

NOVEMBER, 1907

THE • BVILDER

DEVOTED
TO
ARCHITECTVRE



PVBLISHED
AT
PITTSBVRGH
BY • T • M • WALKER

TWENTY-FIVE CENTS

Diebold Lumber and Manufacturing Co.

ALL KINDS OF

LUMBER and MILL WORK

Fine Interior Hardwood Work, Embossed Mouldings

OFFICE AND MILL
93 to 105 Wabash St.
West End

PHONES
Bell 9 Walnut
Bell 249 Walnut

MATTHEWS BROS' MANUFACTURING COMPANY

Fine Interior Wood Work
Bank and Office Fittings
Furniture, Mantels, Etc.

OFFICE AND FACTORY
61 to 69 FOURTH STREET
MILWAUKEE, WIS.

SCOTT A. WHITE

LEWIS BUILDING

AKRON VITRIFIED ROOFING TILE

SHAPES: Spanish, French, Roman, Grecian, Norman and Shingle Tile
COLORS: Red, Green, Glaze, Brown, Black, Silver, Green, Mottled Green, Buff and Gray Glaze

Architectural Terra Cotta

Bath Portland Cement

Slate Asphalt and Gravel Roofing

James Stewart & Co.

GENERAL CONTRACTORS

Office and Railway Buildings,
Manufacturing Plants,
Reinforced Concrete, Structural Steel,
Terminals and Subways,
Dredging, Dock Work,
Heavy Masonry, Grain Elevators.

OFFICES

135 Broadway,	- - -	New York.
Lincoln Trust Building,	- - -	St. Louis.
Fisher Building,	- - -	Chicago.
Hibernia Bank Building,	- - -	New Orleans.
No. 14 Grant Avenue,	- - -	San Francisco.

**WESTINGHOUSE BUILDING,
PITTSBURGH, PA.**

ENAMELING AND GILDING FOR INTERIOR DECORATIONS

JOHN DEWAR,

House Painting. Enameling and Gilding.

FINISHING AND RE-FINISHING OF HARD WOODS.

Bell 'Phone 211 Cedar.

850 North Avenue, West, Allegheny.

ASSOCIATED WITH

DEWAR & CLINTON

AND

Dewar, Clinton & Alexander Co.

PENN AVENUE, PITTSBURGH, PA.

Bell 'Phone 1383 Court.

Sheet Copper Statuary



LIFE-SIZE LION MADE IN SHEET COPPER
FIRE-PROOF METAL WINDOWS
SKYLIGHTS--CORNICES--FINIALS
METAL TILE ROOFING
SHEET METAL ORNAMENTAL WORK

¶ Catalogue of any line you are interested in sent free on request. ¶ Prices quoted on special designs made from architects' drawings. ¶ We solicit your correspondence.

The W. H. MULLINS CO. 216 FRANKLIN ST.
SALEM, OHIO.

THE NICOLA BUILDING CO.

Building . . .
Contractors

FARMERS BANK BUILDING
PITTSBURGH, PA.

"Fire Protection Without Cost"

FIREFIGHT PAINTS

As its name indicates, **Firefight** is a fire-retarding paint, and must not be construed as being in the same class with the many so-called fireproof paints.

We guarantee that **Firefight** is a strictly pure linseed oil paint, the pigment being ground in and thinned with pure linseed oil and the drier used being of the best quality procurable.

We guarantee that buildings and woodwork protected by **Firefight** will be rendered fireproof to a degree not obtainable by the use of any other paint.

Firefight Paint Company

PITTSBURGH, PENN'A.

Atlantic Terra Cotta Company

Successors to

THE ATLANTIC TERRA COTTA CO.

PERTH AMBOY TERRA COTTA CO.

EXCELSIOR TERRA COTTA CO.

STANDARD TERRA COTTA WORKS.

The Largest Manufacturers of

ARCHITECTURAL TERRA COTTA

In the World.

We are prepared at all times to offer invaluable information to Architects as to the economical use of Terra Cotta, and to advise with them as to proper construction. Architects desiring approximate and actual estimates and prices for the substitution of our Terra Cotta for more expensive but less desirable building material, may always be sure of receiving prompt attention.

PITTSBURGH OFFICE, 1113-1114 FULTON BUILDING

FRANKS G. EVATT, DISTRICT MANAGER



CORNER IN MAIN ROOM

MAIN ROOM

VIEWS OF
NEW
"Standard"
SHOWROOM

TESTING APPARATUS



MANAGER'S OFFICE



The cleanest and brightest spot in Pittsburgh.

The pictures shown above represent the cleanest and brightest spot in Pittsburgh, namely the new showroom of "Standard" Porcelain Enameled Plumbing Fixtures. It is the "cleanest" spot because it contains every modern appliance for the promotion of personal cleanliness and refinement. It is the "brightest" spot because it is maintained in the brightest order.

Even though you may not be directly interested, an hour in this showroom will be a delight if you appreciate harmony and beauty. At your earliest opportunity pay it a visit. You are assured a cordial welcome and courteous treatment.

Standard Sanitary Mfg. Co.

SHOWROOM, 949 PENN AVENUE

PITTSBURGH, PA.

Wm. Miller & Sons' Co.

Contractors and Builders

530 to 534 Federal Street, PITTSBURGH, PA.

Bell Phone, 145 Grant — P. & A., 2289 Main



The B. P. Young Co.

MARBLE, MOSAIC and TILE

530 to 534 Federal Street

Bell Phone, 1405 Grant

Krum Granite & Stone Co.

Estimates Furnished for all
kinds Granite and Stone

530 to 534 Federal Street

Bell Phone, 1405 Grant
Mill Office Phone, 494 Schenley

Miller Brick Co.

MANUFACTURERS OF

VITRIFIED FACE BRICK

ROCHESTER, PA.

Bell Phone, 76 Rochester, Pa.

Wm. Miller & Sons, Inc.

MANUFACTURERS OF

Mill Work and Fine
Interior Woodwork

MILLS, ROCHESTER, PA.

Bell Phone, 19 Rochester, Pa.

Samuel Holmes,



Stone
Contractor



39 Riverview Avenue,
Telephone 1439 Cedar.

YARD
FOOT OF ALLEGHENY AVENUE.
Telephone 586 J Cedar.

Allegheny, = = Pa.

THE
W. S. TYLER
COMPANY

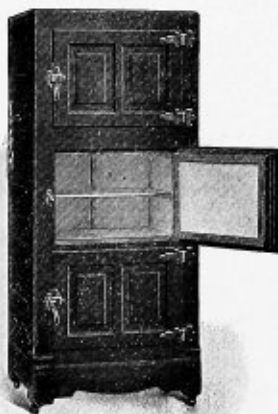
ORNAMENTAL
IRON
AND BRONZE

BESSEMER BUILDING
PITTSBURGH, PA.

Bernard Gloekler Co.

MAKER OF THE

Celebrated Eclipse Refrigerator



Of Any Design For All Purposes.

OFFICE, FACTORY AND DISPLAY ROOM

1127 to 1133 Penn Avenue.

PITTSBURGH, PA.

THE **BVILDER**

IS ALWAYS ON SALE

BY

R. S. DAVIS & CO.

441 Wood Street



Booksellers and Stationers

and who

Handle all Home and Foreign Books and Periodicals

Pope Cement & Brick Co.

421 WOOD ST., PITTSBURGH, PA.

NORTHAMPTON PORTLAND

CEMENT

Tiffany Enameled Brick

Sayre and Fisher Gray Brick

Ornamental Terra Cotta

Falston Front Brick

**LIGONIER PAVING BLOCK
AND CRUSHED LIGONIER
BLUESTONE. :: :: ::**

THE NORTHWESTERN TERRA-COTTA CO.

MANUFACTURERS OF THE HIGHEST GRADES OF

**ARCHITECTURAL
TERRA COTTA**

CHICAGO

One Good Investment

IS WORTH A LIFETIME OF LABOR

Judgment and Courage Spell Fortune

If you wish to gamble, well and good, but if you wish to invest under conditions where ripe judgment and judicious courage will reap their proper reward, I ask you to give ten minutes' time to an earnest investigation of the immense possibilities of an investment proposition, full particulars of which I will send you postage prepaid.

It is understood that you will be under no obligation to invest.

If your own judgment commends this project, you can then invest your savings or capital in an established enterprise which has its future before it. You can link your fortunes with men of judgment, with men of creative and executive ability, with men of honesty, and with such men you are safe.

They will carry this project forward to success and it by the same token will carry you forward to fortune.

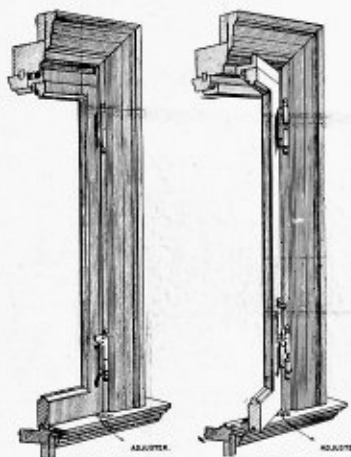
Choose your enterprise with care and its guardians with equal care, then when you're sure you are right, go ahead.

Full particulars postage paid on request.

Address **ALFRED ADAMS**
916 Boardwalk, Atlantic City, N. J.
AGENTS WANTED.

STEINER & VOEGTLY

DEALERS IN

Sargent's Fine Builders' Hardware

GEISEY'S ELEVATING CASEMENT WINDOW HINGE.
PATENTED JULY 1912 1008.
MANUFACTURED ONLY BY
STEINER & VOEGTLY, 310 WOOD ST. PITTSBURGH PA.

Luitink, Acme
Lane & Coburn

Sliding Door
Hangers

Starrett's
Machinists' Tools

Tree Brand
Cutlery & Razors

Manufacturers of

Geisey Casement
Window Pivots
and Hinges

230-234 Diamond Street

PITTSBURGH, PA.

'SLATE AND TILE ROOFS ARE easily cracked by pressure and heat, and a shingle roof, will burn like powder. A good Tin Roof will neither crack nor burn.

**"HAMILTON'S
BEST"**

BRAND OF ROOFING TIN ON YOUR
HOUSE IS A GUARANTEE
OF SAFETY.

MANUFACTURED BY

JOHN HAMILTON

OFFICE AND FACTORY ON LINE OF
THE B. & O. R. R. NEAR TECUMSEH STREET,
TWENTY-THIRD WARD.

PITTSBURGH, PA.

LONG DISTANCE TELEPHONES: BELL HAZEL 6
(P. & A. PARK 280)

The Malone Stone Co.

CLEVELAND, OHIO



**Amherst Blue
and Buff Stone**



BRANCHES

Pittsburgh

Chicago

New York

**Cabot's Shingle Stains**

THE ORIGINAL AND STANDARD

THE only Shingle Stains that contain No Kerosene,
Benzine or Other Cheapener. Made of the Best
Pigments, Pure Linseed Oil and Creosote, "the Best
Wood Preservative Known."

