war construction activity in the southwest has drawn to this section from all over the country, men of ability—draftsmen and practicing architects—to augment the forces previously here. This fact, together with the lack heretofore of strong architectural clubs in this locality, makes the Dallas organization feel that it is filling a want. There is now as great activity and progress in architectural lines as in any other line here in this expanding southwestern country, and it is the hope of the Dallas Architectural Club that, with Dallas as its home, its work as outlined may prove to be of some service to the profession in this locality.

There is quite a bit of interest in Pencil Points among the members of the club, a number of whom have begun as subscribers with the first issue. We all feel that, if that first issue is an indication of what is to come, a good deal may be expected of this new publication, especially as regards its work as a journal of the country's architectural clubs.

Beginning with the cooler months of Fall, the Dallas club has a strenuous campaign mapped out, and we welcome the opportunity of telling similar clubs the country over, about our work and progress.

RALPH BRYAN,
Chairman of Publicity Committee.

Women Architects Organize.

That the general advancement of women in engineering and architecture may be served, the American Society of Women Engineers and Architects has been organized with the following officers:

President, Lou Alta Melton, Boulder, Colo.; vice-president, Hilda Counts, Pittsburgh, Pa.; secretary and treasurer, Hazel I. Quick, Detroit, Mich.

At present there are eleven members working in the following branches. Three in civil, three in electrical, two in mechanical, one in chemical and two in architectural engineering. It is planned that regular meetings will be held as the membership increases and local chapters are formed.

Mechanical Engineers to Meet.

The 1920 annual meeting of The American Society of Mechanical Engineers will be held in the Engineering Societies Building, 29 West 39th Street, New York City, from December 7th through December 10th.

Sessions will be held on the subjects of Appraisal and Valuation and the Application of Engineering to Woodworking.

The newly founded Professional Sections on Management, Power, Fuels, Machine Shop, Railroads and Textiles will also conduct sessions to consider the vital problems in their field. In addition a number of valuable papers will be presented at General Sessions.

A memorial session for Dr. Brashear is planned, as a fitting tribute to his life and work.

Trade and Industrial Education.

"Steps are being taken by the Builders' Exchange of Akron, Ohio, to establish classes in carpentry, plan reading, and electrical construction. Other classes may be started later.

"Contractors have been requested to interview their employees, helpers or journeymen carpenters, or electrical journeymen or helpers, and have those who desire to attend evening classes fill out application blanks. The committee requires this definite information before final arrangements are made.

"If you have a helper who is anxious to become a journeyman, a journeyman desirous to become a foreman,' says the Builders' Exchange News Letter, 'a foreman who wants to become a superintendent, or any employee who wants to become more proficient and better able to increase his earning capacity and standing in the art of his trade—get his application. This is the most significant movement undertaken by this organization.'

"John Clemmer, C. B. Akers, and Claude Wall, acting as an executive committee, have interviewed H. T. Waller, president of the board of education, and H. V. Hotchkiss, superintendent of schools, who have assured the committee that they will cooperate with the exchange and other civic bodies in establishing classes in the various trades."—The Bulletin (of the Associated General Contractors), April, 1920.

More Homes of Famous Authors

(Continued from August)

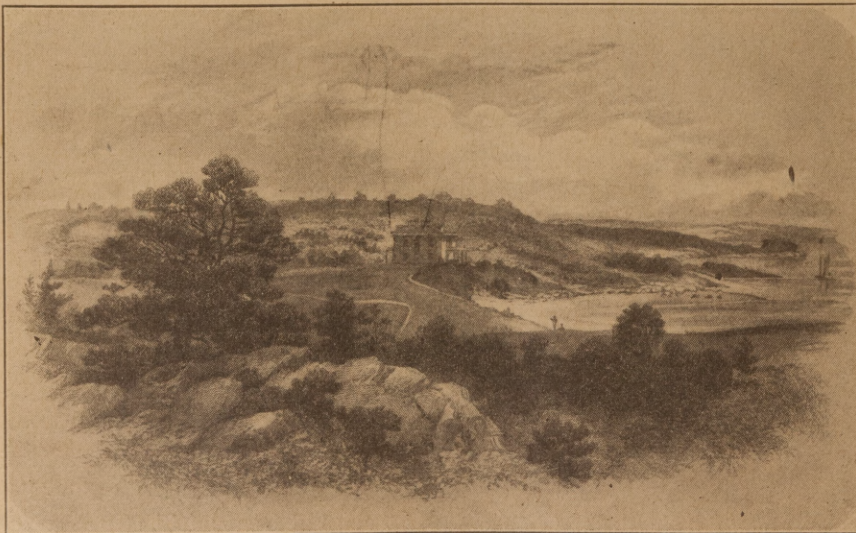


Home of
John C. Calhoun,
"Fort Hill,"
Abbeville County,
South Carolina.

Residence of
W. C. Bryant,
Roclyn,
Long Island.



Residence of
R. H. Dana,
near
Cape Ann,
Mass.



Some Handsome Residences and Apartments



The Residence of J. J. Haverty, Peachtree Road, Atlanta, Ga. E. E. Dougherty, Architect.



Residence of Dr. Wm. D. Richardson, Tampa, Fla. C. E. Jay, Architect, Chattanooga, Tenn.



The Esplanade Apartments, Baltimore, Md.



Residence of Hon. E. S. Shorter, Eufaula, Ala. C. R. Ellis, Architect.

Present Building Costs and Rentals

IT is not my intention to go into details of the increased cost of the different materials that enter into the construction of a building. I will speak in general terms, using figures, which can be taken as fairly representing the general condition in the average city, according to Robert G. Walker, Manager of the Tacoma Building, Tacoma Washington in a recent talk at Seattle.

The present cost of building is greater than at any time in the history of the country. The two factors that enter into the cost of building, namely labor and material, are varying with each other in the upward flight. Materials that enter into the construction of a building have increased from 60 per cent to 300 per cent. Labor demands more pay, shorter hours and less efficiency and the result is that the cost of building has increased, on an average throughout the country 75 per cent since 1914, and what is more—the cost of labor and building material holds little promise of reduction.

Many investors who ordinarily are able and willing to put miney into building enterprises are holding off, hoping that prices will drop. But according to the best informed, there seems to be no relief for the next five years. In the meantime architects and contracting engineers are working continually to devise new and cheaper processes of construction. Notwithstanding the increased cost, according to figures, report from 193 cities show the total of building permits for January, 1920, to be \$117,747,000, as against a total of \$21,732,000 for the same municipalities in January of 1919—a gain of over 440 per cent.

It is interesting to note that of this total building outlay 39 per cent was for industrial plants while 15 per cent was for business buildings. The city of Tacoma is building more large office buildings and business blocks this year than ever before in her history in spite of the high cost of construction.

The owner of a building erected eight years ago must meet a 75 per cent increase in operating expenses, while the owner of a building built at the present time must also meet an increase of 75 per cent in cost of construction.

It is a comparatively simple matter to figure out what the square foot rental of an office building should be to return to the owner 6 per cent net on his investment; but if this rule is adhered to it is apparent that the building constructed under present conditions must command a much higher rental rate than the building erected in pre-war times.

From the standpoint of building cost alone, the building of today must command a 40 per cent higher rental than the building of six or eight years ago. Can the owner of the new building overcome

this handicap? Either the older buildings (not the obsolete ones) will profit by the present high cost of building or the owners of the new buildings must be content with a very low return on their investment. The increase in the cost of construction does not give a better building, and the building of six or eight years ago can hardly be said to be obsolete or even to have depreciated 12 or 16 per cent, although as a matter of bookkeeping we may have charged 2 per cent per annum for obsolescence. In other words, your \$600,000 building of six years ago is about equal to your \$1,000,000 building of today.

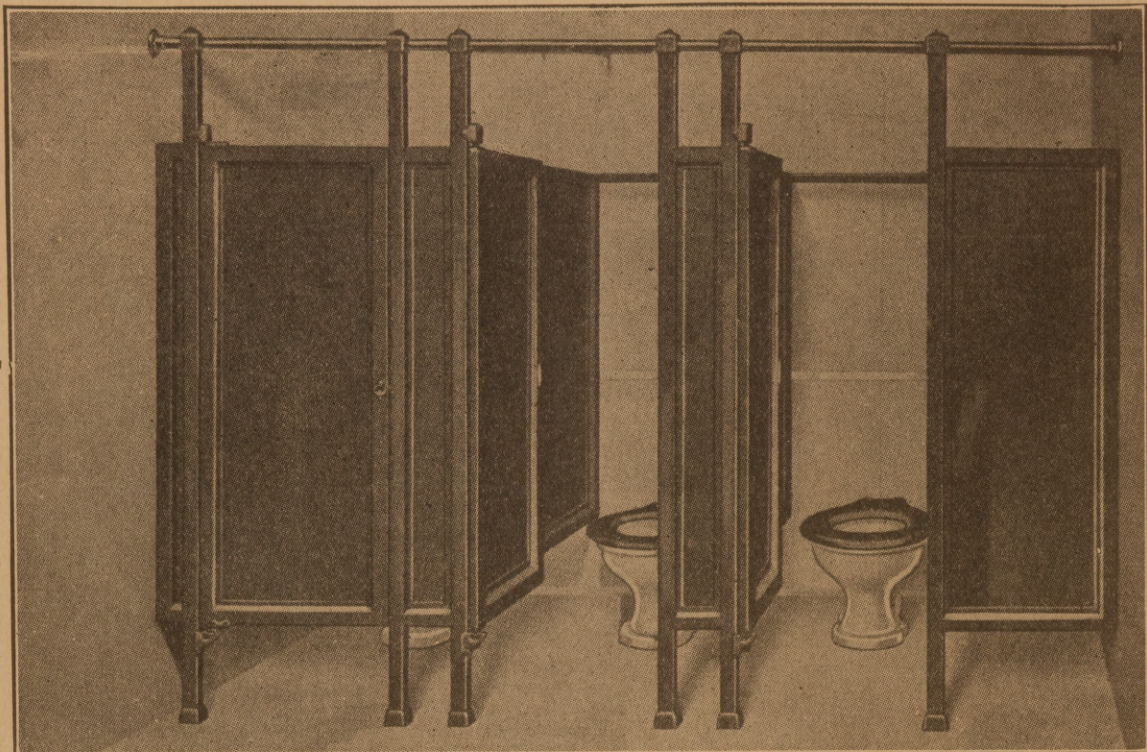
This being the case, is the owner of a building constructed in pre-war times warranted in raising rents to the same high standard which the owner of a building, built under present conditions, must maintain in order that he may receive a fair return on his investment? This question may be answered by saying that this cause alone does not justify the raise, but there is another cause that does justify an equal or greater raise in rents and that is the ever increasing cost of operation. Whatever the cause, the building owner is entitled to a fair return on his investment.

The result will probably be that both will influence rentals to the end that the rate established will be a compromise, that is, the older building will be able to charge a higher rate than would be possible in the absence of the increased cost of building, while the new building will not receive the rate to which it may be fairly entitled because the older building can quote a lower rate and still show the same net return.

Buildings constructed at the present time in the smaller cities and on low priced lots will be entitled to charge a higher per cent of increase than will buildings in the larger cities built on land of higher value. Therefore the lower the ratio of land value to the cost of the building, the higher must be the rate of the rental increase on the total investment.

In the case of the Tacoma building, an increase in rents of 80 per cent over the schedule in force eight years ago would be justified, regardless of the present high cost of building, for then the building would earn not more than 6 per cent net on the original investment, allowing 2 per cent for depreciation and obsolescence. As a matter of fact we have increased our rents only 20 per cent in eight years.

We often hear it said that because building cost has advanced 75 per cent rents must be advanced 75 per cent to correspond. This conclusion, of course, is incorrect. Assuming that the land value remains the same, the proper rate of rental increase

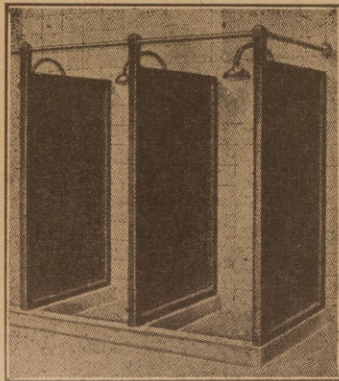


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should be based on increased cost of building and on increase in operation and overhead.

For example: an office building costing \$600,000 in 1914 is located on land valued at \$500,000 making an original investment of \$1,100,000. The same building would cost today \$1,000,000 (land value assumed to be the same) increasing the total investment by 37 per cent or up to \$1,500,000, which allows for 75 per cent increase in the cost of the building. To meet this increase in cost of building an increase in rents of 40 per cent is necessary. This means that rents should be advanced from \$1.50 to \$2.10 per square foot or in like ratio. Remember that this increase in addition to the increase necessary on account of the increased cost of operation.

The situation reminds me of the new golfer who, at every tee, before driving off insisted on demanding from the caddie the information as to how many yards it was to the next hole, to which the caddie replied "Go on and shoot, you can't overdrive the green." So I say in closing—Brothers, go on and raise your rents, you can't keep up with Hi Cost.

Plan Interesting Exhibit.

The Savannah Builders Exchange has obtained 4,000 square feet of space for an exhibit at the Savannah Tri-State Exposition.

The Exchange exhibit will be founded upon the "Build a Home" idea. The various interests in home building and house furnishing will make exhibits and be on hand or have their representatives present to inform those interested in the building of homes how to obtain the best service for the money invested. Those who deal in brick, lumber, concrete and plaster will be there to tell prospective customers how to use their products to the best advantage. Every department of the exchange is to be represented.

The Master Electricians Association will make an electrical display that will be the outstanding feature of the exchange exhibit.

The committee for soliciting funds for entertaining the 1921 convention of the National Association of Builders Exchanges has been at work during the past week. Col. John G. Butler is chairman of the committee and hopes to bring the matter to a conclusion soon.

Some Sound Advice to the Prospective Builder

PERSONS who have never employed an architect are apt to be at loss as to the proper method of procedure, while many who have had some experience may not be familiar with the intricacies of architectural practice, according to a circular prepared by Mr. Eugene T. Taylor and distributed by the Iowa Chapter of the American Institute of Architects. They may not understand that architecture is a profession calling for men of the highest integrity, business capacity and artistic ability to command the respect and confidence as advisers, and to sustain a grave responsibility to the public. No one may have given them practical information as to the relations that should subsist between client and architect. Experience has shown that lack of information on this subject is one of the most fruitful causes of trouble in building. The following is a brief outline of vital elements in building operations:

1. The owner, who is to spend the money, as he does not and cannot know what he is buying, must trust the architect. Therefore he should first of all assure himself that the architect is worthy of

his confidence; second, that he is fitted by study of economy in plan, construction, and material to discharge this grave responsibility; in short that he has the right to the professional title.

2. The owner's interests are to secure the most available service, suitable design, best construction, most economical expenditure of funds. These can only be obtained by employing, not as a luxury, but as a necessity, an expert, a competent and reliable architect. The owner will be most benefited by choosing an architect before deciding upon anything else connected with the building project (if possible even before fixing the building site and limit of expenditure); thereby gaining from start to finish the services of the expert's technical experience and knowledge in every phase of the problem.

3. Designing a building is a process of evolution. Nothing but the full working out of the problem can produce this. The architect's goal is to lead the client to the best solution of the problem in hand. He is a sort of clearing-house, in adjusting the multiplicity of ideas, wishes, needs, financial and other details. The best eventual scheme may

be quite different from that which at the start was suggested by either owner or architect. The owner should get the benefit of his architect's best ideas and various solutions of the problem, not simply what is presented to catch the attention, and "get the job;" the complete services of an expert, not of a mere draftsman. "Blue prints" are not the sum and substance of this service.

4. Do not expect gratuitous competitive designs, any more than free diagnoses, prescriptions or briefs. Plans are not like merchandise, kept in each building requires special time, study and laborists only for its individual place and condition;—the architect's capital.

5. The architect's practice is upon the same basis as that of the physician and the attorney; each is a profession, and selection should be on exactly the same principle, upon record for character, integrity, ability and fitness for the service.

6. To employ an architect on the basis of what he charges is usually wrong. It is almost always wrong when the "cheapest" man is selected. "Penny wise and pound foolish" applies most appropriately to this uneconomical method.

An incompetent man selling his service for a small fee may and often does waste a great deal of money in inefficient planning, unsafe and unscientific design, unwise specification of materials, and unimproved opportunity generally. An incompetent man as supervising architect is worse than useless as he has no accurate standards of his own but is at the mercy of the builder. A competent man by his services saves the client several times the amount of the architect's fee and often earns the undying gratitude of his client.

7. Architects, like doctors and lawyers, place different values upon their services, and their services likewise vary in merit and results. This should not confuse the owner—the best is likely to be the higher priced.

8. In mercandising one may buy calico or silk and pay accordingly, but there is only one kind of professional service that is worth paying for: that is the best of which the architect (or lawyer or doctor) is capable of giving. This means, generally, adherence to established standards of practice, and adequate fees. To underpay any man is to tempt him to be dishonest.

9. Make up your mind what you must have, then take the architect into your confidence as to the amount you are willing or able to expend; be perfectly frank with him. Do not try to set a price and refuse to relinquish terms and conditions which are bound to make your building cost more than you are willing to spend. Do not hurry. Take time enough on the preliminary sketches, so that

you and the architect understand each other before the working drawings are started.

10. Do business only with a capable and honest contractor. Incompetence is as much to be avoided as dishonesty. "You cannot get blood out of a turnip," nor should you expect to get an honest building if the price asked is too low. Watch the work as much as you see fit, but if you have employed an architect whom you can trust, rely upon him and save yourself time and worry. You can earn more at your own business than you can save by trying to shoulder the responsibility that properly belongs to the architect.

11. Do not violate the unwritten law which requires one head on a job. Let your instructions to the contractor be given through the architect. The contractor who comes to you with suggestions or to call your attention to real or fancied errors in the drawings or specifications should be referred to the architect. Make use of the architect's advice. That is what you are paying him for.

Do not mar your building by a wrong location, etc., or with incongruous decorations and furnishings. If you desire an effect of organic unity when the work is done, use the architect to that end.

12. Architectural service is the only form of reliable insurance that the client may purchase which gives him the right to claim that he is getting what he pays for. An architect puts selling value into a building not only because the owner can claim for the building what the architect certifies it really is, but also from the intrinsic value resulting from a good design as compared with a poor one.

13. If you follow these few hints, in all that they imply, there is no reason why your structure should cost you a cent beyond the estimated price, or why it should cause you more worry than any ordinary business transaction.

Announcement.

Charles B. Young, architect, Lexington, Ky., announces that on account of taking up other work which will require all of his time he has decided to turn over his work there to E. Stamler & Co., architects, 708 Fayette Bank Bldg., Lexington, which firm has been established there for 12 years.

