

# Southern Architect and Building News

WITH WHICH IS CONSOLIDATED "SOUTHERN BUILDING RECORD"

VOL. XXXI.

ATLANTA, GA., JUNE, 1913.

NO. 2

## The Story of Progressive Houston

By Jerome H. Farbar.

**F**ORMERLY cities grew like Topsy — just sprang up with no reason for their existence. Today they are educated, their tendencies are shaped and emphasized and a physical program rounded out to see them through to maturity.

That is the latter-day city and that standard is ably typified by Houston, the city that showed the most building activity for the year 1912 than any city in Texas. Houston sees big things ahead for itself and it wants to be prepared. That's why a second Chicago is being built fifty miles inland from the Gulf of Mexico on a deep ship channel, with a skyline moulded after the fashion of New York and with a progressive spirit that will compel

the consummation of its greater city ideas.

Within the past three years nearly \$25,000,000 has been invested in building construction in Houston. At the beginning of that period Houston's tall buildings were numbered by three eight-story buildings and several six-story structures. Today 32 skyscrapers, ranging from 6 stories up to 18 stories jut their domes into the sky, fitting monuments to the progress Houston has made in the attainment of the title Houston has secured as the skyscraper city of the southwest.

The records substantiate this. Three years ago the taxable valuation of Houston \$77,000,000. Today it is approximately \$100,000,000. And in the



Union National Bank Building, Houston, Texas.

meantime the tax rate was reduced from \$1.70 to \$1.50. Property values are estimated according to the Somers' system, improved property is taxed at a lower rate than unimproved property. Building is encouraged rather than penalized.

The progress of building operations in Houston during the this three-year period is phenomenal. The tall skyscrapers in the downtown section have transformed the scene into that of a busy metropolitan city. Not a block in the downtown section has missed some kind of improvement within three years and contemplated construction for this year will about enter every block. The rapid construction of skyscrapers has placed Houston above all other cities in the southwest in this regard and it is not believed that any other city of equal population in the land can show as many tall buildings of six stories and over than can Houston.

To the person who has not been in Houston for two or three years the growth is most impressive. Where two and three years ago stood rambling one and two-story buildings, small houses and unoccupied property, today modern skyscrapers replace them.

Four years ago the First National bank building, the Paul building and the Stewart building, all of eight stories, were the only tall buildings in Houston. Then the Scanlon building of 11 stories went up and the skyscraper building era was on.

As these new skyscrapers went up old landmarks went down. Where the 16-story Carter building now stands a two-story frame house stood for years. Formerly it was the home of an aristocratic family. As the business district approached it the house changed hands several times, finally becoming a boarding house. Then it was removed to another site to make room for the magnificent Carter building, then the tallest structure in Texas. That site then marked the extreme southern edge of the business section. That was hardly two years ago. Today the business section extends five blocks south of this point.

In the same block with the Carter building is the new Bender hotel of ten stories, which cost over a million dollars. A year and a half ago this site contained a one-story frame structure, one of the earlier and oldest houses in Houston.

Directly across the street from the new Bender is the six-story Beatty building. On this site hardly a year ago stood one of Houston's former beautiful residences and a year and a half ago that site was in the residence section. At that time the entire block was occupied by residences. Today there is but one left and its end is in the near future. In the same block with the Beatty building, and diagonal across the block, stands the new 11-story Cotton hotel, opened March 1, of this year. At the

other corner stands the recently completed 10-story Stowers furniture building, opened about three months.

This phenomenal building construction in this latter named group is but one of the evidences of the rapid building construction in Houston and is aptly shown in an accompanying picture. The same picture shows in the immediate foreground excavations for the new 8-story Kress building and the 12-story Mason building, the two buildings occupying the entire half block frontage in Main street. Directly to the right of the point from which the picture was taken will be constructed a modern picture playhouse, store and office building. Its height was not determined at this writing, but the foundation will be constructed to carry at least eight stories.

The site on which this picture house and office building and the Kress and Mason buildings will be constructed, a year ago contained six and five story store and office buildings, which were destroyed in a fire last year, entailing a loss of approximately \$1,000,000.

The tall slender building of 10 stories at the extreme right of the picture is the general headquarters of The Texas Company, a \$50,000,000 oil corporation. The building was one of the earlier ones constructed at the beginning of the skyscraper building era.

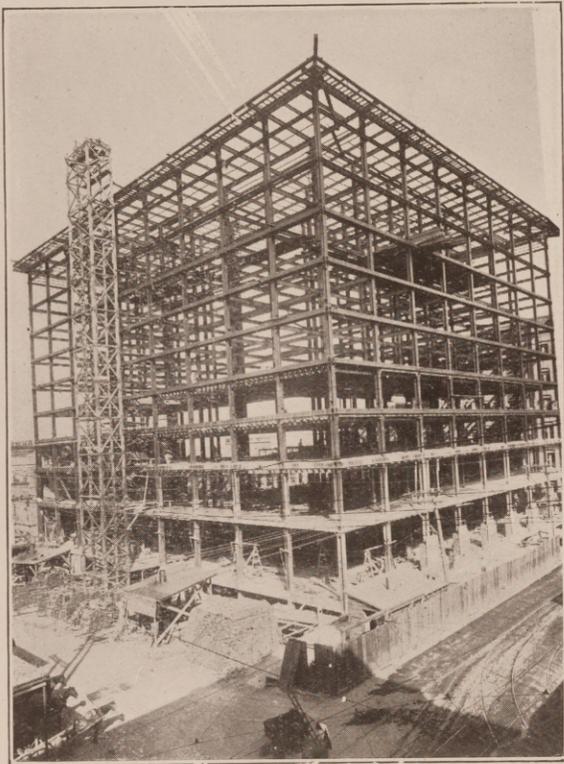
Perhaps the greatest transition was worked out in Texas avenue, between Travis and Milam streets. In that block a little over two years ago stood an old brick church in the final stages of delapidation, but which at one time was one of the more prominent buildings of early Houston. At its side stood a frame parsonage, which had discarded its sacred vestments and housed a paint shop. There now stands on this half block one of the finest solid business blocks in Houston, the Chronicle building of ten stories and the New Majestic Theater, a \$500,000 playhouse, and the prettiest and best appointed vaudeville playhouse south of Chicago. That block alone represents an investment of \$1,500,000.

Where the majestic Union National bank building of twelve stories stands, a little over a year ago the site was occupied by a series of one-story rambling store buildings. The investment in this stately pile of steel beams and masonry is about \$1,000,000. A year and a half ago a huge yawning ditch at Travis street and Franklin avenue in a quarter block of ground each year presented a problem to the health department to maintain sanitary conditions. Today the magnificent eight-story building of the Southern Pacific, housing the general offices of the Sunset-Central Lines in Louisiana and Texas, stands on the site, representing an investment of approximately \$1,000,000. This building completes a magnificent block, the Commercial

National bank building occupying the eastern half.

Diagonal from the Commercial National bank building is the First National bank building of eight stories. This building is one of the first tall buildings in Houston. The original building, however, was of "flatiron" construction, tall and narrow. Two years ago the building was added to, a left wing being built, increasing the floor space more than one-half.

Where the Scanlon building of eleven stories stands three years ago a two story store building stood. Beginning with the Scanlon building and looking east one sees one of the more imposing blocks in Houston. In a row stand four skyscrapers, the Scanlon building of eleven stories, the



**Ten-Story Southern Pacific Building, Viewed in Course of Construction—Now Completed.**

Settegast building of eight stories, the Paul building of eight stories and the Stewart building of eight stories.

The triumph of all building in downtown Houston is the new Rice hotel of eighteen stories, which probably will be opened to the public in April. This majestic building represents an investment of \$3,400,000, and stands on the site of the former two Rice hotels, and the site of the capitol building of the Republic of Texas. Twenty-six years ago when the former six story Rice hotel was constructed, replacing a small wooden structure, the new hotel was a wonder piece of construction.

It was the center of attraction for the state and the show place of Houston. It was believed then the acme of hotel construction had been attained and that the six-story structure would serve Houston indefinitely. The Rice hotel has housed more famous men and women of Texas and of the south than any one other building in the state, with the exception, perhaps, of the state capitol building at Austin. It was the center of great social gatherings and many brilliant functions of state were given there.

So about a year and a half ago after 26 years of eventful life the once proud building was given into the hands of wreckers. The spacious historic halls and great guest rooms were crowded with throngs of buyers who for trifles bid in pieces of furniture and other fixtures, many of which went into the building when it opened. Nothing was reserved. Marble fittings, electric fixtures and even the flagstones of the spacious dining room went under the hammer. In a week the deserted structure stood depleted, its furnishings gone, window sash and doors drawn out and the one time marvel of hotel construction of another generation, stood gaunt, but a shell of its former beauty.

As Houston twenty-seven years ago looked upon their new Rice hotel we Houstonians of today are looking upon the massive 18-story pile of masonry as a triumph of modern hotel construction. It is not built alone for the Houston of today; it is anticipating the demands of the forthcoming metropolis of the south, five and ten years hence. It contains 600 guest rooms, several dining rooms and cafes, banquet and ball rooms, while the top is surmounted by a Venetian garden.

A year and a half ago Houston was badly handicapped by inadequate hotel facilities. As the old saw goes "when it rains it pour," Houston today not only finds herself well equipped in first-class accommodations, but about 200 rooms ahead of New Orleans in hotel accommodations of the higher class. It may be difficult to conceive of such a transition, but it is an evidence of Houston's way of doing things. Within one year and a half three modern hotels have been built, representing a total investment of over \$5,000,000. In addition, the other first-class hotels have improved buildings or added space.

With these hotel facilities, Houston is prepared to entertain any convention on the globe. It is generally understood the quadrennial conventions of the two major political parties are the largest—and Houston is prepared to entertain them.

The new Municipal Auditorium, completed about two years ago by the City of Houston, will house any convention. The auditorium cost \$400,000 and was paid for out of the general fund without the issue of a single bond. It seats 7,000 persons,



Auditorium, Houston, Texas. Cost \$500,000.



Federal Building, Houston, Texas.

while an additional 3,000 persons may be accommodated within hearing distance of the platform. It is built of steel, brick and concrete and is fireproof. It occupies an entire half block of ground.

Another municipal undertaking just completed is the Main street viaduct of steel and concrete. It is 1,600 feet in length and spans Buffalo and White Oak bayous and a network of railroad tracks in the Fifth ward, or North Side. It means a continuation of Main street and connects in closer communication the North and South ends of the city. The viaduct was constructed under a \$500,000 bond issue and was completed in April, 1913.

Two other bridges over Buffalo Bayou are to be constructed by the City of Houston, one at San Jacinto street, which will be 90 feet from the water at high tide, in conformity with the government standards for bridges over navigable streams, or will be of the Bascule lift type. The second bridge will be at Capitol avenue and will be 888 feet in length and 45 feet in width. It will cost approximately \$100,000. It will be of steel and concrete construction.

As the Rice hotel is the premier piece of construction downtown the Rice Institute, three miles south of the city's center, is the most important piece of suburban development. The Institute was founded and endowed by the late William Marsh Rice and the endowment at present totals approximately \$10,000,000, being the seventh richest institution of learning in the United States. Four of the academic group of 33 buildings have been constructed, and this year the fifth—a Physics building—will be erected. The plan of the Institute is being followed out as the demands are made and the additional buildings constructed as the student body enlarges or courses are added. The Institute was opened in the fall of 1912.

All of the Institute buildings are of ornamental design, of concrete, steel and brick. In their consideration of the problems confronting them, the trustees very early decided that the new institution should be housed in architecture worthy of the founder's high aims; and upon this idea they entered with no lower ambition than to establish on the campus of the Institute a group of buildings conspicuous alike for their beauty and for their utility which would be a distinct contribution to the architecture of the country. Designing of the Institute group was put into the hands of Cram, Goodhue & Ferguson, of Boston and New York. The general plan, embodying in itself the most attractive elements of the architecture of Italy, France and Spain, was accepted.

Of the four main entrances to the campus, the principal one lies at the corner of the grounds nearest the city. From this entrance the approach to the administration building is a broad avenue several hundred yards long, bordered by oaks and

wide-spreading lawns, ending in a fore-court which is to be bounded on the left by the School of Fine Arts and on the right by the residential college for women. The main entrance of the approach coincides with the central axis of the block plan and from the principal gateway opens up through the vaulted sally-port of the administration building a vista of more than a mile within the limits of the campus.

After dividing at the forecourt the driveway circles the ends of the administration building and continues for half a mile in two heavily planted drives parallel to this axis and separated by a distance of several hundred feet. Within the extended rectangle thus formed the widening effect of the vistas has been realized. On passing through the sally-port from the fore-court the future visitor to the Institute will enter upon an academic group consisting of five large buildings, which with their massive cloisters surround on three sides a richly gardened court measuring three hundred by five hundred feet, planted in graceful cypresses. Beyond this group is another academic court of still greater dimensions planted in groves of live oaks; this great court in turn opens into extensive Persian gardens beyond which the vista is closed at the extreme west by a great pool and the amphitheatre of a Greek playhouse.

The principal secondary axis of the general plan, starting from the boulevard and running north perpendicularly to the main axis crosses the lawns and courts of the Liberal Arts and Science groups into the Mechanical Laboratory and the Powerhouse, the first buildings of the engineering group. The fourth entrance in Main street leads to the athletic playing fields and to the residential group for men.

This, in brief, is a technical description of the comprehensive plan contemplated for the Rice Institute. In architecture the buildings reveal the influence of the earliest periods of the Mediterranean countries: vaulted Byzantine cloisters, exquisite Dalmatian brickwork, together with Spanish and Italian elements in profusion; all in a richness of color permissible only in climates similar to that of South Texas. To meet all local conditions, the buildings are pierced by loggias and many windows, while the long shaded cloister of the Administration building opens to the prevailing winds.

The Rice Institute perhaps is the greatest piece of architectural engineering going on in the south today. The erection of the buildings consume much time and no money or labor is stinted in completing them.

Returning to the city an imaginable automobile tour would take the visitor by forty or more apartment buildings, ranging in height from three to eight stories. Three apartment houses are of eight stories—the Savoy, the Beaconsfield and the Rossonian. The first named is one of the older apart-



Harris County Courthouse, Houston, Texas. Cost \$500,000.



Street of Skyscrapers, Houston, Texas.

ment houses in Houston, while the two latter named were among the items of building construction of the past three-year period. The Beaconsfield is a beautiful piece of construction, costing \$300,000 or more, while the Rossonian is perhaps one of the largest and best appointed and costliest apartment houses in the South, its investment totaling in excess of a half million dollars.

Returning to a discussion of the building during the past three years the following items of construction of less height than six stories, may be listed:

Harris County Courthouse, \$500,000.

Prince theater building, six stories, covering the burned site of a former theater, costing \$500,000.

New Postoffice and Federal building, cost \$500,000.

Union Station, five stories, of the Houston Belt and Terminal Company, together with the terminals of the Company, cost approximately \$5,000,000.

South Texas-Commercial National Bank, occupied solely for banking purposes, costing about \$500,000.

The exchange building of the Southwestern Telegraph and Telephone Company, is seven stories in height and is the largest building owned by that company in the state of Texas. The building overlooks the new Federal building. The building of the building of the new postoffice uptown has greatly increased adjoining property values, and Capitol Avenue, once lined with a few residences and more vacant lots, now is lined with modern skyscrapers, while every former vacant lot contains modern fireproof buildings, bringing good revenue.

The five-story building of the Houston Land and Trust Company, erected about eight years ago, is one of the most ornate building in Houston and for its size is about the costliest in exterior decorations.

The James Bute Company's paint warehouse in the Fifth ward, is the largest paint warehouse in the south. It was erected in 1910 and is 100x200 feet, five stories in height, cost approximately \$100,000.

The National Biscuit Company building of five stories, erected three years ago, is the only baking and manufacturing plant of the company in Texas. It was dedicated and formally opened with a luncheon, attended by the president and officers of the company and representative business men of Houston, estimated to have cost \$10,000 to prepare. The interior of one floor of the building was transformed into a scene atop a skyscraper in New York, the entire scene being encircled by an oil painted canvas in exact replica of New York at night.

Thus, in brief, is given a resume of the greater items of building activity in Houston during the past three years. Lesser building items have been as great in proportion. During the year 1912 there

were 1,013 homes constructed. It was during the last year that Houston led all other cities in the state in total amount of building operations. In that one year the building construction in Houston was greater than that of San Antonio, Galveston and Austin combined, and more than Fort Worth and Galveston combined.

This year there is already in prospect in excess of \$10,000,000 in building in Houston. This is building construction already "in sight," and does not include any items yet unannounced, but being planned in the offices of the twenty or more architectural firms in Houston.

A suggestion of the building operations planned for this year in hand in the following list of buildings for which plans have been drawn, work started, or plans announced:

Gordon-Sewall & Co., fireproof wholesale grocery plant of three stories, 150x100 feet. To contain cold storage and refrigerator plant. Construction of concrete with a foundation for five stories. To be completed May 15.

Texas Bag & Fibre Co.'s plant of three stories to be completed in June. Area 85x225, construction of concrete, exterior in pressed brick. Alterations in plans calling for exterior embellishment were made when it was learned that the city has purchased the block directly in front for park purposes.

New warehouse for the Hobson Electric Co., building to cost about \$100,000.

The new undertaking establishment to be built for the Sid Westheimer Company at Prairie avenue and Caroline street, for which excavations have begun. Will cost about \$60,000.

Store and office building of eight stories to be built by the S. H. Kress & Co., at Capitol avenue and Main street, on the burned site of the former Stowers' building. Excavation for the building is under way.

The Mason building of ten or twelve stories will adjoin the Kress building in Main street on the burned site of the former Mason building. Excavations for the building have begun.

On the burned site of the Levy building across Capitol avenue from the new Kress building E. K. Hulsey will construct a six or eight story office building and picture playhouse. Announcement of these plans have just been made and replace those of Levy Bros., who had plans for an eight-story office building.

The Texas Company is contemplating the erection of a ten or twelve story general office building on property owned by the company at Rusk avenue and San Jacinto street. The company has another year on its lease in the Jones building and it is believed construction of the new building will be started this spring. The building will be used solely for the offices of The Texas Company.

Henry Fox, Jr., contemplates the erection of a



THE BROADWAY OF HOUSTON, TEXAS.  
 Bender Hotel in Foreground. Next is Carter Office Building, the Tallest in Texas. Beyond is Texas Company's Building.

seven-story apartment house at Main street and Dallas avenue.

The two telephone companies—the Southwestern Telegraph and Telephone Company and the Houston Home Telephone Company (automatic), and the Houston Electric Company, the Houston Lighting & Power Company and the Houston Gas & Fuel Company have budgets amounting into the millions for improvements this year.

The Peden Iron and Steel Company is expending \$500,000 in more than doubling its plant and warehouse space in the Fifth ward.