SAMPLES SENT ON REQUEST

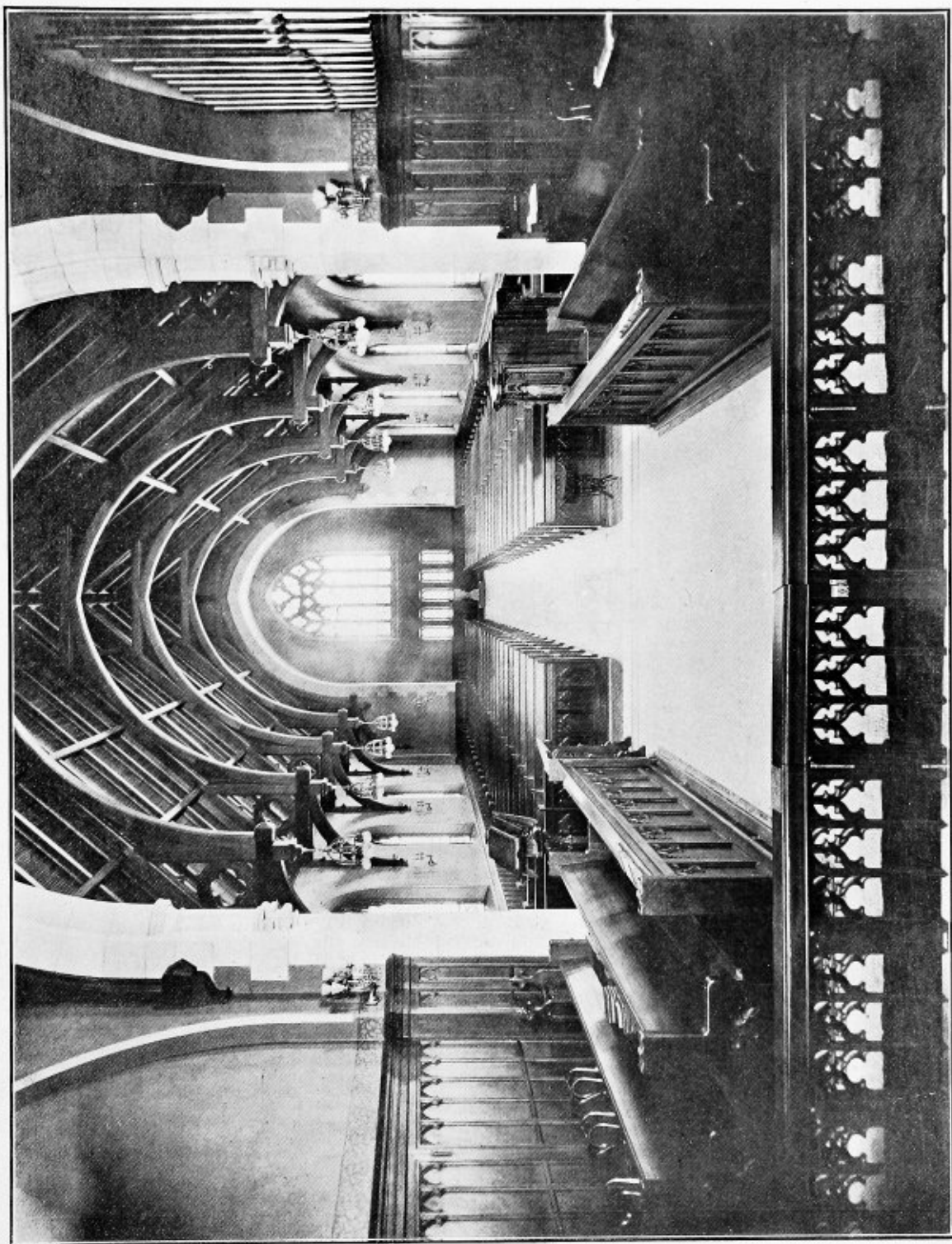
SAMUEL CABOT, Sole Manufacturer
BOSTON, MASS.

D. C. THORNBURG, Agent, Pittsburgh

A. & S. WILSON
COMPANY

Contractors
— *and* —
Builders

PITTSBURGH
PENNSYLVANIA



INTERIOR OF THE ST. THOMAS MEMORIAL CHURCH, OAKMONT, PA.

R. MAURICE TRIMBLE, Architect.

THE BUILDER

Vol. 25

PITTSBURGH, PA., NOVEMBER, 1907

No. 8

PUBLISHED MONTHLY

BY

T. M. WALKER

HEEREN BUILDING

PITTSBURGH, PA.

Entered at the Post office at Pittsburgh, Pa., as Second-Class Matter.

SUBSCRIPTION, INVARIABLY IN ADVANCE, ONE YEAR, \$2

THE HOUSE AND ITS FURNISHINGS

In the building of a modern house there is one thing that is often overlooked by the owner that would seem in many cases to be the most important part of the entire building, and that is the furnishing of the completed home.

It is a deplorable fact, but one nevertheless true, that the average builder of a house thinks that the architect's duty ends when the roof is on and the plaster dried, and in a great many cases a house that is otherwise attractive is virtually ruined by the poor taste displayed by the owner in having the furnishings conflict with the style of architecture of the house.

A reputable architect is, or at least should be, not only an authority on the plans and elevations of his house, but one who should always be considered when the furniture, papering and carpeting is being installed. The architect is always laboring at a distinct disadvantage when he is working up a plan, unless he knows that he can have at least an idea of what is to be put into each of his rooms in order that the finished digit will be in keeping with the general style of the whole.

On the other hand, care must be exercised by the architect in order that he may make the house as nearly as possible in keeping with the idea which the owner has in mind, and he must not fall into the position of an English architect, who recently designed a house and gave the finishing of the interior to a noted London decorator. The work done was of a high standard, but imagine the surprise of the owner when told that the decorations were of such character that they admitted of not a single picture in the entire house. This is of course an extreme case, but one that can easily be duplicated in many of our own houses and shows the wisdom of having the architect and owner work as nearly as possible in conjunction, that the result may be a pleasing and correct interpretation of the initial idea.

In these days we see a great many so called Colonial houses erected and it is here that many serious errors are committed. The original Colonials were perforce plain

in line and delicate in detail and in this lies their chief attraction. It is therefore a mistake to erect a replica of one of these old fashioned houses and then spoil the whole effect by the careless selection of the interior furnishings.

The Colonial house to be in good taste demands that special attention be given to the paint used on its woodwork, to its papering and to its carpets. To use a gaudy paint or finish in the Colonial is nearly as bad as papering our parlor with a Mother Goose nursery paper, and in the selection of carpets care must always be taken to have them harmonize with the color scheme of the room.

In the first Colonial houses the paint used for the exterior was almost invariably a yellow with white trimmings and green blinds, but many variations of this order may be used with a very pleasing effect provided the trimmings are of a lighter shade than the body and are not too glaring.

The surroundings of the house must always be taken into consideration when painting the house in order to have it contrast pleasantly with its environs, so that if it is surrounded by trees of the evergreen variety it should be made of a lighter hue than if it stands directly exposed to the street, where a darker color would probably be in better taste.

Another thing that will add very materially to the appearance of the home is found in the surroundings or lawns attached, and here the knowledge of the architect relating to landscape gardening will often be found superior to that of the layman. With a properly treated garden, even a most commonplace house may be made attractive, and if a little care is used, may be made one of the showplaces of the home.

It is well to remember when building a house that there will be a great many people visit it who know nothing whatever about architecture and these will fail to appreciate the style of the house, but they will immediately size up you and your home by the taste displayed in the interior decorations and furnishings, and if these be good, they will make the impression desired just as effectively as will the house itself upon the more discerning admirers of the architectural details.

In fact, there is hardly a single detail of the correct home that can be considered separately, and made strictly in keeping with the whole unless constant care is used by the architect, and on this one point he should be insistent that the furnishings of the house be as much as possible in keeping with the style of architecture, so that the finished house may be a credit to him, as this apart from the esthetic sentiment attached is one of the best advertisements that he can secure.

THE NEW SINGER BUILDING.

Regardless of the fact that many scientific builders have repeatedly dwelt upon the disadvantages of tall buildings, and in some cities have even gone so far as to secure special legislation against the erection of these over a certain height, still we are today seeing the completion of the new Singer Building in New York, which will dwarf entirely even the gigantic buildings of the metropolis, as the Park Row Building which has for some time held the record is only 382 feet high, while the new Singer Building will tower 612 feet from the sidewalk to the base of the flagstaff or 742 feet from the basement to the flagstaff, which is higher than the proposed new Court House tower in Pittsburgh and 57 feet higher than the Washington Monument.

The old Singer Building, which was nine stories in height, has been elaborately reconstructed and brought up five additional stories to equal the height of the new portion, which is fourteen stories high. The tower has been placed on the original building and rises for thirty-three stories above it. It is sixty-five feet square and weighs 18,365 tons.

In order to secure a firm base for this immense weight it was found necessary to go 90 feet below the surface of Broadway to reach bed rock. Caissons were then sunk and the entire interior was filled with concrete into which reinforcements had been placed and the whole was securely anchored into a solid rock and concrete base. The entire ground area of the building contains 24,000 square feet and the office area will be over 400,000 square feet or more than nine acres.

The foundation consists of thirty-four caissons of solid concrete, and supports the steel columns, which in turn support the entire superstructure. These columns extend to the thirty-sixth floor where they are merged into twelve intermediate columns which run up one story after which there are but four middle columns terminating at the forty-third floor. There are forty-five tiers of beams in the building and they are mostly of uniform twelve-foot transverse and longitudinal panels, which make short spans over the entire building. The girders and floor beams are twelve and eight inch I beams respectively.

The type of architecture is of the modern French school, and the materials used are limestone and pressed brick. The building was designed by Mr. Ernest Flagg.

The elevators in the Singer Building will be of the latest electric traction type and will have a speed of 600 feet per minute. Notwithstanding the great height to which these will run, they will be so constructed as to make them the safest elevators known to the modern structural engineers.

On the top of the tower will be an immense lantern containing a powerful searchlight the rays of which will be visible for about seventy-five miles.

That the Singer Building is not considered as a mere architectural freak is proven by the fact that there are now under consideration several other buildings which will be as large, or nearly so, as this and if these are carried out it will soon be the rule rather than the exception to see immense sky-scrapers in our large cities all over the country.

To erect a building of this immense height, more than ordinary consideration had to be given to the wind pressure and it is said that the Singer Building is so perfectly braced to withstand this that it will be able to

withstand without vibration a gale of eighty miles an hour.

As a superb monument to American architectural beauty and engineering skill, the Singer Building stands alone as the largest and one of the most magnificent office buildings in the world.

THE NEW CONGRESSIONAL BUILDINGS

Two large modern buildings, each occupying an entire city block and costing \$2,500,000 are now being erected in Washington at either side of The Capitol and about two hundred yards distant from its extremities for the exclusive use of the members of the Senate and the House of Representatives.