Aluminum as Waterproofing.

Aluminum foil has been found 25 times as effective in waterproofing wood as any other material tried by the United States forest products laboratory. It is especially adapted for such subjects as aeroplane propellers and can be easily and inexpensively applied by means of a little size or larger.

LUMBER DEPARTMENT

Southern Architect and Building News

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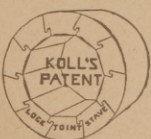
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Lumber Shipments About Half.

Shipments of lumber from Southern Pine mills is about half what it would be if there were plenty of cars. During July 76 mills, which are members of the Southern Pine Association, required 15,303 cars to ship the orders for lumber which they had on hand. The railroads were able to furnish these mills but 5,789 cars, or about 37% of their requirements. The Southern Pine Association reports that not all of the mills are suffering to that extent, the average shortage of cars for lumber loading being about 45%.

Such a serious complaint has been registered by the Southern Pine Association that the Car Service Bureau of the American Railroad Association has assigned an inspector to investigate conditions in the Southern lumber producing sections, with authority to grant such relief as may be necessary where serious loss is being entailed. The unfilled orders reported by the mills which are members of the Southern Pine Association the last week in May represented 15,632 cars, while for the week ending August 14 these mills had on hand orders for practically 20,000 cars of lumber. Railroad men say that no immediate relief in the car situation need be expected until after the crops are moved, but lumbermen believe that the car supply will gradually improve during the remainder of the year.

Lumber vs. General Building.

More lumber is used in the United States for general building and construction than for any other purpose, says the U. S. Forest Service report of June 1, 1920, before the Senate. In normal years probably 28 billion board feet are used in this way out of an average annual cut of 40 billion feet.

For the five years before the war, 1910-14, the average annual building bill of the country shown by building permits was approximately \$670,000,000. After dropping to \$445,549,493 in 1918, it rose in 1919 to \$1,326,936,702; but with building costs increased 100 percent or more, actual construction did not much, if any, exceed the pre-war average. Apparently construction work throughout the United States is behind requirements. The deficit is greatest in dwelling houses.

The building permits issued in 21 cities of various sizes widely distributed over the country show that, in values, housing construction formed 36 percent of all building in 1913; 21 percent in 1918 and 27 percent in 1919. The amount of housing construction in 1913 was exceeded in 1918 in only two of the 21 cities, and in 1919 in only six, in spite of the "build-a-home" campaign. The falling off in house construction, continues the Forest Service report, generally appears to have been particularly mark-

ed since the latter part of 1919, when the greatest upward movement of lumber prices began.

The United States Housing Corporation states that normally 30 percent of the number of buildings constructed are dwellings; that in 1919 dwelling were only 15 percent; that 1,000,000 families in the United States desired houses even before the war; that the shortage has since increased very rapidly; that there were but 70,000 houses built in 1919, when to have met the requirements there should have been 500,000; and that in 1890 an average of 110½ families occupied 100 homes, but today 121 families occupy 100 homes.

New Lumber Bases Rates.

In view of the different percentages of increase herein approved, it becomes necessary to make provision for rates between the various groups. Where rates are constructed by the use of combination upon gateways between any two groups, the through rates should be increased by applying to each factor its respective percentage. Rates between points within a group and points on the border line of such group, should be increased according to the percentage applicable to the group. Where a river constitutes a boundary line between two groups, points on both banks thereof shall be considered as border line points. Joint or single line through rates between points in one group and points in other groups, should be increased 33⅓ per cent. In cases where the rates over different routes between the same points would by a strict application of the varying percentages of increase herein approved be subject to different percentages, the lowest percentage applicable to any of the routes may be applied to the rates over all of such routes. In the construction of rates in accordance with these findings, it is not intended that the group boundaries hereinbefore designated should be strictly observed but the territorial boundaries heretofore recognized should be observed.

Lumber moves in large volume, and it is under ordinary conditions a commodity of comparatively low value and highly competitive in nature. It is produced in almost all parts of the country, the greatest consuming region is in the middle west and the states east of the Mississippi River and north of the Ohio including New England. Lumber from both the West and the South is marketed in large volume in this region and the competition between the two producing sections is keen. There is no definite or fixed relationship in the rates from the South and the West to the consuming territory described, but carriers from each of these sections have endeavored to maintain rates relatively so adjusted as to permit free movement from each. The volume of production in the West has grown mate-

rially in the past decade, until today it is such that if excluded from eastern markets it is claimed serious curtailment of production will result. The Director General applied a maximum increase of five cents upon lumber which had the effect of maintaining in most cases the existing spread in cents per hundred pounds between Southern and Western lumber in the northern and eastern markets. The western lumber producers urge in this proceeding also the adoption of maximum. Most of the southern producers, including those in the Carolinas and others who ship on comparatively short hauls to the northern markets, urge the application of a straight percentage increase. For the purpose of this report it is our opinion that the percentages hereinbefore approved should apply to this commodity.

Train Along Practical Line.

That Southern manufacturers of all lines are eager to see a "greater Georgia Tech," where southern boys can be trained as experts who will develop the south industrially, is being proven more and more forcibly every day.

Recently the Georgia Cotton Manufacturers' Association, the Georgia Cotton Ginners' Association, the Southern Sash, Door and Millwork Manufacturers' Association, and other leading commercial bodies vitally interested in the South's industrial progress, have adopted resolutions, urging expansion for Tech and pledging their efforts to secure it.

The latest of these organizations to realize the possibilities of Tech as a center for developing the young manhood of the South for constructive upbuilding of the South industrially, is the Southern Division of the American Face Brick Association.

Meeting in convention in Atlanta, the members of the Association unanimously adopted resolutions urging a greater Georgia Tech and particularly urging the establishment at Tech of a department of ceramics where young men can be trained for expert leadership in the ceramics industry and where exhaustive experiments in clay products may be conducted.

"The South is undoubtedly suffering a serious handicap today because of lack of expert leadership," declare the resolutions. "The South is but scantily profiting through its vast commercial clay deposits, being fifth in production of crude clays and seventeenth in the manufacture of clay products."

The resolutions then go on to say that there is not a technical school in the South with a department of ceramics, and urge Georgia Tech as the

ideal institution for fostering such a department and for meriting the support of clay and brick manufacture.

Foreign Trade Opportunities.

Where addresses are omitted they may be obtained from the Bureau of Foreign and Domestic Commerce, Washington, D. C., and at the branch offices of the Bureau, 315 Custom House, New York, N. Y.; 629 Federal Building, Chicago, Ill., and Association of Commerce Building, New Orleans, La., and 310 Custom House, San Francisco, Cal. For convenience in filing, please use separate letter sheet for each trade opportunity request.

33437.—A merchant in New Zealand desires to purchase and secure an agency for porcelain baths, stamped steel enamel sinks, cast-iron soil pipes, wire nails (diamond and flat head), plain, galvanized, and barbed wire, aluminum cooking utensils, and brass foundry goods. Quotations should be given c. i. f. main New Zealand ports. Payment to be by sight draft against documents. Shipping instructions will be cabled. Reference.

33452.—An American exporter representing large European concerns, and who has connections in South American and other parts of the world, desires to secure representation for the sale of lumber (pitch pine, sap, gum, mahogany, etc.), iron, steel and other manufactured articles. References.

33603.—A commercial agent in Argentina desires to secure the representation of manufacturers and exporters for the sale of construction material, paint, and paper. Correspondence may be in English. Reference.

Brick Houses for Refugees.

The homes which the Friends' Unit of the American Red Cross has erected in Varennes to house returning refugees are made of substantial brick of a standardized pattern, which recalls the Georgian type of home in some of our Southern cities.

Each house has a garden, and—what constitutes an innovation in French customs—the grounds are separated by wooden fences. These are now covered with vines, and front gardens are planted with rose bushes. At frequent intervals, under picturesque tiled pagodas, are pumps which supply water to these rows of residences.

Of course their uniformity lacks the quaint charm and mellowness of the historic houses that have been destroyed, but the new community has a drainage and lighting system which the pre-war dwellers never aspired to.

Trade Notes of Interest

Facts About Housing Plans.

An admirable and timely booklet, "Housing Plans for Cities," is published by the Southern Pine Association, New Orleans, which is distributing it to boards of trade, chambers of commerce, building and loan associations, architects, engineers, corporations of various kinds (including banks), to whom the information it conveys will be welcome. The book includes facts obtained about housing plans from various cities and industrial corporations whose needs demanded that they go in for the erection of dwellings in a wholesale manner. Plans for financing such operations are also described, among these being the plan of the former financial adviser of the United States Housing Corporation. The book will prove useful to everyone interested in the subject of providing enough homes for the people.

Atlas Engineering Enters South.

The Atlas Engineering Company, Milwaukee, Wis., manufacturers of the well known line of Atlas Pavers, Mixers, Box Car Loaders, Car Unloaders, Traction and Non-traction Wagon Loaders, Belt and Bucket Conveyors, announces with pleasure to its numerous southern contractor friends and users of their equipment, that they have contracted with the well known southern firm, Fulton Supply Co., of Atlanta, Ga. This concern will act as distributors for the entire Atlas line in the states of Georgia, South Carolina, Alabama and Florida. The Fulton Supply Co. will carry a full and complete line of all sizes and types of Atlas Mixers and other equipment in their Atlanta warehouse. At all the southern fairs to be held this year a splendid exhibit of contractor's equipment as well as their other lines will be shown.

The Atlas Engineering Co. further states that it is their intention to carry a full and complete stock of repairs in Atlanta in the very near future.

Tile for Flooring.

The National Mosaic Tile Co., Mobile, Ala., exclusive manufacturers of a hydraulic-pressed mosaic cement flooring tile known as "Adamantile" and who have been in this business for 14 years, report that they are not suffering from lack of raw materials, but are able to keep their plant going and ahead of their orders by from 300,000 to 500,000 feet of their product at all times. The advantage which they enjoy is said to be due largely to their location at the mouth of the Alabama-Warrior River waterway system, which insures transportation facilities all the year round without interruption. Im-

mediately north of Mobile is the plant of the Gulf States Portland Cement Co., from which they are able to obtain cement in large supply, and this fact, together with superior manufacturing capacity, enables the tile company to keep pace with orders for its output, besides having a reserve capacity to take care of emergencies in the way of unexpected demands. The company has gotten out a fine catalogue, displaying the different kinds of "Adamantile," in colors, showing them just as they look when finished and laid.

Chain Blocks and Trolleys.

A machine shop issue of "Hoisting Hints," published by the Yale & Towne Manufacturing Co., Stamford, Conn., shows by many fine illustrations the different uses of chain blocks and trolleys, appropriate descriptions accompanying the pictures. The works at Stamford now employ more than 5800 persons. Everyone interested in the use of these devices will find this bulletin of value.

District Offices Opened.

The National Pressed Steel Co. of Massillon, Ohio, makers of steel lumber sections and standard strip steel, have announced the opening of the following district offices: Baltimore, Md., 504 Lexington Bldg., Beverley W. Blake, district manager; Boston, Mass., 201 Devonshire St., Walter M. Jackson, district manager. It is also important to note that R. C. Trig, formerly with the Berger Manufacturing Co. of Canton, O., has become associated with the National Pressed Steel Co. as chief engineer of the sales promotion department. He has been intimately concerned with the development of steel lumber sections ever since they were introduced, 15 years ago.

Luncheon and Cafeteria Outfits.

The Newman Manufacturing Co., Cincinnati, Ohio, manufacturers of ornamental and architectural brass, bronze and nickel-plate work, in addition to their regular business with banks, offices and theatres, are specializing in outfitting lunchrooms and cafeterias, and their literature contains strong arguments as to the need of nourishing food being served to workers in industrial plants, and the importance of serving it in clean and attractive surroundings. The United States Steel Corporation and its subsidiaries, independent steel mills and other far-sighted concerns have established lunchrooms operated on the self-serve principle under ideally healthful conditions. The Newman Manufacturing Co. will be glad to answer inquiries relating to this branch of their products.

Building and Construction News

Builders Supplies.

Miami, Fla.—T. F. Haynes and L. B. Haynes of Miami, and Charles Aulenbacher, of Cleveland, Ohio, have incorporated the Miami Supply Co. with \$100,000 capital stock.

Construction Engineering.

Charleston, S. C.—J. P. Allen and W. S. Fitzsimmons have incorporated Allen & Fitzsimmons, with \$5,000 capital stock.

Sand —Gravel Enterprise.

Montgomery, Ala.—Roquemore Gravel Co. incorporated with \$250,000 capital stock and will mine gravel on 1250 acre tract in Scott's Bend on Alabama river; machinery ordered; daily capacity 75 cars gravel; John D. Roquemore, president; R. M. Hobbie, vice-president; W. E. Mathews, Jr., secretary.

Road and Street Construction.

Columbia, S. C.—Richland County Highway Commissioners will soon invite bids on two miles of road construction (from Greenville to Jones' store.) The Chairman.

Dectur, Ala.—Bids will be received until September 21 by State Highway Commission of Alabama, Montgomery, for constructing 9.17 mi. State trunk highway No. 1 between Albany and Hartselle; Federal-aid Project 25; 10,400 cu. yds. stone macadam; 75,000 sq. yds. asphalt double-surface treatment; W. S. Keller, State Highway Engineer.

Florence, Ala.—Bids will be received until Sept. 30 by State Highway Commission of Alabama, Montgomery, to construct 12.05 mi. road in Lauderdale county; W. S. Keller, State Highway Engineer, Montgomery.

Hattiesburg, Miss.—Forrest county voted \$100,000 of road bonds. Chairman County Supervisors.

Holly Springs, Miss.—Bids will be received until September 22 by Marshall County Supervisors for construction of 4.68 mi. State Trunk Road between Memphis and Tupelo; Federal-aid Project 39; H. C. Dietzer, State Highway Engineer, Jackson.

Okeechobee, Fla.—State Road Department, M. M. Smith, Chairman, Tallahassee, Fla., invites bids until September 30 for constructing 9.55 miles of State-aid road No. 7 between St. Lucie county line and Okeechobee City. Chas. A. Browne, State Highway Engineer, Tallahassee.

Pensacola, Fla.—Bids are invited until September 30 by State Road Department, M. M. Smith, Chairman, Tallahassee, for clearing, grubbing, grading, draining and surfacing with concrete one mile of State-aid road between Pensacola and Flomaton. Chas. A. Browne, State Highway Engineer, Tallahassee.

Corinth, Miss.—J. R. Cates, L. W. Dickson and R. W. Lemonds, Road Commissioners of Kossuth Road District of Alcorn county, will award contract 2 P. M. September 15 for constructing 4.25 miles of road. L. W. Murphy, Engineer. Plans on file with Chancery Clerk, Corinth.

Corinth, Miss.—T. M. Coleman, M. B. Meeks and B. B. Bass, Road Commissioners of Polk Levee Road District of Alcorn county will receive bids until 2 P. M. September 15 for constructing 9 miles of road. L. W. Murphy, Engineer. Plans on file at office of Chancery Clerk, Corinth.

Darlington, S. C.—W. C. Gandy, County Supervisor for Darlington county, will receive bids until 11 A. M. September 16 for constructing approximately four miles of sand-clay road from Darlington to Florence county line. For further information apply to Mr. Gandy or W. S. Lewis, Division Engineer, Florence, S. C.

Lexington, S. C.—C. E. Corley, County Supervisor of Lexington county, will receive bids until 12 o'clock, noon

September 11, for constructing 4,948 miles of Columbia-Newberry road. Federal-aid Project 64. J. D. Gregory, Division Engineer, 1202 1-2 Main St., Columbia, S. C.

New Albany, Miss.—Sealed bids will be received by the Board of Supervisors of Union County at the office of the chancery clerk, New Albany, until September 23 for the construction of 5 miles of road on the Memphis and Tupelo road, known as Federal Aid Project No. 29; work consist approximately as follows; 285 cu. yds. common excavation, 5,000 cu. yds. borrow excavation, 9,125 cu. yds. gravel, 1 mile haul, and 34,960 cu. yds. gravel, 1/2-mi. overhaul; plans and specifications are on file at the office of the State Highway Engineer, H. C. Dieter, Jackson, and at the office of the chancery clerk, New Albany.

Pittsboro, Miss.—Calhoun county voted \$200,000 of road bonds. Wess Edmonson, President Board of Supervisors, Vardaman.

Bank and Office Building.

Sebring, Fla.—Sebring Real Estate Co. will erect building; two stories; hollow tile and stucco; built-up composition roof; metal cornice and marquee; \$20,000; plans by M. Leo Elliott, Architect, Curry Bldg., Tampa, Fla.; day labor.

Dade City, Fla.—Bank of Pasco will remodel building; stucco; plate glass doors and windows.

Chaffney, S. C.—Cherokee Savings Bank has purchased brick building and will remodel and occupy.

School and College.

Canton, Miss.—Madison County Agricultural, Mechanical and Manual Training School, Silomon L. High, president, plans erection of \$35,000 building.

Mentone, Ala.—Combined vocational school and summer resort will be erected by Mentone Institute Corp., T. E. Leeper, pres., Aliceville.

Nashville, Ga.—Berrien county will vote on \$40,000 bonds erection of school building; brick; accommodate 400 to 500; Secretary, Berrien County Board of Education, Nashville.

Troy, Ala.—Tennille Consolidated School District of Pike county will erect \$10,000 school building; site offered. Two school buildings in Pike county are now being enlarged. Mrs. J. M. Sanders, County Superintendent of Education, Troy.

Natchez, Miss.—Plans have been adopted for \$10,000 building in Washington school district of Adams county. County Board of Education.

Ocala, Fla.—Plans for \$60,000 dormitory for Florida Industrial School, as prepared by Architect T. M. Bryan, Gainesville, Fla., have been approved.

Tuscaloosa, Ala.—Reported that Stillman Institute plans erection of \$60,000 addition to building.

Vicksburg, Miss.—City will vote September 21 on issuance of \$125,000 of school bonds. The Mayor.

Anderson, S. C.—Anderson County Board of Education will erect two-room school building in Martin Township.

DeLand, Fla.—Volusia County Board of Public Instruction sold \$30,000 of school bonds of DeLand Special Tax School District and will erect school building. Architect F. M. Miller, DeLand, will prepare plans, which will be submitted to school board September 9.

Church Buildings.

Orlando, Fla.—First Baptist Church, Dr. J. Dean Adcock, Pastor, will erect new pastorium.

Tuscaloosa, Fla.—First Presbyterian Church will erect building after plans by R. H. Hunt, Architect, Chattanooga, Tenn.

Florence, Ala.—Architects W. A. E. Rayfield & Co., Birmingham, Ala., have prepared plans for \$18,000 building for

Baptist Church, Rev. T. M. Bryon, pastor; 68x88 feet; brick veneer; metal ceilings; rolling partitions; ventilators; steam heat; electric lights.