The Missouri, Kansas and Texas Railway has adopted plans for a \$200,000 passenger station and preliminary work is now under way removing the old station on which site the new station will be built.

Machine and erecting shops are being constructed by the Sunset-Central lines, the contract being in the hands of W. L. Pearson & Co., while James Stewart & Co. has the contract for the construction of a power plant for the road.

The City of Houston will expend amounts from

the recent bond issue for \$3,000,000. The several items of the total bond issue are as follows: drainage \$750,000; sanitary sewer \$500,000; schools \$1,000,000; street paving \$300,000; public parks \$250,000; bridge \$250,000.

M. de George has awarded the contract for the construction of a six-story concrete and brick hotel at Preston avenue and La Branch street, to cost about \$100,000.

William Olschewske will build a four-story building on the site now occupied by the Germania hotel.

Bassett Blakely will build a three or four-story store and office building at Main street and Lamar avenue, to occupy a quarter of a block.

In April construction of a four-story steel and concrete building to occupy a quarter of a block at Travis street and Capitol avenue, for the W. C. Munn Co., will begin. The building will be used for a department store. The foundation will be made to carry eight or ten stories.

The Southern Drug Company will erect a six-story building at La Branch street and Preston avenue.

## Illumination of Large Buildings

**B**EFORE a recent meeting of engineers and scientific men in Spokane, Wash., Mr. H. B. Pierce read a paper on "Illumination of Large Buildings," an abstract of which is here given:

Proper illumination does not mean the mere application of light to make objects visible at minimum expense with maximum comfort to the eye, at the same time producing an effect which is as esthetic as possible. The prime requisites in securing such illumination are adequate wiring, a knowledge of the purpose for which each room is to be used and as much information as is available on the probable location of furniture and fixtures. In addition, the color of the walls, the ceiling and the floor should be known, as a darkly tinted room may require 50 per cent more light than one with a bright finish. The architectural style of the rooms should be studied in order that the illumination may be such as to carry out the effect which the architect desires.

In connection with these specifications it must be known to what extent economy is desired. Too often a good scheme of illumination has been ruined by a desire to reduce the electric-light bill, whereas had the matter of economy been discussed in connection with the original design a more efficient, though perhaps less esthetic, installation could have been substituted.

The exterior lighting of large buildings, which is often completely omitted, deserves consideration from the advertising standpoint. Not many sights impress the imagination more strongly than does that of an inspiring piece of architecture at night. This emphasis may be secured by outlining the architectural lines of the structure, by the use of cluster posts on the sidewalk or by using luminous-arc lamps placed at the curb line and at points of prominence on the building.

In the main lobby of the building, especially if it is a large hotel, the color of the light should tend toward the yellow or reddish tinges, and the effect should be that of brilliant lighting even if good illumination has to be sacrificed to some extent in accomplishing this end. The cold, cheerless light from the older type of arc lamps with their poor regulation should not be tolerated. The public must be invited to enter, and there can be nothing which extends a more cordial invitation than cheerful, bright illumination.

In the lobby of a quiet family hotel the effect should be subdued but cheerful. The effect of the quiet light from the open fireplace is what is desired, not that of the mortuary chapel, which is too often found.

A description of the method used in making a detailed analysis of the lighting design for the

lobby will illustrate the procedure necessary in all parts of the building. The first step must be a determination of the working areas of the room, the intensity of the light flux and the direction it should have over these areas. These factors can be obtained from an architect's plan and from a knowledge gained by experience in similar installations.

Electricity was used to advantage in a show-window model of the historic Old North Church belfry at Boston on the recent anniversary of the Battle of Lexington, the scene being arranged to show the notification of Paul Revere of the movements of the British soldiery on the night of the ride made famous by Longfellow's well-known poem. The display showed the Charles River by moonlight, the dim outlines of the buildings and shipping and the Revolutionary rider awaiting the lantern signal from the belfry which would show whether the enemy approached by land or by sea.

A dense opal globe will absorb 60 per cent of the light which falls on it, or probably 70 per cent of the total light flux of the lamp. Hence 40 per cent of the total light flux generated, or 6140 lumens, is absorbed in this fixture. The total flux required is now 15,355 lumens, to which is added 25 per cent for losses due to the inevitable collection of dirt on walls, ceilings and fixtures. This gives a grand total of 18,945 lumens to be supplied from the nine light sources, or 2,105 lumens from each source. A 250-watt tungsten lamp burning at normal voltage will give 2,350 lumens, while the next smaller size, the 150-watt lamp, will give only 1,260. The 250-watt lamp is then the correct one to select.

For the local lighting a simpler means of computing the additional light required may be adopted; that is, the intensity of the light will vary inversely as the square of the distance from the source. Assuming, for instance, that brackets are placed at a height of 6 feet on the two front columns, a reading plane 2 ft. above the floor and 2 ft. out from the light source may be assumed for computation. The distance is then about 4 ft. If a lamp and reflector are selected which will give an intensity of 32 cp at 30 deg. with the vertical, the illumination will have been increased by 2 ft.-candles. This could be done by a 23-watt tungsten lamp equipped with an efficient reflector or by a 40-watt lamp with a less efficient but perhaps more attractive shade.

In the various other rooms of a hotel the use to which the room is to be put is a large factor in determining the nature of the illumination with which it shall be provided. In the dining room of a popular New York hotel three different intensities of illumination are provided. In the guest chambers cognizance must be taken of the fact that light must be available for reading and writing and pro-

vision made for ample illumination near the mirrors and dressing table. Lamps in hotel halls should be so placed that there will be no direct light glaring through the transom over a door into the rooms.

In office buildings the effect to be produced is not of cheerful welcome but of clear-cut efficiency. The entrance should be brilliantly illuminated with as few curiously designed fixtures as possible. Indirect lighting may be used to advantage on account of the neat appearance presented by the fixtures. The best effects in lighting the rooms of office buildings can be obtained by studding the ceiling with small lamps. The results of some valuable research work on office lighting by Mr. C. E. Clewell show that units should be evenly spaced on centers approximately 7 ft. apart.

It is in the halls of the modern office buildings the present-day illumination is shown to greatest advantage. The dimly lighted halls of the older office buildings have given way to cheerful well-lighted passageways which impress a visitor with their businesslike attractiveness.

#### Will Meet at Isle of Pines.

Making a big affair of a social and semi-professional sort, will be the gathering of the South Carolina Association of Architects at the Isle of Pines, Charleston, S. C., July 28, at which time the architects from Florida will be their guests. A letter was sent inviting the Florida Association of Architects to be present at the meeting.

The following is the letter:

Mr. George O. Holmes, president, Florida Association of Architects, Jacksonville, Fla.

"The South Carolina Association of Architects will hold their midsummer meeting on the Isle of Pines, July 28, 1913, at 10 o'clock in the forenoon, and they desire me to extend to the architects of your state a cordial invitation to meet with them.

"Would you kindly extend this invitation to the members of your association, and oblige, yours truly,

J. H. SIMS, Sec. and Treas."

The Florida association, formed less than six months ago, is made up of well known men in the craft scattered all over the state. George O. Holmes of Jacksonville is president; George D. Pfeiffer of Miami, first vice president; M. L. Elliott of Tampa, second vice president; Rutledge Holmes of Jacksonville, secretary and treasurer, with W. B. Talley of Jacksonville, H. J. Klutho of Jacksonville, M. C. Greeley of Jacksonville, and L. P. Hutton of Orlando, the board of directors.

The South Carolina association has been in existence several years, and has been a wonderful help to the profession.

# How to Beat the Building Game

**A**N article by Benj. A. Howes, on "How to Beat the Building Game," appeared in a recent issue of *The Saturday Evening Post*, from which the following, relating to the heating question, is extracted:

A diligent reader of first-aid catalogues for the fireless voiced the other day a discovery that many owners have made. "What good does it do me," he cried, "to learn that Aero's boiler or Zephyr's radiator is an excellent article? I don't doubt it. What I want to know is which one—steam, hot-water or hot-air heat, for my house here on this knoll, of dimensions thus and so, of so many rooms with such expose, with the service and transportation and income I can provide—is my one best bet!" After chastening experiences he will confide to you, gentle reader and home-builder taking the first plunge, that this is a question for a professional expert, which you may certainly credit. There are, however, some general principles on which you may meditate before beginning to discuss with your architect or practical man the special conditions you have to meet for your own house.

It may be that on the first exploring and sur-

veying visit to your domain you did not take up the question of heating your house; but it is one that must not be long delayed. On your choice may depend some of the most vital elements, both in the structural design and in the finer artistic effects of the building.

Floor-heating is highly economical for churches, picture galleries or any buildings that have high ceiling spaces, which it is not necessary to heat, and where you don't want to go into complicated systems of forcing air in. Yet its best province is in the home, to give at once comfort and ventilation. And if you warm the floor you don't have to worry about the ceiling!

Problems of heating and ventilation are doubtless intrinsically the most important for health and comfort in the new house; but you will not get the young people of the house to think so! Their ideal of luxury is hot water in infinite quantities all over the house day and night. Therefore the indulgent housemother will carefully consider how she can please her children and her guests in this respect, without making the hot-water arrangements disproportionate to the rest of the house equipment in



Y. M. C. A. Building, Winston-Salem, N. C.

bulk and cost. The mistress of an all-the-year-round country house costing twenty-five thousand dollars, after the most careful inquiries into possibilities, decided on installing a large tank of two-hundred gallons, well jacketed against loss of heat, with a small gas heater running all the time on gas from an independent gas machine, which also provided gas for the gas range. This equipment cost three hundred and fifty dollars—installed, five hundred dollars—and was probably the most generous in supply with the least cost and complication.

A somewhat more expensive method was followed in a country house for a small family; a moderate-sized tank, jacketed, with a gas heater of an instantaneous type—that is, one that automatically turns on gas whenever more heat is necessary arranged to keep the water in the tank always hot. A third type operates without a storage tank by turning on a large flow of gas whenever water is drawn. Of course the relative advantages of these three solutions of the hot-water problem depend on the size of the family and their habits. Any one of them may be used in conjunction with the kitchen range, planned so that the gas is shut off when the range is going.

Are you one of those solid Americans who like a good lamp and a warm corner to draw up to, or do you wish to float, serenely in a softly warmed and softly-lighted atmosphere, unconscious of the source of heat or illumination? If a plain, straightforward proposition is what you are looking for, and your house is to be a small one, the problem of heat is simple; the well-built hot-air furnace, properly put in, with proper attention to ventilation and recirculation of the air, may be the best solution.

#### Different Systems for Different Houses.

Why not, then, have hot-air furnaces everywhere? Simply because of the impossibility of heating a large house without either several furnaces—meaning more chimneys, more fire-hazard and more trouble generally—or a blower, with a complicated system of ducts, a considerable loss of heat and more or less attendant noise. For the medium-size house—say, about fifty feet long, hot water may be better, because of the possibility of maintaining a gentle heat in mild weather. If steam, on the other hand, is installed in the large or rambling house the money saved in reduced cost of installation—which saving, of course, increases with the size of the house—can be applied to overcome all its disadvantages by a complete system of thermostats. A thermostat is a controller which automatically turns on and off steam or opens and closes dampers of indirect heating ducts when the temperature it is set for is fallen below or exceeded in its own room.

All this balancing of the relative merits of steam, hot water and hot air applies, however, only to the

heating plant which is in commission straight through cold weather. In the case of the large country house in a Northern climate, which is to be warmed only now and then during the winter, the use of anything but a hot-air furnace may be very much of a gamble with the forces of Nature. All pipes are supposed to be emptied before shutting up the house to prevent freezing; but even after the plumber's visit it is rather perilous to come back in really cold weather.

A gay party of young people went up to a closed house in the mountains to enjoy some snow and sunshine in January. They had no servants with them, for they thought it would be such fun to camp out and cook for themselves! The men of the party promptly built good fires all over, in steam heater and coal range—but I will draw a veil over the tragic sequel. If they personally escaped injury from the bursting pipes it was more than could be said for the furnishings of the handsome house. Hardly any modern device, it is true, is absolutely fool-proof; but even a less reckless crew would have been hard put to it to evolve comfort out of a completely frozen-up heating and water system.

Both steam and hot water—direct heating—should have plenty of indirect radiation. "Perhaps there is still a householder who does not know the difference between direct and indirect heat," suggest a friendly critic of this creed. True; I am personally acquainted with several thousand. Yet it is simple enough. Direct heating puts the source of heat inside the rooms to be warmed—like a fire, stove, steam or hot-water radiator. Indirect heating puts the heating surface outside the rooms to be warmed and lets the warm air only into the room—like the hot-air furnace. Direct-indirect or semi-direct heating puts the radiator or coil inside the room to be warmed and then provides it with connections to the outside air, so that fresh air may come straight to the radiator flues. Some good college dormitories in Boston are thus arranged, with a radiator under the window, and a tiny opening to the fresh air through the wall just behind it.

Another way to manage the ventilation is shown in a recently built suburban house, where the warmed fresh air from an intake in the living room passes up through halls, under doors and out through ventilators in closets. "Under doors in a well-built house!" you cry, horrified. It may surprise you to hear that there is usually half an inch clearance between door and floor, in cubic contents as big as a brick. The saddle or threshold under the door, to which we are so accustomed, is in reality a relic of the dark ages when they used to shut off two or three rooms in the winter and keep a fire there only. The saddle is omitted in many up-to-date country houses, and the really admirable way is to have a three-quarter inch clearance under bed-

room doors for this circulation of air.

The layman is likely to think it is by intuition that the plumber or steamfitter knows just how large a radiator and just what size of pipe is necessary for each room; and, indeed, for the large majority of houses it is decided either by rule-of-thumb or just plain guesswork—the other name for intuition! When the problem is really grappled with it is a very complicated and laborious calculation, as any conscientious professional will tell you. It involves the factors of (1) the lowest exterior temperature to be met, from, say, ten degrees below at Utica to zero at New York, and ten degrees above at Houston; (2) the room exposure—whether outside walls, to north or cold winds; (3) the leakage round the windows; (4) the allowance for ventilation—how many times an hour the air is to be changed; (5) the radiation through the floor; (6) the radiation through the ceiling; (7) the radiation through the walls—all these whether warmed or not by other rooms; (8) glass area, and this complicated equation must be worked out in B. T. U.—British thermal units—for every room. Moreover, a further refinement is introduced by the fact that an adult person gives off each hour about 400 B. T. U.; a gasburner, 4000 B. T. U.; an incandescent electric light, 1600 B. T. U. It will be seen that to compute the size of the heating surface to maintain a standard temperature of seventy degrees in every room is no hit-or-miss task, and that oftentimes, when we call down vengeance on the furnaceman, we ought really to be blaming some one who hates to do sums!

The humble radiator, indispensable as it is, is probably the object of more hard words than any other household standby. Yet personal experience of the lacks and failures of the other types of heating makes the possibility of floor-heating, on which I touched in a previous article, grow more and more alluring. It is astonishing to reflect how really fine work leads back to original principles, and that this system of floor heating, which prevailed before the Christian era, promises to be the most efficient, economical and satisfactory method of warming the fine house.

#### What Heating Authorities Say.

Many of the authorities on the present methods of heating will tell you that floor-heating is not practicable. A prominent architect who is at the same time a practical thinker voiced a cogent argument thus: Pointing at a large radiator occupying the most desirable space near a window, he asked: "How are you going to get the amount of heating surface that radiator has without heating the floor so hot as to be uncomfortable?"

Floor-heating has been accomplished however; and reasoning from effect to cause, the answer is efficiency. The heat is placed just where it is needed and none is wasted. The difference is like the

superiority of the ground-glass globe to the unshaded electric light—illumination versus more intensity of light. Other types of heating depend on the constant agitation and flow of air between cold spots and warm spots; in very cold weather there is likely to be forty to sixty degrees difference between floor and ceiling, especially in high-studded rooms; but with a well-proportioned layout the heating of the floor gives a constant and equable heat from floor to ceiling. The writer himself was only convinced by seeing it in use in factory operations where its installation was the result of an accident—and the keen observation and straight thinking of the factory owner. To facilitate certain operations steam pipes had been run through a concrete table, and the first intimation was the noon flocking of the workmen on cold days to this table. The owner, against strong advice, built his next factory with steam pipes through the concrete floors and heated it successfully. From this demonstration a well-known college club-house, a four-story building in an exceedingly high and frigid spot, was built with its all-concrete floors heated by steam pipes run through them. This has proven to heat all the rooms satisfactorily, except a few specially exposed bedrooms in which auxiliary radiators were installed. It is true that the whole building is of re-enforced concrete, which is always retentive of heat. By careful planning, floor heating can be done with hot air instead of steam, thus obviating the chance of damage from leaking or breaking pipes. Some experts still point to the failure of at least one attempt to use floor-heating in a city, but that was because the simplest fundamentals—as, for instance, the expansion of pipes—were overlooked.

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#### New Government Buildings.

The following new government buildings will soon be erected in the south, and bids on same are asked to be submitted to Oscar Wenderoth, supervising architect, Washington, D. C., on or before the dates given, these to include wiring and lighting fixtures:

Postoffice at Searcy, Ark., construction complete, July 8.

Postoffice at Greenville, N. C., construction complete, July 11.

Postoffice at Bedford City, Va., construction complete, June 28.

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#### Jacksonville's New Code.

Jacksonville, Fla., has a new building code, the purpose of which is for the protection of the citizens and that more care should be exercised in the erection of structures of all kinds in the future. Many changes are made in the rules for getting building permits and also makes some changes in the commercial and fire limits.

# Teaching Of Architecture

AT a recent dinner at Columbia University, the new director of the Architectural school made the following interesting address:

"I suppose, after all, there are only two things to consider, viz., what to teach and how to teach it. You are aware of the fact that there has been a wide difference of opinion as to what to teach. We are all struggling to find out how to teach it. I look upon an architectural school as a place to teach architecture. In the term 'architecture' there is a double meaning—first, 'design'; second, construction.' In other words, a man to be an architect should have a trained sense of proportion which should enable him to combine beautifully materials to be used in construction.

"As to method, from time immemorial architecture has been produced, each nation producing it in its own way. How the majority of these nations have produced their architecture, what their ideals have been, how they arrived at their conclusions, how they actually made their designs, no one can tell. We only know that results were produced. Out of the wisdom of the ages and other conditions brought about by innumerable causes, undefinable, a system has gradually been evolved which has resulted in the formation of a school to teach the art of architecture. The French have developed this system and over-developed it. The Italian makes little progress in these days and is satisfied with his past glory. The German has loved his archeology but today is wandering far afield and is pursuing new methods and developing a new style. The Briton is satisfied with his own architecture, and we, with our gods in Paris, are trying to compass the whole earth.