These two additions are built of beautiful white marble and are connected with the Capitol by means of large tunnels lined with white vitrified brick and containing an electric trolley system as well as a paved walk, so that members can pass from the basement of the Capitol to their private offices without fear of interruption from any outside distraction and it will require only a couple of moments to do so.

The House annex will contain over four hundred offices, or one for each member, while the Senators will have a suite of two as there are fewer of them to accommodate. These offices will be fitted up in the most approved modern style and will have many new innovations that are not generally found in the ordinary office building, including electric typewriters, which will record the events of the day and a new invention called the microphone, which is a sound magnifier and by which the member can sit at his desk in the annex and by inserting a small plug in a hole on the back of his desk, hear all that is being said on the floor of the House. Thus he will not have to be present on the floor unless he desires to be and at the same time follow all that is done, and when a roll call is to be held he will be summoned by means of electric bells.

In the basement of each of these buildings will be a large dining room with kitchens and serving rooms and also large modern bath rooms with all the latest improvements in this line. The only things that these buildings will lack will be bedrooms, otherwise the members will have all their wants supplied under these two roofs.

When these annexes are completed, which will be in about a year, and the proposed new east front is put on the Capitol, they will add very materially to the appearance of the already beautiful Capital City of our beloved country.

THE WANING HARDWOOD SUPPLY

A circular has just been issued by the Forest Service on the waning supply of hardwood in the United States which among other interesting data contains the following information:

Although the demand for hardwood lumber is greater than ever before, the annual cut today is a billion feet less than it was seven years ago. In this time the wholesale price of the different classes of hardwood lumber advanced from 25 to 65 per cent. The cut of oak, which in 1899 was more than half the total cut of hardwoods, has fallen off 36 per cent. Yellow poplar, which was formerly second in point of output, has fallen off 38 per cent, and elm has fallen off one-half.

The cut of softwoods is over four times that of hardwoods, yet it is doubtful if a shortage in the former would cause dismay in so many industries. The cooperage, furniture, and vehicle industries depend upon hardwood timber, and the railroads, telephone and telegraph companies, agricultural implement manufacturers, and builders use it extensively.

This leads to the question, Where is the future supply of hardwoods to be found? The cut in Ohio and Indiana, which, seven years ago, led all other States, has fallen off one-half. Illinois, Iowa, Kentucky, Michigan, Minnesota, Missouri, New Jersey, Tennessee, Texas, West Virginia, and Wisconsin have also declined in hardwood production. The chief centers of production now lie in the Lake States, the lower Mississippi Valley, and the Appalachian Mountains. Yet in the Lake States the presence of hardwoods is an almost certain indication of rich agricultural land, and when the hardwoods are cut the land is turned permanently to agricultural use. In Arkansas, Louisiana, and Mississippi the production of hardwoods is clearly at its extreme height, and in Missouri and Texas it has already begun to decline.

The answer to the question, therefore, would seem to lie in the Appalachian Mountains. They contain the largest body of hardwood timber left in the United States. On them grow the greatest variety of tree species anywhere to be found. Protected from fire and reckless cutting, they produce the best kinds of timber, since their soil and climate combine to make heavy stands and rapid growth. Yet much of the Appalachian forest has been so damaged in the past that it will be years before it will again reach a high state of productivity. Twenty billion feet of hardwoods would be a conservative estimate of the annual productive capacity of the 75,000,000 acres of forest lands in the Appalachians if they were rightly managed. Until they are we can expect a shortage in hardwood timber.

SOME NEW TELEGRAPH POLES

Next to railroad ties telegraph and telephone poles use up vast quantities of trees, and it is hoped that concrete poles will be found cheaper in both initial cost and endurance.

Concrete telegraph poles may be made of various forms, sizes and reinforcement. Those above mentioned taper from 8 in. square at the bottom to 6 in. at the top, the corners are chamfered 2 in., and they are reinforced by two dozen ¼-in. wires running the full length of the pole. All necessary holes, for braces, cross-arms, and steps, are made in the molding.

Strange to say, concrete poles show great elasticity as well as strength, the former depending upon the steel reinforcement. Another style of pole, tapering from 10 in. to 5 in., and reinforced by triangular pieces 1 in. wide at each of the three corners, was subjected to the following test: It was connected by cable to a cedar pole 25 ft. distant, and at a height of 21 ft. from the ground. Midway from the cable was suspended a gradually increasing weight. When each pole had been deflected 21 in. and the load had reached 975 lb., the concrete pole began to crack from the ground to the cable; but as soon as the load was taken off, it straightened up. It seems to be as good as ever, for it has been in use for heavy guy wires ever since, which is more than a year. This style of pole, 35 ft. long, can be made in

quantity at \$7, which is cheaper than wood, provided no profit is paid to a contractor.

Another substance which is taking the place of wood in the construction of telegraph poles in Europe is glass. An architect in a German city, has recently had patented in European countries and the United States, a glass telephone and telegraph pole which is meeting with very pronounced success.

A stock company has been organized and a factory for the manufacturing of glass poles has been built at Grossalmerode, a town near Frankfort. The glass mass of which the poles are made is strengthened by interlacing and intertwining with strong wire threads.

One of the principal advantages of these poles would be their use in tropical countries, where wooden poles are soon destroyed by the ravages of insects and where climatical influences are ruinous to wood. The selling price of the poles has not been fixed yet, but the company is willing to accept 25 marks (\$6) for a pole of the length of 7 meters (about 23 feet). The Imperial Post Department, which has control of the telegraph and telephone lines in Germany, has ordered the use of these glass poles on one of their tracts.

THE NARA PERIOD

Hara Takao, a Japanese writer, in speaking of the Nara Period of the Nippon architecture and its relation to the modern Japanese school says:

Of the primitive architecture native to Nippon, the record is scanty. There were two types of dwellings in those early days of the gods, both of them were caves dug into the hill-side. One of them was called *iwaya*, that is to say, rock cave; the other, which was simply a hole in the ground, was called *muro*. The interior of the first type of cave was walled and lined with rocks and stones. The openings of both of these caves were not very large. In height they measured from four to five feet; concave at the top, and rectangular at bases and sides. Usually these caves had stone doors, that is to say, stone slabs, which were made to open and close from the interior of the cave. The dimensions of the interior of these caves were small, they differed from six to about twelve feet square.

Years passed; things had a way of moving, even in those piping and leisurely days, and, with the rest, the smoky and close and damp caves of our ancestors grew into airy structures on hill-tops. A paragraph in an ancient book called "Jindaiki," speaks of this period:

"When they built palaces they made the poles high and large, made their planks thick and wide, and with vine cords a hundred fathoms long, made 180 knots," etc.

These lines are splendid challenges to imagination to reconstruct the past, but not very rich in instruction and light. Oral tradition has it that our early imperial majesties, in the violence of their simplicity and loftiness of virtue, actually, with their august hands, dug a hole in the ground and planted the pillars of natural wood, whenever they wished to build a palace. In digging the holes they selected such sites as they were sure of finding a rocky bed within a few feet from the surface of the soil, so that these pillars which were to support the roof and the other parts of the structure, should have a firm foundation. The structure was not the most complicated; upon these upright pillars they simply laid cross-beams, tied them together with wisteria vines, and put a lot of dried weeds and grass on top of it for a roof. The

rain came, water remained on the flat roof. Naturally it leaked. Our ancestors simply raised the roof in an angle, with gables at either ends of it, and with a ridge-pole a-top of it.

Everything was constructural; the only ornamentation one could find about it was the barks of the natural woods which our goodly ancestors did not take the trouble, even, of peeling off. Later, when leisure came to them, they added a touch or two of ornamentation. They fastened at the outer edges of the ridgepole, just over the gables, a cross timber which took the shape of an X: they called it *hiki*. To this *hiki*, on both sides of the ridgepole, stretching the full length of it alongside, they lashed a few pieces of timber which were flat on the side that went next to the thatch, and oval on the outside, and these pieces of timber were placed over the reeds or grass which went into the making of the ridge of the roof. You have not the slightest idea how much style, finish and dignity our ancestors saw in this simple roof ridge and its ornamentations. They thought so much of them that they would not allow such extravagance of ornamentation except for the palaces and shrines. It was also at this time that the structure was adorned with doors and windows. There were no ceilings to these buildings above, no matting below,—no flooring, in fact, except that of mud. In place of walls they simply stretched skins, or roughly woven canvas of twigs and vines. Such was the birth of the Nippon architecture, and even today you can see the flowering of it in the imposing shrines of Ise, which were constructed for the first time in 5, B. C. in the days of Emperor Sujin.

Then came our friends from Korea, and from China,—with them the continental culture of Asia. It was in the year 65 A. D. that Buddhism entered into China from India, at the invitation of the reigning sovereign of the time, Ming-ti.

In its gentle but all-powerful hands the life and destiny of China were as a lump of soft clay. Those were the heydays of the Han and later Han dynasties. China was passing through its first great formative period. On the other side of the world Augustus was boasting in his oft-quoted remark, that he found Rome of bricks, and left it of marble.

When the Forum of Mars, the temple of Jupiter Tonans, the portico and basilica of Cains and Lucius, and the theater of Marcellus and the temple of Apollo Palatine were, in their flowerings, cutting the purple sky-line of Rome and laying the foundations of the Gothic occident, the pagoda entered into China in 250 A. D., and made its first home in the city of Nanking. After its peaceful conquest, Buddhism passed from the kingdoms of northern Wei into its dependency, Korea, and thence across the Korean channel set sail for the Island Empire. In the days of Emperor Shomei, in the year 552, in the 10th moon of it, Buddhism made its first bow to our Imperial Court. The King of Kudara, one of the three kingdoms in Korea at that time, introduced it, saying:—

"Of all the laws known to the world, the most excellent is this law; it is difficult to understand, it is not easy to enter into the spirit of it. Emperor Chau, and even Confucius were unable to comprehend it. This law produces immeasurable and limitless happiness, virtue, and finally it enables us to comprehend, and even to translate ourselves into the state of the matchless Bodhisattvas. It is as if a man had held in his bosom a charm which would enable him to satisfy all his desires.

Even so, the treasure of this magic law. According to the wish of us, there will be nothing lacking if only we possess this jewel of law. From far India, into Korea, there is no country that does not worship and honor the law, and for this reason, we, King of Kudara, with reverence hath dispatched our subject, Dorishichi, and humbly present it to the imperial land, that what the Buddha has once said might be fulfilled:—'My law will flow eastward.'