Chester, S. C.—Bids will be received until Sept. 15 by Baldwin Cotton Mills to erect brick church; plans and specifications at office of A. D. Gilchrist, Architect, Rock Hill, S. C.

Marianna, Fla.—Presbyterian Church will erect brick edifice; now assembling material. Rev. Mr. Rosborough.

Meridian, Miss.—Erection of Sunday school building at Fair grounds is being promoted by F. H. Culpepper, E. S. Bostie and others.

Business and Store.

Columbus, Ga.—The Jordan Co. is beginning construction of two-story business building to be occupied by Georgia Automobile Exchange.

DeLand, Fla.—Gus Schurr will improve building amounting to several thousand dollars.

Chaffney, S. C.—M. E. Gettys will erect block of brick buildings.

Jacksonville, Fla.—F. E. Aldrich has purchased brick building at 22 East Union St. which will be remodeled for occupancy by F. E. Aldrich Co., Inc., dealers in paints, varnishes, roofings, etc.

Jacksonville, Fla.—Business building will be erected by A. F. Bains; \$5,000; permit issued.

Tuscaloosa, Ala.—H. B. Foster will erect four one-story store buildings, each 20x50 feet.

Camden, Miss.—S. C. Milton will erect store building.

Corinth, Miss.—Chambers Bros. & Smith will remodel building; \$6,000 to \$7,000.

Dade City, Fla.—O. N. Williams & Son will erect building; two-story; fronts of 40 and 30 ft.

Lakeland, Fla.—A. E. Sloane has bought site and will erect business block.

Reynolds, Ga.—E. E. and L. T. Barrow have awarded contract for erection of store building; three stories; brick, hollow tile; Barrett specification roof; wood and concrete floors; metal ceiling.

Tampa, Fla.—A. D. Whaley will erect store and office building after plans by M. Leo Elliott, Architect, Curry Bldg., Tampa; two-story; plate-glass show windows; steel girders; metal ceilings; composition roof; \$25,000.

Public Buildings.

Columbia, S. C.—Architects Lee & Turnbull, Charlotte, N. C., are preparing plans for \$100,000 administration building for Epworth Orphanage, T. C. O'Dell, Superintendent, brick; dining room, kitchen, coldstorage; chapel, offices, school rooms.

Opelika, Ala.—Alabama Railroad Commission instructed Western of Alabama and Central of Georgia Railway Cos. to prepare plans for new union passenger station; plans to be completed within 90 days; brick and frame structure. Capt. C. K. Lawrence, Chief Engineer Central of Georgia Railway Co., Savannah, Ga.

Jacksonville, Fla.—Jacksonville Chess-Checkers-Whist Club, W. E. Thomas, president, contemplates issuing \$500,000 of bonds and erecting club-house; \$227,000 of the proposed issue already subscribed.

Augusta, Ga.—Richmond County Commissioners, James T. Gardiner, Chairman, will receive proposals until 12 o'clock, noon, October 5, for repairing county courthouse, damaged by fire and water; also for the painting and electric work required.

Tampa, Fla.—Reported that Senate of Cuba will make appropriation of \$200,000 to erect hospital in Tampa to be erected by the Circulo Cubano, A. J. Kohly, Peresident.

Valdosta, Ga.—City council and citizens have reached agreement to proceed with erection of \$50,000 hospital building previously noted; citizens will build and city will

maintain institution; Dr. Frank Bird, Dr. Clark Quarterman and Dr. D. W. Freeman are among those interested. Mayor W. D. Peebles.

Moore Haven, Fla.—Reported that W. F. Meyer, now conducting small hotel at Belhaven, plans to erect 50-room hotel building near Lake Okeechobee.

Orlando, Fla.—Southern Enterprises, Inc., E. J. Sparks, Division Superintendent, has leased Grand Theater for term of 20 years.

St. Petersburg, Fla.—J. A. Newcomb, Hotel Bristol, Bristol, Va., will remodel San Carlos Hotel; expend \$50,000.

Avon Park, Fla.—H. B. Smith will convert building into moving picture theater.

Birmingham, Ala.—Lowe's Bijou Theater will erect theater building for vaudeville and motion picture purposes; plans being prepared by Architect Thomas W. Lamb; reported cost of building, \$600,000; seating capacity, 3,500. T. W. James is local manager of Lowe's Bijou Theater.

Orlando, Fla.—Southern Enterprises, Inc., E. J. Sparks, division superintendent, has leased Grand Theater; will remodel and increase its seating capacity to 1,600; reported cost of contemplated improvements, \$100,000.

Rock Hill, S. C.—Max W. Bryant will convert building recently purchased, into theater.

Jacksonville, Fla.—Scottish Rite Masons of Jacksonville have purchased spacious grounds and plan to erect cathedral. Roque Victor Rogero, general secretary.

Meridian, Miss.—Hamasa Temple plans to erect \$400,000 building.

Tampa, Fla.—Consistory No. 1, Scottish Rite Masons will erect cathedral; 100x105 ft.; three stories; face brick; terracotta cornice and trim; mechanical ventilation, heating, etc.; built-up composition roof; \$150,000. M. Leo Elliott, Architect, Curry Bldg., Tampa.

Cedartown, Ga.—Drs. Hall, Wood and Chaudron will remodel building for hospital.

Dothan, Ala.—Dothan Hotel Co. Commissioned Architect G. Lloyd Preacher (Atlanta, Ga. Office) to prepare plans for hotel building previously noted; five stories, mezzanine floor and basement; reinforced concrete construction; face brick; terra cotta; limestone; tile; steam heat; two elevators; cost \$250,000 to \$300,000. Plans will be ready about November 15. (Mr. Preacher's Atlanta office, G. H. Bond, Mgr., is in Healey Bldg.)

Jacksonville, Fla.—Ucita Investment Co., J. B. Pound, president, plans to enlarge Seminole Hotel building; engineers now investigating cost, structural limitations of present building; etc.; probably three-story addition; work will begin soon, if material and labor can be secured.

Miami, Fla.—Seminole Hotel, H. V. Claar, Prop., will erect second and third stories to Bolles building for hotel; 65 rooms; hot and cold running water: steam heat; \$50,000.

Oceola, Fla.—Apatha Hotel Co. incorporated with \$50,000 capital stock. R. T. Adams, president; Miami Hall, vice-president; W. M. Palmer, secretary.

Tallahassee, Fla.—Chambers of Commerce is promoting erection of 100-room fire-proof hotel. Committee appointed composed of R. O. Collins, Chairman; P. W. Wilson, L. A. Yates, George E. Lewis and others.

Residences and Apartments.

Anniston, Ala.—G. W. Langford Co., Louisville, Ky. is considering erection of 5 to 10 residences.

Augusta, Ga.—Augusta factory will improve 64 houses at cost of \$10,000.

Bartow, Fla.—Mrs. M. S. McCormick will remodel residence after plans by M. Leo Elliott, Architect, Tampa, Fla.; day labor.

Bartow, Fla.—M. Leo Elliott, Architect, Tampa, Fla., has prepared plans for residence for A. A. McLeod; brick and hollow tile; 2 stories; tile roof; \$35,000.



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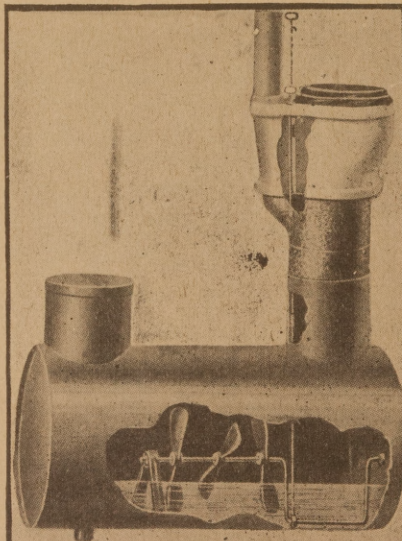
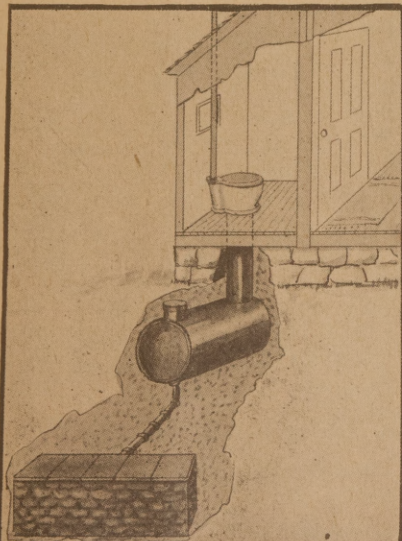
Philadelphia, Pa.

Atlanta, Ga.

Oakland, Cal.

Spokane, Wash.

Toronto, Ont.



Jacksonville, Fla.—Residence will be erected by J. W. Hill; two story; frame; \$8,000.

Jacksonville, Fla.—W. C. Warrington will erect residence; frame; one story; \$5,500.

Sebring, Fla.—Sebring Delopment Co. will erect 10 residences after plans by M. Leo Elliott, Architect, Tampa, Fla; frame and stucco on metal lath; composition shingle roof; \$60,000; day labor.

St. Augustine, Fla.—C. S. Smith will erect two dwellings on site recently purchased.

St. Petersburg, Fla.—Several residences will be erected by G. F. Schudt.

St. Petersburg, Fla.—Franklin J. Mason, Inc., will erect 46 residences after plans by Edgar Ferdon, Architect; frame tile, Stucco and concrete; tile and asbestos shingle roofs; hardwood floors; electric lights; \$4,000 to \$6,000.

St. Petersburg, Fla.—Residences will be erected by August Burehey.

Valdosta, Ga.—Mrs. H. C. Briggs and C. C. Jones will remodel residences.

Valdosta, Ga.—N. Langdale will erect residence.

Daytona, Fla.—Peter Ladas will erect residence; two story block.

Daytona, Fla.—Two story brick bungalow will be erected by Winifred Kingston.

DeLand, Fla.—Dr. Huntington will erect residence; \$5,000.

DeLand, Fla.—S. E. Carmichael will erect bungalow; \$3,000.

Ft. Pierce, Fla.—Residence will be erected by I. Hotsberg; two story colonial front; French doors and windows; porcelain fixtures; all modern conveniences; cost \$10,000.

Jasper, Ala.—Residence will be erected by James H. Burton, six rooms; Thurman Kelley, five rooms; Judge E. W. Long; J. H. Crawford.

Lavonia, Ga.—Dr. Terrell contemplates erection of residence on farm at Fairview.

Birmingham, Ala.—Residence will be erected by C. T. Mayfield; brick; \$10,000.

Birmingham, Ala.—Residence will be erected by Wm. Wise.

Daytona, Fla.—Residence will be erected by Mrs. Emma Braren.

Miami, Fla.—Permit issued to erect residence; S. E. Bartavis, rock bungalow, \$2,000; Thomas Hutton, frame, \$2,000; J. A. Galvin, frame, \$3,000; B. Difabio, \$3,000.

Miami, Fla.—Geo. F. Cail will erect residence; two-story; concrete block.

Savannah, Ga.—Permits issued to erect dwellings; Ed Dennis, two one-story dwellings; Harry Mingo, one story, frame; C. M. Muse, one-story, frame; J. A. Pearson, two stories, frame.

Avon Park, Fla.—Avon Homes Co. has awarded contract for erecting four bungalows.

Avon Park, Fla.—L. F. DeBordenave will erect residence.

Avon Park, Fla.—N. H. Trout will build residence.

Avon Park, Fla.—H. B. Smith will erect two or three bungalows.

Barnwell, S. C.—J. S. Porter will remodel residence; tile roof; tile porch and solarium. Plans by Architect Willis Irvin, Augusta, Ga.

Greenville, S. C.—Twelve residences will be erected by W. W. Stover; 16x30 ft.

Hartford, Ala.—Dr. K. B. Williams plans to erect modern six-room residence and garage; plans prepared, and will be furnished any interested contractor. Dr. Williams invites bids on this work.

Anderson, S. C.—Miss Ola Moore will erect \$12,000 residence after plans by Architect Willis Irvin, Lamar Bldg., Augusta, Ga.; slate roof; tile floors; vapor heat.

Birmingham, Ala.—Brick-veneer apartment house will be erected by W. S. Cooper; \$15,000.

St. Augustine, Fla.—C. S. Smith will erect two apartment houses; four suites each; site purchased.

Tampa, Fla.—Apartment house will be erected by J. L. Jacobs; 111 suites of 3 to 5 rooms; Spanish residence style; Murphy beds; Pullman dining rooms; Majestic kitchen cabinets; dual control electric elevators for passenger and service; steam heat; incinerator; \$500,000; also contemplates erection of 8-story apartment-house; M. Leo Elliott, Architect.

Miami, Fla.—Permits issued to erect residences: Howard B. Bohnert, frame, \$3,000; H. T. Stoy, two stories, frame, \$6,000; M. O. Jones, concrete blocks, \$7,000; A. L. Joiner, concrete blocks, \$4,000; L. A. Houser, frame, \$1,800; C. Mangos, frame, 2,200.

Miami, Fla.—Residence will be erected by C. F. Goodman; two-story; concrete block; \$10,000; permit issued

Miami, Fla.—Permits have been issued for bungalows to be erected by Mrs. C. N. Halliday, frame-stucco, \$3,500; Crow and Reeder, frame; \$3,000.

Miami, Fla.—Carl Homer, Jr., will erect residence; two-story; concrete; \$7,000.

Miami, Fla.—Residence will be erected by the following: Mrs. C. K. Carl'n, two-story; frame; \$3,000; J. L. Richards, frame, \$2,000; Joseph A. Brady, frame; \$2,000; permits issued.

Miami, Fla.—Permits have been issued for the erection of residences by Camillo Sartini, concrete block, \$3,000 and Walter W. Grint, frame-stucco, \$2,000.

Orlando, Fla.—C. Codrington, formerly of Toledo, O., will erect a number of residences on lots recently purchased; California bungalow style; large porches, screened; porch dining-rooms, screened, and protected from winter weather by panels.

Orlando, Fla.—O. P. Conroy has permit to erect \$2,000 residence.

Orlando, Fla.—Permit issued to P. F. Laubach to erect \$3,000 residence.

Orlando, Fla.—Wilbur Tilden will erect number of residences.

Rienzi, Miss.—J. H. Rees will rebuild residence recently destroyed by fire.

Savannah, Ga.—Permits issued to F. M. Jones, L. E. Standfield and W. A. Graham to erect one-story frame bungalows.

Savannah, Ga.—Savannah Real Estate Co. has permit to erect one-story frame residence.

St. Petersburg, Fla.—Sherman Rowles and W. H. Franklin will erect four or five residences at cost of from \$5,000 to \$7,000 each: Architect, Edgar Ferdon.

Washington, Ga.—W. L. Williams will remodel residence at cost of \$6,000, after plans by Architect Willis Irvin, Lamar Bldg., Augusta, Ga.; stucco; metal laths; slate roof; tile porches.

Jacksonville, Fla.—Security Investment Co. of Florida has been organized by L. D. Joel, president, D. P. Myerson, Jr., vice-president and H. H. Joel, secretary-treasurer; company plans erection of number of apartment houses.

Bartow, Fla.—Seminole Phosphate Co. may erect a number of dwellings. A. L. Wright, Engineer, Croom, Fla.

Greenville, S. C.—A. Culberson will erect \$12,000 residence.

Orlando, Fla.—Fred I. Reynolds has permit to erect \$3,000 residence.

Orlando, Fla.—Permit issued to Mrs. Clara Hewitt to erect \$3,000 residence.

Plant City, Fla.—E. J. DeVane, J. E. Cassels, W. E. Lee and others are reported to be interested in formation of \$50,000 company to erect dwellings.