"Contrary to general opinion, the French do not teach Classic Architecture or Gothic Architecture, Romanesque, or any other kind of architecture. On the contrary, their whole method is based on a system of first finding out the conditions and then proceeding in a logical way to develop structures and fit these conditions. If we are not following this method in America, the most of us think we should follow it and, in my opinion, we are fast approaching the time when we shall follow it unreservedly to the end. This, indeed, is the 'ideal' system which we are striving to follow in Columbia.

"I do not believe that the best results can be obtained where an architectural department is an adjunct to a university, for the simple reason that the methods which must necessarily be applied in the teaching of any other art are so absolutely different from any other subject. But we are only beginning

in this country—we can not do everything in a hundred years. Time is the solution of the problem, and I believe we are on the right track. When our present schools are organized into one central school of art we shall then have an organization calculated to develop the student under the most favorable conditions. We are criticized for our method of teaching architecture through the medium of the elements of so-called Classic Architecture and the application of these elements. I think I am right in saying that this has come down to use as a tradition. It is simply a method of teaching 'Proportion' through the medium of certain forms. If any one will propose better, more logical, more interesting, more inspiring forms, there is no doubt of their adoption. One suggests that we teach Byzantine or Romanesque, and so on. In the absence of anything better in the way of form, we are proceeding on the basis as at present established after hundreds of years of experience.

"As to the method I am trying personally to follow, a few words will suffice. I believe that we should start with the Greek orders, as in them are exemplified the purest art we know and the simplest forms with which to deal. It is along the line of least resistance to take the student. Starting with the Greek orders, I do not mean that a man shall draw out the various orders as well as he may, using unlimited time in the operation. I believe the student should start with the building of which the order may form a part and that it should be made clear that there are other elements in the beginning of this operation that are vastly more important to teach him than the mere order. He should know the value of a wall, of the openings in that wall and the spaces between those openings, of the elements that go to enrich those openings, to emphasize them, to give them character, to make that wall do its work artistically and constructionally—in other words to make it architectural; to learn that that building has a base, a certain height, a crowning member called the cornice, a roof, either flat or pitched; and by degrees he learns that it has a certain length in relation to its breadth and that these two proportions should have a certain relation to its height. In other words, we are teaching him 'form.'

"Now we might go on analyzing and philosophizing and we come back to the original proposition that it is all a matter of proportion. Once the student knows proportion he can apply it to any style, to any structure, to any object intended to be useful or beautiful in the world.

"As the student becomes possessed of a general



Interior of an  
Architect's  
Private Office

## The Drafting Room



knowledge of the elements, we take up with the plan and develop it along the same lines and in the same way. Accompanying this instruction he must study the value of color, the use of materials, and the application of modern scientific appliances in the development of his building. The men in my department are compelled to draw every day of their school course, great stress being laid upon free-hand drawing in the various mediums. Cultivating the bent of the student is the paramount idea. If the students wish to specialize in architectural engineering, they have that privilege in the engineering department; but, as my department is not an engineering school, only such teaching on constructional lines as will enable him to construct reasonably and well is attempted. Prescribed courses in history have been reduced to the minimum with a view to encouraging the student to work out his

own salvation by reading and thinking and by observation.

"The architect's training should embrace instruction in all the arts and he should work in closer relation with other artists—the sculptor and the painter. He should work in much closer relation with the engineer, and we are all satisfied that the engineer should work more in harmony with the architect or at least be possessed of certain architectural knowledge which would aid him in designing the various structures that it is a part of his work to build.

"We overdo in a measure the work of specializing in the various branches of our work. This specializing is of course brought about by the requirements of the times, but we should not forget the great periods of the Renaissance and how the artists of those times—architects, painters and sculp-

tors—were in many cases masters of the three arts and were constructing engineers at the same time. We know that the fortifications of the old Italian cities were in most cases built by these artists and their varied qualifications led them to other fields of intellectual endeavor. The architect's training should embrace a knowledge of city planning and of the planning of landscape, and must necessarily cover all problems, both artistic and scientific, which affect in any way the existence of the people.

"This whole operation of teaching architecture is practically a business undertaking on an artistic basis. It is a bread and butter proposition. I should like to see every man on leaving Columbia, able to earn his own bread and butter. If he can not earn it when he leaves Columbia, he will probably never be worth his salt.

## House Heating and Ventilating in Europe

IN THE past 10 years the installation of hot-water and steam heating, and for large buildings the necessary ventilating facilities in conjunction therewith, has made enormous strides. Such methods of heating were brought to this country from America and at present it is the general opinion in Germany that they have so far improved the science of installation and associated research that they are far superior to the American methods.

Quite recently most of the larger technical schools in Germany, notably those at Charlottenburg (Berlin), Hanover, and Danzig, have introduced regular courses in heating and ventilating engineering and give degrees in the subjects (corresponding to bachelor of science and doctor of science). The late Prof. Dr. Rieschel, of the Berlin Technische Hochschule, was considered one of the greatest authorities in this branch of work, especially as regards heat lost and transmitted through walls, floors, etc., of buildings.

The high cost of raw material, both for combustion and the heating plant itself, has necessitated greater economy in installing and daily operation, hence the obvious reason for their greater advance along these lines. Scientific study has enabled Germany advantageously to compete with all foreign competition, not only for their own country but in most others where tariff restrictions are not too great. In fact they almost exclusively supply South America, Austria, Russia, and the Orient.

Most of the larger firms not only possess branch offices for the distribution of their manufactured product, but also a staff of experienced engineers to make the required installation.

A good example of the advantages the German

### Queen Alexandra's Bungalow.

The royal bungalow at Snettisham, Norfolk, which is occupied by Dowager Queen Alexandra when she visits that part of England, is a model for this type of structure. As indicated by the legend which runs along the peak of the roof, the building was erected in 1908. The remainder of the inscription includes the Latin words "Nisi Dominus," and letters signifying "Alexandra, Queen, Empress." These words, which are also the motto of the city of Edinburgh, begin the first verse in a Latin version of Psalm 127: "Except the Lord build the house, they labor in vain that build it; except the Lord keep the city, the watchman waketh but in vain."

designer has derived from the careful and theoretical side of the subject, is in the cost of laying out steam and hot-water systems. An accurate knowledge of efficiencies and capacities of various sizes of pipe suitable to a given proposition enables them to greatly reduce the factor of safety in their estimates and gives them a minimum cost for material. Much the same could be said where both direct and indirect radiation is used.

As in case of power boilers, the design of the same for heating purposes (mostly cast iron) has improved greatly in the direction of economical fuel consumption, and great care is taken in installing and subsequent operation to insure a large heat output for a comparatively small amount of fuel burned.

The fuels mostly in use for this purpose are coke and a noncoking brown coal (lignite), the former being a by-product of gas works and reducing ovens and the latter a very cheap form of soft coal low in calorific units. The cheapness of this form of fuel has resulted in overcoming the difficulties of obtaining efficient combustion with such a poor class of fuel.

All towns and cities are governed by a general and very strict smoke ordinance, which applies to house heating as well as power boilers. At the same time all cheaper class of fuels, more especially of the lignite variety, tend to give a noxious and easily detected smoke when the combustion is not complete. Hence great difficulties have had to be overcome in manufacturing boilers to give satisfactory and economical service and at the same time comply with the laws governing their operation.

House-heating boilers for both steam and water

systems are sold on a basis of heating surface. The average price being 50 to 70 marks (\$11.90 to \$16.67) per square meter (10 3-4 square feet) heating surface, depending upon the size and quality. Radiation, on the same basis, cost 6 to 7 marks (\$1.43 to \$1.67) per square meter heating surface. It is usual to assume an additional 20 per cent to cover the cost of installation.

Ventilators are in use in practically every large restaurant, theater, and dance hall, but they are mechanical devices operated by electric or steam power. The large offices are seldom supplied with ventilators, dependence being placed on the open window and transom. The same is true of residences and apartments. German buildings have double windows that hang on hinges and usually open inward. During cold weather the inner as well as the outer window is kept closed, and air circulation is not attempted. Bedrooms are aired in the morning, but owing to the fact that German physicians disagree with the American as to the harmlessness of night air, no opening is allowed to admit it to a sleeper.

It should be mentioned, however, that warm rooms are not popular. Only the most modern houses have steam, hot-water, or hot-air heating, but even these are usually kept at a temperature that the average American would consider chilly, and the furnace fire goes out early in the night. In consequence the necessity of ventilation of residences is not obvious. In offices and public rooms in this section the atmosphere is often almost unbearable to a person entering, but the presence of sliding windows would be a bar to the introduction of ventilators constructed to fit them. An arrangement whereby a small wheel in a tin disk set in the corner of the window is revolved by the natural air current was once used here but did not win general approval.

Ventilators of American make are not suited to Norwegian buildings. All windows here swing from hinges at the side of the casements, and ventilation is generally secured by registers in the walls of rooms near the ceiling. In other buildings a system of screened pipes is used and in some stores glass shutters are arranged in the fixed glass transoms over the doors and windows. All these systems are arranged for in the construction of buildings and are built as a permanent part thereof. Because of the intense cold and a great deal of wind in winter, windows are built air-tight and ventilation is used sparingly. Ventilation by means of window attachments does not, therefore, appeal to Norwegians.

### Foreign Trade Opportunities.

(Addresses omitted are on file at Bureau of Manufacturers, Washington, D. C. In applying for addresses refer to file number. For convenience in filing at Bureau of Manufacturers, please use separate letter sheet for each trade opportunity request).

No. 10973. Corrugated galvanized iron sheets.—An American consul reports that a business firm in his district desires terms, prices c.i.f., and other particulars on corrugated-galvanized iron sheets of the following specifications: 7 by 2 feet, 250 sheets per ton; they should be packed in boxes containing 10 hundredweight. Gauge 26, 6 by 2 feet 3 inches, 180 sheets per ton; 7 by 2 feet 3 inches, 160 sheets per ton; 8 by 2 feet 3 inches, 140 sheets per ton; should be packed in bundles of 200 hundredweight each. Gauge 24, 6 by 2 feet 3 inches, 160 sheets per ton; 7 by 2 feet 3 inches; 140 sheets per ton; 8 by 2 feet 3 inches, 120 sheets per ton. Packing should be same as for gauge 26. This firm claims to import about 5,000 tons of corrugated sheets per annum. Usual terms are 30 days sight draft, documents against payment or against acceptance drawn on local banking houses. Bank references will be given, and correspondence should be in Hindustani, if possible; otherwise in English.

No. 11027. Builders' supplies and equipment.—An American consular officer in the Far East has forwarded a report relative to an opening for American builders' supplies and equipment in the country in which he is located. A company engaged in extensive building operations desires to make purchases for its own use and also to act as agent for such supplies. The managing director of this company will visit the United States and will be glad to confer with any companies desiring to enter this field. Copy of the complete report will be sent to American manufacturers of this class of goods.

### Richmond Architectural Exhibition.

There was held at Richmond, Va., the week of May 26, a great architectural display, the first to be held in that city under the auspices of the Richmond Architects' association, and it was the concensus of opinion to have been a big success in every way.

It was the idea of the association to show to Richmonders what is actually being done by the local concerns at home. In order that the laymen might have a better conception of the work of the architects, the buildings planned by them were photographed and these pictures formed the basis of the exhibition. Very few of the actual plans were exhibited, as they were only of interest to those with a technical training.

The need of such an exhibit was brought to the attention of the association several months ago, and the object of the affair was to boost the Richmond architects collectively by showing graphically to the public the part taken by them in that city's building progress.

## The Personal Side

### Write Us a Letter.

We want our readers to feel that The Southern Architect and Building News is their paper, and that what interests them interests its publishers and subscribers. We will therefore appreciate most highly any communications, experiences or suggestions, or marked copies of local papers containing items of news pertaining to the interests of the fraternity.

### New Houston, Texas, Firm.

Messrs. A. E. Barnes and A. E. Finn have associated themselves into the firm of Barnes & Finn, architects, with offices in the First National Bank building, Houston, Texas. Until recently both were associated with the firm of Sanguinet, Staats & Barnes.

### A Bankrupt Architect.

William Feldmann, a New Orleans, La., architect, has filed a voluntary petition in bankruptcy at New Orleans giving his liabilities as \$11,869.77, and assets as \$11,500 worth of real estate. Secured claims against the bankruptcy amount to \$8,751.17 and unsecured claims named at \$3,018.60.

### New Knoxville Firm.

The corporation of George F. Barber & Co., at Knoxville, Tenn., has amended its charter to take the name of Barber and Ryno. George F. Barber and J. H. Ryno are the sole stockholders in the new architectural company.

### Hentz Leaves Hospital.

Mr. Hal F. Hentz the well known Atlanta architect, who has been ill at a local hospital in Atlanta has become well enough to return to his home.

### Change in Firm.

Sanguinet & Staats, architects, of Fort Worth, Texas, announce the retirement of A. E. Barnes from the management of their Houston office and the appointment of R. D. Gottlieb to succeed Mr. Barnes. The Houston branch of the business will be operated in the name of Sanguinet, Staats & Gottlieb, with offices in the First National bank building, Houston, Texas.

### Hamby & Rorke, Architects.

The great increase in business activity in Co-

lumbia, S. C., has resulted in the formation of the firm of Hamby & Rorke, Mr. Rorke of Philadelphia having joined in the partnership with Mr. Hamby, who was practicing his profession in Columbia, to carry on architectural work.

### Establish in Memphis.

Cooke & Swope, the well-known landscape architects of Atlanta, Ga., will establish a branch office at Memphis, Tenn., to look after southwest trade.

### French Architects Honor McAneny.

Mr. George McAneny, Borough President of Manhattan, is the possessor of a medal given him by the American members of the Societe des Architectes Diplomes par le Gouvernement Francais. The inscription reads: "In token of appreciation of his services in the cause of architecture."

The presentation was made at a dinner given in honor of Mr. McAneny at the University club in New York.

### Dallas Architects' Banquet.

The Dallas Society of Architects entertained the draftsmen of Dallas, Texas, at a banquet recently. Covers were laid for sixty draftsmen and architects. H. A. Overbeck, president of the society, presided as toastmaster. The meeting was addressed by several of the architects and draftsmen. The general trend of the speeches was that in this day and time nothing can be accomplished without organization. It was then proposed that the draftsmen form a sketch club. The architects promised that they would offer prizes for both plans and designs to be competed for by members of the proposed club.

The outcome of the discussion was that the draftsmen formed a temporary organization, with C. E. Banglebaugh as chairman and B. C. Woodford as secretary. The chairman appointed L. E. Sparrow, L. Jones and E. Milnar as a committee on permanent organization.

All the officers of the Dallas Society of Architects, who were re-elected at the annual meeting, attended the banquet. They are, H. A. Overbeck, president; O. H. Lang, first vice-president; J. O. Gill, second vice-president; D. F. Coburn, secretary, and C. D. Hill, treasurer.

### Birmingham Carpenters Strike.

Because master builders and contractors refused to grant demands of union carpenters for a raise of 7 cents an hour, making the wages 50 cents, 2,000 union men, carpenters and plumbers, structural iron and steel workers, painters, hoisters, bricklayers and other craftsmen went on a sympathetic strike at Birmingham May 19. Three skyscraper buildings are involved, an estimate being made that the building work to the amount of \$5,000,000 is being interfered with. Contractors who have signed with the carpenters are feeling the strike also.

### Examination for Draftsmen.

The United States Civil Service Commission announces an open competitive examination for clerk-draftsman, for both men and women, on July 2 and 3, 1913, at all principal southern cities. From the register of eligibles resulting from this examination certification will be made to fill vacancies as they may occur in clerical or draftsman positions in offices of surveyors general, Land Office Service, at salaries of about \$4 per diem or \$1,200 per annum, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

Competitors will be examined in the following subjects, which will have the relative weights indicated.

Subjects.	Weights.
1. Report writing (test in writing in letter form a report not more than 200 words in length, summarizing and arranging in logical order a series of facts included in a given statement of 400 or 500 words) . . . . .	10
2. Arithmetic and elementary mathematics (questions involving school arithmetic and elementary questions in plane geometry and mensuration) . . . . .	20
3. Copying and correcting manuscript (test in making a smooth corrected copy of a draft of manuscript which includes erasures, misspelled words, errors in syntax, etc.) . . . . .	10
4. Public land surveying . . . . .	20
5. Drawing and lettering (a specimen showing part of a land office plat is given for reproduction to a certain scale) . . . . .	40
Total . . . . .	100

Two days will be required for this examination. The first four subjects will be given on the first day and the fifth subject on the second day.

Persons who pass this examination will be eligible for appointment to clerical or draftsman positions in the Land Office Service only outside of the District of Columbia.

Competitors should bring for use on the second day drawing board not less than 15 inches square, ink, pens and such drawing instruments as they consider necessary.

Age, 18 or over on the date of examination.

This examination is open to all persons who are citizens of or owe allegiance to the United States and who meet the requirements.

Persons who meet the requirements and desire this examination should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at any place mentioned in the list printed hereon, for application and examination Form 1312. No application will be accepted unless properly exe-

cuted and filed with the Commission at Washington in time to arrange for the examination at the place selected by the applicant. In applying for this examination, the exact title as given at the head of this announcement should be used.

### Standardizing Building Specifications.

The Boston Society of Architects and the Master Builders' Association of the same city have adopted a "suggested outline of specifications," exactly in line with the proposition which originated with the Builders' Exchange of Louisville, Ky., for the standardization of specifications.

This adopted standard provides for a pre-determination of "all work" to be done and the same to be "specified in detail" before estimates of cost are made and contracts let; thereby eliminating the following objectionable conditions, which have so long been tolerated and so greatly abused, to the serious detriment of the building business.

"The architect's decision as to quality and quantity shall be final." It is readily apparent that great benefits are to be derived by the elimination of this clause, and in its stead this wise provision and definite clause: "to specify in detail." There never has been any sound reason for the existence of this former clause as quantity and quality can so easily be determined with mathematical precision at the time the specifications are prepared.

2. The familiar clause so often injected in building contract "According to details to be furnished later," with all of its uncertainties and opportunities of abuse to both the owner and the contractor is to be replaced with an intelligent provision for their determination before the price of the work is established.

3. The indeterminate quantity created by the clause so frequently used: "Furnish all materials and labor implied or directed by the architects," will be eradicated. This provision alone costs the owners thousands of dollars by the bidders adding a liberal percentage to the estimated cost for the contingency thus created. When the work to be done is "specified in detail," the exact quantity and quality that is intended to be used will be defined and limited, so that it can be accurately determined and estimated. This will most certainly reduce the cost of the work to the owner and substitute a clear and business-like system for the present speculative and hazardous method.

There are many other benefits to be obtained from the general use of this part of their new Code of Practice, which mean, in brief, the substitution of this clear and definite method for ambiguous and omnibus clauses, the uncertainties and lack of definite statement or provision, and the dealing in generalities and discretionary clauses, due to the ab-

sence of a clear statement of the intention of the plans and specifications.