It is true that we have had for many centuries prior to the coming of Buddhism, many and frequent intercourse with our continental neighbors, but the international courtesies were exchanged with them were singular and rather high-handed. We either robbed them or murdered them, or they did something quite as polite to us. In about the year 201 A. D., however, our Empress Jingo carried her victorious campaign into Korea. In the third century and in the first years of the fourth, in the reign of Emperor Ojin, son and successor of Empress Jingo, we had a good deal of goings and comings between our country and our continental neighbors. It was in those years that one of the princes who had descended from the famous Shih Hwang of Tsin dynasty in China, brought with him into Nippon the entire population of one hundred and twenty-seven prefectures. A little later he was followed by a descendent of one of the emperors of the later Han dynasty. Our second princely visitor from China brought with him the entire population of seventeen prefectures, and formed a second colony. With them came a number of artisans, builders, and they brought many wares that were used in the cultured China of the day. Dwelling as they did, in the midst of the native population, the Chinese must have had a dominant influence on their Nippon neighbors. It was at this period that we introduced from Korea a number of women skilled in the art of weaving, in sericulture, also a number of artisans skilled in ceramics and in the art of pottery. It was in this same period that the heir apparent to our throne received instructions from a Korean scholar called Wani in the study of the Confucian texts. In short, it was a period of infatuation with men, things, institutions, Chinese and continental. It was a violent transition period—not unlike the one that Nippon went through many, many years later, in the latter half of the Nineteenth Century after the coming of Commodore Perry and the polite representatives of European countries, when we went mad over everything that was Western.

The entire country, from the palace folks down to the simple tillers of the soil, was drunk with the aroma of alien culture. The people did not have the time, did not have the ability of digesting the gifts of the Chinese culture: it was too rich a food for their simple palate. They were simply overwhelmed, quite dazzled with the splendor of the things they saw, and like the humblest of the poor demons in the hades of hunger, they received, on their bended knees, good, bad and indifferent,—everything that came from over seas.

The reign of Emperor Ojin, which marked a distinct period in the life of the Nippon race, left its stamp upon the architecture of the country. For the time, Nippon forgot her overgrown hunter's hut and her fisherman's shack. Truth to tell, she could well afford to forget them, and without much ado. And we saw, rising everywhere, tall and imposing representatives of the Chinese and Korean architecture.

It was in the 8th day of the eleventh moon of the

first year of the period called Jinki, that is to say 724 A. D. It was in the reign of the Emperor Shomu, the daijokwan of the time, or as we would say at the present, the premier, memorialized his sovereign:

"It was in the early gone that all was simplicity and raggedness, caves in winter, nests in summer. In the days that followed, sages built palaces and houses. To the palace of the sovereign at the capital city—it is there that all the world comes to pay homage. If it were not great and splendid, how else could we show the power and virtue of our Imperial House? House of wood, and house of grass,—these are the things that are left to us from the Middle Past. In constructing them there was a waste of palace treasures; they were easily destroyed. I humbly pray, therefore, that a command be given to the officers above the rank of the 5th grade, and even to those who are below the grade but who are able to build, to use tiles in the roofing, and wall their houses with the plaster of red and white."

This, so far as the record goes, is the first instance where the use of the tile in the roofing is made, and the application of red and white plaster.

Now, architecture in its more serious development, finds its chief inspiration in two things; that is, Church and Court. The church must be rich, and the court, in order to be a patron worthy the name, must not only be rich and powerful, but also must have a long lease of life. In the West, in Athens and the Augustan days of Rome, things were done very differently from what the East, in the first centuries, could possibly have accomplished. The West, with its vast resources and with its impatient way of doing things, could embody a distinct architecture and bring it to completion and flowering almost in the lifetime of a single monarch. In the East, it took many, many centuries to bring her one school of architecture to completion and perfection. Then, too, the genius of Eastern civilization, especially in art, aimed at perfection. Moreover, it had an infinite respect for detail; the races of the East have always been patient. When Buddhistic culture and Buddhistic architecture entered China, it did not find either of these two great fountainheads of architectural inspiration. Buddhism did not become a mighty church, and wealthy. The dynasties of China were too short-lived to afford full development to an architectural glory. Things were quite different with us. We had a court with a pretty long lease of life. It is the self-same dynasty of fifteen centuries ago that you see over Nippon, in these first years of the twentieth century; it has the distinction of being the oldest existing dynasty on the face of the globe. And Buddhism, when it came to us, instead of knocking at a nobody's gate, or inviting itself to the humble cottage of a peasant, entered Nippon through a palace gate.

In the reign of Emperor Kimmie, in the thirteenth year of his august reign (552 A. D.), King of Kudara (one of the three kingdoms of Korea), sent an embassy and presented to His Majesty a number of Buddhistic sutras and an image of Sakya Buddha in gold and copper. The premier of the time, Iname by name, strongly advised His Majesty to worship the image of Buddha. His fellow-minister, Mononobe by name, protested against it, saying: "This our land is the land of the gods. There are plenty of gods at home. Why then, should His Majesty worship the god of a foreign country? Is there not danger that such an act on the part of His Majesty may arouse the indignation and anger of the gods of our own?" His Majesty hearkened to the wisdom of Mononobe, and declined to pay his homage to

the image of the foreign Buddha. However, the Emperor accepted the image of Buddha, and bestowed it upon his minister, Iname. Iname received it with pleasure and gratitude, took it home with him, and in order to afford the image the proper housing, he converted his own dwelling into a Buddhistic temple. It was called the Kogen Temple. Such was the beginning; such was the path which leads us down to the Nara Period.

Empress Gemmei, in the first year of the period called Wado (708 A. D.), in the ninth moon of it, made a sojourn into Nara. The prospects of green hills billowing away to the horizon pleased Her Majesty. The very next month Her Majesty published the decree of changing her capital city, and the construction of the Nara Palace was undertaken forthwith. On the twelfth moon of the second year of the same period, the palace was complete. In the third moon of the following year, that is to say, in the third year of Wado (710 A. D.) Her Majesty removed her court into Nara. The Nara Period lasted through seven sovereigns, covering the period of seventy-five years.

The glories of the Nara Period were many. It was then that the discovery of silver was made. The first mint known to the history of our country was established in that period. In that period the currency of metal coins of gold, silver, copper and iron was first introduced. It was in that period that the first attempt at the codification of our history was made. It was in that period that the famous Kojiki, the oldest existent text we possess, was written. It was in this period that the irrigation system, with a series of lakes dug on hill-sides at high altitudes, for the flooding of rice fields, was systematically constructed. It was in this period that we sent many an imposing and historic embassy to the Chinese and Korean courts.

But not the least of the glories of the Nara Period are the Buddhistic temples it built. Those were the golden days of Buddhism in Nippon. Buddhism was the fashion at court. Neither before nor after, although there were many fashions which came and went at the imperial court, was there one which could be compared with the tyranny and charm with which Buddhism held spell-bound the emperors, princes and courtiers of the period. Emperor Shomu threw himself, body and soul, into the adoration of Buddha. The building of temples became the one raging passion with him. Buddhistic propaganda was the royal pleasure. Forgetting the matchless distinction of being the Emperor of Nippon, he received from the hands of a priest the humble title of the "Slave of Three Treasures,"—a rather unique title for a "Son of Heaven."

Among the great temples that were built in the reign of this Emperor, are Chokokuji, Taianji, Kofukugi, Todaiji, of which perhaps the greatest is the Todaiji. In the twelfth year of Tempyo (470 A. D.), an imperial decree was issued, commanding every province of the empire to erect in certain portions of it, a pagoda seven stories high. This laid the foundation for another decree a little later, which commanded every province to establish a Buddhistic temple, called Kokubunji. The Nippon architecture, as such, however, was yet to be born. In the construction of these temples, which displayed splendor unheard of before, the architects did not try to do anything but to copy the glories that were of the Han and Sung dynasties in China. There was no native note struck in any of these imposing temples. The Nara Period was the period of absorption, or reproduction. It was Chin-

ese. With all that the Nara Period marked the one glorious chapter, all the more distinctive and with an emphasis all its own, because it was the first chapter in the history of Nippon architecture.—The Pacific Era.

THE INCREASING COST OF LABOR

No feature of the present industrial situation in this country causes more uneasiness than the declining efficiency of labor with reference to labor cost. The great increase in wages which has been obtained by the compulsion of events is not, in itself, the cause of complaint. It is the fact that increased wages have seemed to reduce the quantity and to impair the quality of labor which is the matter of chief concern with those whose capital is at risk in industry.

High-priced labor as an element of productive cost would be of minor importance in an era of high prices and almost unlimited purchasing power if it were not that wages obstinately refuse to be regulated by conditions which cause declines in commodity prices; and if it did not appear that generally higher wages involve lower efficiency and a decreased sense of responsibility. The notion unhappily prevails in labor circles that workmen are benefited and the community at large advantaged by a policy of restricting individual production. The theory is that if the best and most capable man is forced to gauge his day's work by the capacity of the less efficient men in the craft, a greater number of low-efficiency men can find employment and society at large will profit thereby.

This theory, though it is commonly challenged by the most ambitious workmen and though it is clearly fallacious as an economic proposition, has been so widely preached that it has seriously affected the morale of wage-workers. To this cause in part may be traced the prevalent laxity and "low-potential" of workmen, with its attendant increase in the "super-vision" item of total labor cost.

Apart from this cause there is another of almost equal weight as an impairment of the efficiency of labor—the wide diffusion of false notions about the margin of clear profit above cost in all lines of production. Again, there is a growing sense of the importance of labor without a corresponding recognition of the importance of capital and administrative talent. The essential nature of capital as conserved labor, and as such entitled to just compensation, has been lost sight of to an undue extent, probably because of the sophistry now widely preached that aggregations of capital are, ipso facto, iniquitous in origin and wicked in tenure. Finally, the spread of luxurious tastes and a popular contempt for the simplicities of life have set up false standards of duty. Altogether, the effect of these factors has been to introduce a new and very serious element in the relations of employer and employee.

A table recently compiled by a Chicago security firm shows that the net efficiency of each worker has been steadily declining since 1894, and the estimates of the Census seem to bear this statement out. It is claimed that if the average efficiency of labor had increased to any considerable extent there would now be a very noticeable difference between the amount the products and the number of producers, but this is not the case. In the relation of time employed it is noticed that the eight hour day now so prevalent in this coun-

try is in the main detrimental to the employer as the shorter working day has made workmen more lax during their hours of service rather than more efficient, theories to the contrary notwithstanding.

Admitting that the shorter period of labor has been beneficial in some ways, the fact remains that the agitation to effect it has been productive of much harm in crafts and industries which adhere to the old standard day. It has bred a sort of tropical indifference and listlessness which are fatal alike to the contentment of the workman and to his efficiency as a producer.

So far as the cost of living is concerned it is easily demonstrable that prices move up and down under the influence of economic and natural forces without much immediate effect on wages. The price of a commodity is subject to wide and sudden spurts and dips, but the wage of the producer moves slowly and equably upward. A rising commodity index, or a readjustment of the price average on a higher level is pretty sure to bring about an advance in wages, but there is no similar willingness of wages to recede when the commodity index falls. The readjustment of wages on a lower level, however just and necessary, can be accomplished only as an industrial war measure and at a terrible cost both to labor and to capital. And herein lies the peril of the prevalent listlessness and inefficiency of wage-earners. It is a moral as well as an economic problem of very great importance.