Tunica, Miss.—Ernest Woodfolk will erect residence after

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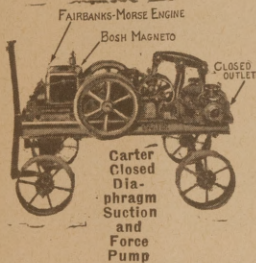
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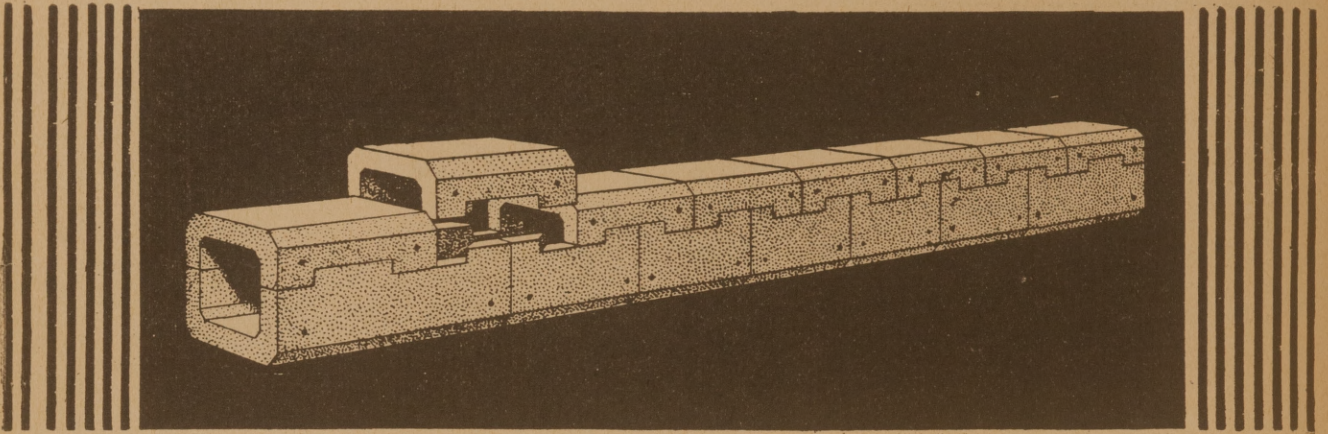
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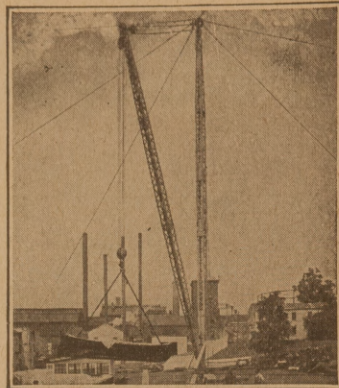
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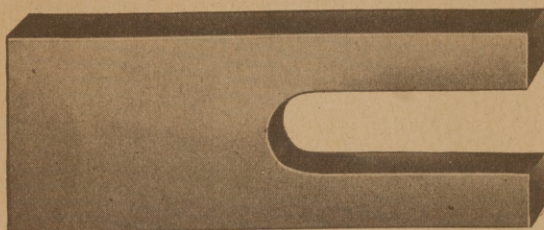
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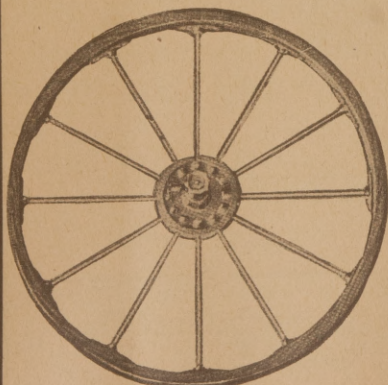
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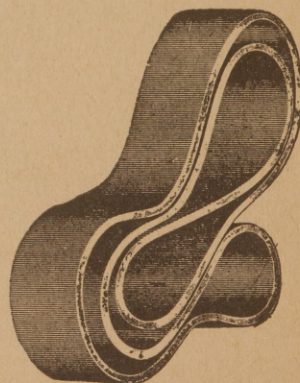
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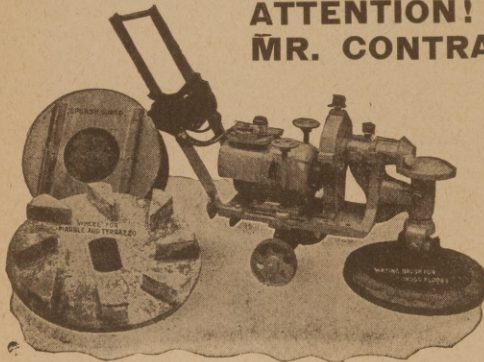
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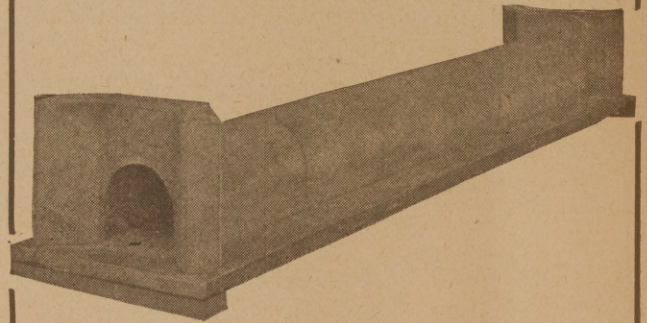
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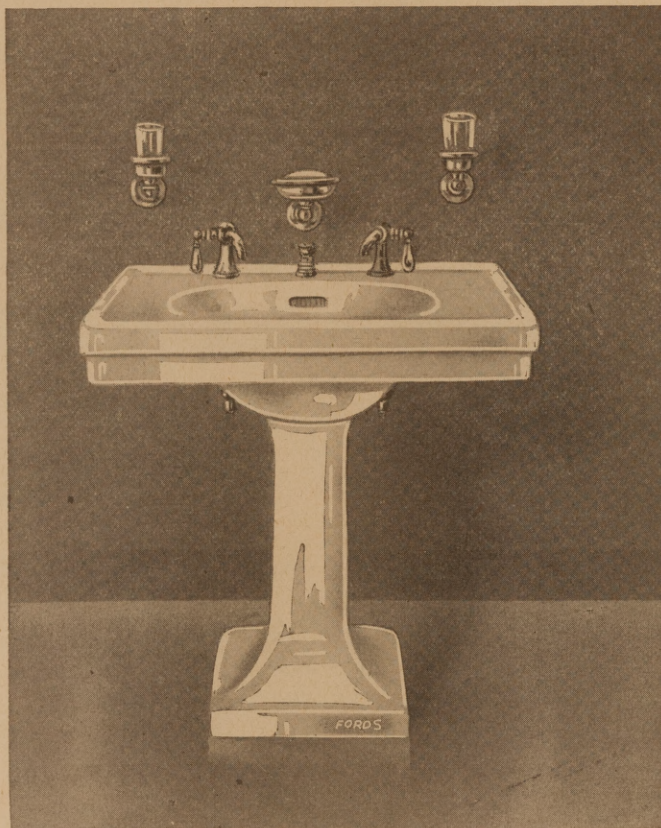
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BEDFORD INDIANA LIMESTONE
 ROUGH, SAWED, PLANED AND TURNED BUFF OR BLUE

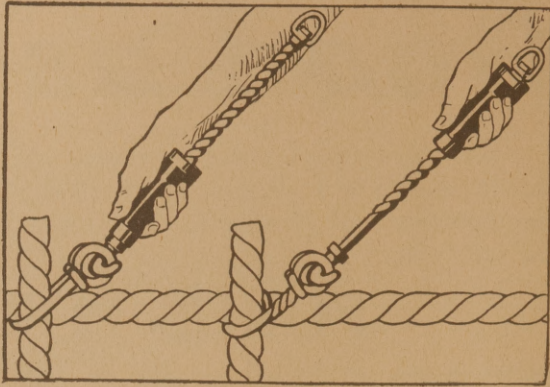
SALES AGENTS
STAR STONE COMPANY
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CONCRETE SEPTIC TANKS
 —AN INDEPENDENT BUSINESS

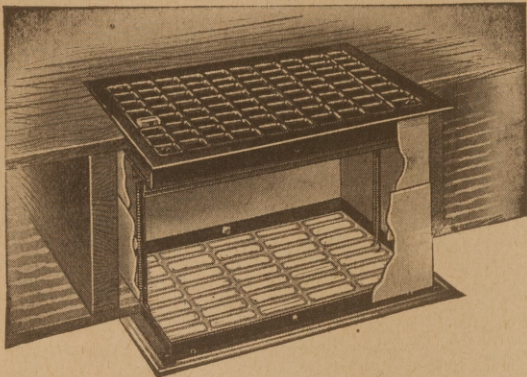
Install Sanitary Septic-Tanks. Every home outside of a sanitary sewer district needs it. A one-piece Tank Installed in Place; Self-Cleaning Vault. Large profits, quick returns. Every customer advertises the Septic Tank for you. Only a small investment required.

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 Office 313 E. Tus. Ave. Barberton, Ohio



You Are Out of Wire.
We Have Full Stock.
Wire Ties for Reinforcing Steel.
Send In Your Orders Now.
Thousands Using Them.

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The above cut represents one of the complete line of registers which is designed especially to convey the surplus heat from the lower to upper room.

It is thoroughly practical, easy to install and increases the efficiency of your heating unit whether it be a kitchen stove, parlor stove or furnace.

Let us send you our catalogue describing a complete line of warm air accessories.

WHY NOT BE
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EFFICIENT
 GET THE FULL BENEFIT OF ALL
HEAT UNITS

H&C PRODUCTS
 MAKE THIS
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100 LAFAYETTE ST. 73 E. LAKE ST.
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SLATE FOR EVERY PURPOSE

Standardized



Installations

U. S. Government Standards

The "Specifications for Plumbing Fixtures, Etc., prepared by the Board on Uniform Plumbing Specifications for the Treasury, War and Navy Departments" describe and illustrate various installations, including among many others:

TOILET and OTHER ENCLOSURES

Pyramid Trade-marked Standards

These include the Government types and others developed by this organization of Pennsylvania Slate Producers as illustrated in its Catalogue, and Series of Chapters now being issued.

THE STRUCTURAL SLATE CO.

PEN ARGYL, PENNSYLVANIA

NATURAL SLATE BLACKBOARDS

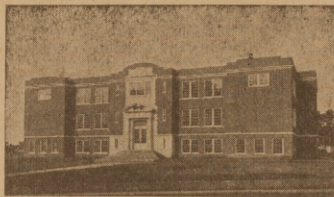


IN ALABAMA



Bulletin No. 52 issued by the Alabama Department of Education, states:

"Slate is the best material, because it is always in repair. It is expensive but practically indestructible. Blackboards with shiny surfaces, and those made of so-called slated cloth, are entirely unsatisfactory. The attempt to secure cheap substitutes for a substantial blackboard is a failure, for the reason that such blackboards are usually out of repair in two or three years."



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Opelika, Ala.
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Montgomery, Ala.

All Others Temporary

"In a permanent building it is my judgment that only Natural Slate Blackboards should be used. All other kinds of blackboard, no matter what the method of their preparation, are temporary devices and, even though the best of their kind, must be considered poor substitutes for the Natural Slate."

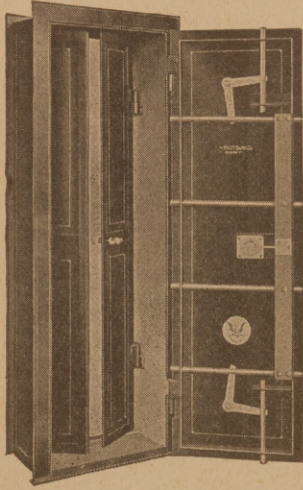
J. H. Phillips,
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Trade marked Slabs in Standardized sizes maintained in large stocks for immediate shipment anywhere.

NATURAL SLATE BLACKBOARD COMPANY

Headquarters, PEN ARGYL, PENNSYLVANIA
Mills, SLATINGTON, WINDGAP, PEN ARGYL and BANGOR

The Hall's Safe Company



No. 1AA Fireproof Vault Door.

Wall Opening
79 High
32 Wide
20 Deep

P. O. BOX 846.



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SALESROOM: NEW YORK, N. Y., The Walker Safe Co., Inc., 388 Broadway.

MANUFACTURERS OF

Vault Fronts Vault Linings Grills and Gates
Omnibuses Chests Deposit Boxes
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Fire Proof Safes—Burglar Proof Safes—Manganese
Safes with Hall's Key-Combination or Time Locks.

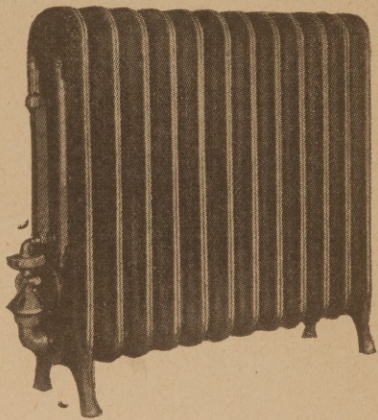
Finest Workmanship—Best Material and Finish

CO-OPERATIVE SERVICE.

This company maintains a department for co-operating with architects or clients in solving problems encountered in selecting and installing vaults.

Prices and estimates will be promptly furnished on application.

Cuts Your Heating Cost



It Saves the Gas.

Cabco Gas Steam Radiators

Are easy to install. They cost less than one-half of a Central Steam Heating Plant.

Each Cabco Radiator a Separate and Complete Unit.

If you have an old building, a hall or room not properly heated. If you are building a new home, apartment, store, duplex, church, garage, etc., you want to see the Cabco.

Thousands in Use.

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CABCO IRON WORKS, Inc.

Diamond Bank Bldg.

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Dealers Write for Complete Information.

You KNOW Wolff
Plumbing—is it worth
while to consider any
other?

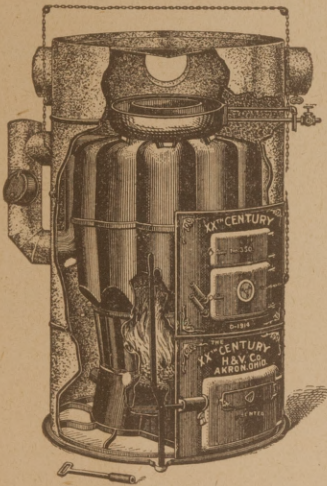


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Mfrs. of Plumbing Goods Exclusively

General Offices - 255 N. Hoyne Ave.
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CHICAGO



In the End, a XXth Century
COSTS the LEAST

THIS DEALER SAYS:

(Name on application)

"I have installed about 700 XXth Century Furnaces in the last seven years and I find they are all giving good service."

XXTH CENTURY FURNACES

FEATURES:

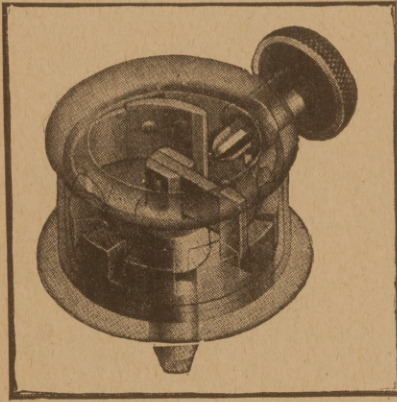
- Self filling water tank.
- Upright shaker lever.
- Indirect draft system that saves coal and carries off gas.
- Drop front grates.
- Made of highest grade, tested pig-iron throughout—no scraps.

Write Department 1 for dealers terms.

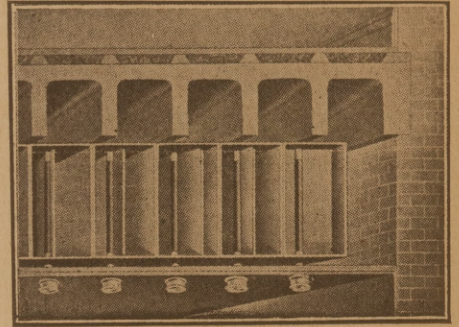
XXth Century Heating & Ventilating Co.
Akron, Ohio.

This Illustration Shows How the Perfecto Damper Regulator and Indicator

when placed on a battery of ducts in the collecting chamber near the machinery room not only affords an easy and convenient means of regulating the flow of air, but also serves as a positive means of indicating the room to which each duct leads, by means of the numbered or lettered cover windows.



regulating the flow of air, but also serves as a positive means of indicating the room to which each duct leads, by means of the numbered or lettered cover windows.



Send today for Descriptive Circular

The Sixth City Sheet Metal Works Co., Cleveland, Ohio

Galvanized Iron Work for Heating and Ventilating Systems

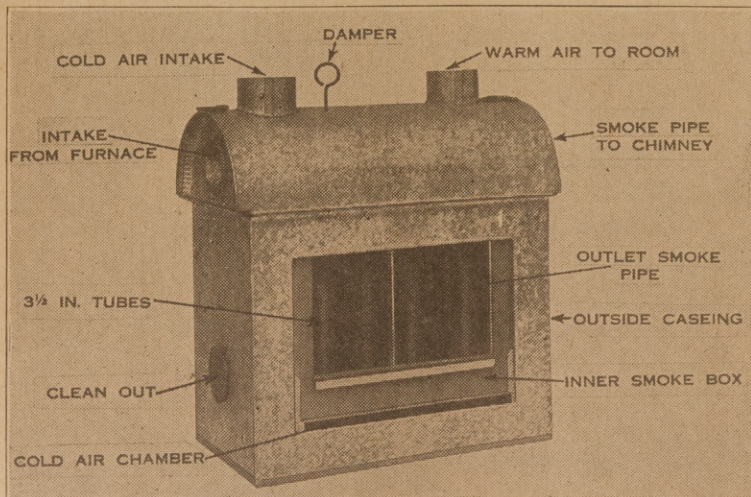
NO PIG IN A POKE IS HEAT FROM SMOKE

Forty to seventy-five per cent of the heat generated by the ordinary heating apparatus goes off up the chimney. The Sexton Air Circulating Radiators utilize all the heat that would ordinarily be wasted. In these days of high priced coal, if you can show your customer how you can increase the efficiency of his heating apparatus and insure his comfort at a moderate expense, you create a most desirable asset—a well pleased customer. One installed in a neighborhood sells another. The Sexton Money Saver Radiators are easily installed and are absolutely guaranteed. Write for circular and agency proposition.



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To be used on Range or Heating Stove for Single Room.—The best heat producing Radiators ever placed on the smoke pipe of a stove or range, will make as much heat and in some cases more than the stove to which it is attached, will not interfere with the draft of the stove, but will save heat that would otherwise be going out the chimney. Everyone is guaranteed to do what we claim for it. Made in two sizes.



C. W. Sexton & Co.

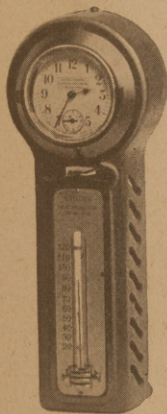
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The Increasing Cost of Coal

is causing a greater demand everywhere for temperature control of heating systems. Saving coal is of especial interest now to home-owners and landlords.

You can meet this demand satisfactorily by installing the

SOUDER For Perfect Heat Regulation **HEAT REGULATOR** **Auto-Wind** **Auto-Control**



The Souder not only saves coal, but time and labor as well.

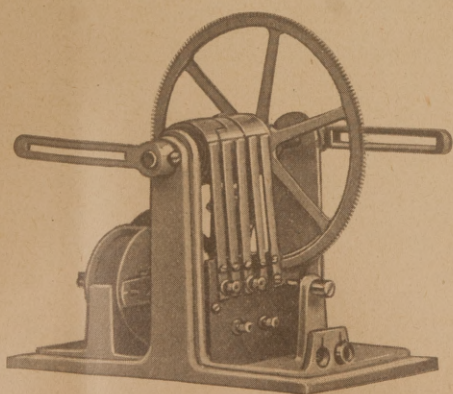
Fully automatic in operation. Does away with periodic winding and setting of clock, as on other regulators. Electrically driven motor—requires no winding or attention of any kind.

Do yourself and your customers a favor—install the Souder Regulator on both old and new work.

Write for details.

SOUDER-HORNSBY CO.

Incorporated
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THE SPREADING OF FIRE

in a community is made possible in most every instance by the use of inflammable roofing material, such as wooden shingles, asphalt, etc.

Hundreds of great fires could have been prevented—thus saving many precious lives and millions of dollars' worth of valuable property, had only SLATE been used in the beginning.

SLATE is the ideal Roofing provided by Nature for roofing purposes—why not let Nature take its course?



VENDOR SLATE CO.
Largest Shippers of Roofing Slate in the World
BANGOR, PENNSYLVANIA





GEORGIAN TERRACE HOTEL and PONCEDE LEON APARTMENTS, ATLANTA, GA.
These are plastered throughout with Cherokee Cement Plaster. Sold by Agents everywhere in Georgia and throughout the Southern States.

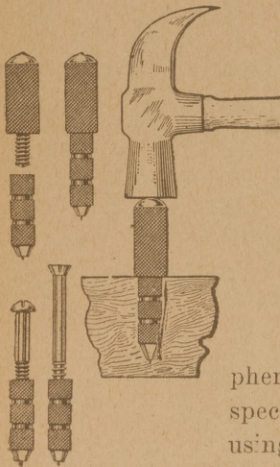
SCIPLE SONS, Exclusive Agents for Atlanta.

Manufactured by

Southern Gypsum Co., Inc., North Holston, Va.

The Only Screw Holes

IN THE WORLD The "Hole" Problem



The advantages of Screw Holes are: they can be used without damage to receiving material; they enable you to Standardize to wood or machine screws in all materials; they are made of brass and will not rust under atmospheric or moisture conditions; special tools are not needed for using them in any material; they can be used in any place a screw can be used; no special screws are needed—these screw holes fit any wood screw or machine screw now in stock; they make the neatest possible job in any material; they are endorsed by all dealers in screws, and by all users of screws; in spite of the high cost of brass, Screw Holes are yet cheap; they make everlasting holes in any material, and any one who can drive a nail can use them.