The comparison of these methods evidences the earnest desire of the Boston architects and contractors to give their clients the best service and maximum efficiency and to erect buildings at a minimum cost.

Owing to the manner in which the business has been conducted, and the uncertainties in building specifications, contractors are often forced to add to their estimated cost from 5 to 25 per cent in order to provide for these contingencies. This procedure has been a great injustice to the owners and has needlessly increased the cost of building operations.

This improvement in practice will also tend to avoid the embarrassing and expensive delays encountered in erecting buildings. Instead of uncertainties, definite descriptions will be furnished at the time the building is contracted, thus permitting the contractor to so arrange for the performance of his work as to prevent delay. Often a carefully planned method of performing a contract is entirely disrupted and disorganized by some whimsical exercise of an unlimited discretion of the supervising authority.

It is believed that the Boston Exchange by this action, has taken a noteworthy step that will finally lead to similar action by the exchanges all over the country.

#### Columbia's New Code.

A new building code is being formed for Columbia, S. C., having been in preparation for three or four years, in the hands of a committee composed of E. G. Seibels, John J. Cain, George E. Lafaye, W. J. May and R. C. Blacock. The committee was appointed under the old aldermanic system of government, but did nothing until pushed by the commission government. The code will be of some 200 pages prescribing the exact requirements for various buildings in this city. It follows the codes of the large cities and meets the requirements of the insurance underwriters, according to Councilman Blacock. Put into effect the code will give Columbia lower insurance rates.

#### Fire Escapes in Florida.

In the Florida legislature at Tallahassee, Representative Harry Goldstein has introduced and is deeply interested in the passage of a bill providing for the placing of fire escapes on any building more than two stories in height, believing that enforcement of such a law will result in great saving of life from fires in future years.

The sections of Mr. Goldstein's bill are as follows:

Section 1: That all buildings in the State of Florida, whether existing when this act becomes

effective or erected thereafter, except residences occupied solely by the owner and his family, shall be equipped with fire escapes of sufficient number and capacity to permit the occupants thereof to readily escape therefrom in case of fire.

Section 2: All fire escapes provided for by the first section thereof shall be marked at the opening thereto from each floor by red lights to be kept burning during the entire night when the building is occupied.

Section 3: Any person violating the provisions of this act shall be deemed guilty of misdemeanor, and upon conviction thereof shall be punished by a fine of not more than one thousand dollars or by imprisonment in the county jail for not more than one year.

#### Wheeling, W. Va., Contractors.

Wheeling, West Virginia, contractors, representing all trades, met recently in the new market auditorium, and took steps toward perfecting an organization, through which all trades can be brought closer together. The organization will have a great effect toward lessening labor difficulties and misunderstandings when permanently established. A committee, of which Benjamin Hamilton was appointed chairman, was named to take up the matter of permanent organization. The contractors will meet again next Thursday evening, when officers will be elected and the organization will be put upon a sound basis.

#### Jacksonville May Permits.

With a total of \$254,117, the building permits for the month of May, 1913, far exceeded the anticipations of those most interested, these figures showing a net gain of \$60,000 over May of last year, when the total permits amounted to but \$190,652 in Jacksonville, Fla.

The total number of buildings for the month of May just ended amounted to 114 as compared with but 71 for May a year ago, so that in spite of the fact that May is considered a light month so far as new construction is concerned this past month made an excellent showing and ran far ahead of all expectations, the last few days of the month having brought up the grand total very considerably.

Incidentally, this means that new construction work in Jacksonville for this present year of 1913 has already amounted to approximately \$2,000,000, or, in exact figures, \$1,984,527.

By months, this year's record, according to the permits issued, is as follows: January, \$153,625; February, \$877,085; March, \$378,500; April, \$321,205, and May, \$254,117.

In addition to the fine showing made during May, the prospects for this present month of June are equally fine. If half of the present plans of contractors and developers are carried out, June will show an even larger increase over the corresponding month of last year than has May.

### Southern Building Reports.

April building permit values in Tampa, Fla., amounted to \$140,874, an increase of \$97,266 as compared with the total for the previous month.

The report of the building inspector at Columbia, S. C., for April shows 18 permits for new buildings and 42 permits for repairs. The buildings amount to \$21,110 and the repairs \$6,918.65; totaling \$28,058.65.

R. P. Connelly, electrical and building inspector of Charlotte, N. C., has made out his regular monthly report for presentation to the executive committee at its next session. The report shows that in the month of April there was issued 47 building permits, aggregating 46 buildings, costing in total \$92,391. The buildings repaired were 17 and cost of the repairs amounted to \$12,350. This makes the total operations of \$117,830.

### Florida Carpenters Convene.

There was recently held at Key West, Fla., a convention of Florida carpenters which was represented by many from all parts of the state, at which session the following officers were elected for the ensuing year: A. B. Sawyer, of Key West, president; R. L. Marshall, of Lakeland, vice president; Frank Mullen, of Tampa, secretary and treasurer; Executive Board, G. S. Hammack, B. W. Bolinger, F. M. Price, B. Shoemaker, J. W. Logan.

The business sessions were devoted to reports of various committees and many interesting addresses were made during the convention by visitors and others.

By vote Kissimmee was chosen to hold the next convention. The officers were then installed and the convention ended its session.

### The Skyscraper's First Monument.

Twenty-four years ago the first skeleton steel building was reared at 50 Broadway, New York. Prudent folks were much dismayed, and went on record with all sorts of gloomy predictions about it. A building only 23.3 feet wide and ten stories high seemed then a monument to folly—like a playing card standing on end among a row of stones. But the "Tower Building" still stands as the skyscraper's first monument.

Clustering around it now are a score of other office structures and lofts that make the "monument's" label of "Tower" seem like a joke. There are a dozen new buildings in its neighborhood (some still under construction) that total in cost more than 60 million dollars; one of them fifty-five stories high. The Gillender Building was twenty stories high and architects scoffed and ordered it torn down to make room for a building of forty-one stories.

It is significant that the figures of the bureau of

building for Manhattan Borough show that more buildings were torn down in 1912 than were erected—1,200 destroyed, 752 proposed. Yet how tremendous the activity in steel skeleton structure operations may be seen with a glance at some of the items in this table for 1912:

	No. of B'ld'gs.	Cost
Dwelling houses, estimated cost over \$50,000 .....	12	\$ 1,195,000
Dwelling houses, estimated cost between \$20,00 and \$50,000....	5	173,000
Dwelling houses, estimated cost under \$20,000 .....	10	94,000
Tenement houses .....	180	30,077,000
Hotels .....	12	7,185,000
Stores, lofts, etc., estimated cost over \$30,000 .....	115	29,264,500
Stores, lofts, etc., estimated cost between \$15,000 and \$30,000....	20	476,000
Stores, lofts, etc., estimated cost under \$15,000 .....	21	153,700
Office buildings .....	49	38,501,000
Manufactories and workshops....	42	4,703,700
School houses .....	13	1,547,000
Churches .....	6	446,000
Public buildings (municipal)....	26	2,204,000
Public bldgs. (amusements, etc.)..	78	6,347,600
Stables and garages .....	42	1,373,125
Other structures .....	121	168,810
Total .....	752	\$123,909,435

In addition to this, 3,637 buildings underwent alterations that total \$11,031,728.

The new structures of 1912 exceeded the 1911 building costs by more than 25 million dollars, and the average cost of the new buildings was about \$155,000. A rapid increase in the number of fire-proof structures is also worth noting: 31 per cent in 1910, 39 per cent in 1911, 45 per cent in 1912.

### Lay All Walls in Cement.

The "reckless caprice" of whirling storms, so often figuring in current description, disappears before the trained observer. The madness of the storm is discovered to be essentially methodical. Except in a few cases buildings moved from their foundations (at Omaha) were rotated in a direction opposite to that of the hands of a clock. And the great prime destructive force of the tornado is not the impact of whirling air. It is the explosive force of air confined.

A tornado is the low pressure center of a great intruding whirl of air. When the part vacuum which the storm carries at its heart envelops a building, the air within the building presses outward. Windows are great safety valves. Buildings with large auditoriums suffered more than those with

small rooms. Solid walls suffer relatively little, but brick walls with air space between courses are split by the explosive force of the confined air. Mortar-laid walls go down where cement resists.

Recommendations for tornado-proof construction are somewhat as follows:

Lay all walls in cement.

Do not leave air spaces in brick walls.

Provide ample windows space.

Tie buildings to foundations and roofs to walls.

The outrushing air follows the easiest path. It pays to have the windows blown out rather than to have the roof tilted to equalize the wind pressure and then dropped back upon the house or the house itself lifted from its foundations by the upbulge of the confined air in the basement.

Use diagonal bracing wherever possible.

Since these are councils of good building sense, irrespective of the peculiar stresses of tornadoes, it will surely pay architects and engineers to take them into consideration. While it seems probable that nothing can resist the tornado's maximum violence, that violence is exerted in but an insignificant part of the area of a given storm.

#### Architecture on Panama Canal.

No one who is familiar with our columns would question the friendly spirit in which the criticisms suggested by the two adjoining sketches at the bottom of this page is made. The character of the permanent masonry work along the Panama Canal notes the *Scientific American* is such that it does not admit of much architectural adornment or expression; and in view of the magnitude of the huge monolithic masses which constitute the locks, spill-ways, etc., we think it will be agreed that the simplicity which characterizes these works is appropriate. At the same time, in the designing of the subordinate or accessory structures, such as power houses, range towers or lighthouses for marking the course of the vessels, and the permanent buildings for housing the operating and military forces, we think that great care should be taken to render them architecturally harmonious with the spirit and purpose of this, the greatest engineering work of the day.

The range towers, of which there is a large number placed at intervals along the sailing route of the canal, are concrete structures of circular cross-section and of simple and appropriate design. In the case of one of these towers, known as front tower of range Nos. 1-2 in the Gatun Lake section, it became necessary to make a radical change of form, owing to the peculiar requirements of the site, and the result is shown in the accompanying halftone engraving which is reproduced from the last annual report of the Panama Canal Commission. The tower is situated on the south middle wall of the Gatun locks, which extends from the main structure sev-

eral hundred feet out into the lake. Upon this wall are located three tracks for electric towing locomotives, one on each edge of the wall, used when the ships are in tow, and a third track to enable the locomotives to return after they have carried a ship through. In designing this range tower, it became necessary to depart from the standard circular form, since the structure had to span the central track with sufficient clearance to allow of the passing of the locomotives.

Unfortunately, the problem was treated as one merely of engineering. Four concrete pillars 20 inches by 24 inches in section were carried up the desired height, arches were thrown in, and a platform was formed above them. From the center of this relatively slight rectangular base rises the massive circular shaft of the lighthouse.

Now, although, from the engineering standpoint, this is a perfectly satisfactory structure, we must confess that it strikes us as an architectural hybrid. The slender supporting pillars, carrying a square, shallow platform, from the center of which rises abruptly the massive bulk of the tower, present a combination which, from an architectural point of view, is, to say the least, extremely inharmonious and unbalanced.

This range tower would be an eyesore to any point along the Canal; but standing, as it does, in a particularly prominent position, where it will immediately catch the eye of everyone who makes the transit of the locks, whether they approach them from the Atlantic or from Gatun Lake, it will serve to belittle the monumental Gatun locks.

The *Scientific American* has always urged the necessity for the collaboration of the architect and the engineer in all cases where there is an opportunity to give architectural expression to engineering construction; and we have never seen a case where the call for such collaboration was so strong as here. The Editor of this journal is no architect; but he has ventured to present the accompanying sketch as showing that the engineering requirements of this problem might have been met in a manner more pleasing to the eye and more consistent with the dignity of the Panama Canal structures.

The cost of reconstructing this particular tower, or at least the lower half of it, would be relatively trivial. We commend the question to the attention of the Isthmian Canal Commission.

#### Shelbyville Court Houses.

At a cost approximating a thousand times that of the original building, which was erected in 1793 and on the same spot, the new Shelbyville court house will be erected soon at Shelbyville, Ky. The original court house was built of logs at an expense of 15 pounds, the earlier settlers doing most of the work. It lasted only three years and in 1796 a more

pretentious log structure was erected. It had a steeple, a spire and a weathercock and cost 1,176 pounds (about \$5,880).

#### No Advance on Lumber Rates.

A proposed advance of about 30 per cent in the freight rates on lumber and articles taking like rates from points in Louisiana, Arkansas and Texas to destinations in Missouri, was suspended by the Interstate Commerce Commission until June 23, pending investigation.

An increase of about six cents a hundred pounds in the freight rates on potatoes and other vegetables from Louisiana and Arkansas to Rocky Mountain territory was also suspended until Sept. 20.

#### Dairymen Must Cement Floors.

Down at Mobile, Ala., several arrests have been made for better and cleaner dairies, in that the operators have failed to cement the floors of their dairy barns as required.

#### Carpenters Raise Scale.

White carpenters at Jacksonville, Fla., at a recent meeting voted to raise the scale of wages from \$2.50 to \$3.00 per day, which scale was placed in temporary effect three months ago and would become operative permanently on and after June 1.

It is generally conceded that the local contractors there have no complaint to offer to this new scale as several were present at the meeting, which was attended by representative men of the city of Jacksonville, and they made no objection.

### ROBERT S. ARMSTRONG & BRO.,

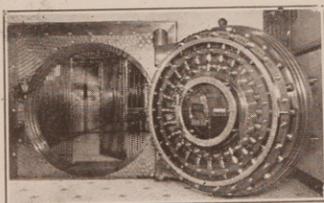
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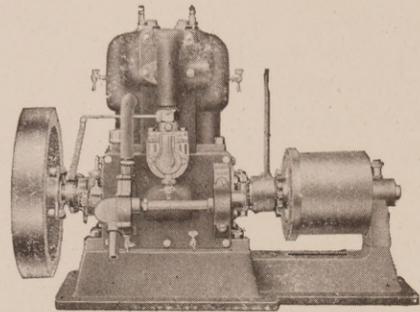
**SAFES** Diebold Safe & Lock Company,

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## A High Power Engine for Mixing Concrete and All Power Work

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Mr. Contractor, here is your engine. It not only meets your requirements for simplicity but its extreme light weight and compactness make it admirably suited for your requirements. Easy to handle, convenient to move.

### THE CUSHMAN

Its weight and compactness make it absolutely the best for attachable power drive. Working parts enclosed, protected from dust and dirt. Water cooled—built for continuous service. Speed changed while operating. In sizes 4 to 20 H. P. Your request brings catalog promptly. Send today—now—stating size wanted.

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meet the different conditions encountered in waterproofing concrete, brick or stone construction, damp-proofing walls and bonding plaster without the use of lath.

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HOTEL ADOLPHUS, Dallas, Texas. Basement and sub-basement waterproofed against constant water-head of twenty-two feet.

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VANDERBILT OPEN STAIR APARTMENTS, New York City. Damp-proofed and plaster applied direct without lathing.

STATUE OF LIBERTY, New York Harbor. Coated internally as a protection against corroding effect of sea air.

### INSULITE MASTIC

Furnishes a permanent wearing surface for concrete floors. Withstands the heaviest trucking or usage in factories or warehouses.

#### Examples of Use.

HALE & KILBURN CAR FACTORY, Philadelphia. Floors subjected to constant use of iron trucks, loaded as heavy as six ton.

BOARD WALK, Atlantic City. For wearing surface and waterproofing. In use two years and unaffected by the tremendous traffic.

Suggestions, estimates and specifications furnished free. Write us.

## Insulite Chemical Company

AURORA, ILLINOIS.

# Trade Notes of Interest

## New Faces This Month.

The attention of our readers is directed to these new advertisements appearing this month, all representative in their several lines, and worthy the patronage of those interested:

Jas. P. Marsh & Co., 118 to 124 Clinton street, Chicago, are manufacturers of gauges, automatic valves and steam specialties. They solicit your order and guarantee satisfaction.

F. S. Converse, Binghamton, N. Y., make the Converse Rotary Screen for sand, gravel, crushed stone for contractors' use. Write for circulars giving details and prices.

Moores Lime Co., Springfield, Ohio, are makers of the best grades of lime for the plasterers' use. See detailed write-up and illustrated ad. elsewhere.

Lawson Mfg. Co., Chicago, Ills., are manufacturers of the celebrated Katz hinges. See their ad. elsewhere and write them for prices.

Diebold Safe & Lock Co., 122 South 5th avenue, Chicago, make vaults for banks and handle only the best grades which give long service.

J. W. Coulson & Co., Columbus, Ohio, are manufacturers of porch columns and stairways for residences. Ask them to figure on your next job.

Sharon Hardware Mfg. Co., Sharon, Pa., manufacture builders' hardware specialties and carry a most complete line, always in stock. Ask for their catalog.

## Into New Quarters.

Jas. P. Marsh & Co., manufacturers of gauges, automatic valves and steam specialties, are now located in their new business home at 118-124 South Clinton street, Chicago. Their new general offices are very attractive, and their factory, occupying a

floor space of 7,800 square feet, is admirably adapted for its purpose. Much new equipment has been added with the intention of materially increasing the output of the company's product. This company was founded in 1865 by Jas. P. Marsh, its president, and it was for thirty-eight years located at 321-323 West Washington street. About four years ago Orville W. Thompson purchased an interest in the company, and he has since that time been its secretary and treasurer.

## The Originator and the Home of "Art-Kraft."

The photograph shown herewith is that of Mr. C. A. Weirich, the treasurer and general manager of the Canton Metal Ceiling Company, Canton, Ohio, who is also the originator of the well and favorably known "Art-Kraft" metal products for all interior and exterior building purposes.

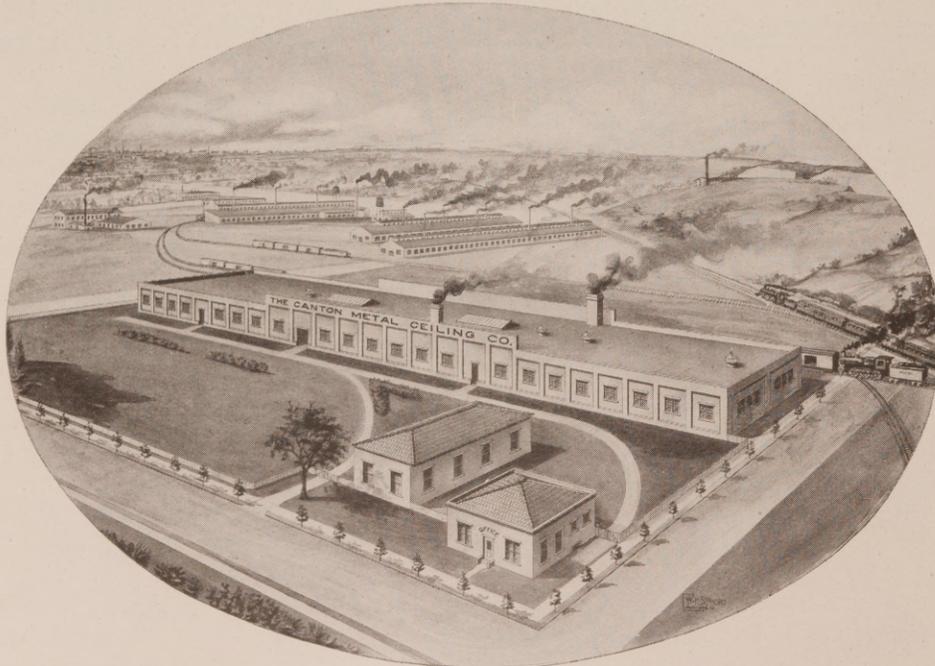
Mr. Wierich has been identified with the sheet metal industry for a great many years and it is largely due to this long training and experience, both in the factory and office, together with his natural aggressiveness and initiative, that the Canton Metal Ceiling Company has enjoyed remarkable success from the start.