THE COAST BOULEVARDS

In order to build up our countryside and erect beautiful homes on the worked-out farms of our fathers, it is necessary that we have these districts connected with the big cities by good roads, and with this end in view the people of the eastern part of New Jersey are now working up a plan for a great boulevard which will run from Jersey City southward following the coast to the Delaware Bay at Cape May City at the southern extremity of the state, and thus connect New York with all the seashore resorts of the Jersey coast.

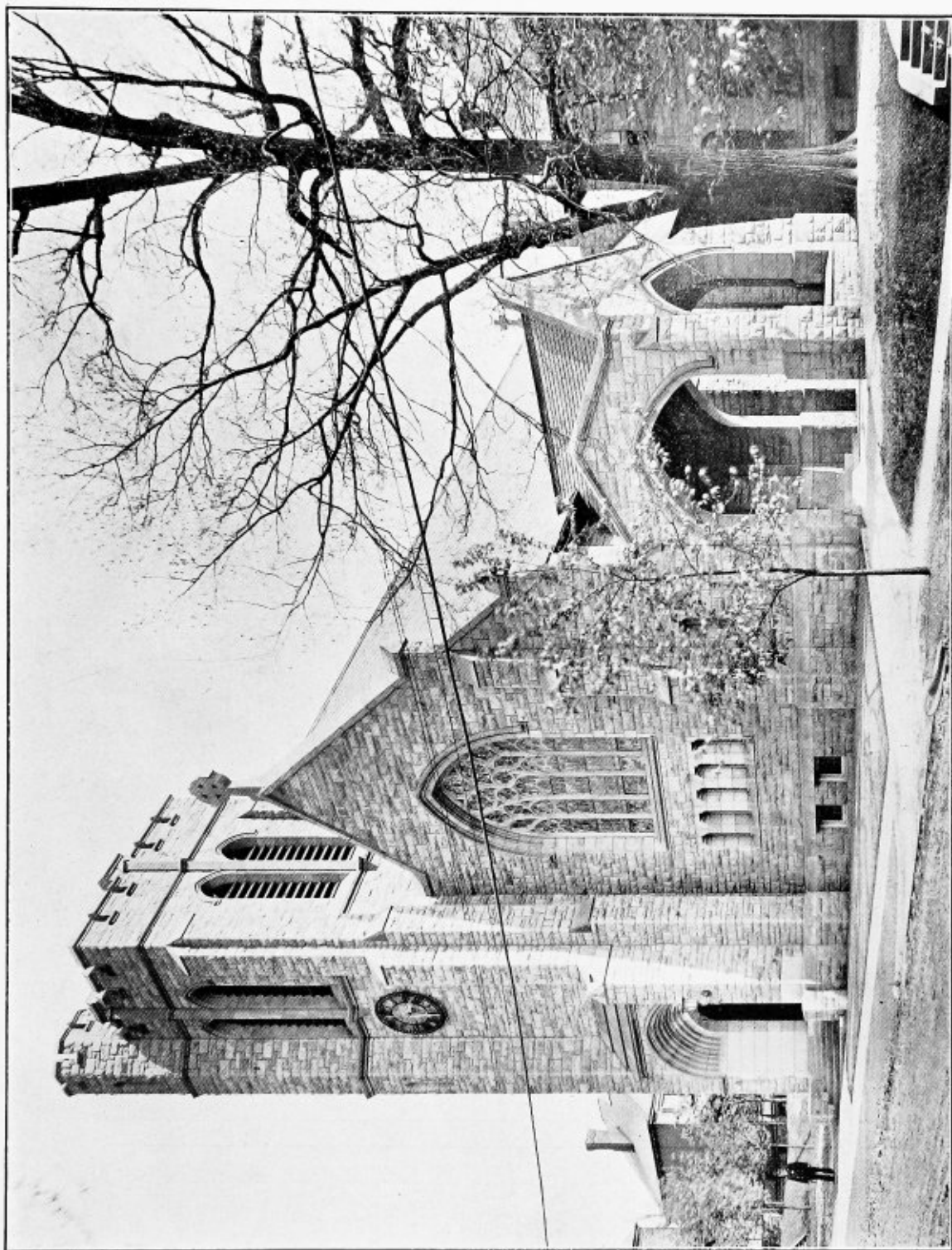
A Washington newspaper says that the same idea is entertained on the western coast of the country and that there a system of scenic boulevards will be constructed from Vancouver, B. C., to the southern boundary of California. In order to initiate this movement the King County, Washington Good Roads association is now carrying on correspondence with the county commissioners of Pierce county and others interested in the good roads movement.

The purpose is to connect the boulevards in each county into one system. As far as possible the system will be built on the upland so that as extensive a view as possible may be obtained of the country traversed by the driveways.

Such a system of boulevards would be especially attractive to tourists. American travelers spend from \$2,000,000 to \$5,000,000 annually on the driveways in Europe.

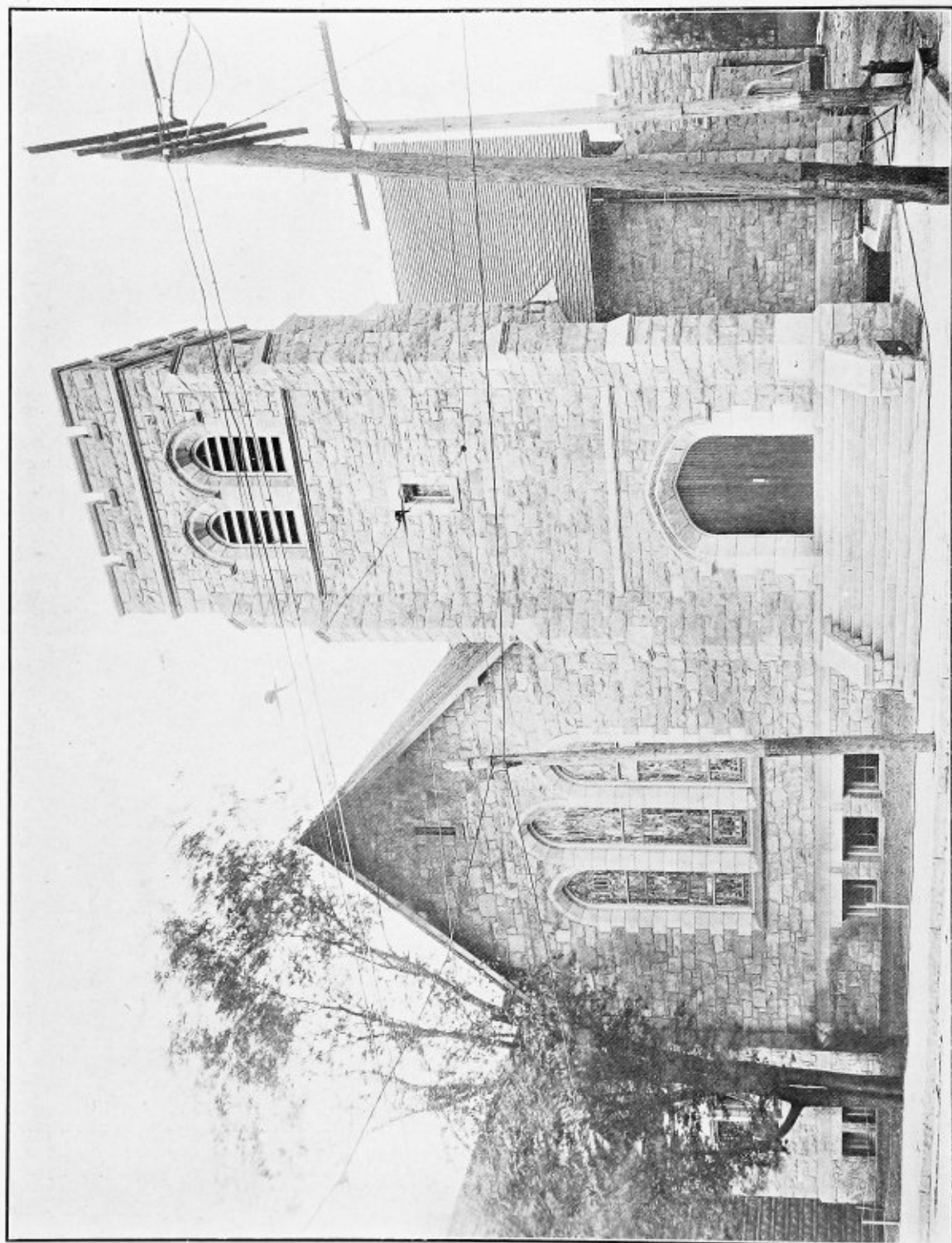
The scenery on the proposed boulevard system would excel anything to be found in Europe, not even excepting the Alps and the famous Corniche road in the Riviera, and would result in turning a large por-

(Continued on Page 35)



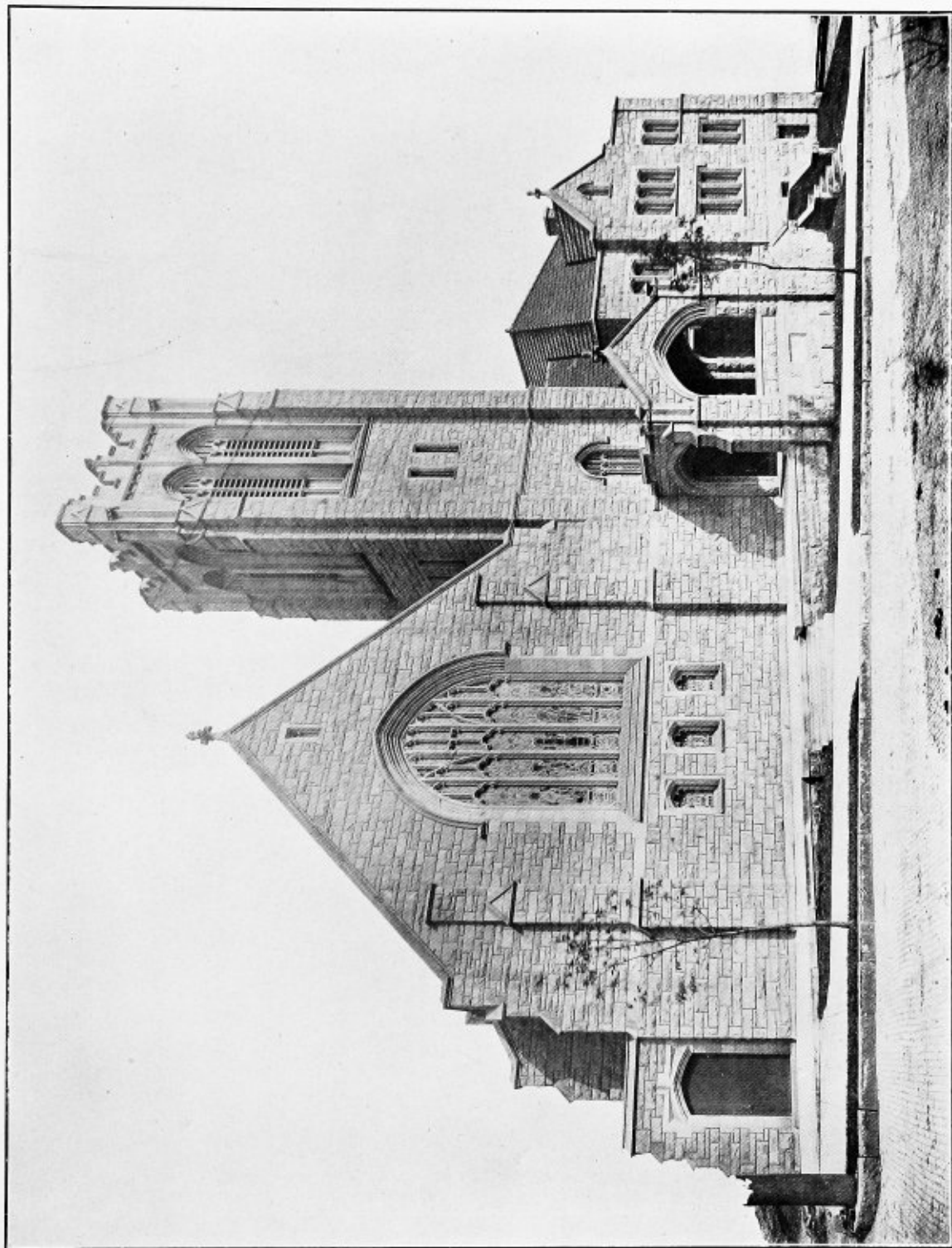
THE ST. THOMAS MEMORIAL CHURCH, OAKMONT, PA.