The Stines Screw Holes Company

Waterbury, Conn.

U. S. A.



With Help Scarce
AND
Wages High
NOW
Is the Time
when the need
for our
**LABOR - SAVING
SPIRAL CHUTES
VERTICAL LIFTS
AND
MERCHANDISE
CONVEYORS**
is imperative

We are
glad to
advise with
architects or
builders or
direct with
their clients
and furnish

complete structural details and drawings to insure satisfactory results for the simplest or most elaborate requirements.

Through long experience we have learned how to combine every form of merchandise conveyor so as to obtain the most practical results.

When no standard form of conveyor is adequate, we design special machines.

When you want information on conveyors, write us. We can help you.

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Heating Apparatus

For Schools, Churches, Dwellings and other buildings.

Wonderful "Bilt-Rite" Furnaces

THE HAMMOND HEATING CO.,

130 E. Pearl St.,

Cincinnati, Ohio

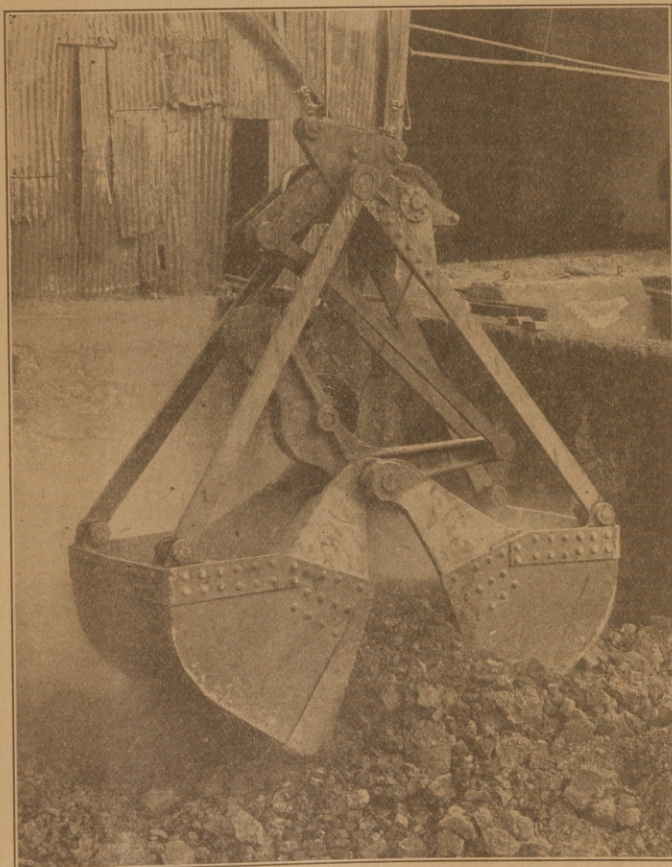
ASBESTOS MILL BOARD

Made from pure ASBESTOS Fibre with small percentage of binding material.

A. W. JACK CORPORATION
Lockport, N. Y.

"BUFFALO" Standard Type Bucket

A product backed by 40 years experience in manufacturing contractors' equipment.



Buffalo Standard Type Bucket, designed for handling coal, sand, gravel and similar bulk materials.

Buckets constructed entirely of Steel Lip Plates of High Carbon Steel which are attached in such a manner as to take all shear from rivets.

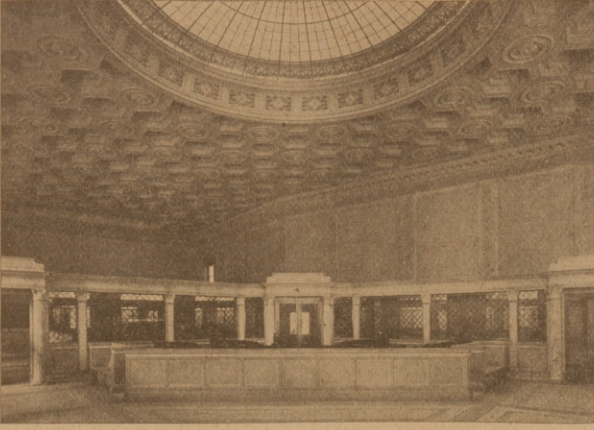
All Bearings bronze bushed with suitable oiling device.

SPECIAL ATTENTION IS DIRECTED TO THE BUFFALO EQUALIZING ARM—THE PREDOMINATING FEATURE OF ALL BUFFALO BUCKETS. Causes scoops to travel with uniform speed—insuring a MAXIMUM LOAD AT EVERY DIG.

We build buckets from $\frac{1}{2}$ to 3 yards for excavating, handling coal, sand and gravel—dredging and similar work.

Write us for catalogue and prices.

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Interior of J. P. Morgan & Co., 23 Wall Street, New York
 Meyer, Strong & Jones, Engineers
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FRINK

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Bankers Trust Co.	Guaranty Trust Co.
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Screen Reflectors
 Desk Reflectors
 Upward Diffusers
 Polaralite Signs



I. P. FRINK, Inc.

24th St. and 10th Ave.

NEW YORK CITY

A Concrete Block House

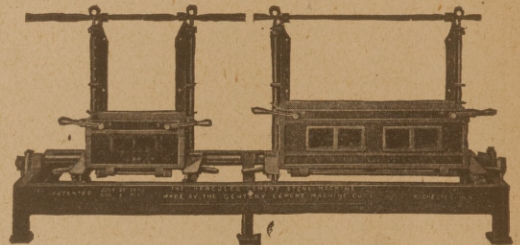
is not complete as to durability and appearance, unless the trimming is made of concrete. Artificial stone also makes ideal trimming for brick and stucco buildings. Stucco should be used on concrete blocks on account of color, low absorption and equal expansion.



All necessary blocks and trimming stone can be made on the

HERCULES MACHINE

with any mineral facing desired.



The HERCULES is

distinctive, elastic, accurate and durable with both quality and production considered.

The equipment may be extended to meet increasing demands. Simply add new plates or forms to the original machine. Get away from the close competition by using a **HERCULES**, and make high grade work to be used above the foundation.

May we send you our catalogue?

You cannot afford to be without our **CEMENT BAG CLEANER**, if you use any quantity of cement. May we send you a descriptive circular giving the savings that can be accomplished, and a partial list of users?

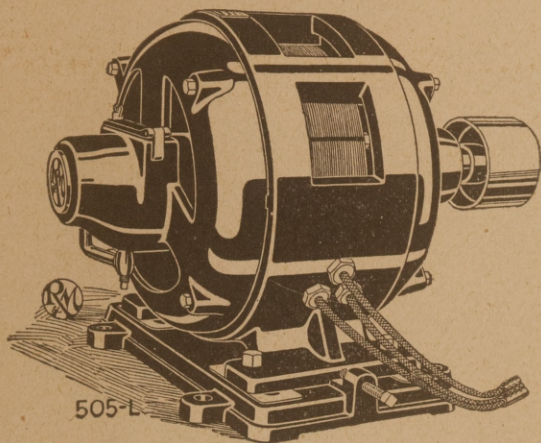
Century Cement Machine Co.

60 Brown's Race,

ROCHESTER, N. Y.

BRYAN ELECTRIC CO.

58 EDGEWOOD AVENUE, ATLANTA, GA.



Electric Light, Power, Telephone and
Bell Wiring for Residence, Stores
and Factories.

Estimates Furnished

Rewinding For Motors, Generators

All kinds of new and used Electrical
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exchanged.

ALL KINDS of ELECTRICAL WORK

MOTORS RENTED

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TELEPHONE YOUR WANTS

LOCAL AND LONG DISTANCE

THE ROOF OF ETERNAL YOUTH.

SHELDON'S
RED. GREEN. PURPLE. BLACK
SLATES

Made in a wide range of sizes and thicknesses. Unusually distinctive color combinations that harmonize with building and surroundings. Quality, price, and service unequalled. See Sweet's Catalogue. Booklet and full particulars on request.

F. C. SHELDON SLATE COMPANY,

Granville, New York.



CRUMB'S
Patent Chain-Hanging
STANCHIONS

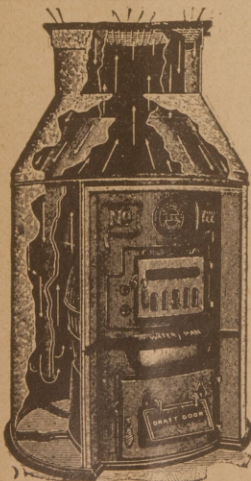
Make cows comfortable, keep
them clean, and increase the
flow of milk. Used with either
concrete or wood base.

Liberal Discount to Con-
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Manufactured by

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The GREAT NORTHERN

WARM AIR FURNACE—PIPE OR PIPELESS SYSTEMS.

All castiron—gas tight—non-smoking—every inch of outside surface efficient for heat—no sheet metal to be destroyed by exposure to fire. Burns any fuel available anywhere—uses about one-half the fuel required in furnaces with brick-lined fire pots to do same work, and takes one-half the space in cellar.

Equipped for Either PIPELESS, or PIPE Systems.

Built entirely of New Southern Pig Iron, the Great Northern is indestructible under ordinary firing. Holds fire over night with soft coal. Delivers moist air, essential to healthful heating.

WHOLESALE TRADE ONLY IS SOLICITED.

But orders will be filled for sample Furnaces where we have no established agency. It is the model now in universal demand among dealers. Our facilities are unequalled, and our terms attractive. Write

WELLS FURNACE & SUPPLY CO.

HOT AIR PIPE AND FITTINGS—REGISTERS AND VENTILATORS AT WHOLESALE
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ARE USED FOR

High-Class Buildings

Reliance Fireproof Doors, Windows and Trim are selected because of their superiority in design, efficiency, material and workmanship.

The facilities of the Plant and organization of the company are such that architects and owners can be assured that all contracts will be executed within the allotted time and that every attention to detail necessary for the satisfactory completion of the work will be promptly accorded.

Plans and specifications sent for the purpose of estimating will be promptly returned at this company's expense, and if architects desire, details will be submitted showing most practical and economical methods of securing best results under special conditions.

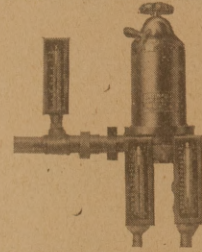
WE SPECIALIZE IN 16 GAUGE
BRONZE-COVERED DOORS

Reliance Fireproof Door Company

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Represented in all the Principal Cities

LEONARD WATER MIXING VALVES THERMOSTAT CONTROL



"LEONARD" VALVES ARE THE ONLY WATER MIXING VALVES THAT PREDETERMINE TEMPERATURES BY DEGREES. THEY WILL REGULATE AND MAINTAIN TEMPERATURES AS CLOSE ON REDUCED FLOW AS ON FULL FLOW.

A WATER TEMPERATURE MIXING VALVE THAT IS CONTROLLED WITH A SOLID METAL THERMOSTAT CAN BE RELIED UPON TO PREDETERMINE AND MAINTAIN TEMPERATURES ACCURATELY AFTER YEARS OF SERVICE. THE "LEONARD" MIXING VALVE IS THAT KIND OF A VALVE.

THEY ARE GUARANTEED FOR TWO YEARS. SPECIFY "LEONARD" VALVES AS YOUR CLIENTS ARE ENTITLED TO THE BEST. WRITE FOR BOOKLET.

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LEONARD-ROOKE CO.
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Mark Your Own Rafters Quickly and Accurately

ELMCO Handy Rafter Markers answer your need for a small building job on your farm or anywhere.

You don't need an expert to mark out your rafters. With a set of ELMCO markers your twelve year old



boy can mark out your rafters to fit.

The ELMCO Handy Rafter Markers

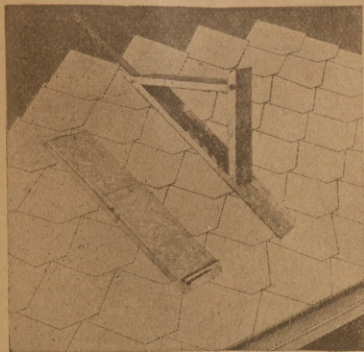
(Patent Applied For)

Give you every angle and length you want for the ordinary small farm building. You only need a pencil and this set of markers to lay out your rafters the correct length—at any pitch you want. Saves you money—and no time wasted. Order a set of ELMCO Handy Rafter Markers for your Fall building job.

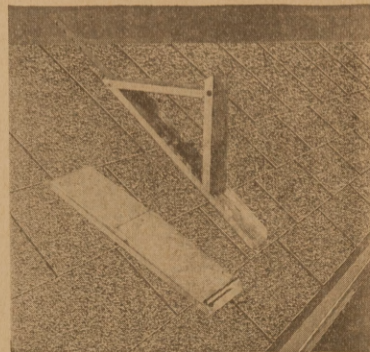


Only \$1.00 per Set sent parcel post paid.

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Asbestos Slate Roof



Asphalt Shingle Roof.

Save Time,
Energy and
Materials
by using—
**The Ajax
Folding Metal
Roofing Bracket**

Patented Feb. 2, 1915.

For Slating—Tiling—Shingling

They are strong and durable—fold flat when not in use—adjustable to any pitch of roof—quickly attached and detached.

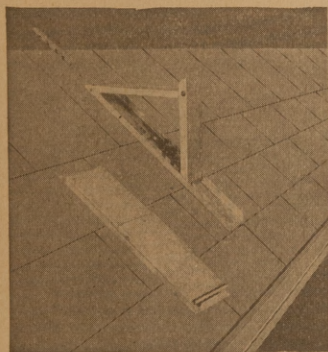
Write for price circular.

Ask your jobber for them.

Manufactured by

Ajax Bracket Manufacturing Co

3901 Parkdale Rd., Cleveland Heights,
CLEVELAND, OHIO.

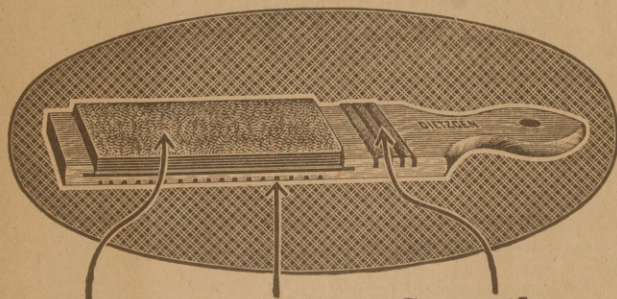


Slate Roof.



Spanish Tile Roof.

**A Time-Saving
Pencil Pointer**



Points Cleans Smoothes

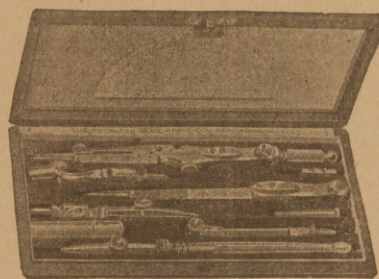
All in one. Lead is pointed on emery paper pad and point smoothed by drawing through the velvet-lined slots. Slots on the back are for cleaning rubber erasers rapidly and effectively. Pad, 12 sheets, 1 1/4 x 3 3/4 inches, is removable and can be replaced for 10c.

Send 25c

and mention Catalog No. 3208

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Branches:
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**Special
Drawing
Set**

No. 450-A
Price \$4.65

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Cash with order.

We have also a full assortment of large sets of instruments.

PEERLESS BLUE PRINT CO.

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NEW YORK CITY

**“THE BEST MONEY-MAKING
TOOL IN MY SHOP”**

This cleaner revolves, has hooks which pull strings and rags. Has been found practical by Chicago Sewer Dept. 4" with hooks \$5.50; 4" and 6" without hooks, \$5.00.

Send money to

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Chicago

**FRITZ-GIANT REVOLVING
DRAIN CLEANER**



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QUARRIED EXCLUSIVELY BY

THE NORTH CAROLINA GRANITE CORPORATION

MOUNT AIRY, N. C.

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J. D. SARGENT GRANITE CO.
MOUNT AIRY, N. C.

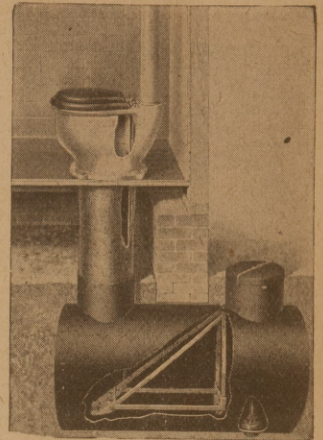
Will Quote on Finished Building and Monumental Work
GEO. L. MEAD, N. Y. and N. J. Representative
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This Modern CLOSET

is convenient, sanitary and beautiful. It is the equal of the modern flush closet of city homes.

The Waterbury SANITARY SCAUSTIC CLOSET

affords modern closet convenience for homes, schools, factories, churches and all buildings where water and sewers are not available. Town and farm families are demanding the convenience, and comfort of indoor closets. The "Waterbury" so completely supplies this need that it surmounts all competition.



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Introduce this modern standard of closets in your community and you will uncover an active demand for hundreds of them. There's real profit in the "Waterbury" too. Retail price about \$80, freight equalized with Cincinnati.

Write us at once for information on exclusive agency offer.

The Waterman-Waterbury Co.
Minneapolis, Minnesota



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NUPRO CEMENT
will do for you

Trade Mark Registered,
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Waterproofing foundation walls by inside or outside application.

Bonds new concrete to old concrete, making a perfectly watertight joint.

Lining steel, wood or concrete tanks for holding cold solutions.

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Coating concrete roofs, preventing leaks caused by cracks due to expansion and contraction.

Cementing glass vault lights in concrete or steel frames allowing for expansion.

Put your waterproofing problem up to our engineers. XXX Nupro Cement is just one of our products. We will recommend a material that will solve your present difficulties.

New Process Chemical Co., Inc.

Manufacturers

41 Cortlandt Street

New York City, N. Y.

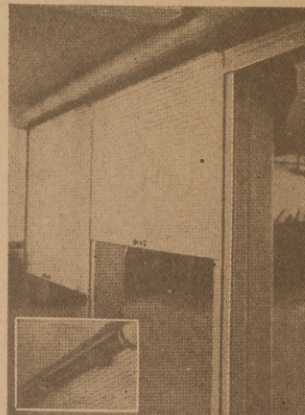
ROSSEL EDWARD MITCHELL & CO., Ltd.

Architects, Engineers, Town Planners

Designers and Supervising
Constructors of Entire Towns.
Banks Designed and Fully
Equipped. Ice and Cold-
storage Plants.

817 Fourteenth St., N. W.
Washington, D. C.

609 Flat Iron Bldg.
Norfolk, Virginia.



ROLLING PARTITIONS

for

Hospitals, Schools, etc.
Wherever Division of
Rooms is Required. Also

STEEL SHUTTERS

for Windows, Doors,
Driveways, etc.