This company manufactures metal ceilings, side walls, fronts, tile and shingle roofing and handles a complete line of sheet metal products for every class of building.

The "Art-Kraft" metal ceiling designs are something decidedly new and striking for wall and ceiling decoration; there is a pleasing touch of character and refinement about them which results in making it possible to have distinctive artistic effects for the home, store or office.

The company is now distributing free, two hand-

*Plant of Canton  
Ohio Metal  
Ceiling Co.*





**C. A. Wierich, Gen. Mgr. Canton Metal Ceiling Co.**

some new catalogs, one covering metal ceilings, and the other metal tile and shingle roofs, and any of our readers may have one or both by sending name and address to The Canton Metal Ceiling Company, 1949 Harrison avenue, Canton, Ohio.

#### **Bowlus "Royal" on Exhibit.**

The Bowlus Mfg. Co., Springfield, Ohio, had on display at Booth No. 103, in the Music Hall at Cincinnati, Ohio, where the National Association of Building Owners and Managers held their convention June 10 to 13, the Bowlus "Royal" water closets and electricians' chain-drive boring machines, which were of interest to all who attended that meeting.

#### **Opens Office In Charlotte.**

The Fiske-Carter Construction Company, of Worcester, Mass., with Southern office at Greenville, S. C., has opened another Southern office in Charlotte, N. C. The office is in charge of E. H. Clement, who desires to receive catalogues covering contractors' equipment and building materials.

#### **Several Inquiries and an Order.**

Wayvell Chappell & Co., 4845 Ravenswood Park, Chicago, Ills., writes to the Southern Architect & Building News to say that through our help they have already several inquiries concerning their floor surfacing machine and one order from A. M. Walkup, Richmond, Va., shipped May 23.

#### **Velvex Shingle Stains.**

The Barrett Manufacturing Co., has just issued an interesting little booklet concerning their Velvex Creosote Shingle Stains for the exterior of country and suburban buildings, which for economy and beauty cannot be equaled, and because the principal ingredient of this paint is creosote, the greatest wood preservative known, the treatment will add many years to the life of the building through its use. It is made in every color, costs low, better and cheaper than paint, while for brick work it's most valuable as well as being superior to ordinary paint, which peels and blisters on such surfaces. Ask your dealer for samples.

#### **Municipal Iron Castings.**

H. W. McDonald & Co., Columbus, Ohio, have for twenty-seven years been manufacturing Municipal Iron Castings for use in this country. These castings appeal to the construction man as well as to the engineer in charge, and an examination of their catalogue, which will be sent for the asking, will convince that they have the latest and most modern designs presented by any manufacturers in the country. Their department of information is at your service.

#### **Converse Portable Screen.**

The Converse Portable Rotary Screen, made by F. S. Converse, Binghamton, N. Y., and illustrated in their ad. in another section of this paper, is made in three sizes, and with a single operation you can separate your sand, gravel and stone. With a graded material, such as these screens produce, a dense and water-tight mixture is secured for concrete work.

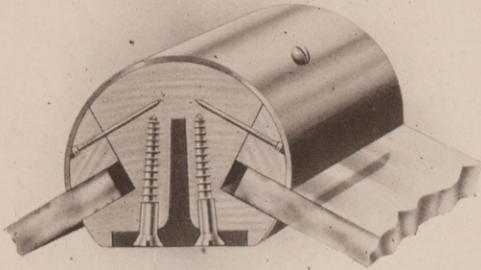
#### **Valuable for Architects.**

This office has been favored with a new book, "The Swiss Chalet Book," from the press of the Wm. T. Comstock Co., 23 Warren street, New York, price \$2.50. This book, which is written by William S. B. Dana, tells the story of the chalet in Switzerland, its history, evolution and construction. It is replete with illustrations and numerous diagrams, sections and plans. It is picturesque as well as instructive.

#### **The Universal Crusher.**

In the Universal Crusher, made by the Universal Crusher Company, Cedar Rapids, Iowa, you get a machine with which you can produce at any moment any size of material for which you have a demand, to eliminate re-handling of material that you had to do in the past. The company will gladly send detailed information as to prices on request.

# Coulson Store Fronts



Corner Post

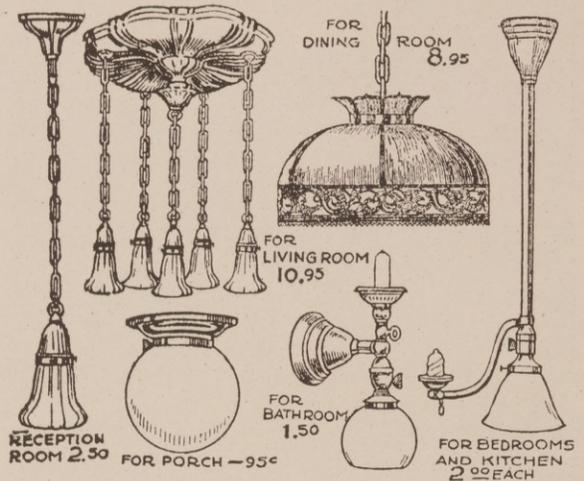
The Coulson Construction and Ventilating System is modern, practical and attractive. A good proposition for live builders and contractors. Write for catalogue 300 and prices.

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- 4 Rooms for ..... \$25.50
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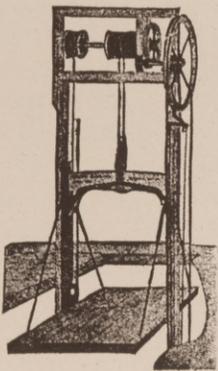
We will also sell single pieces at prices shown above Workmanship and quality guaranteed. Out of town orders \$1 extra for boxing. Write for free blue prints. Estimates cheerfully furnished and courteous treatment extended to all.

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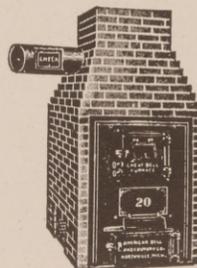
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## A Hot Air Furnace

FOR LESS THAN A  
BASE BURNER  
For 5 and 8 Room  
Dwellings

An unheard of Price and  
a most Remarkable and  
Indestructible Furnace. No  
Pipes—no Lost Heat.



**American Bell & Foundry Co.,**  
NORTHVILLE, MICH.

**Salt Glazed Brick.**

The Hocking Valley Clay Co., Nelsonville, Ohio, have just received from the press a handsome illustrated booklet on Salt Glazed Brick, which shows their various uses for exterior finish to public buildings in all parts of the country. These brick are impervious to the elements, are being specified by the leading architects and engineers because they will stand a crushing strain of 8,000 pounds to the square inch. The surface resembles very tough glass, hence are acid-proof.

**Rat-Proof Buildings.**

The recent elemental catastrophes—the cyclones in the middle west, and the floods in that vast region watered by the Ohio—have destroyed many hundreds of buildings. Here, out of misfortune, much good should come. A timely appeal for the rat-proofing of dwellings and other buildings at present existing under construction or in contemplation, comes from the United States Public Health Service.

Those about to erect a new building or repair an old one, whether of frame, brick, rock, concrete or other construction, may learn from a recent bulletin issued from Washington what sanitary and economic benefits are to be derived from permanent rat-proofing; and measures to such ends should be demanded by prospective owners as a part of build-

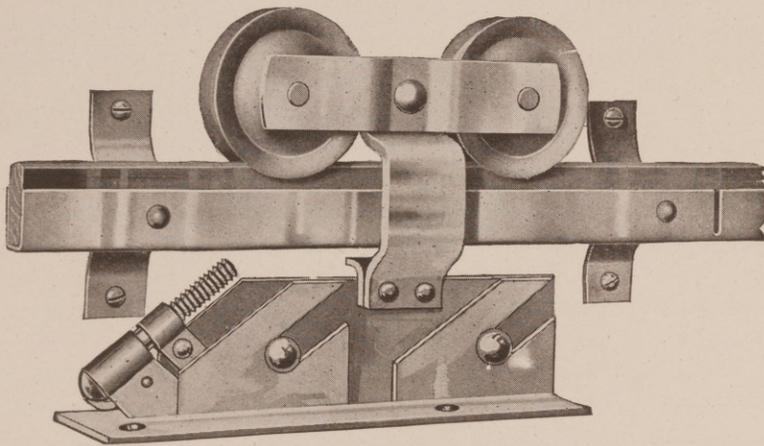
ing contracts. The rat is far too prolific to be exterminated by such agencies as traps, poisons, gases and the like; these may reduce the numbers of the rodent, but if there is food within reach, the surviving rats will have more to eat proportionally, and procreation will be stimulated the more.

Rat extermination can be effective only by cutting off the rat's food supply. The bulletin contains all necessary information to this end, so far as relates to buildings. Those already erected can be rat-proofed by the closure of all natural or accidental openings; by being remodeled with material impervious to rats; by the removal of structures which give refuge to rats, and by the protection of foods which rats will eat.

**Louisville Architects Met.**

The regular meeting of the Louisville, Ky., Engineers' and Architects' Club was held Thursday, May 20, at the Atherton building in that city and was attended by many of the local architects and engineers.

"Considerations Governing the Design and Method of Erection of the New K. & I. Bridge," was the subject for especial consideration during the meeting, and both James B. Wilson, the consulting engineer, and J. M. Johnson, president of the Louisville Bridge and Iron Company discussed the subject with Balopticon illustrations.



When it comes right down to it  
Looks Count and the

**SHARON NO. 2 PARLOR DOOR HANGER****CERTAINLY LOOKS GOOD**

At the same time it is built to meet every requirement and give satisfaction. We guarantee that. It saves Labor and Time because it is so easily fastened and quickly adjusted.

Perfectly noiseless in action

Carries any weight door easily

Price reasonable

Architects, Builders and Dealers should have our catalogue.

SHARON HARDWARE MFG. CO., Sharon, Pa.

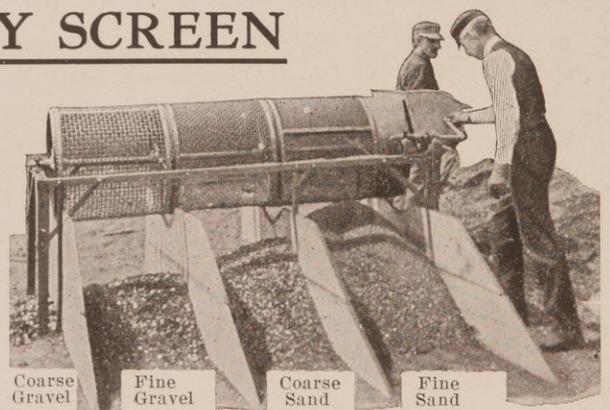
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Other Separations if desired.

### Strong Stand for Steady Quotations.

George S. Keck, sales manager of the Moores Lime Company, Springfield, Ohio, is a fearless advocate of equal quotations to all customers, whether great or small, and regardless of the quantity of material involved. In this he takes the lead in a movement to put the selling of all kinds of building materials, and especially "White Kote Finish," one of the now famous Ohio hydrates, upon the plane of steel and other standard manufactures, namely, "order at the established market price or go without." This has never been attempted in the lime trade up to the present time for the reason that contractors and dealers have hardly realized as yet that a great change has taken place in the lime industry in recent years. The sooner everybody in the business gets over the old-fashioned idea that lime is a strictly local interest and not one of broadly commercial application, the better it will be for all concerned. Commercial lime today is hydrated lime and not lump lime, as it was years ago. Hydrate is now being shipped just as far as cement, and its selection for masonry work, for finishing purposes, and for use in the concrete mass and cement-lime plasters forms one of the most interesting features of the building material business. There is no doubt that the time is at hand when the established market price on hydrated lime of various kinds will be quoted just like cotton fabrics, steel products, or Portland cement during recent years, i. e., one wholesale price for every qualified customer for any fraction of the output of the mill.

The following correspondence handed to Rock Products by Mr. Keck is self-explanatory:

#### The Moores Lime Company.

"\_\_\_\_\_" Springfield, Ohio, April 16, 1913.

"\_\_\_\_\_"

Gentlemen: We have your carbon copy letter of April 5, individually addressed to ourselves and reading as follows:

"We would like very much to have you furnish us special prices on hydrated lime, to be furnished to the \_\_\_\_\_ National Bank building, which is 250,000 yards of plaster. This will be used for both crown coat and putty coat, provided the price is low enough to warrant substituting for lump lime. If there will be any difference in the price, provided it is used for the putty coat only, please state price both ways.

"This is one of the largest jobs that has been plastered in \_\_\_\_\_ in many years, and the right price will secure the business.

"Trusting you will give us your best prices f. o. b., we remain."

\* \* \*

Viewing from a standpoint of equity and fairness, there are certain underlying principles which we feel are necessary to be observed by any manufacturer whose desire is to conduct his business along such lines as will entitle him to the respect of

(if not the patronage of) the dealer.

Without presuming to dictate to others the same policy, we still desire to make our position clear.

We believe there is a moral obligation upon every manufacturer to respect the rights of every dealer in a community—whether they be his customers or not. To quote you a special price for a special job, and refrain from quoting the same price to every dealer who may be in a position to compete with you (if he were shown the courtesy and consideration which you ask) would not, under our code of business ethics, come within the limits of either fairness or equity.

To quote every dealer the same special price for this particular job would certainly be to jeopardize the stability of the hydrate market in your city and practically would be in effect to destroy the margin of profit thereof. We say, "Destroy the profit possibility of your market," for how could we (in fairness and equity) assist your prospective customer to build his building at a reduced cost without doing the same for every one who in the future should erect some large structure?

If we treated each future large building with the same exceptional courtesy and consideration which you ask for your present client, then how could we in fairness and equity, refuse to show the same consideration to every future builder of even the most modest cottage?

If we carried our generosity to that logical issue, how much would the hydrate market be worth to the \_\_\_\_\_ dealer or the hydrate manufacturer?

Again, may we ask how we could consistently show such consideration and in fairness and equity refuse to show the same to every other city, village and hamlet?

We need to say nothing more on this particular phase of the question, it being self-evident that such an act is improper, unfair and unwise.

We next wish to pass on the statement, "The right price will secure the business." We are personally acquainted with all the hydrate manufacturers of the United States, and are confident that each of these gentlemen is bending every effort to make his product as perfect as human knowledge will permit. We know we are and we are willing to credit all our friends with the same trade honesty and wisdom.

Assuming that each is trying to do this, then what do you consider a fair price? One which shall properly reimburse him for all present and past expenditures of time, money and effort, or one which, if accepted, would deprive him of the reward which such acts on his part would most certainly have entitled him to and which the acceptance thereof would establish a precedent which would or might be the opening wedge to a reduced scale of values which would or might render his entire business unprofitable.

Perhaps we do you an injustice—you may in-

**WHITEKOTE**  
HYDRATE  
**FINISH**

THE  
**MOORES**  
LIME CO.  
SPRINGFIELD,  
OHIO

ITS ALL IN THE FINISH

**"WHITEKOTE IS THE RIGHT COAT"**

## MAKES PERFECT WALLS NO LUMPS---NO PIT---NO POP

To make a perfect "Whitekote" putty, soak twenty-four hours (many get satisfactory results with less soak—but nothing is saved by haste.) Put water in box first—using eight gallons to each 40-pound sack. Distribute evenly in the water. Do not mix or stir until ready to use.

**COSTS LESS**—"Whitekote" saves time, labor and money for following reasons:

**SAVES LABOR**—"Whitekote" needs no screening—all that work and cost is saved. Soak it right in the room to be finished and save hod carrying. It spreads easier and needs less troweling.

**USE LESS**—"Whitekote" will do more work—pound for pound, and do it better than lump lime or ordinary hydrate.

**SAVES TIME**—Put in soak one morning and use it the next—as against soaking lump lime for a week.

**SAVES PLASTER**—Use one-third to one-half less plaster than you would when gauging lump lime.

**SAVES BOXES**—No street boxes needed. Small ones, carried from floor to floor, are all you need—say 6x4x1.

**NO STREET PERMITS**—As you soak in the building.

**EASY TO WORK**—Spreads like butter—won't work short nor roll up under trowel.

**WORKS COOL**—Heating qualities are all taken out—won't burn.

**NO SCREENING**—"Whitekote" is free from any waste material—it is **air floated** (not screened) and nothing but finest powder is sacked.

## EXCLUSIVE SALE POLICY

(One dealer only in each town)

**THE MOORES LIME CO., Springfield, O.**

tend by the words, "A right price," to tell him that his high quality would be recognized and his trade effort rewarded. Yet, if such be your intent, you have certainly not made yourself clear.

In our judgment, your handling of the matter has been an unfortunate one for all concerned—inasmuch as the building referred to is presumably to be a handsome one and one to which any hydrate manufacturer would have been proud to point as an illustration of the quality of his product as used thereon.

Now as the matter stands, he cannot so point to it; on the contrary, he must keep silent or admit that he—contrary to the principles which we refer to herein—did, to the detriment of all of his fellow manufacturers and the ——— dealer trade show to one individual dealer a favoritism which was in effect and in principle unfair to each and every one. You have thus deprived him of what should have been a part of his trade reward, namely, a recognition of quality and an opportunity for him to have pointed to it, and in its place you brand him "Unfair."

Inasmuch as yours is not an individual letter, but merely a general one, and sent to all hydrate manufacturers, we feel at liberty—in fact, consider it a trade duty—to send to each of them a copy of this reply.

Furthermore, inasmuch as the principle which you are working on is a direct menace to the stability of the individual market, and, in a broader sense, directly to the detriment of the entire building material trade and a practice which should be at all times avoided, we feel it to be our duty to said trade to so act as to discourage, if possible, any dealer from in the future taking the same viewpoint—in short, to be the means, if possible, to educate the dealer and the manufacturer to a better and broader sense of their responsibilities to one another—or, at least, to clear ourselves of all imputation of having been a party to such practice, and for that purpose we feel that this letter should be published in order that if we are right, the trade shall be the benefiter thereby.