R. MAURICE THIMBLE, Architect.



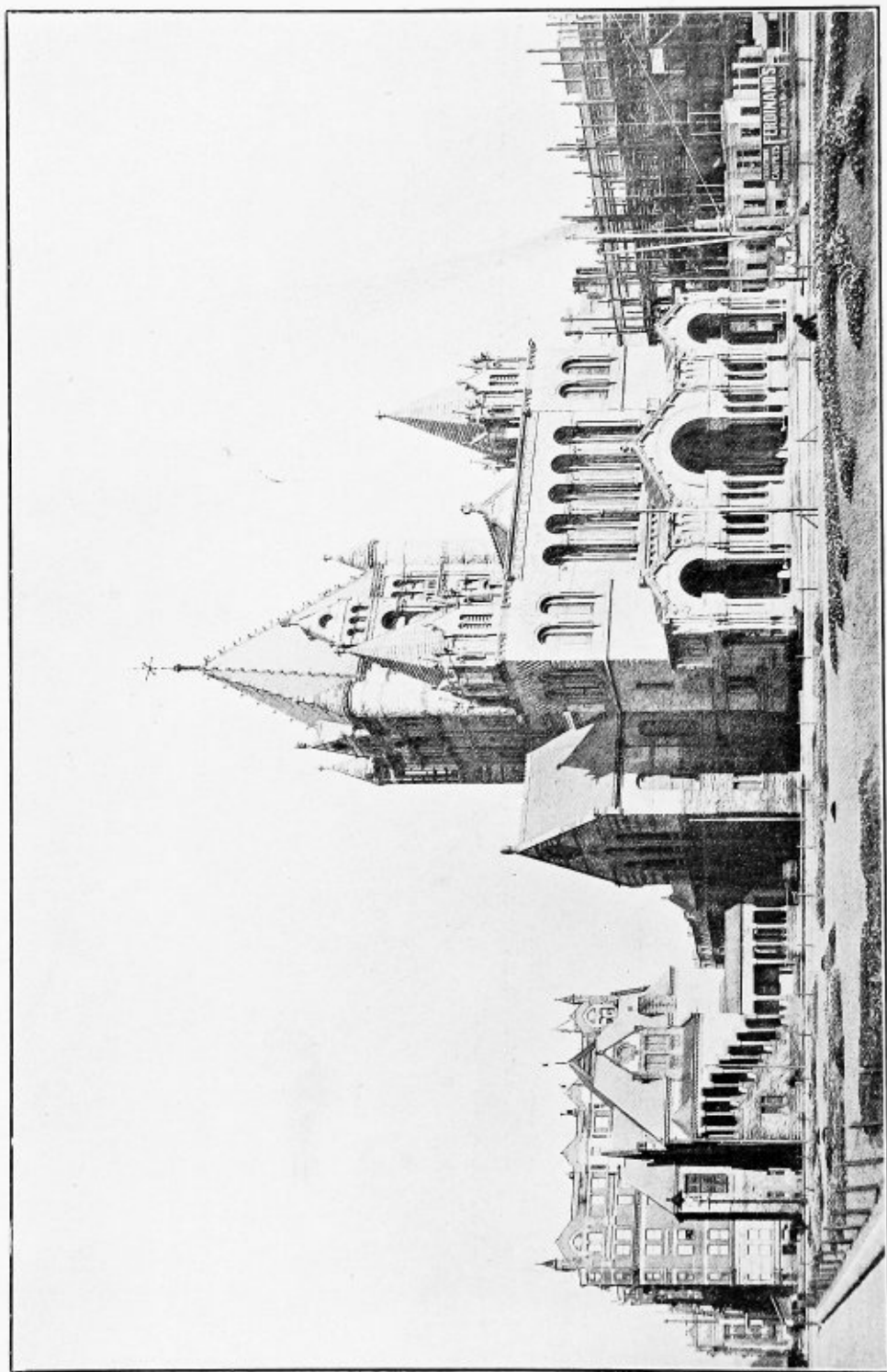
THE PRESBYTERIAN CHURCH, MCKEES ROCKS, PA.

O. M. TOPP, Architect.



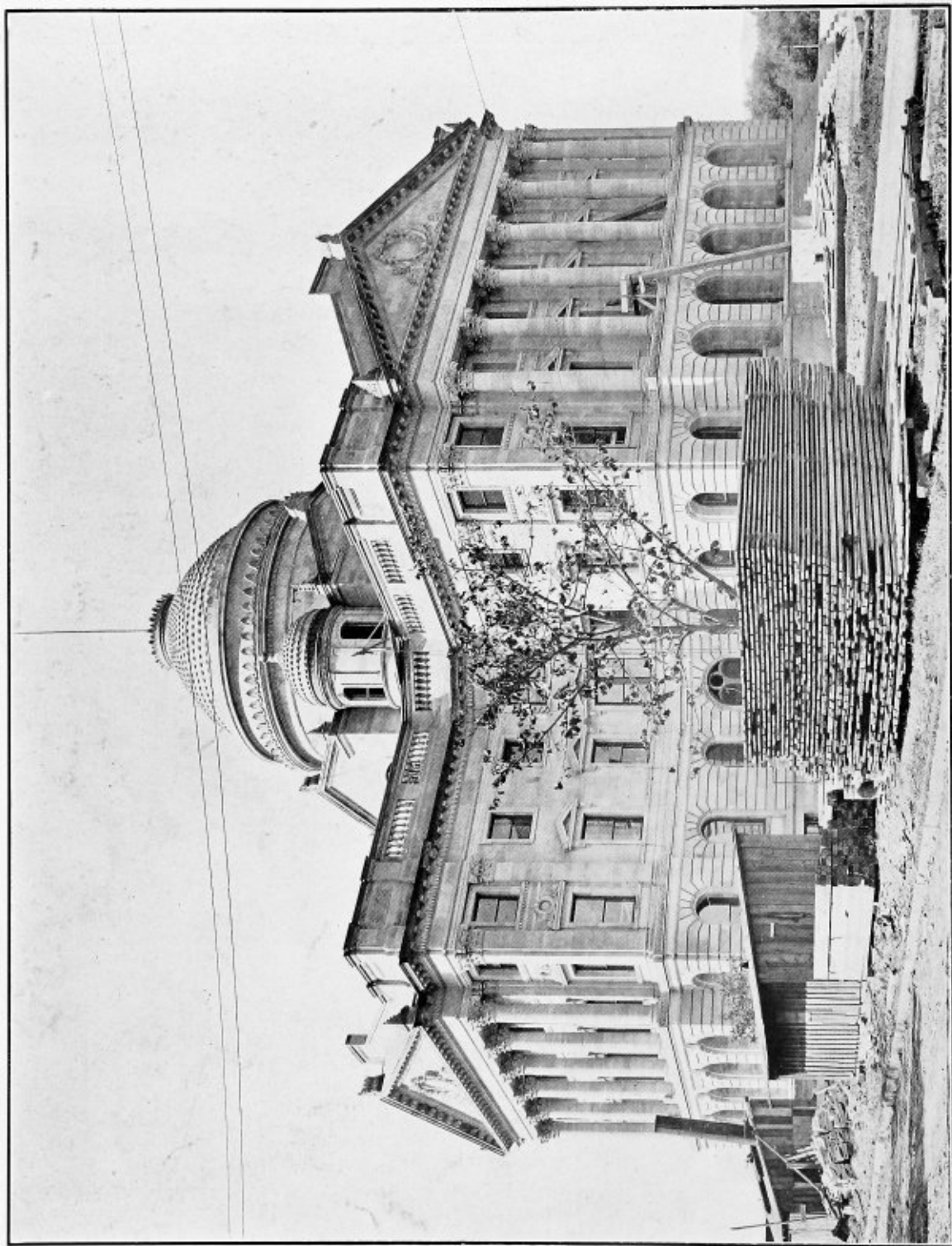
THE METHODIST EPISCOPAL CHURCH, GREENCASTLE, PA.