**SWEDISH
VENETIAN BLIND CO.**

1328 Broadway, New York

Branches in
Principal Cities

*If a user recommends
a product, it's good.*

ASK THE USER

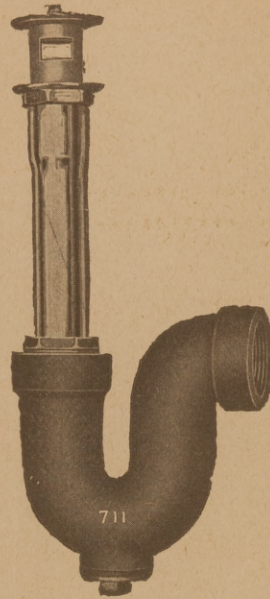
The Russell Perfect Automatic Air Valve can be adjusted to any and all conditions. Made in all styles, bottom outlet, side outlet, lock shield and vacuum attachment.

Guaranteed for five years.

Write

W. A. Russell & Co.

63 W. 37th St.
New York City



“711”

That's the Name of the Trap shown in the cut and merely asking for

“711”

is a brief but sufficient way of

**BUILDING
BIGGER
BUSINESS**

FOR BASINS, SINKS, TRAYS AND BATHS.

Write for prices.

ESSEX FOUNDRY

Newark, N. J.

Can You Afford to Do Without

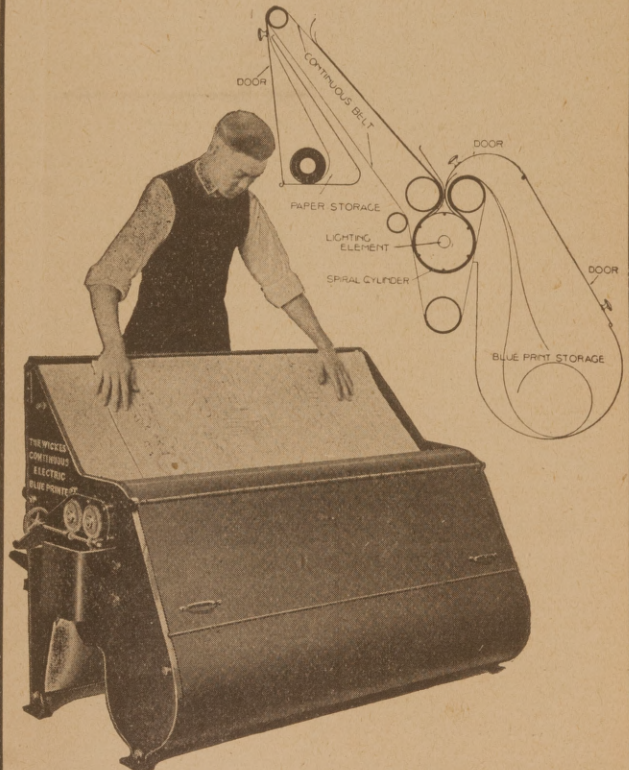


“WHITE-STEEL” MEDICINE CABINETS

“WHITE-STEEL” SANITARY FURNITURE CO.

Dept. 10, Grand Rapids, Mich.

BLUE PRINTS



WICKES BROS.

Saginaw, Mich.

U. S. A.

Department D.

The Wickes
Continuous Electric. Sells
half the price. Uses half
the current of others



Look for the Cross and Circle Printed in Red

THIS symbol appears on every genuine package of Alabastine. It guarantees you beautiful, durable, sanitary walls, modern and delicately tinted in soft, pleasing colors which harmonize perfectly with your rugs and draperies.

Alabastine

TO DEALERS EVERYWHERE.

The word Alabastine, through the merits of the goods and the familiarizing of the consumers with our package and trade mark, represents to this consuming public a standard of quality. There is only one Alabastine. There is only one standard of quality. If a package of Alabastine in your town is good, it is no better than a package of the same goods in Shanghai, China, Tokio, Japan, or San Francisco, California. If it is not good then the packages in the above named locations are equally inferior.

The general consensus of opinion is that Alabastine is a good material. It has demonstrated its superiority by the test of time and by the wonderful demand existing for it.

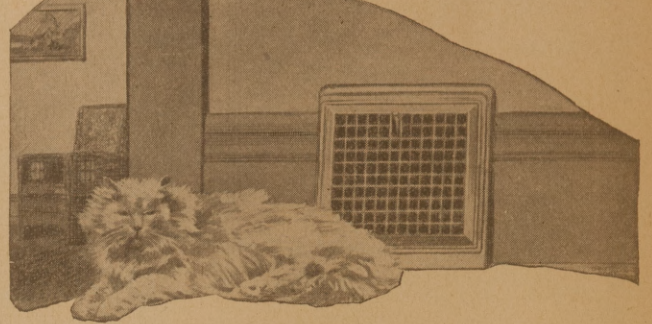
The merits of Alabastine are recognized. It is standardized by advertising, makes an attractive display for shelf or window, occupies small space, packed compactly, yields a very satisfactory margin of profit and gives universal satisfaction to the trade. Write for full particulars and names of our nearest distributors.

ALABASTINE COMPANY
GRAND RAPIDS, MICHIGAN.

Your local Dealer is Entitled to Your Trade

COLUMBIAN

All-Steel Warm Air REGISTERS



The Finishing Touch of a Good Job

AS Michael Angelo said to the man who asked him why he spent so much time on a trifling detail: "Trifles, my dear sir, make perfection and perfection is no trifle."

In Columbian Registers the lattices are strong without looking clumsy, the shutters, or deflectors, operate smoothly and quietly and close tightly. The finish is always perfect whether it is plain black or white japan, or electro-plated with copper, brass or nickel.

A good furnace, good flues and Columbian Registers make a combination of which the heating contractor can be proud.

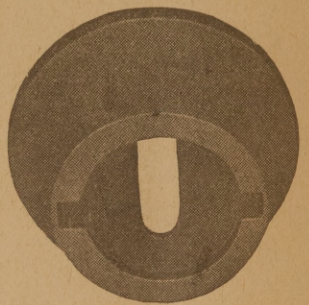
Have you the latest Catalog?

The Columbian Hardware Co.
CLEVELAND, OHIO

Advantages of Towe's Universal Concrete Insert

15 Good Reasons for using them:

1. Circular form is strongest and most powerful, which means one insert for all sizes.
2. Each Traveler takes two sizes of bolts, impossible with any other insert.
3. Takes either head or nut end of each, impossible with any other insert.
4. All sizes of band iron can be used without twisting the iron.
5. Pipe can be used in place of round iron if so desired.
6. 1 1/4" of up and down adjustment.
7. Adjustment of 1 1/2" to all points of compass.
8. Only insert made which has up and down and side adjustment complete in itself.
9. Easy to install, drive two nails in form and already for concrete.



PATENT APPLIED FOR

10. Locked in all positions.
11. Rod can be used with hook instead of nut or head.
12. Absolutely fool proof, cannot be misplaced in any way due to carelessness on part of mechanic.
13. Breaking load. For Insert over 3 ton. Traveler 2 1/2 ton.
14. Labor Saver.
15. With 2 1/2" St'd washer can use toggles, hooks or bolts.

Particular attention is called to No. 1. The use of this style of iron for hangers is universal. It is adaptable in all its sizes as shown.

Send for Circular

EDWARD TOWE
32-34 Oak Street ROCHESTER, N. Y.

Making Business Talk

Is comparatively easy if you speak through

The Starks Line

Outside Stains
Shingle Stains
Cement Putty

Creosote Disinfectant
Wood Preservative
Waterproofing Paint

Concrete
Cement
Brick
Stucco

Waterproofing

Write or wire today for prices.

The Starks Manufacturing Co.

First & Main Sts.

Kansas City, Mo.

We Want Wide-Awake Jobbers

CRUSHED GRANITE

For

CONCRETE HIGHWAYS

And

COMMERCIAL PURPOSES

ALL SIZES SHIPPED PROMPTLY

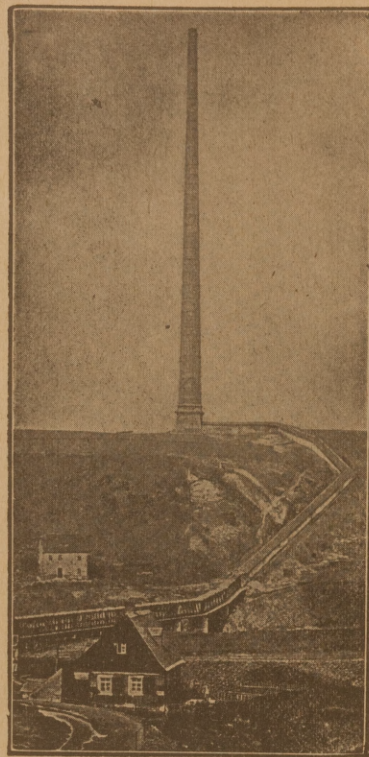
A. T. Small Quarries Company

OFFICES: BIBB BUILDING, MACON, GA.

QUARRIES: HOLTON, GA.

SERVICE

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Perforated
Radial
Brick
Chimneys

460-Foot Hei-
niche Chimney
has carried
acid gases for
21 years with
no decay what-
ever.

H. R. HEINICKE, Inc.

Designers and Builders

147 Fourth Avenue, NEW YORK CITY, N. Y.

Your correspondence solicited.



When the Roof is finished---

only because your hardware dealer carries Yale Builders' Locks and Hardware in stock can your client avoid a long delay in the completion of his building. There are many other advantages in the Yale way of distributing. Your client can see for himself, in a nearby store, the designs most appropriate for his building, and quickly get approximate estimates, make his purchase and obtain delivery when wanted.

Your hardware dealer knows the security and high quality of Yale Builders' Locks and Hardware. He will fully justify your recommendation of "Yale," and the client will secure lasting satisfaction.

The Yale & Towne Mfg. Co.,

Makers of the Yale Locks

Stamford,

Connecticut.

Here is a Glazing
Composition that
will—



Adhere tightly to iron, steel, wood, glass, stone or concrete, Make an elastic joint—tight yet indefinitely flexible, preventing glass from cracking.

Guaranteed to withstand heat, cold, rain or extreme climate conditions, without chipping or peeling.

KUHLS'

ELASTIC GLAZING COMPOSITIONS

is used for bedding and glazing all classes of glass construction and is unequalled for securely setting floor or wall tile. Also supplied in shades to match for pointing up stone work, terra cotta, granite, etc.

Complete literature on this exceptional product together with testimonials from such prominent architects as Cass Gilbert, also the Lackawanna and Pennsylvania Railroad, will be mailed on request.

There is a reliable dealer in your locality selling Kuhl's Elastic Glazing Composition. His name will be sent on request.



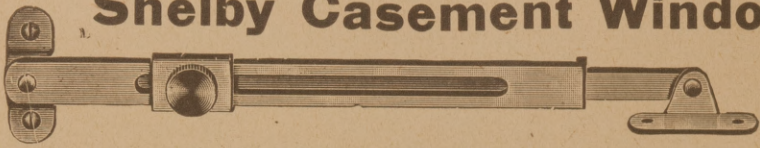
H. B. FRED KUHL'S

Sole Manufacturer

6413 Third Ave., Brooklyn, N. Y.

Shelby Casement Window Adjusters

Made at Shelby, O.
Sold Everywhere.



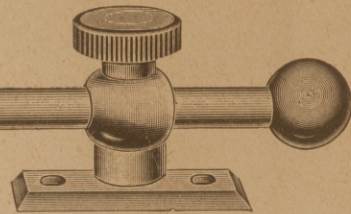
No. 1

No. 1 This Adjuster is universal for right or left hand windows opening in or out. Will hold the window positively locked in any position. Can also be used as a friction stay. It is also furnished with brackets to be used where attachment to window casing or trim board is necessary.

No. 2 This Adjuster is for right or left hand windows opening out. It is very strong and has 3/4 inch wrought steel rod made in 8, 10, 12 and 15 inch lengths.



No. 2



The Shelby Spring Hinge Co.,

Shelby, Ohio

READY FOR YOUR ORDERS

Just Completed Additional Warehouses to Carry More Stock to Give You CISCO Service

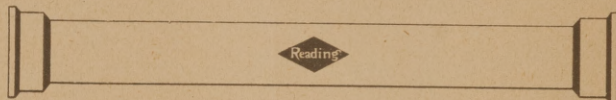
We Have the Stock and Every Facility to Satisfy You

THE CINCINNATI IRON & STEEL COMPANY CINCINNATI, U. S. A.

Jobbers of all Products of Iron and Steel Construction, Steel and Reinforced Concrete Steel a Specialty

READING BRAND

The Soil Pipe with Five

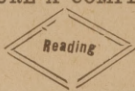


SOIL PIPE

Guaranteed Features

1. Only the very best of raw materials used in its manufacture.
2. Every length fully tested and guaranteed before leaving foundry.
3. Angles all made the same, insuring a ground joint connection—thus reducing the amount of lead used to a minimum.
4. Easy cutting and free from sandholes.
5. Made in an up-to-date foundry with every facility for turning out high grade products.

WE MANUFACTURE A COMPLETE LINE OF
 CAST IRON SINK TRAPS DRINKING FOUNTAINS
 CAST IRON DRUM TRAPS GARAGE TRAPS
 CAST IRON GREASE TRAPS FLOOR DRAINS
 VENT BOXES—WATER BOXES CESSPOOLS
 HYDRANTS—BOILER STANDS WATER HEATERS



WRITE TODAY FOR CATALOGUE.

Reading Foundry and Supply Co.,

Reading, Pa.

DID YOU EVER GET ANY?

UP-TO-DATE ARCHITECTS DO.

They want Guaranteed for Strength, Comfort, Beauty and Economy

When specifying seats for a job get our Catalogue and name of nearest jobber who handles our line.

A Satisfied Client is Your Best Ad—You Are always talked of: Good or Bad

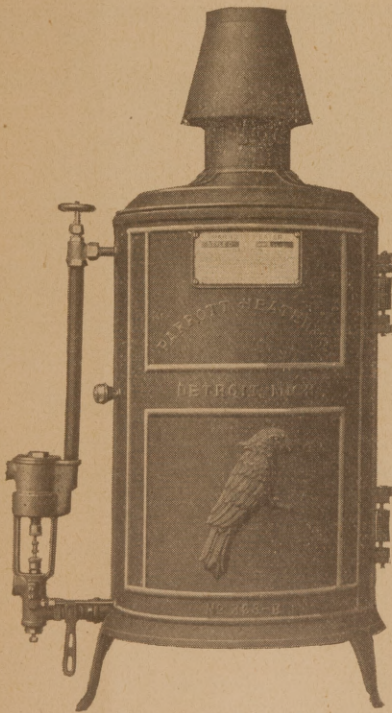
Satisfaction Guaranteed By Us.

KNOTT MANUFACTURING CO., Main Office and Factory, TELL CITY, IND.



W. R. Thatcher,
General Mgr.

Is the man that taught the Parrott to make cold water hot quick as a flash at a turn of a faucet. Write him a letter and learn why 90% of the Detroit Master Plumbers are selling and advocating Parrott Heaters. He will tell you how to make money.



Special Feature

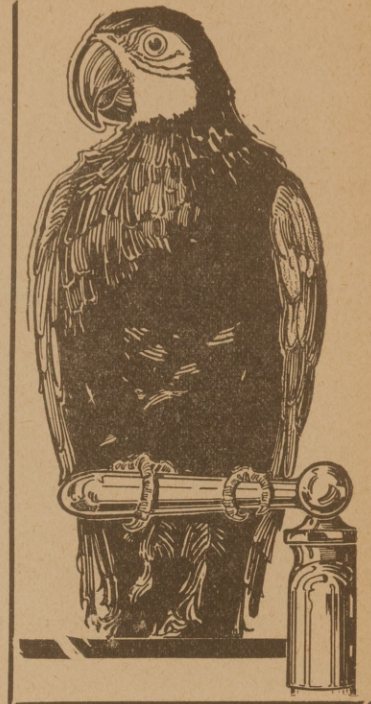
You can remove coil or any part without removing a bolt, screw or nut.

PARROTT

Automatic Gas Water Heater

They Sell on Sight

Built on honor—
Built to last—
Lowest first cost—
Fewest number of parts—
Least to get out of order—



Specification

Jacket heavy cast grey iron—
Finish black and gold—
Coil—Copper—84 feet.
Burners only six in circle.
Pilot flash type.
Valve, bronze—cast in one part.
Exclusive feature—Condensation plate—
protects burners.
Capacity—three gallons per minute—artificial gas—more on natural.

SOLD ONLY TO PLUMBERS

Be a live wire merchant

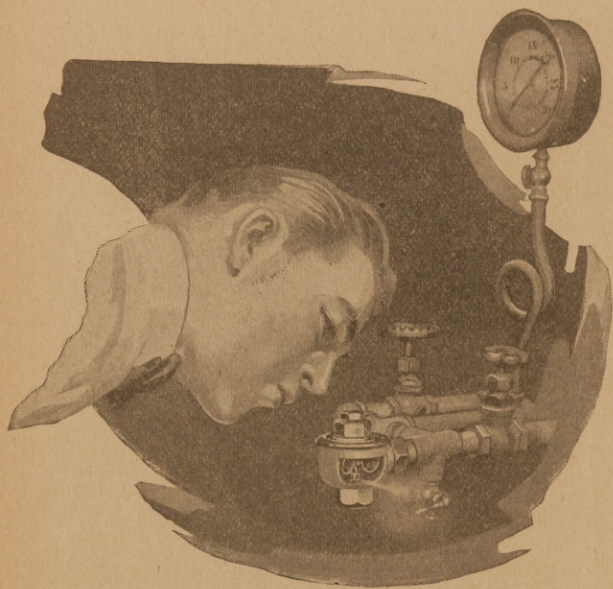
Use your head. let the other fellow use his hands and feet. One sure way to know about the Parrot—order one, try it out—you will be convinced it is the best in the world, regardless of low cost.

Parrott Heater Co.

224 21st Street

DETROIT, MICH.

You Can Make This Convincing Trap Test



A well-known architect was going through the Trane Company's factory at LaCrosse, Wisconsin. We wished to let him see with his own eyes that the all-metal thermostatic member of the Trane Thermetal Radiator Trap is **instantly** responsive.

A Trane Thermetal Trap, cut away on the sides for observation purposes, was attached to the end of a live steam pipe. A very small quantity of steam was let into the trap. Immediately the thermostatic member moved downward to close the port. Then the attendant blew his breath gently on the all-metal thermostatic member. Brief as was the gentle blowing, it registered instantly on the sensitive thermetal member, for it reacted at once—moving in the opposite direction. It was unquestionable proof of the sensitively quick responsiveness of the **all-metal** thermostatic member (no diaphragm) in the Trane Thermetal Trap.