In courtesy to yourselves we shall omit name and location. It shall be treated as an abstract question, but in such manner as every one will recognize it as an actual occurrence and how the situation was met by ourselves.

You will of course recognize that there are no personalities intended, but that on the contrary we are, in taking the position which we do, showing our kindly feelings toward yourselves and every other building material dealer in the United States.

We remain, very sincerely yours,

THE MOORES LIME CO.,

(Signed)

Geo. S. Keck, Sales M'g'r.

# Building and Construction Department

## Public Buildings.

Birmingham, Ala.—The Italian-American Hotel will be a five-story structure, 75 feet by 100 feet, to cost \$75,000. The building will be erected by the Malone-McConnell Real Estate Co. and will be leased by Fred Perrigoni.

Pine Bluff, Ark.—The Pine Bluff Library Association has elected officers and will seek a Carnegie Library for this city. Frank Roane, president, and Joseph Josin, S. C. Alexander, J. B. Speers, N. J. Gantt, Jr., vice presidents.

Atlanta, Ga.—Seven of the nine Odd Fellows' lodges in Atlanta will apply to Fulton county for a charter for the I. O. O. F. Building Association, with a capital of \$150,000, the object of which is to finance and erect an Odd Fellows' building. A committee from these lodges, of which H. C. Hall is chairman, and A. A. Craig is secretary, is now at work on the organization of the association.

Henderson, Ky.—A movement has been put on foot here for the erection of a city hospital. J. L. Nicholson, chairman building committee.

Columbia, La.—The police jury has accepted a tract of land, 300 feet square, donated by the Long-Bell Lumber Co., for the erection of a court house and jail. It is planned to spend \$100,000 for the building.

Pineville, La.—All bids submitted for the erection of two dormitories, one for white females and the other for white male at the state insane asylum were rejected by the board of administrators of the Louisiana hospital for the Insane. The board decided to readvertise for bids to be opened June 12.

Memphis, Tenn.—Bids will be received by Ennis M. Douglas, city clerk of the city of Memphis, Tenn., until June 3, for the construction of a garbage crematory of fifty tons daily capacity. General specifications for this crematory can be seen or procured at the office of Dan C. Newton, building commissioner. By order of the board of commissioners, city of Memphis.

Memphis, Tenn.—Dr. Max Goltman, superintendent of the City Health Department, has interested Mayor Crump in a proposition to construct a hospital for children to be maintained in connection with the City Hospital. The building will cost \$20,000.

Bryan, Tex.—The commissioners court have let the contract for the steel work in the proposed new county jail to the Pauly Co., of St. Louis, for \$6,455. The contract for the jail building proper has not yet been awarded.

Cameron, Tex.—The contract for the Newton Sanitarium has been let to A. Z. Rogers, of Henri-

etta. The building will cost \$40,000 and will be entirely fireproof.

Palestine, Tex.—M. P. Kelley, of Gainesville has been awarded the contract for the construction of the new court house to be erected by Anderson county. The contract price was \$148,438. Construction will begin at once.

Goldsboro, N. C.—Milburn, Heister & Co., Washington, D. C., have been selected the architects and are now preparing plans and specifications for a new \$100,000 court house for Wayne county, at Goldsboro. Plans and specifications will be ready for contractors about July 15.

Louisburg, N. C.—The Board of Commissioners of Franklin county selected Milburn, Heister & Co., Washington, D. C., to prepare plans and specifications for new \$60,000 court house. Plans and specifications will be ready about January 1. It is the intention of the commissioners to build a court house on the new site in accordance with the law, but if they prevent them from doing so, they will build on the present site.

Madison, Fla.—Court house to be erected for Madison county by Board of County Commissioners will be 60 x 120 feet; two stories; press brick construction, with stone trim; tile roof; plaster and marble interior; steam heat; estimated cost \$50,000. Bids for general construction will be received until 10 a. m. of June 16. Certified check for \$3,000 required from each bidder. Plans and specifications can be obtained from architects, Bishop & Greer, Valdosta, Ga., upon depositing certified check for \$50. J. E. Hardee, chairman of Board, Madison, Fla.

Vidalia, Ga.—Architect I. P. Crutchfield, 805 Germania Bank building, Savannah, Ga., has been commissioned to prepare plans for city hall and jail; brick, terra cotta and steel; steel fireproofing; tile or metal roof; patent cement plaster; plumbing; electric fixtures; direct steam heat; metal cornice; mosaic tiling; steel blinds; tile floors; \$10,000. Contract will be awarded later. Silas Meadows, mayor.

Griffin, Ga.—Architect Park A. Dallis, Candler building, Atlanta, Ga., has been commissioned to prepare plans for building to be erected by Griffin Lodge of Elks.

Jasper, Ala.—Board of Commissioners of Walker county has purchased site for jail building, and as soon as plans can be prepared construction bids will be asked. J. W. Shepherd, Judge of Probate, Jasper.

Cheraw, S. C.—A postoffice may be erected here.

Yorkville, S. C.—A bill has been introduced for erection of a federal building.

Oxford, N. C.—The contract for the Oxford postoffice building has been let to a firm in Pennsylvania. The contract price is \$46,000.

# Makes Concrete 100% More Durable

WE GUARANTEE that FERRO-CRETE will prevent concrete from crumbling, cracking or decaying. FERRO-CRETE is not affected by water or frost. It expels moisture. FERRO-CRETE makes floors impervious to wear and hard usage. It is the ideal material for water-proofing basements, walls, floors, pits, reservoirs, etc.

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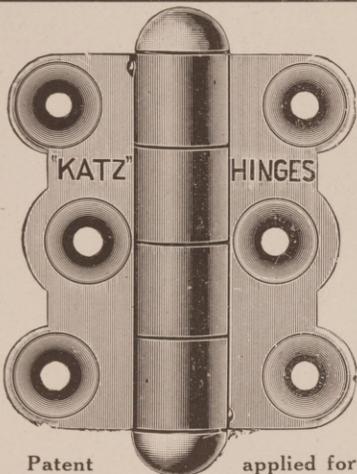
can be mixed with concrete either by hand or by machine without any bother. No time is lost. The mass will not be streaky for FERRO-CRETE mixes in easily and thoroughly. Concrete and cement work is porous; absorbs moisture and crumbles under heavy wear. Let FERRO-CRETE make your work wear-proof, dust-proof and water-proof.

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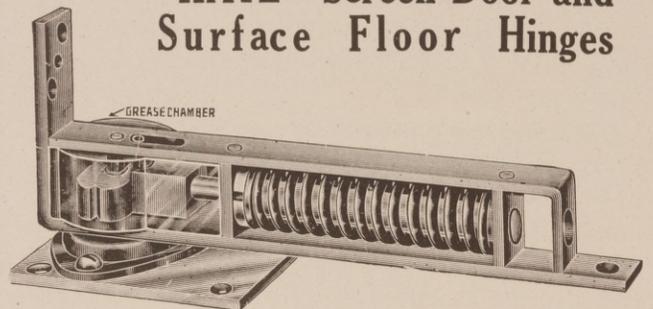
New York Philadelphia

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### "KATZ" Screen Door and Surface Floor Hinges

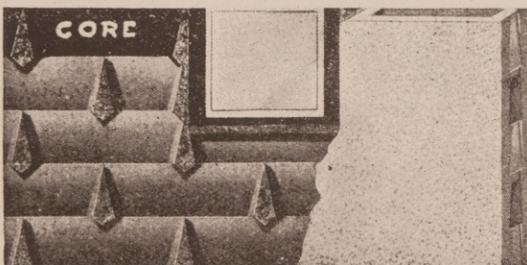


Patented and Patent Pending

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(Patented)

### COLLAPSIBLE STEEL CORES and OUTER PANELS



Perpendicular longitudinal section of wall, cutting one-half of bonds.

Labor Saving—Substantial—Indestructible—Practical

Made in several sizes. Redman 12 inch panels and cores are particularly designed for individual builders and contractors. With this size, hollow walls, one to two feet high, can be constructed per day, depending on weather conditions.

Larger size cores conform and are used with Blaw standard panel forms (made by Blaw Steel Construction Co., Pittsburgh, Pa.) With these larger cores and panels, walls 2 to 4 ft. high can be put up per day.

Houses, impervious to heat, cold and moisture, at low cost, can be built with Redman forms. Adapted to any style of architecture. Approved by several government engineers.

Write for further particulars.

W. T. REDMAN,

Brentwood, Md.

Tazewell, Va.—The contract for improvements to the Tazewell county court house has been let to the Falls City Construction Co., of Louisville, Ky., consideration \$24,973.

Crosbyton, Texas.—The commissioners court has accepted the plans of Architect M. L. Lawler of Fort Worth, for the new \$40,000 court house. The architect will immediately advertise for the bids for the construction of this building.

Dallas, Texas.—Plans for Dallas county's new jail have been formally accepted by the Dallas county commissioners and Architect A. A. Overbeck was instructed to make a drawing of the new building. The jail is to be eight stories and will cost \$300,000.

El Paso, Texas.—Plans for an addition to the hospital at Fort Bliss have been received from the war department with instructions for the local quartermaster's department to issue an immediate call for bids for the work. About \$7,000 will be expended.

Groveton, Texas.—The commissioners' court has entered an order requiring the issuance of Trinity county court house bonds in the sum of \$50,000. The record will be submitted within the next few days to the attorney general's department for approval.

Hillsboro, Texas.—Ground has been broken for the laying of the foundation of the Masonic Temple, which will cost in the neighborhood of \$20,000.

Houston, Texas.—Contemplating a city and county charity hospital to cost in the neighborhood of \$300,000, a move will be launched at a meeting at the court house May 15, in which the city council will be asked to include in the proposed \$1,200,000 bond issue an additional issue of \$150,000 as the city's share in such hospital.

Princeton, W. Va.—Mercer county contemplates erecting a jail here.

Valdosta, Ga.—Contract has been awarded to Little & Phillips, this city, to erect Carnegie library in short time, building to be completed by September 10. Plans by Architects Bishop & Greer, Valdosta, Ga.

Atlanta, Ga.—Contract for erecting dormitory for Grady Hospital will probably be let within 30 days; this contract will not include interior work, all of which will be contracted for later; estimated cost of building, \$54,900, exclusive of elevator; \$25,000 now available; plans by Architects Blair & Adams, Forsyth building, Atlanta, and Cherry street, Macon, Ga.

#### Dwellings and Apartments.

Atlanta, Ga.—Contract has been awarded to Fulton County Home Builders, this city, to erect apartment house for Mrs. Ida A. Turner.

Atlanta, Ga.—C. Shelverton, Fourth National

Bank building, has permit to erect two-story frame apartment house at cost of \$5,200.

Birmingham, Ala.—Apartment house will be erected by Dr. John S. Gillespy, four apartments of six rooms each; steam heating; \$20,000.

Columbus, Ga.—Mrs. M. W. Curtis will erect apartment house; two stories; frame; two apart-

Albany, Ga.—Contract has been awarded to R. S. Smith, this city, to erect residence for J. H. Coffee, two stories; frame.

Atlanta, Ga.—C. Shelverton, Fourth National Bank building, has contract to erect two family frame house for W. B. Watts; ten rooms; furnace heat; cost \$5,500; plans by Miss Leila Ross Wilburn, Peters building, Atlanta.

Atlanta, Ga.—W. H. Craig awarded contract to Dillon-Morris Co., Atlanta, to erect \$4,000 frame residence after plans by Miss Leila Ross Wilburn, architect, 305 Peters building; one and one-half stories; stone foundation; furnace heat.

Atlanta, Ga.—C. E. Miller, Atlanta, has contract to erect \$4,000 bungalow for P. P. Reese; one story; seven rooms; stone foundation; furnace heat; plans by Miss Leila Ross Wilburn, Atlanta.

Atlanta, Ga.—Contract to erect \$4,000 frame residence for E. L. Traynham was awarded to C. L. Adams & Bro., 319 Peters building, Atlanta; one story; furnace heat; hardwood floors. Miss Leila Ross Wilburn, 305 Peters building, is the architect.

Atlanta, Ga.—R. E. Denham, this city, has contract to erect residence for L. F. McDonald; \$2,500.

Atlanta, Ga.—Contract was awarded to Fulton County Home Builders, this city, to erect residence for Mrs. Joe Lettert; \$5,000.

Birmingham, Ala.—Slye & Mosley, this city, have contract to erect one-story frame residence for Mrs. W. H. Jenkins; \$2,500.

Cartersville, Ga.—O. R. McElroy & Son, Marietta, Ga., have contract to erect building for Mr. Garnes; two stories.

Clearwater, Fla.—Dean Alvard has awarded contract for construction of residence, to cost \$15,000, it is stated.

Eutaw, Ala.—Contract has been awarded to Contractor Knight to erect residence; about \$4,000. Plans were prepared by Architect W. E. Benns, Bessemer, Ala.

Gadsden, Ala.—Contract has been awarded to Gadsden Concrete Co., this city, to construct storm sewer for Gadsden Car Works; interior 6 x 8 feet; 360 feet long; \$6,000.

Guinn, Ala.—Contract was awarded to L. Davis Construction Co., Montgomery, Ala., to erect public school building; brick; two stories; six class rooms and auditorium. Construction to be begun immediately and building completed by September 1. John A. Shaw, mayor.

Lynn Haven, Fla.—Contract was awarded to

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**SCHLUETER RAPID FLOOR SURFACER**

This machine is built on the only correct principle. It is guaranteed to be **THE BEST** machine with which to produce an even, smooth surface on any kind of large or small wood floor, old or new, hard or soft, and in all buildings: Residences, Stores, Factories, Bowling Alleys, Roller Skating Rinks, Reception and Dance Halls, Etc.

The **SCHLUETER** will remove all joints or warped edges, on all kinds of Southern pine wood floors, as well as maple or oak.

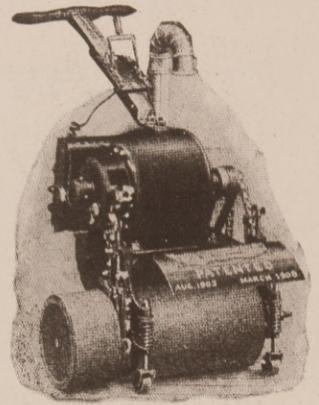
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Roller Easily Adjusted to either side

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*Designers and Contractors for  
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Refuse Incinerators, Ventilated Sanitariums,  
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**The Sanitary Seamless Steel Blackboard**

FOR MODERN SCHOOLS

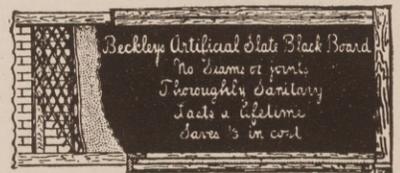
Ground Slate, Steel and Cement, applied with a trowel or a base-coat of hard plaster makes a

Solid Concrete Slate Surface without seam or joint, lasts as long as the building, is

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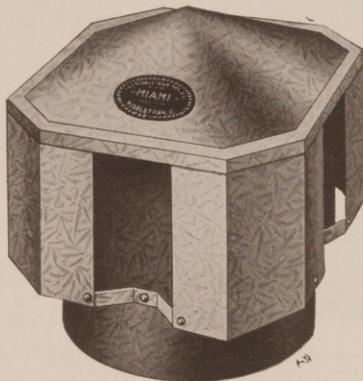
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**"MIAMI" Ventilators**



Manufactured from Rust Resisting American Ingot Iron

**The "MIAMI" Ventilator**

Is absolutely weather-proof, and there is always an upward draft because of their peculiar and scientific construction.

The "Miami" Ventilator will automatically exhaust hot and foul air, disease germs, gas, smoke and steam, in greater volume than any other of same diameter. It's an inspiration for smoky chimneys. No back draft, simple in construction, very strong and substantial.

When fitted with an automatic closing device the temperature of the room is easily regulated. The closing device has a vertical motion only, requires no attention after regulating, and can be arranged to automatically close in case of fire.

Manufactured only by

**The Dixie Culvert & Metal Company**

Southern distributors for American Rolling Mill Co.

Genuine American Ingot Iron.  
 ATLANTA, - GEORGIA.

**Deitrich Brothers**

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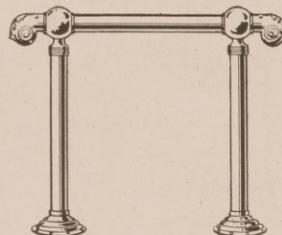
Beams, Channels, Plates, Angles, Concrete Bars and

Reinforcing Wire Fabric, Cut Wire

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A McKenna Manufactured Article is known by its "Quality."

We make a specialty of Structural Brass Work of all kinds for Office Buildings, Theatres and Churches. Write for Catalog.

Our Quotations Will Interest You.

**McKenna Brothers Brass Co.**

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What is the advantage in Cutting  
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## Concrete Foundations and Walls

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Blaw Steel Forms are adjustable to all kinds of work. They are practically indestructible. They can be operated at high speed and low cost.



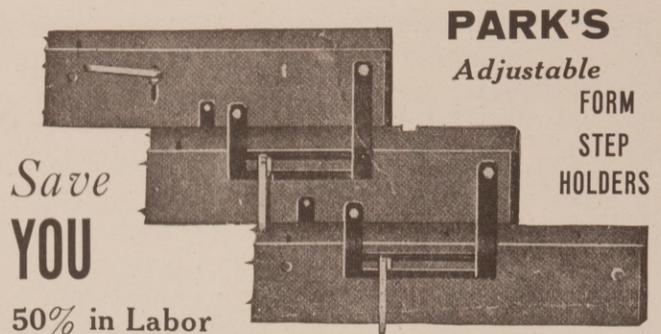
Blaw Steel Forms for Foundations.

Blaw Steel Forms are being used for Concrete  
*Sewers, Drains, Aqueducts, Tunnels*  
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*Columns, Beams, Girders*  
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50% in Labor

## Make Your Steps With My Forms

Every contractor should have a set of my Adjustable Step Forms. With these forms you can easily and quickly make steps from 8 to 16 inches wide and with a rise of 6 to 8 inches. Steps can be made any length.

These forms cannot be set up unless they are absolutely plumb. This guarantees work being TRUE and SQUARE.

These forms are quickly adjustable through the tightening of an eccentric. They are made strong and durable. They are easy to use. They save you time, labor and material on every job—no sawing of lumber and fitting necessary.

Forms are sold in sets (rights and lefts), six pairs to a set. They quickly pay for themselves.

Get my circulars and full particulars about these forms. Contractors, get in touch with me. Let me show you just how these forms can make you profits. AGENTS and SALESMEN wanted in every locality.

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Manufacturers of

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### Anti-Panic Revolving Doors



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### ROOFING SLATE

PEN ARGYL, PA.

### Slate Blackboards

Structural, Etc.