O. M. TOPT, Architect.

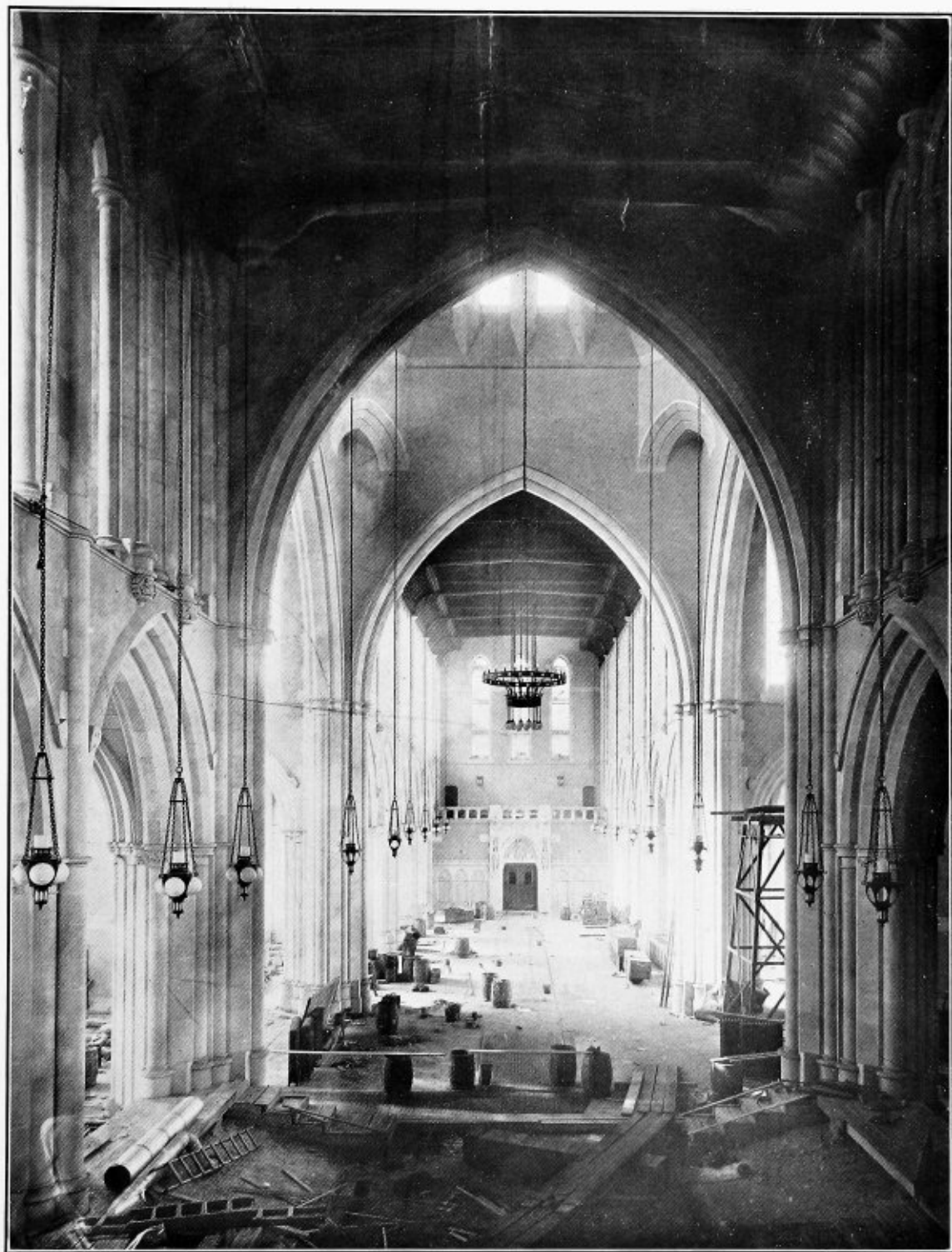


TRINITY CHURCH FROM THE SOUTH-WEST, BOSTON, MASS.

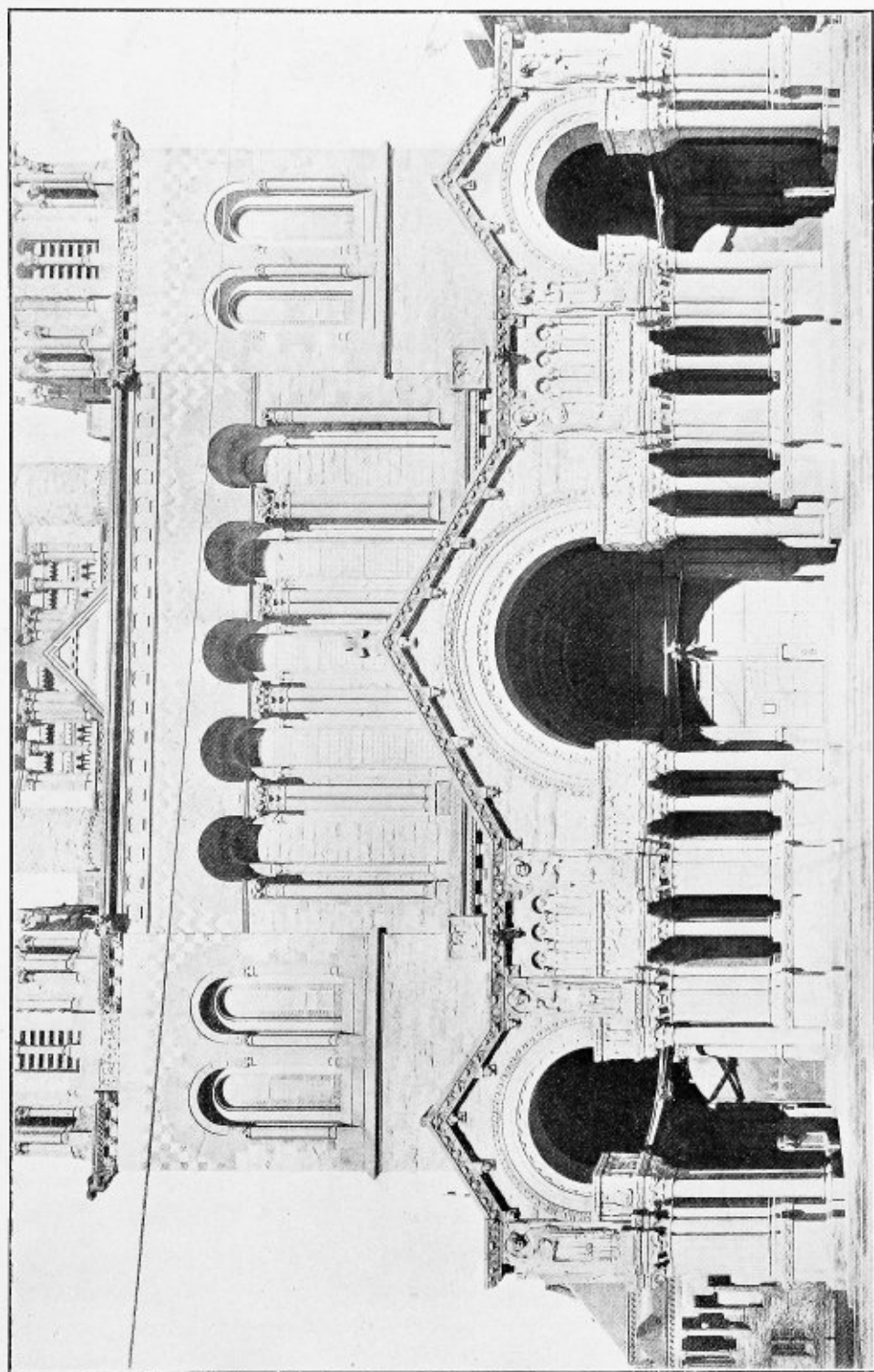
SHEPLEY, RUTAN AND COOLIDGE, Architects.



THE LUZERNE COUNTY COURT HOUSE, WILKES BARRE, PA.

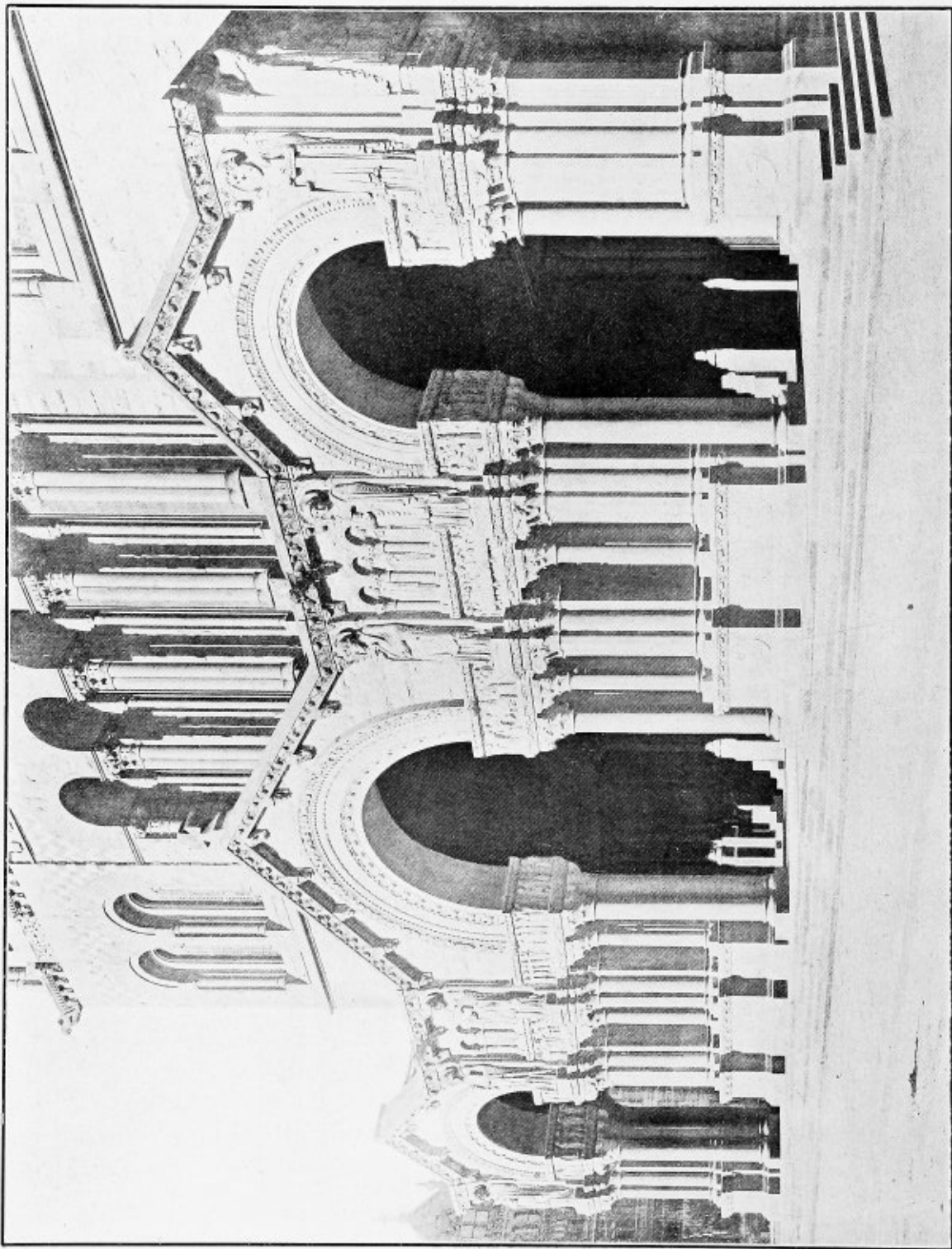


INTERIOR OF CALVARY PROTESTANT EPISCOPAL CHURCH, PITTSBURGH.
CHAM, GOODHUE AND FERGUSON, Architects.