And it is this **all-metal** construction—doing away with the evaporating liquid and the diaphragm—which gives the Trane Thermetal Trap that sturdiness, that reliability, which enable us to **guarantee** the Trane Thermetal Trap for the life of the building. All-metal—yet instantly responsive, nothing to wear out or get out of order, nothing to replace—simpler and more scientific in design. Used on all kinds of two-pipe systems, in buildings of every description. Send for complete description of this remarkable radiator trap.

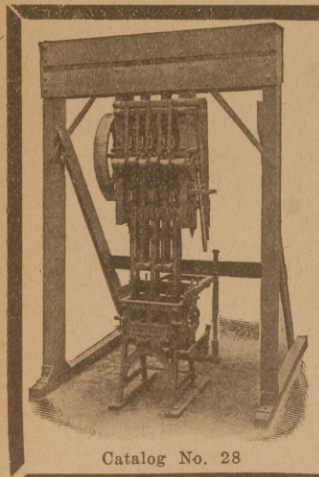
The Trane Company Factory and General Offices
210 Cameron Ave., Lacrosse, Wis.
Established 1883

Chicago Office
173 W. Jackson Blvd.

New York Office
11 John St.

Boston Office
110 State St.

Philadelphia Office
20 S. 7th St.



Catalog No. 28

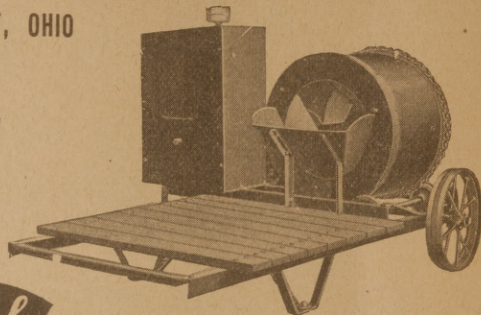
THE IDEAL CONCRETE MACHINERY CO.

1332 Monmouth Ave., CINCINNATI, OHIO



Catalog No.

Concrete Machinery for all Purposes



Catalog No. 33



A great trinity of names—Carnegie on steel, Goodyear or Goodrich on rubber, Climax on heating and cooking apparatus.

Don't spend much time looking at a picture or reading the ad., don't pay anything for it—See the furnace itself—That's what you pay for. If you want a furnace real bad you want it real good.

In the Climax all the skill we combine:
What is best in the shop and the mine:

What a wonderful heater—what an all around beater:
Is it any wonder the world says that they are fine.

Send for catalogue.

THE TAPLIN-RICE-CLERKIN CO., Akron, Ohio

"The exclusive Furnace, Stove and Range Folks of Akron and everywhere."

BUILDER'S SPECIAL

500-Foot and 1000-Foot Lightning Rod Outfits Shipped Direct

THERE'S an extra profit waiting for you on many jobs, which you can easily get by installing proper lightning protection. The property owner has confidence in you—make this extra money yourself. With only a small investment in our Builder's Special Outfit, you will realize this big profit in selling and erecting

Thompson's
THE WORLD'S BEST

Guaranteed Lightning Protection

The Builder's Special Outfit is designed to meet your needs. A 1000-Foot Outfit will equip from 6 to 8 average buildings, a 500-Foot Outfit from 3 to 4 buildings.

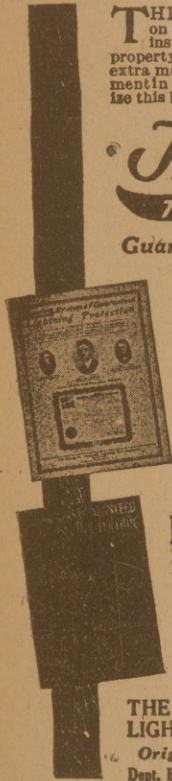
An Extra Profit You Can Get

Many Thompson agents are making \$3,000.00 extra per year. Every un-rodded rural building is a prospect for a sale ranging from forty to several hundred dollars. Your profit on a complete 1000-Foot Outfit is \$165.00; on a 500-Foot Outfit, \$82.50.

FREE If you are a Builder, Carpenter Contractor, or Lumber Dealer, with your initial order we will give you free a set of the necessary Special Lightning Rod Tools. *This offer is limited.*

Write today for Illustrated Dealer's Catalog, Instruction Book (shown at left), and full details of our Introductory offer and Exclusive Agency Proposition.

THE GEORGE E. THOMPSON
LIGHTNING ROD COMPANY
Originators and Distributors
Dept. B, Owatonna Minnesota, U. S. A.



Carpenters Wanted as Special Representatives

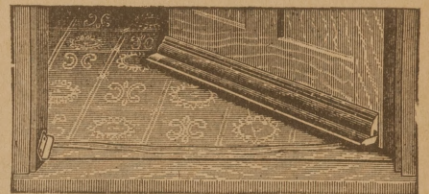
CARPENTERS and others are making big money. It's right in your line. Fenton, of Indiana, made 400 sales in one week; Woodard sold 47 the first day. You, too, can sell the

The Henry Airtight Weatherstrip
(Automatic)

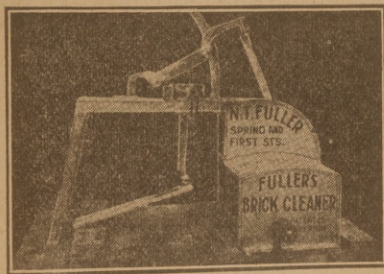
for the bottom of doors and hinged windows. It's automatic. Fits down tight against worn sills as well as new ones. Keeps out every bit of cold, snow and rain and dust. Saves fuel. Sells fast; everybody wants it for economy's sake. Simple; easy to put on. Approved by architects, carpenters, and builders wherever known.

Send now for money-making plans.

The Henry Airtight Weatherstrip Co.
510 Elm St., Crawfordsville, Indiana



This attachment automatically shuts the strip tight against the sill



Patented

SAVE MEN, MONEY AND BRICK CLEANING TIME WITH

Fuller Brick Cleaner

One of the biggest little workers invented in years. Pays for itself in a few days. Cleans old brick and saves cost of new. J. J. Moore, of New Bedford, Mass., writes to us: "It is the greatest labor-saving machine I ever had."

Satisfactory service guaranteed. Made in two models: Hand Powered and Engine Driven. Send for descriptive circular.

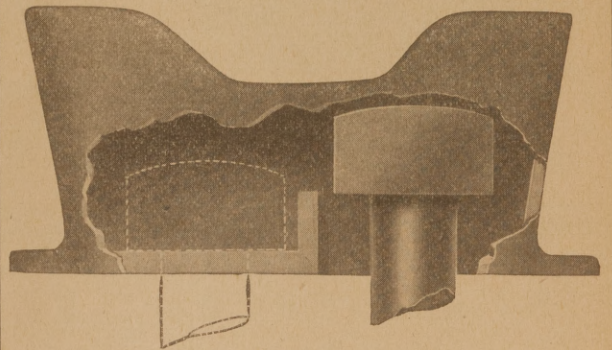
N. T. FULLER

Spring and First Streets New Bedford, Mass.

"WRIALCO"

IMPROVED

A Malleable Iron Adjustable Concrete Insert with double tee head bolt feature



PATENTED

A device for the support of anchorage of hangers for Automatic Sprinklers, Shafting and General Piping Work in buildings of concrete construction. Can be made rigid at any point of adjustment desired.

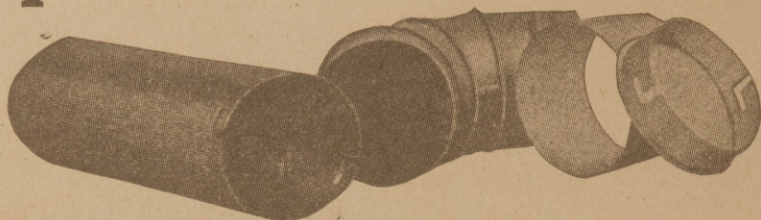
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WRIGHT & ALEXANDER CO.

Rochester, New York

SAFETY Interlocking Stove and Furnace PIPE

Fire Preventing



Home Protecting

Amrose P. McGuirk's Patent

Our Asbestos-Covered Interlocking Furnace Pipes, Interlocking Stove Pipes, Interlocking Asbestos-Covered Flue Thimble, Interlined Interlocking Ring Flue Caps and Interlocking Elbows are not luxuries nor needless accessories. They are very necessary where stoves and furnaces are used. By fastening and cementing the Flue Thimble in the Flue Hole, and putting in and turning the pipe joint and locking it firmly therein, it can't pull out or be pushed in too far. Each successive pipe link is locked to the preceding one, until the whole pipe is firmly locked together, and to the Stove Collar, so that the pipe can't fall down. When the pipe is taken down put in the Flue Cap and lock it, making the flue hole fire safe.

Every home and factory owner is morally liable for impending fires on his property, and as fast as flames reap losses will our dealers reap profits on our Fire Safe, Rust Proof, Interlocking Pipes, Flue Thimbles, Caps and Elbows.

Send for Price List and Descriptive Statement

Safety Interlocking Stove Pipe Company

Mt. Pleasant, Iowa

Bedford Steam Stone Works

INCORPORATED 1888

Bedford, Indiana

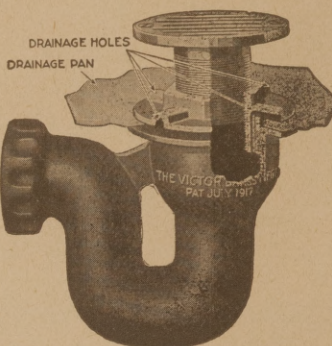
INDIANA LIMESTONE

SAWED, PLANED, TURNED OR CUT

Estimates promptly furnished

F. O. B. Bedford or delivered

VICTOR



Double Drainage Shower Traps and Drains

Feature No. 9

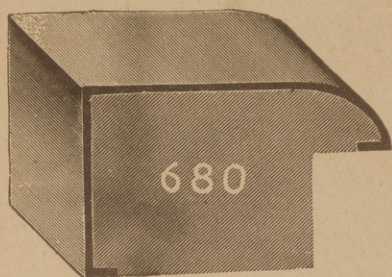
Victor traps are designed so compactly as to avoid cutting away construction work to install them.

Licensed under Patent No. 855017.

If your jobber does not carry Victor Traps, mail your order direct to us.

The Victor Brass Mfg. Co. Cleveland Ohio

METAL COVERED WOOD AND SHELL MOULDINGS OF EVERY DESCRIPTION



Oxidized Copper, Statuary Copper, Nickel Silver, Copper, Brass, Bronze, Aluminum and Steel

Special Mouldings, Cases and Frames Made to Order.

Quick Service. Write for Prices.

Chicago Metal Covering Co.

2833-2841 W. Lake St.,

CHICAGO

BUY DIRECT FROM WHOLESALER

INCANDESCENT ELECTRIC LIGHT BULBS

Nitrogen Lamps

75 Watt Lamp. Each	.....\$ 53
100 Watt Lamp. Each	..... .82 1/2
150 Watt Lamp. Each	..... 1.24
200 Watt Lamp. Each	..... 1.65
300 Watt Lamp. Each	..... 2.44

Tungsten Lamps

10 Watt Lamp. Each	.....\$ .29
15 Watt Lamp. Each	..... .29
25 Watt Lamp. Each	..... .29
40 Watt Lamp. Each	..... .29
60 Watt Lamp. Each	..... .34
100 Watt Lamp. Each	..... .66

2, 4, 8, 16 Candle Power Carbon Bulbs, 18c. Each

Red, Blue, Green, Frosted, 3c. Extra

Every Lamp Standard Grade "A" Licensed Lamps

REPUBLIC ELECTRIC LAMP CO.,

1125 13th Ave., Moline, Ill.

To Builders and Contractors

The Herrick Outside Icing Refrigerator is one of the most popular refrigerators for modern residence use. It gets the ice in the house and keeps the ice-man out.



Herrick Refrig. Co.
Waterloo, Iowa

Your Biggest Wishes
Answered!

Herrick Outside Icing Refrigerator

is winning praise everywhere. Hundreds of builders, contractors and architects are availing themselves of the Herrick Free Plan Service. Planning and making the outside icing openings right is important. Let us guide you.

Specify 'Herrick' Refrigerators. They are sanitary, clean and economical. Perfect air circulation. Provide an even temperature and abundant pure dry air necessary to keep food sweet. Best for homes, apartments, stores, clubs, etc. Write for Catalog SA. 918 with free blue prints of construction.

Herrick Refrigerator Co.
Waterloo, Iowa.

FIREPLACE FIXTURES



Grates and Furnishings

Suggested settings for the newest designs of andirons may be had upon request. Write for Catalogue No. 32.

Chattanooga Roofing & Foundry Co.

Chattanooga, Tenn.



MALLORY'S STANDARD SHUTTER WORKER

Opens and Closes the Shutters from the Inside,
and Automatically Locks Them in Any Position
Without Raising the Window

So simple that a child can operate it. No opening of the windows or dangerous leaning out to release an obstinate catch. A veritable labor saver.

Mallory Shutter Workers "first cost" is but little more than ordinary hinges and catches, and the labor of putting them on still less. Readily applied to old or new houses, whether frame, brick or stone; installation does not necessitate the tearing out of walls or the employment of an expert mechanic.

STRONG AND DURABLE

Made of the most durable materials, carefully hand-fitted and finished in every part, thus insuring perfect and easy-working qualities and long wear.

NOTE.—In ordering, be sure to state style of finish required and whether Workers are for frame or brick building.

**MALLORY MANUFACTURING
COMPANY**

1700 Bloomfield Avenue
FLEMINGTON, N. J.

Showing Handles on the
Inside of Room



"OTELLO" PAINTS

An excellent and inexpensive substitute for red lead on new steel

Acid Proof

Prevents wood from expanding and contracting through absorption of moisture

Half the cost of oil paints

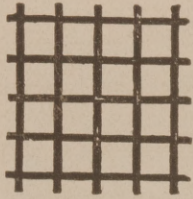
Sole Manufacturers

The William Cail Bitmo Co.

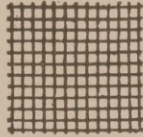
18 Broadway
New York

"If it's made of Wire we make it."

ESTEY WIRE WORKS CO.



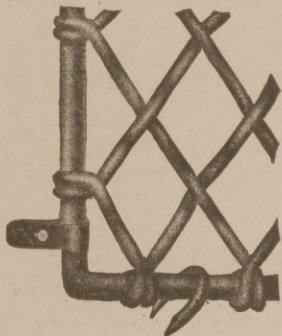
34 Cliff Street
NEW YORK
CAMBRIDGE, MD.



Manufacturers of
Bank Railings and Enclosures, Wire
Cloth, Wire Work, Wire
Goods, Etc.

Estimates Promptly Made. Send for our Wire Cloth Catalog
No. 20, Wire Work Catalog No. 19.

Wire Work, Window Guards



Coal Screens

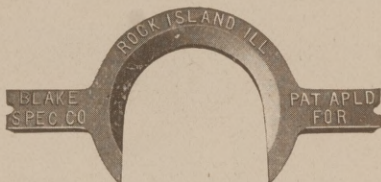
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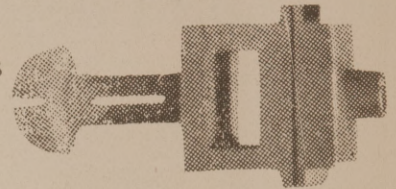
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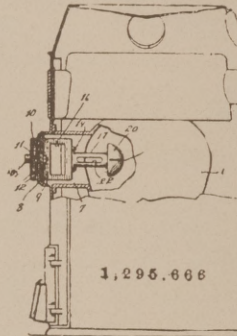


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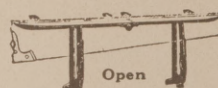
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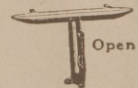
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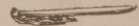
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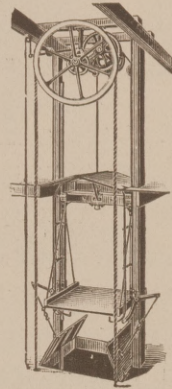
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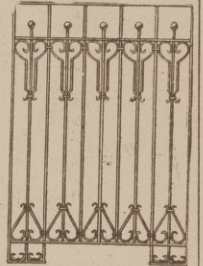
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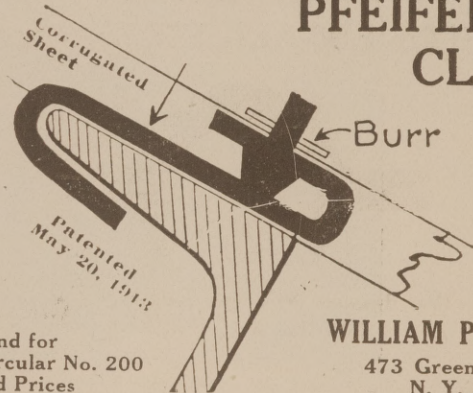
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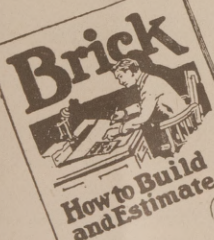
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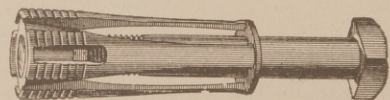
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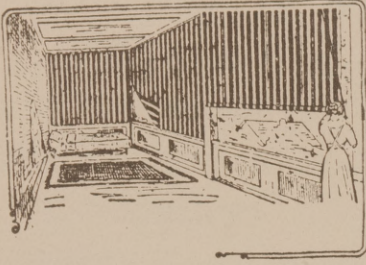
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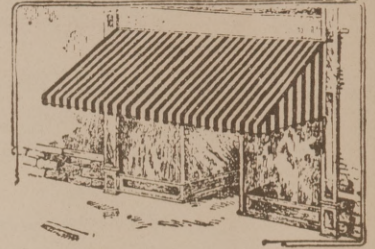
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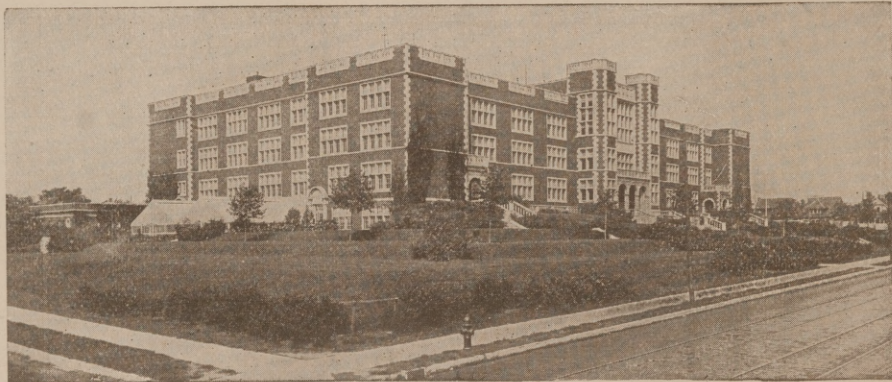
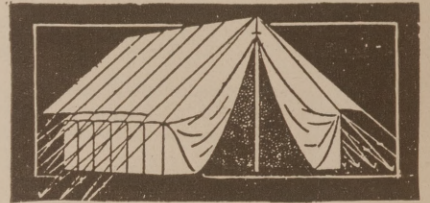
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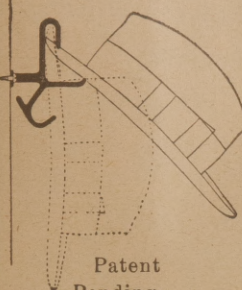
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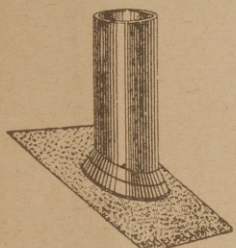
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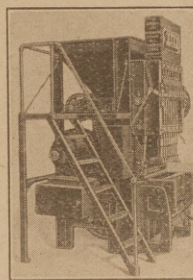