Your asking for our prices will be a gilt edge investment

Sailor & Snyder, this city, to erect residence for E. P. Truesdell; 40 x 67 feet; frame; \$3,000.

Alexander, City, Ala.—Architect Wm. Leslie Welton, Birmingham, Ala., is preparing plans for residence to be erected by Roy Nolan.

Anniston, Ala.—Plans are being prepared by Architect William T. Warren, Birmingham, Ala., for residence to be erected by Thomas E. Kilby; about 20 rooms; hollow tile partitions.

Ashburn, Ga.—J. R. McMichael, Claud McMichael and Marshall McMichael each will build residence.

Ashburn, Ga.—Residences will be erected by H. Burdette, member of Board of Commissioners of Turner county.

Ashburn, Ga.—C. A. Willingham & Sons are reported to contemplate erecting number of residences.

Atlanta, Ga.—Ben Z. Phillips will build residence in Druid Hills; two stories; brick veneer; \$28,150. Permit issued.

Atlanta, Ga.—Permits for erection of residences have been issued as follows: S. R. Crawford, two stories, brick veneer, day labor, \$8,000; F. E. Mackle, two stories, brick veneer, day labor, \$8,000. Mr. Crawford is president and Mr. Mackle secretary and treasurer of the Mackle-Crawford Construction Co., Atlanta.

Atlanta, Ga.—Permits for erection of residences have been issued as follows: Phoenix Investment Co., two stories, board, day labor, \$3,250; T. C. Hellbranch, one story, frame, \$2,000.

Atlanta, Ga.—D. E. Patterson has plans by Miss Leila Ross Wilburn architect, 305 Peters building, Atlanta, for \$2,750 frame residence; one story; stone foundation; furnace heat.

Atlanta, Ga.—P. J. Harlee will erect \$3,000 residence; one story; frame; stone foundation; furnace heat; plans by Miss Leila Ross Wilburn, 305 Peters building.

Atlanta, Ga.—W. W. Brown has plans by Miss Leila Ross Wilburn, Atlanta, for \$6,500 residence; two stories; brick veneer; furnace heat; tile floors; hardwood floors; asbestos roof; contract not yet awarded.

Atlanta, Ga.—S. W. Sullivan, 308 Peters building, will erect \$3,500 residence one and one-half stories; frame; stone foundation; furnace heat; plans by Miss Leila Ross Wilburn, Atlanta.

Atlanta, Ga.—Miss Leila Ross Wilburn, architect, 305 Peters building, has prepared plans for two one-story bungalows to be erected by Keystone Investment Co. at cost of \$2,000 each; stone and stucco foundations; furnace heat.

Atlanta, Ga.—Marist College has opened bids for rectory to be constructed after plans prepared by Architect E. C. Wachendorff, 826 Empire building; three stories and basement; brick; joist construction; steam heat; slate and felt and gravel roof;

hardwood and pine floors; ornamental terra cotta. (Contract not yet let).

Atlanta, Ga.—Permits for erection of residences have been issued as follows: Mrs. Joseph E. Lepert, two-story, frame, \$5,000; Fulton County Home Builders, one-story, frame, \$3,300.

Birmingham, Ala.—Permits for erection of residences have been issued as follows: N. H. Hawkins, one-story, frame, \$2,500; Heinz Realty Co., one-story, frame, \$2,200.

Birmingham, Ala.—Permits issued to build residences. H. H. Watkins, two one-story frame dwellings, \$1,500 and \$1,900; Hillman Watts Land Co., ten frame dwellings, \$6,300, and one two-story brick building, \$1,200; G. P. Dexter, two-story frame dwelling, \$2,000.

Columbus, Ga.—Bids are now being received for erecting dwelling for Ralph B. Small, previously noted; hollow tile; stucco; semi-mission design; heating; plans by Architects T. W. Smith & Co., Garrard building.

Commerce, Ga.—Miss Henrietta C. Dozier, architect, Peters building, Atlanta, Ga., is preparing plans for altering residence for Mrs. C. W. Hood at cost of about \$5,000; steam heat; hardwood floors.

Madison, Ga.—Mrs. Cornelius Vason has plans by Miss Henrietta C. Dozier, architect, Peters building, Atlanta, Ga., for residence; frame and plaster; hardwood floors; plans now being prepared.

Mango, Fla.—Architect Fred J. James, Citizens Bank building, Tampa, Fla., has prepared plans for residence to be erected by Judge W. S. Graham; two stories; frame; \$4,000.

Mobile, Ala.—Harry B. Murray has permit for erection of 8-room residence; \$2,500.

Savannah, Ga.—Twenty to thirty small residences to cost about \$20,000 will be erected by Mrs. Matilda C. Heitman on lots which she has just purchased; about \$20,000.

Savannah, Ga.—Permits for erection of frame residences have been issued as follows: Richard Roach, two two-stories; W. H. Field, two one-story each; John F. Lubs, one-story; George R. Patterson, two-stories; Mrs. McDonald Dunwoody, one-story.

Tarpon Springs, Fla.—Residence will be erected by G. W. C. Littell & Sons.

Little Rock, Ark.—C. B. Probst to erect brick residence, \$3,250, and to erect four brick cottages to cost \$6,600.

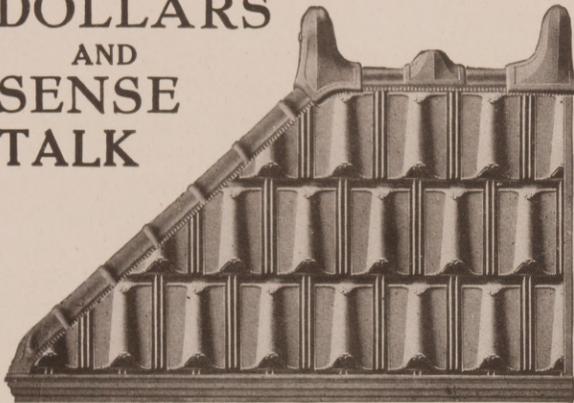
Little Rock, Ark.—The Bracy, Beauchamp & Neimeyer Realty Co. will erect a two-story frame house with tile roof; cost \$6,000.

Little Rock, Ark.—Bracy, Beauchamp & Neimeyer Realty Co. to erect two-story stone veneer house; \$3,500.

Little Rock, Ark.—Fred Gongeon to erect three residences and remodel one; \$10,600.

Louisville, Ky.—J. A. Holt estate, cottage, \$3,300.

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New Orleans, La.—Mrs. Catherine B. Gibbs has obtained a building permit for the erection of a two-story frame and stucco dwelling to cost \$6,000.

New Orleans, La.—Permit issued to Manasse Kerger for the erection of a two-story frame and stucco residence, to cost \$6,337.

New Orleans, La.—Permit issued to Mrs. M. P. Boulett two-story residence, to cost \$4,000.

New Orleans, La.—Mrs. S. H. Bohne to erect a double two-story residence to cost \$4,500.

New Orleans, La.—E. Lassalle has obtained a permit to erect a double frame cottage to cost \$3,000.

Forest City, N. C.—Dr. George P. Reid will erect a brick residence to cost several thousand dollars.

Lxington, N. C.—Contracts have been let for 50 of the 80 tenements that are to house the operatives of the Erlanger Cotton Mills. J. W. Tussey will build 50 of them and the other 30 have not been contracted for.

Maiden, N. C.—C. L. Schrum has begun the erection of a two-story residence to replace the one recently burned.

Winston-Salem, N. C.—M. A. Walker, of this city, is erecting a \$5,000 residence at Black Mountain.

Anderson, S. C.—U. E. Seybt has begun the erection of a residence. Sayre & Baldwin, architects.

Beaufort, S. C.—C. H. Babcock, of Rochester, N. Y., will erect a residence here.

Beaufort, S. C.—W. E. Richardson will erect a residence.

Columbia, S. C.—D. G. Ellison, to erect a residence, \$5,000.

Columbia, S. C.—C. J. Kimball, to erect two-story house, \$3,000.

Columbia, S. C.—Mrs. W. S. Moore will erect a number of residences.

Columbia, S. C.—J. Q. Davis, of Columbia, and J. Fraser Lyon, of Columbia, are both erecting residences in South Shandon.

Columbia, S. C.—William M. Burney, of Columbia, has had plans drawn for an eight-room, two-story residence of the bungalow type.

Greenville, S. C.—J. C. Peace, to erect a residence, cost \$3,500.

Williamston, S. C.—Dr. E. E. Epting is erecting a residence.

Chattanooga, Tenn.—The contract for the erection of three new houses has been awarded to Chambers & Sons. This set of houses was designed by W. H. Sears and will cost approximately \$10,500.

Knoxville, Tenn.—Dr. G. J. Gooch has secured plans and will begin the construction of a residence at an early date. The estimated cost of the new home is between \$5,000 and \$6,000.

Memphis, Tenn.—The Gilbert Real Estate Co., to erect a residence, to cost \$3,000.

Memphis, Tenn.—E. C. Green to erect a resi-

dence to cost \$8,130. A. A. Lanning, contractor.

Memphis, Tenn.—E. E. Buxton, to erect a residence, \$5,900. W. T. Hudson, contractor.

Memphis, Tenn.—Mrs. Etta Perry, to erect a residence, to cost \$3,000. John R. Glyce, contractor.

Memphis, Tenn.—Richard Capers, to erect a \$4,500 residence. A. B. Lanning, contractor.

Memphis, Tenn.—G. W. Fisher to erect four residences, \$8,000. J. B. Moody, contractor.

Memphis, Tenn.—Miss M. Manley, to erect a residence, \$3,500. Roy B. Neil, contractor.

Memphis, Tenn.—L. McCaughan, to erect a residence, \$4,000. Thomas James, contractor.

Mt. Pleasant, Tenn.—P. S. Chandler and J. C. Daniels have each begun the erection of a residence.

Nashville, Tenn.—The Belmont Realty Company has begun the erection of two brick houses, costing \$16,000.

Nashville, Tenn.—Dow E. Mallinee is erecting a \$7,500 two-story brick residence.

Nashville, Tenn.—Dr. W. E. Edmondson is building a \$10,000 Bowling Green stone house.

Nashville, Tenn.—Permit issued to R. H. Boyd, brick residence, \$4,000.

Nashville, Tenn.—T. Roth, to erect brick veneered residence, \$3,950.

Dallas, Texas.—The contract for a two-story brick building has been awarded by H. Ebert to M. A. Faber. The structure will cost \$26,000. The lower floor will be used as business houses, while the upper story is to be utilized as flats. Plans for the building were drawn by Architects Lang & Witchell.

El Paso, Texas.—Dr. R. B. Homan will erect a residence.

El Paso, Texas.—It is reported that H. J. Simmons will erect an apartment.

Houston, Texas.—J. M. Helm to erect a \$3,000 dwelling.

Houston, Texas.—D. Lewis to erect a two-story brick apartment to cost \$3,000.

Houston, Texas.—Permits have been granted to the William A. Wilson Co. for the erection of five cottages at a total cost of \$5,150.

Pensacola, Fla.—Alfred & Alfred, architects, have completed plans and specifications for Mr. John Mitchell for remodeling frame building into an apartment house, to have five sets of apartments, with baths, toilets, etc.; size 40 x 56 feet.

Pensacola, Fla.—Alfred & Alfred, architects, have plans and specifications for Mr. J. B. McNair for bungalow; size 35 x 45 feet; frame construction; also have plans and specifications for Mrs. S. F. Johnson, for two-story frame residence; 14 rooms, baths and toilet; size 39 x 66 feet.

Pensacola, Fla.—Alfred & Alfred, architects, have plans and specifications for a private Y. M. C. A. and club house for Prof. Bennette. Size 25 x 50 feet; brick basement; auditorium on the first floor,

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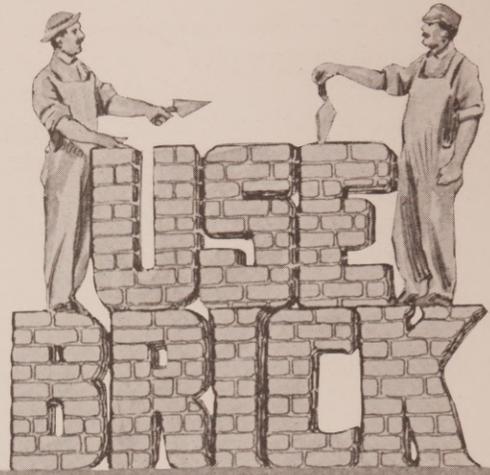
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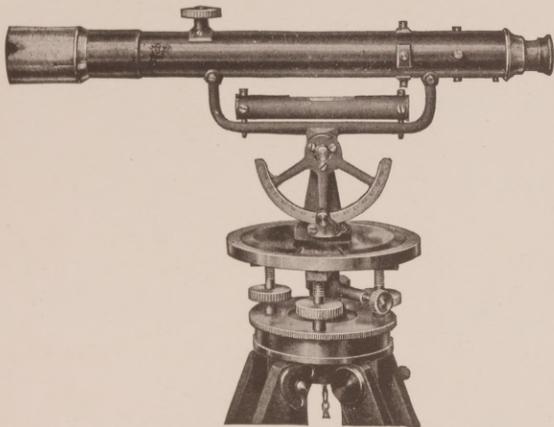
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and rooms on the second floor; first and second floor to be frame construction.

Gainesville, Ga.—Architect Moorefield has drawn plans for two residences, the one for Dr. E. T. Gibbs to cost \$6,000, and the other for J. H. Banks, to cost \$10,000.

#### Bank and Office.

Eclectic, Ala.—Bank of Eclectic has awarded contract for construction of building for its occupancy. B. L. Gaddis, Jr., of Fourth National Bank, Montgomery, Ala., is the new president; Lee Horsby, Eclectic, is cashier.

Midville, Ga.—Contract has been awarded to Walden Bros., Dublin, Ga., to erect bank building here. Construction will be under immediate supervision of H. V. Walden.

Augusta, Ga.—Announced that office building to be erected here by Empire Life Insurance Co., W. W. Reid, president, Atlanta, Ga., will be either seventeen or twenty stories high, exact number of stories to be decided at meeting of directors to be held in Atlanta in June. Twenty-five preliminary plans were submitted by architects at meeting of the directors held in Augusta. These plans provide for 15-story building, it having been understood generally that the building would have that number of stories.

Eustis, Fla.—Bank building will be erected at Tavares, Fla., and another at Mt. Dora, Fla., by Citizens Bank of Eustis.

Marion Junction, Ala.—Bank of Marion Junction, just organized with capital stock of \$30,000, will erect bank building; brick. Dr. J. M. Donald is president and Hugh Hooper cashier.

Beaufort, S. C.—The directors of the Beaufort Bank are planning to erect a building.

Tampa, Fla.—The Tampa Electric Co. will erect an office building. Plans for the building were drawn by Architect Francis J. Kennard.

Belzoni, Miss.—The Bank of Belzoni will erect a new home to cost \$75,000 from plans prepared by Hanker & Cairns of Memphis, Tenn. The bids will be opened June 2 at the office of the architects. The building will be two stories in height, and will be constructed of stone and terra cotta, with marble for the interior work.

Austin, Texas.—E. H. Perry is planning to erect a two-story building to cost \$11,000, the first story to be used for bath houses, while the upper floors will be used for cotton offices.

Brenham, Texas.—A. D. Milroy has let contract for a three-story addition 50 x 140 feet, to his brick building. Elevator and other conveniences will be installed, the cost of improvements being \$5,000.

Tampa, Fla.—Miller & Hyer, this city, have contract to erect office building for Tampa Electric Co.; two-stories, and to be so built that stories may be added; construction to be begun at once; \$40,

000. Plans by Architect Francis J. Kennard, this city.

Washington, D. C.—John Nolan has been awarded the contract for the superstructure for the new 12-story Real Estate Trust Company's building, on the corner of 14th and H. streets, at \$181,000, after plans by Milburn, Heister & Co. The steel contract was awarded to Barber & Ross. The finishing of the first floor and basement not included in these contracts.

#### Business and Store Buildings.

Atlanta, Ga.—Contract has been awarded to Hard & Worm, this city, for extensive alterations of store at 49 Whitehall street for Eugene V. Haynes & Co., jewelers; will contain some of the best features of establishments of kind abroad, inspected recently by Mr. Haynes; about \$10,000. Plans by Architects Hentz & Reid, Atlanta.

Atlanta, Ga.—Contract to erect building for occupancy by wholesale firm of Dougherty, Little & Redwine was awarded to Donaldson & Pearson, Peters building, Atlanta; 58 x 240 feet; four stories and basement; brick; mill construction; tar and gravel roof; elevator; cost, \$35,000. Plans by Architect Haralson Bleckley, Third National Bank building.

Boligee, Ala.—Contract has been awarded for erection of business store building for Mrs. Bouchelle; \$6,000. Plans by Architect W. E. Bennis, Bessemer, Ala.

Dalton, Ga.—Contract was awarded to J. L. Wallace, this city, to erect building for L. H. Crawford; three stories; 30 x 100 feet; brick; plate glass front. First and second floors will be occupied by auto business of Crawford & Denton; lodge rooms on third floor; about \$5,000.

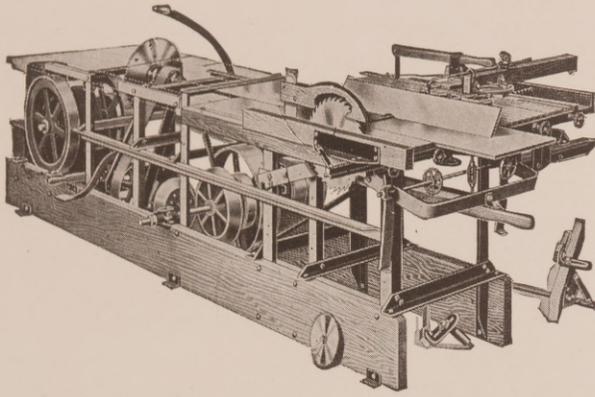
Dublin, Ga.—Walden Bros., this city, have contract to erect brick store building for C. M. Tripp; one-story; 20 x 100 feet. Construction has been begun.

Mayo, Fla.—W. T. Gattis, this city has contracts to erect a brick store building for each of the following: D. M. Sears, J. W. Winburn and W. T. Steward.

Augusta, Ga.—Architect Thomas M. Campbell, 15 Johnson building, this city, has prepared plans for two buildings to be erected by H. H. Ellison; two stories; brick; composition roofing patent hard plaster; plumbing; electric fixtures; stores on first floors and flats above; \$7,500.

Birmingham, Ala.—Louis Pitziz will remodel interiors of stores; new equipment; new ventilating and lighting systems; plate glass windows.

Rome, Ga.—Wyatt Jewelry Co., will have store remodeled after plans prepared by Architects Blair & Adams, Forsyth building, Atlanta, Ga., and Cherry street, Macon, Ga.; new show windows will be installed; prism glass; tiled entrance; floor of



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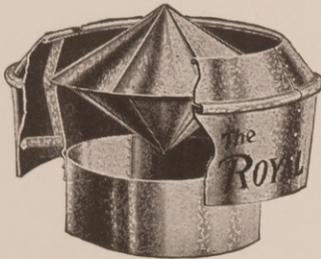
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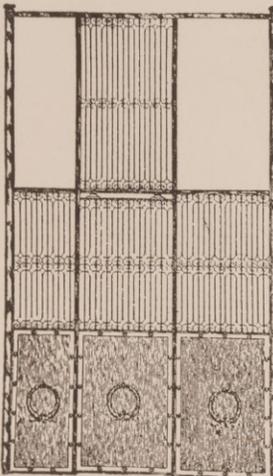
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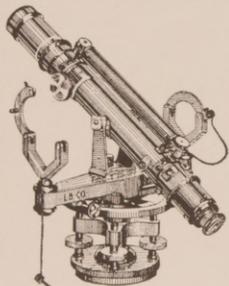
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mosaic tile, birch beams; ornamental consoles; general treatment of interior will be birch effect, and will harmonize with present fixtures; cost, about \$2,000; contract not yet let.

Richmond, Va.—N. D. Wilkinson, to erect a detached two-story brick store, to cost \$8,000.

Columbia, S. C.—John J. Seibels, president of the Consolidated Holding Co., announces that the concerns of which he is the head, will build 17 store buildings.

Columbia, S. C.—E. W. Crouch to erect three-story building, \$10,000.

Columbia, S. C.—Frank D. McNulty has been awarded the contract for erection of a two-story store building to be erected for R. H. Welch.

Darlington, S. C.—Smilie Vaughan and associates have begun the erection of a block of white brick buildings. There will be six in number.

Winston-Salem, N. C.—The contract for the three-story pressed brick building to be occupied by the Brown-Rogers Hardware Co., has been awarded to A. H. Wall, and work will be commenced on the building at once. It will be built by A. H. Eller and H. G. Chatham.

Tulsa, Okla.—Dan Hunt will erect a business building at least three stories high.

Chilton, Texas.—George W. Riddle, of Dallas, Gordon Gaither and Lon A. Speer, of Chilton, will erect two brick buildings. J. I. Eakin, of Chilton, will also erect a brick store.

Dallas, Texas.—The S. G. Davis Hat Co. to erect building. The structure as proposed exclusive of the elevators, wiring and plumbing, will cost \$66,500. It will be five stories and basement, and constructed of reinforced concrete brick. Lang & Witchell, architects.

Houston, Texas.—Mrs. Frank Cargill has been granted a permit to repair building at a cost of \$4,000.

Houston, Texas.—Ed Alden to remodel building at a cost of \$4,400.

Houston, Texas.—The Hedges Ice Cream Co. has applied for a permit to erect a three-story store and apartment building. The building is to be of reinforced concrete and brick. It will be erected by W. E. Woodruff at a cost of \$24,000.

Waco, Texas.—Work will begin at an early date on the erection of a three-story and basement business building to be erected by Prof. R. H. Hill at a cost of about \$50,000.

Chattanooga, Tenn.—Riggs Hall to erect a 3-story brick building to cost \$12,000.

Burns, Tenn.—It is reported that William Blessing will erect a business house.

Augusta, Ga.—Mrs. L. C. Maxwell has been granted a permit to erect a brick store and dwelling, to cost \$3,500.

Athens, Ga.—It is reported that Talmage Bros. Co. contemplate erecting additional store rooms and

warehouse structures on property recently purchased.

Wellsburg, W. Va.—Mike McMahon has been awarded the contract for erection of a \$5,000 building.

Raleigh, N. C.—Charles R. Boone has begun work on a two-story addition to be erected to his building.

Columbia, S. C.—Bids are being called for and the contract will be awarded at an early date for the erection of three brick stores for W. M. McCaw. The building according to the plans and specifications just completed by J. H. Sams, architect, will be of pressed brick fronts with plate and prism glass windows copper-set and sandstone and tile trimmed.

Anderson, S. C.—The building occupied by E. H. Parks and the Tate Hardware Co. will be remodeled.

New Orleans, La.—John Minot has been awarded the contract for the erection of a five-story brick building in Baronne street at a cost of \$42,645, the owners being the Equitable Real Estate Company.

Charleston, S. C.—W. F. Livingston, to remodel building, to cost \$3,000.

Eudora, Ark.—Meyer & Son contemplate erecting a brick building.

Fort Smith, Ark.—Fagan Boreland will erect three-story brick business building, 50 x 140 feet.

Jacksonville, Fla.—Permit issued to Conrad Mangels, two-story brick building. Valuation, \$6,500.

Jacksonville, Fla.—Permit issued to George E. Leonard, one two-story frame building. Valuation, \$4,500.

Jacksonville, Fla.—Permit issued to A. Tischler, one two-story frame building. Valuation, \$3,500.

Jacksonville, Fla.—Permit issued to Y. Thompson, one two-story frame building. Valuation, \$4,000.

Jacksonville, Fla.—Permit issued to George E. Leonard, one two-story frame building. Valuation, \$3,500.

Miami, Fla.—Architect George L. Pfeiffer, of Lemon City, has prepared plans for the remodeling of the building owned by Phillip Ullendorf. The structure will cost \$10,000.

#### Schools and Colleges.

Montevallo, Miss.—Bonds of \$6,000 have been voted for schools.

Natchez, Miss.—New bids will be called for the erection of the negro high school building.

Woodville, Miss.—The board of trustees of the Wilkinson County Agricultural High School have let the contract for the building of the Agricultural High School to Burkes Construction Co., of Hattiesburg, Miss. The approximate cost will be \$30,000, and the work is to be completed on or before December 1.

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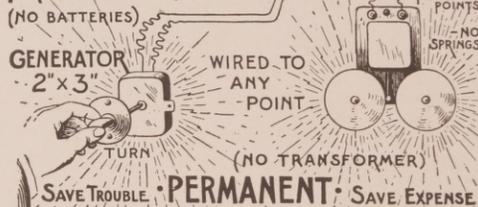


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CHICAGO

Angier, N. C.—Bonds have been voted for the purpose of erecting a school building.

Bessemer City, N. C.—A \$15,000 brick school building will be erected.

Clayton, N. C.—A bond issue of \$25,000 has been voted in Clayton for the erection of a new school building.

Concord, N. C.—A \$20,000 high school building will be erected.

Raleigh, N. C.—Plans are being prepared for a \$15,000 addition to be erected to the county high school building at Wakelon.

Anderson, S. C.—The trustees of school district No. 17 have decided to divide the work of planning the new buildings, and J. H. Casey and Sayre & Baldwin will divide the making of plans.

Columbia, S. C.—S. M. Clarkson, county superintendent, announces that four new schools will probably be completed in the county by the fall.

Rock Hill, S. C.—The contract for building the new Central school addition has been awarded to J. J. Keller & Co., of this city, on a bid of \$17,800.

Walhalla, S. C.—Proposals will be received by the board of trustees of Walhalla school district at Walhalla, S. C., until June 4, for the erection of addition of four class rooms and auditorium to the graded school building. Plans on file at the office of the chairman of the board, E. L. Herndon, Walhalla, S. C., and at the offices of Sayre & Baldwin, architects, Anderson, S. C.

Cleveland, Tenn.—An ordinance providing for the issuance of \$25,000 in bonds to build another city school building has been passed.

Russellville, Ark.—Office of secretary of board of trustees of Second District Agricultural School, Russellville, Ark. Sealed proposals will be received by the undersigned until 12 m., June 2, 1913, for the construction of two brick dormitories. All bids must be addressed to the undersigned. Plans and specifications on file at the office of Frank M. Blaidsell, architect, 917-918 Southern Trust building, Little Rock, Ark.

Indianola, Miss.—C. E. Ard has been awarded contract to erect a two-story and basement brick school. Ben Price, architect.

Commerce, Ga.—Commerce will soon pass on an \$8,000 bond issue for a school building.

Macon, Ga.—The board of public education of Bibb county, Georgia, invites proposals for the erection and completion of a high school to be built, according to plans and specifications prepared by Blair & Adams, architects, 673 Cherry street, Macon, Ga. Proposals are to be addressed to T. D. Tinsley, chairman, care board of education, "Proposals for high school," and delivered at the office of the board at Macon, not later than June 19.

Summerville, Ga.—Architect W. H. Sears, of Chattanooga, Tenn., has been awarded the contract for the designing of the new school building at

Summerville. It will be of modern construction and the cost will be \$15,000.

Seguin, Texas.—The citizens of Seguin have voted a \$48,000 bond issue for the erection of a new school building, and the trustees of the district have awarded the contract for the plans to Atlee B. Ayres, of San Antonio.

Tolar, Texas.—An election has been called for June 21, in the Tolar independent school district to vote upon the issuance of \$12,000 in bonds for the purpose of constructing a new brick school building.

Wichita Falls, Texas.—The contract for a new ward school building has been awarded to the Holderness Construction Co., of Stamford. W. P. McCurdy, of this city, will furnish the plumbing and Kennison Brothers, of Fort Worth, the heating equipment. The total cost will be \$30,000.

Gatesville, Texas.—The city council has decided to erect a high school building. The record for the bond issue has been submitted to the attorney-general, and as soon as approved by him, bonds of \$25,000 will be issued.

Houston, Texas.—Plans have been completed for a \$10,000 school to be erected in Bellaire, this county.

Montevallo, Ala.—At the recent municipal election for a bond issue of \$6,000 for the construction of a public school building the bond issue was carried.

Birmingham, Ala.—At a special meeting of the building committee of the St. Aloysius Church, the contract for the school building was awarded to W. F. Nolan, of Bessemer. The building will be of brick and will be erected at a cost of \$11,657.

Birmingham, Ala.—City Commissioners, Culpepper Exum, chairman, agreed to appropriate \$35,000 for repairing public school buildings.

Dermott, Ark.—Charles L. Thompson, architect, of Little Rock, has been employed by the Dermott school board to draw plans and specifications for an addition to the Dermott school building and for a new two-story school building for negroes. The two buildings will cost about \$21,000.

Little Rock, Ark.—Contracts have been awarded amounting to \$43,901.82 for the completion of buildings at the State Normal, as follows: Completion of dormitories, F. U. Halter, Conway, \$15,840; power house, F. U. Halter, \$4,856; concrete work, Adams & Courtney, Conway, \$3,460; plumbing, Home Heating Co., El Dorado, \$5,324.82; heating, Peyttit & Galloway, Little Rock, \$8,770; wiring, Arkansas Electric Co., Little Rock, \$1,516; model school, L. L. Kelso, Conway, \$4,135.

Augusta, Ga.—Plans to remodel old Medical college building for the Richmond Academy annex have been prepared by the boys of T. M. Campbell's class of architecture at the Academy. First floor will contain main wood shop, 73 x 50 feet, forge shop, 46 x 40 feet, office, stock and tool rooms,

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### Churches.

Bond, Miss.—A \$10,000 Presbyterian edifice is being erected.

Cullman, Ala.—Architect A. O. Von Herbulis will soon have plans ready for a building for the Sacred Heart Catholic church.

Versailles, Ky.—The congregation of the Versailles Methodist church has accepted plans for a \$6,000 addition to their church building.

Jeffersontown, Ky.—Residents of Jeffersontown are making a strong campaign to raise \$12,000 for the erection of a new school house.

Anna Maria Beach, Fla.—Memorial church building to cost \$5,000 will be built here by John Roser, St. Petersburg, Fla.; stone. Plans by Architect Fred J. James, Tampa, Fla.

Clearwater, Fla.—Methodist church will receive bids at once for erecting new edifice; plans prepared. Address, J. J. Eldridge.

Jacksonville, Fla.—Plans for brick addition to St. Philips Episcopal church building, to be used as chapter room, have been prepared by Miss Henrietta C. Dozier, architect, Peters building, Atlanta, Ga.; cost, \$3,500; bids now being received. Rev. M. E. Spatches, Jacksonville.

Uniontown, Ala.—Bids will be opened June 1 for construction of church building for Presbyterian church, and it is intended to begin construction in a short time. Contractor will furnish all materials except ornamental glass and heating equipment. W. J. White, chairman of building committee.

Charleston, W. Va.—Plans have been prepared by J. Rus Warne for the M. E. church, South.

Charleston, W. Va.—The First Presbyterian congregation will erect a church.

Clarksburg, W. Va.—Architect E. J. Wood has just completed the plans for the Polish Catholic church. It is to be stone and pressed brick structure and will cost about \$15,000.

Huntington, W. Va.—Rev. H. F. Searcy, pastor of the Washington Avenue Baptist church may be able to give information in regard to the erection of the Fifth Avenue Baptist church.

New Martinsville, W. Va.—The work on repairing the Presbyterian church which was badly damaged by fire has been started and will be in charge of Oneacre Bros.

Paducah, Texas.—A fund of \$6,000 has been raised for a new Methodist church. The contract for the construction of the building will soon be let.

Prairie Lea, Texas.—J. P. Caldwell, architect, of San Marcos, has the contract to make plans for the new concrete house to be erected by the Baptist congregation.

Round Rock, Texas.—The Baptists of this place have received the plans and specifications of the new church building to be erected here. The building will be of brick veneer. Contract not awarded.

Cleveland, Tenn.—Baptists of East Cleveland have organized and propose to erect a \$25,000 church. The building committee is composed of J. M. Dunn, G. W. Weaver, G. Cecil, Ben Cecil and W. B. Watkins.

Fort Smith, Ark.—Edward A. Strong, architect, new church building to be erected here. The building to be erected for the Christian Science church at Neodesha, Kans.

Little Rock, Ark.—The First Presbyterian congregation will erect a \$100,000 church. Plans for the construction of a Sunday school building, to be a part of the church proper, will be made at once. Rev. John Van Lear, pastor. The building committee is composed of Gen. B. W. Green, S. C. Bosingher, Surry Wood, and others.

Pine Bluff, Ark.—Sealed proposals will be received by the building committee until June 9, for the erection of an edifice for the St. Joseph's Catholic congregation of Pine Bluff, Ark. Plans and specifications may be had from the architect, Mitchell Selligman, Citizens' Bank building, Pine Bluff, Ark. All proposals to be sent to the pastor. Rev. J. M. Lucey, V. G., pastor and chairman; J. T. Borrison, secretary.

West Palm Beach, Fla.—Plans are being prepared by Architect John Gaisford, Memphis, Tenn., for church building to be erected by Methodist church; 75 x 87 feet; practically two stories and basement; construction of gray brick from Brazil, Ind., contemplated; main auditorium to have bowl floor; high tower; cost, \$21,000, exclusive of seats and furnishings. The pastor.

Orlando, Fla.—General contract for construction of church building for Methodist church was awarded to Winder Lumber Co., Winder, Ga., \$29,546. Other contracts were awarded as follows: Heating, Eichberg Heating Co., Atlanta, Ga., \$1,088; electric wiring and fixtures, Pierce Electric Co., Orlando, \$1,701; seating, Southern Seating and Cabinet Co., Jackson, Tenn.; plumbing, F. J. Realm & Co., Orlando. Building will have slate roof. Plans were prepared by Architects Sayre & Baldwin, Anderson, S. C.

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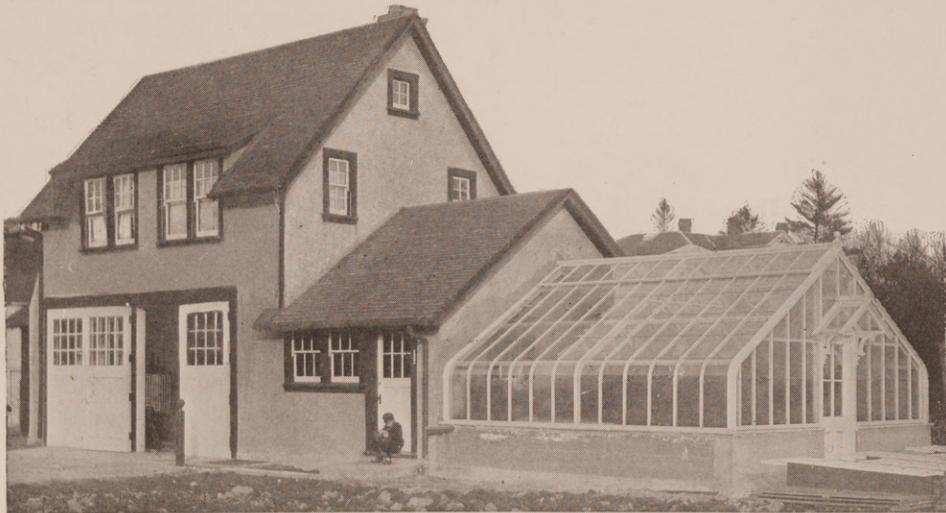
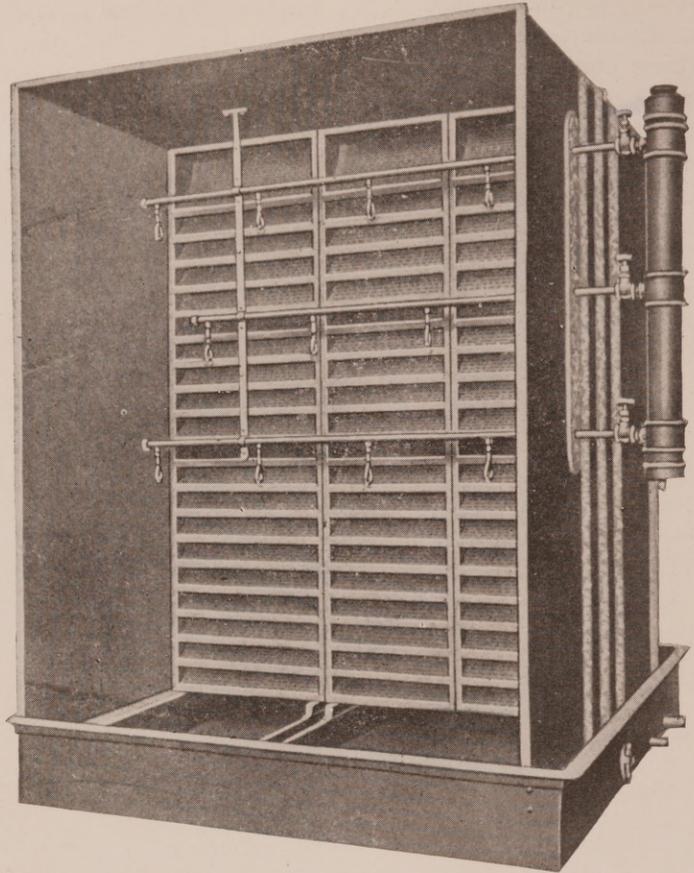
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