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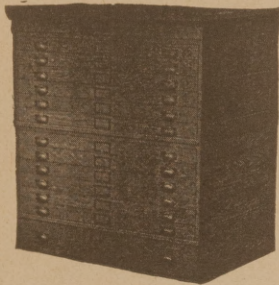


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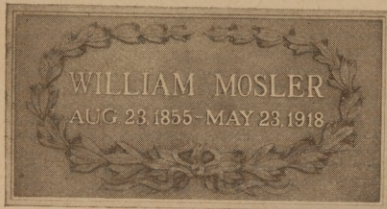
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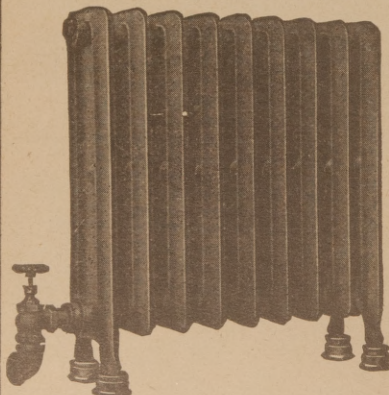
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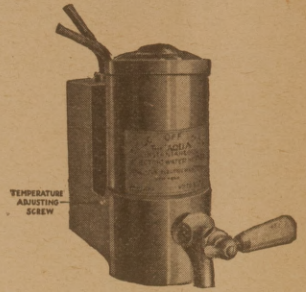
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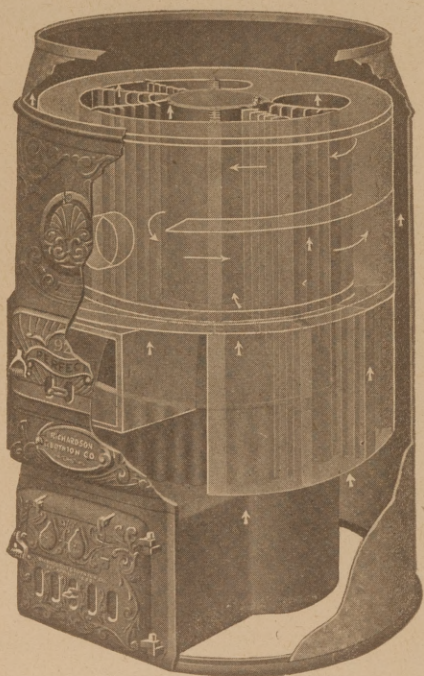
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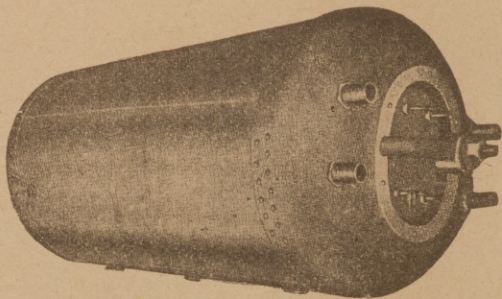
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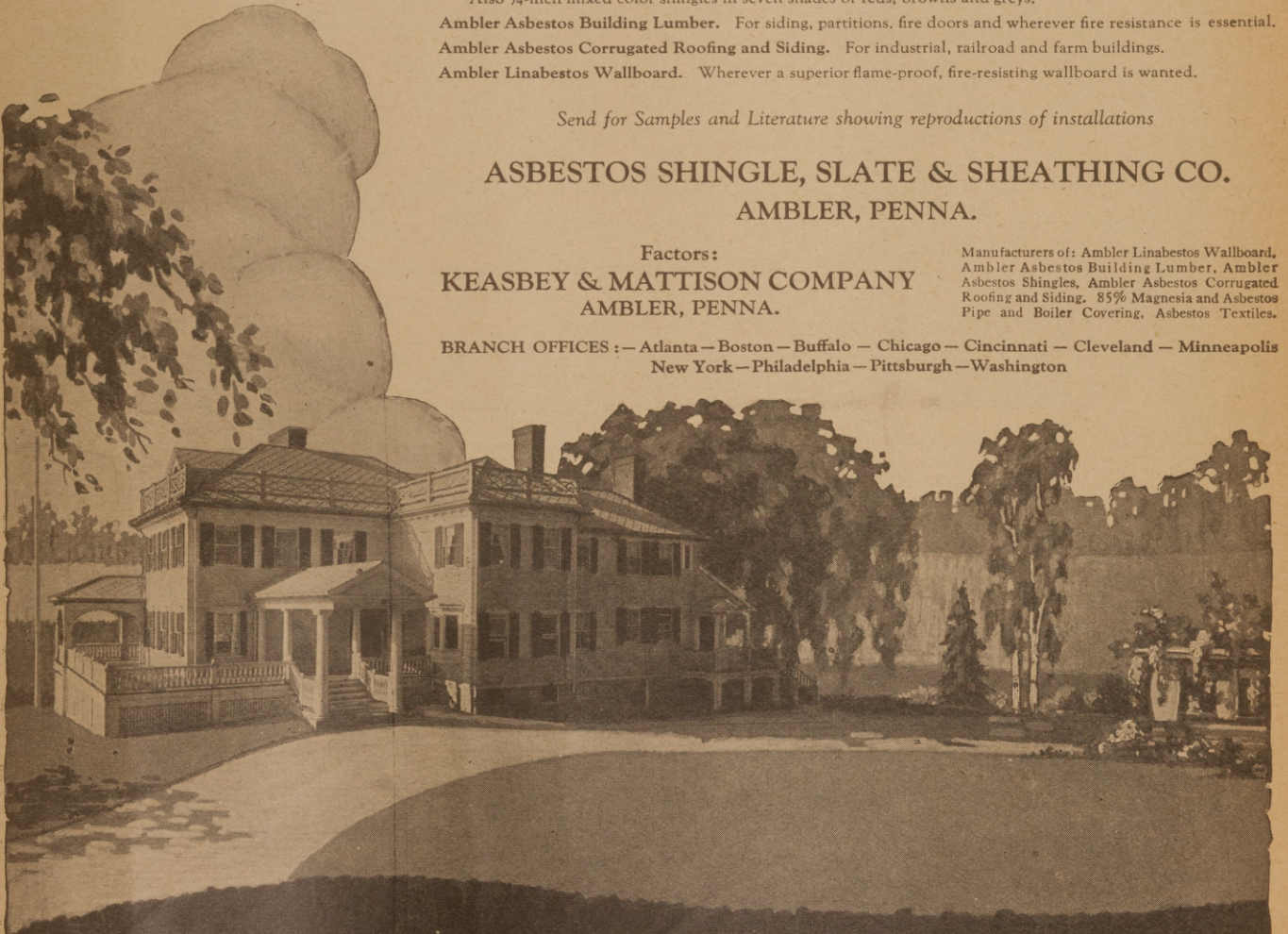
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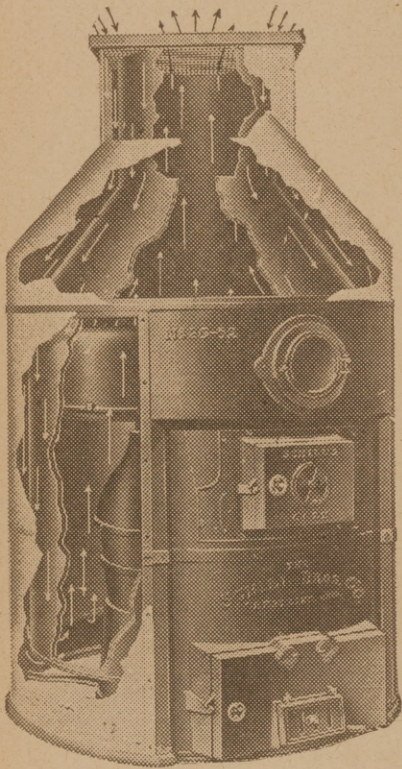
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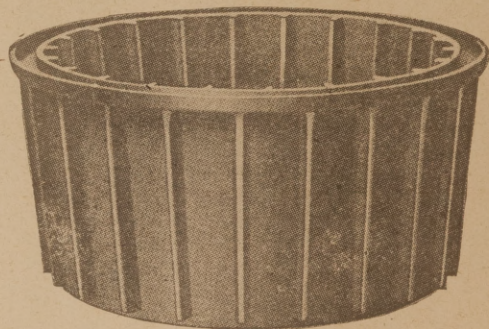


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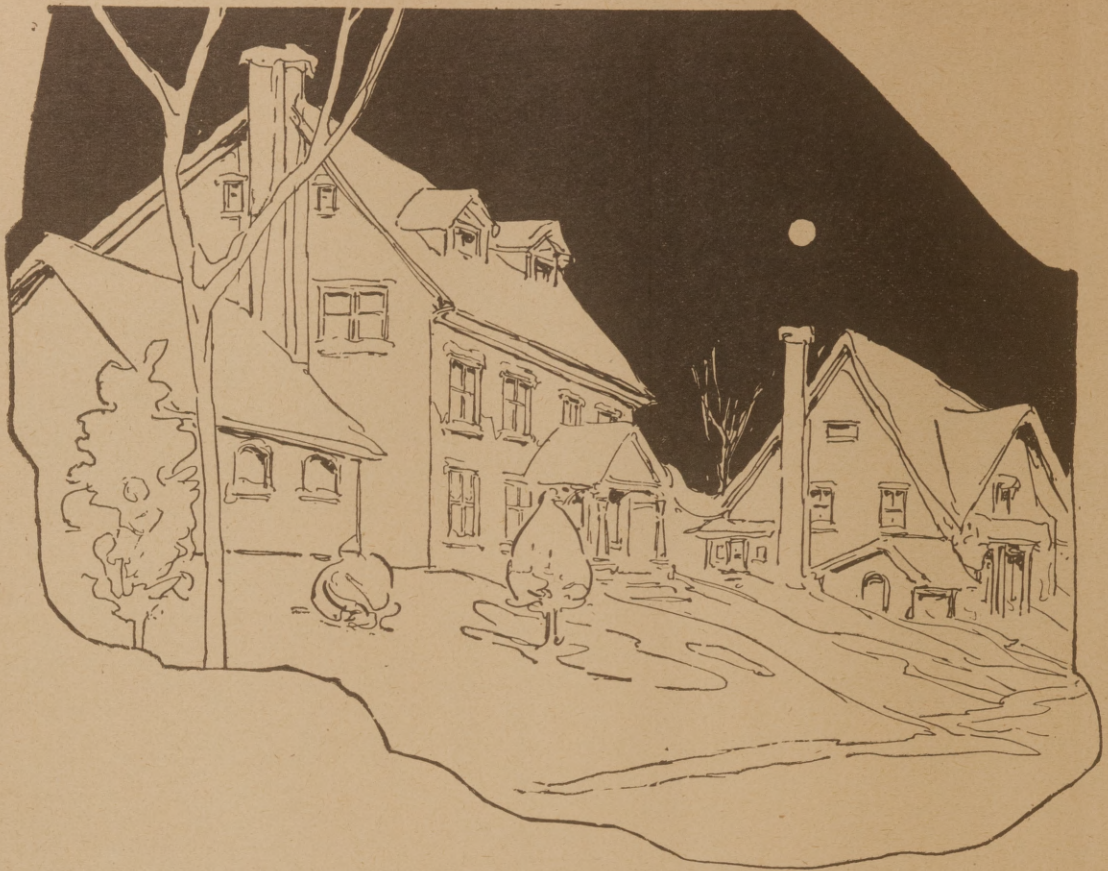
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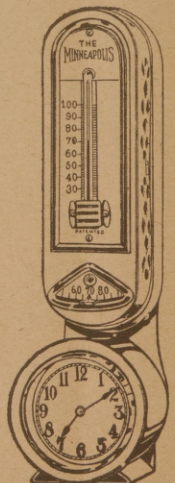
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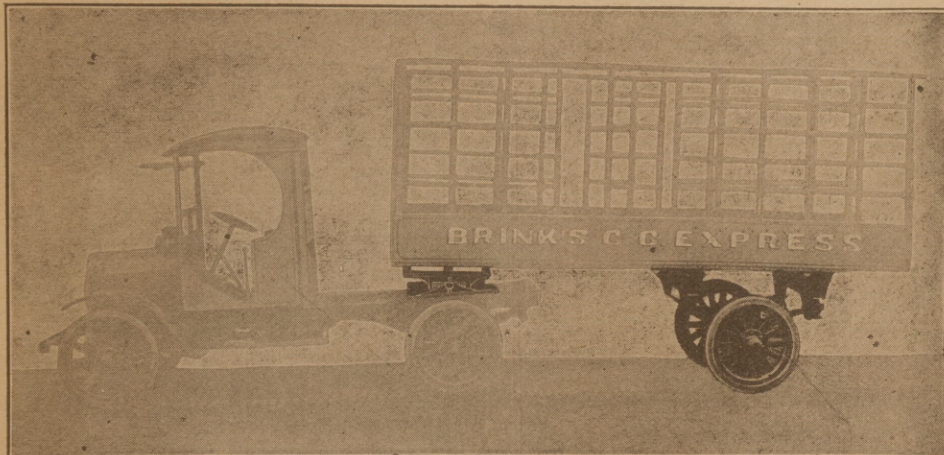
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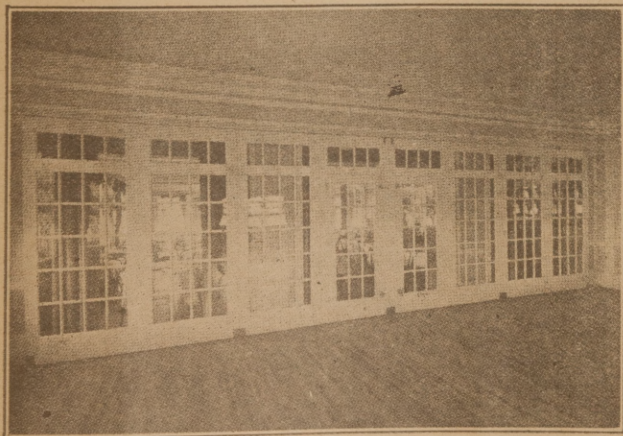
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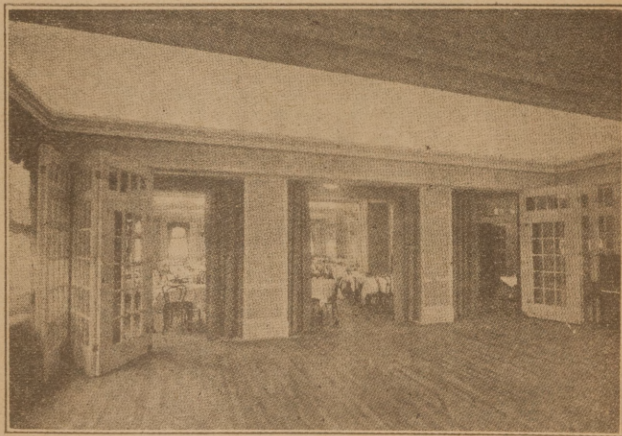
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Partition Folded

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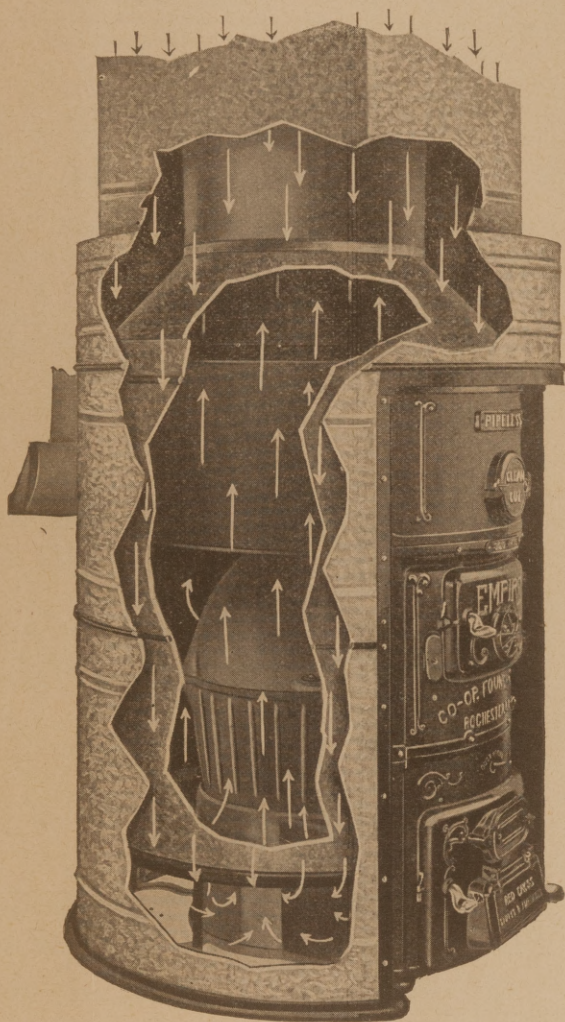
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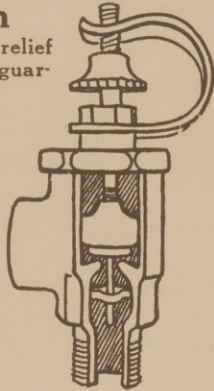
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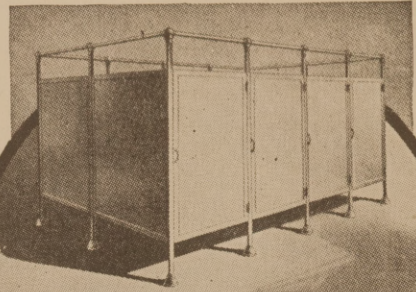
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