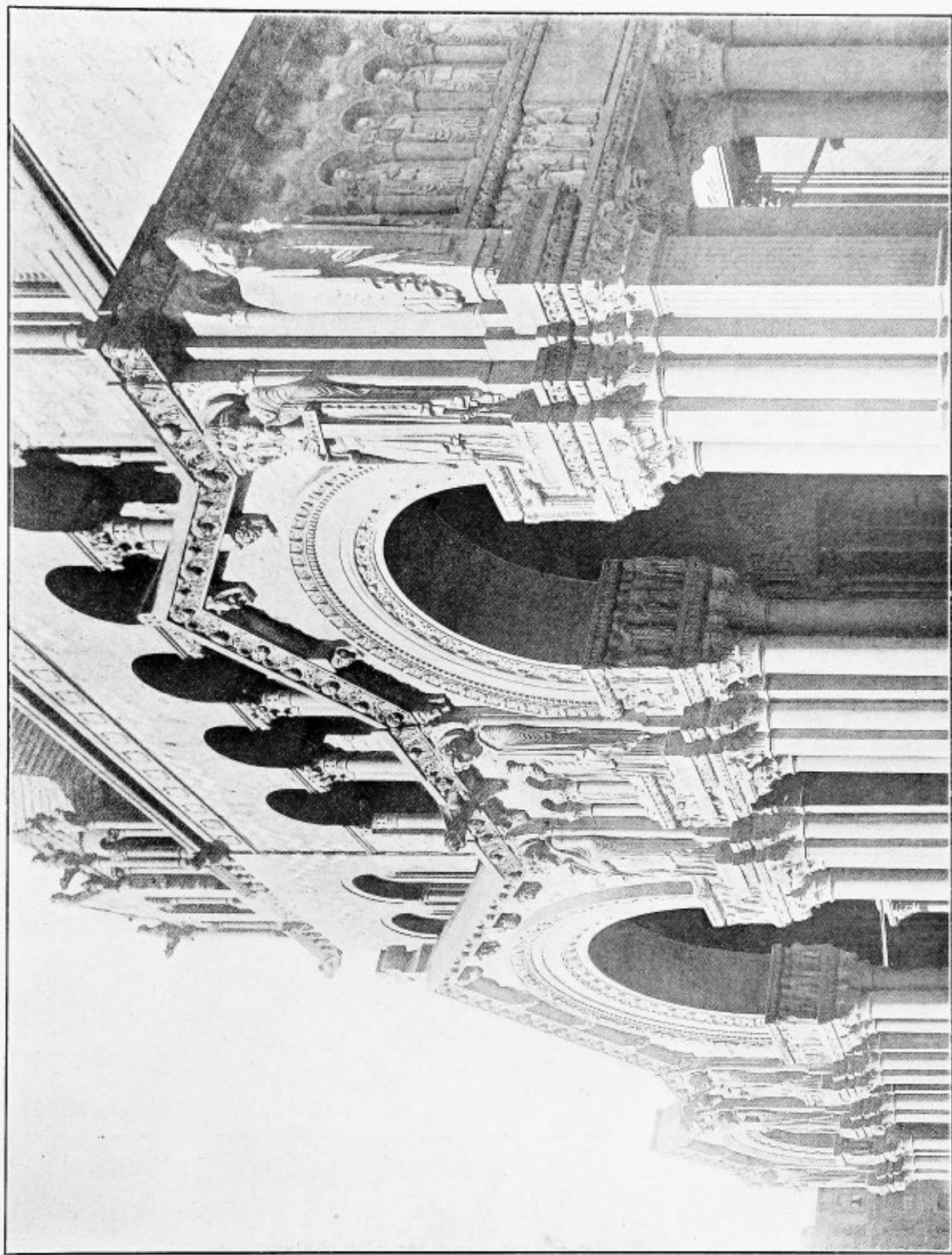
WEST FRONT, TRINITY CHURCH, BOSTON, MASS.

SHEPLEY, RUTAN AND COOLIDGE, Architects.

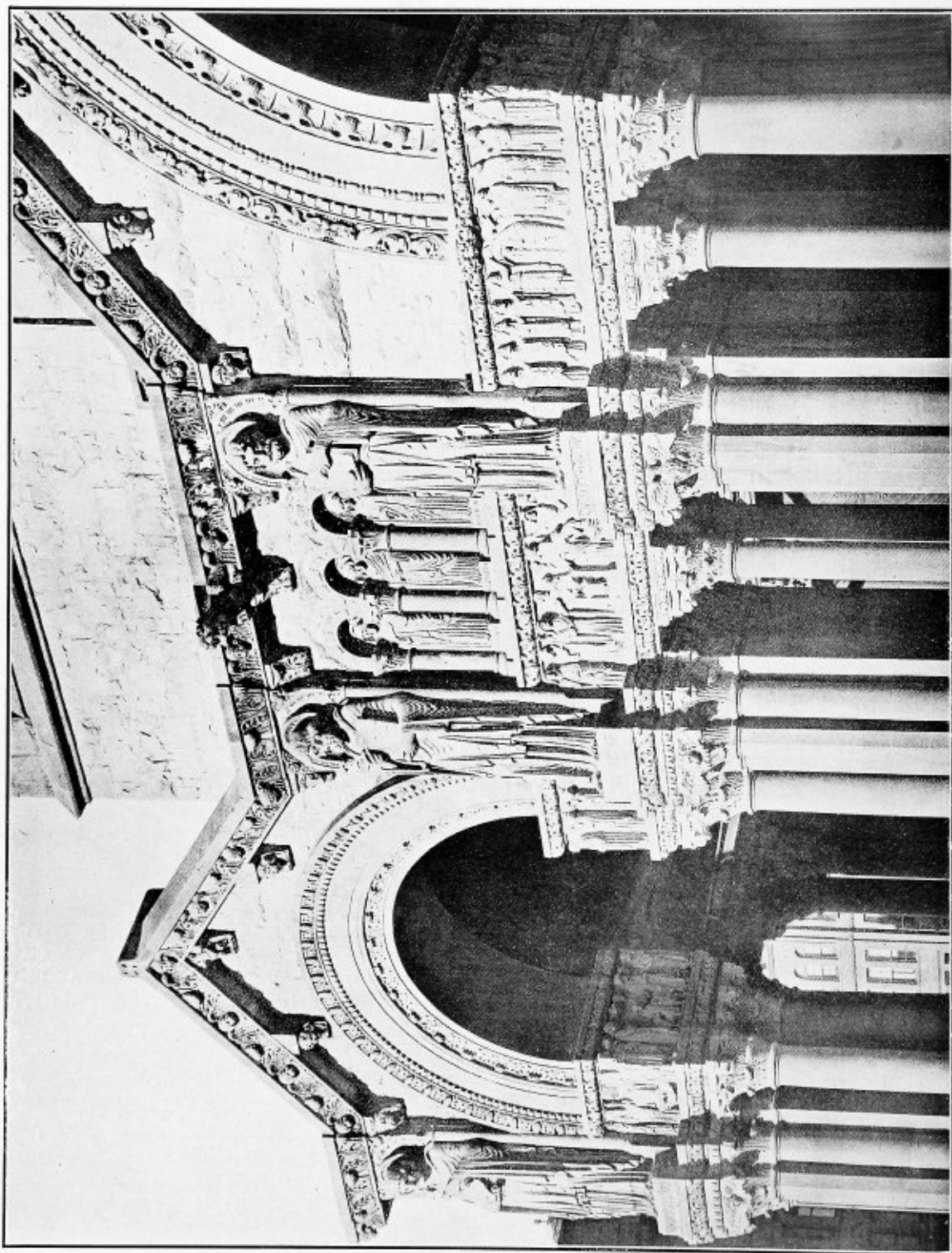


WEST PORCH, TRINITY CHURCH, BOSTON, MASS.

SHEPLEY, RUTAN AND COOLIDGE, Architects.



GALILEE PORCH FROM THE SOUTH-WEST, TRINITY CHURCH, BOSTON, MASS.
SHEPLEY, RUTAN AND COOLIDGE, Architects.



DETAIL OF GALILEE PORCH, TRINITY CHURCH, BOSTON, MASS.

SHEPLEY, RUTAN AND COOLIDGE, Architects.

(Continued from Page 18)

tion of the tide of tourist travel toward the Pacific Coast.

Pierce county has already taken up the project, and a movement for the construction of a boulevard from the city park system to the King county line is well under way. This boulevard, after crossing the tide-flats on the Marshall road, will follow a high ridge that affords a view for miles of the finest farms and gardens in the world.

In connection with this movement, the park board of Tacoma has completed plans for forty miles of boulevards connecting the parks and through the surrounding country.

These boulevards will do much toward building up many now isolated sections of some of the most beautiful country in The United States and will mean that many millions of dollars will be spent in the near future for the erection of homes along their route, and should be a source of revenue not only to the counties through which they pass, but to the architects and builders generally.

SOME NEW BUILDING LAWS

The city of Kingston, Jamaica profiting by the experience gained through its disastrous earthquake and fire of last January has passed a new building law, which seeks to prevent as far as is possible a repetition of that disaster by means of the erection of earthquake-proof and fire-proof buildings. These precautions are well adapted to almost any large city and would add materially to the too lenient laws now existing in many cities in this country. A resume of the principal requirements for the erection of new buildings in Kingston follows:

The framework of buildings may be of steel, iron, or wood, every member securely, rigidly, and durably connected with every contiguous member, and must be covered externally with hard, durable, and fire-resisting material, securely attached to the framing at all points.

No timber-framed building shall contain more than two stories having an aggregate height of 25 feet, or have a cubical content exceeding 100,000 cubic feet, nor shall any timber-framed building be erected or used for any other than residential purposes. All members of a steel or iron framework of any building shall be of the same material, and no cast iron shall be used in any part thereof.

The walls of building may be constructed of brick, concrete, stone, or other hard and incombustible material, and they must be built on a foundation of cement concrete. Walls built of brick, dressed stone, or other similar material must be solidly put together with Portland cement mortar, and be reinforced by hoop or band iron not less than 1 inch wide and one-twentieth of an inch thick. Walls of cement concrete shall be composed of Portland cement, clean sand, and clean broken brick or stone, and shall be reinforced by steel or iron bands, bars, or wires. Roofs must be covered externally with hard, durable and incombustible material.

Iron and steel framing specially manufactured for the construction of buildings and Portland cement are exempted from duty until April 1, 1909.

CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission will hold two examinations on November 13, to fill vacancies in the positions of constructing engineer in the Forest Service and also of a position as assistant technical editor in the Geological Survey.

The positions as constructing engineer will pay a salary of from \$1,500 to \$2,000 a year and that of assistant editor will pay \$115.00 a month. In the first case the applicants will not be required to appear at any place for examination, but the examinations for the position of assistant editor will be held in this city at the Post Office building, Fourth avenue and Smithfield street.

The examination for constructing engineer will consist of the subjects mentioned below, weighted as indicated:

Subjects:	Weights.
1. Education, general and technical.....	10
2. General experience in civil engineering.....	30
3. Technical description, in detail, of some important engineering work designed by or done under the supervision of the competitor, or upon which he was engaged.....	20
4. Special experience in construction.....	40
Total.....	100

The classes of construction under subject 4, in which competitors will be rated, are the following: (a) Earthwork, (b) concrete work, (c) masonry retaining walls, (d) bridge work, (e) telephone lines, (f) roads and trails.

A competitor who, in the judgment of the examiners, should be rated at less than 70 in any special line of work in subject 4 will, by reason of this, be ineligible for that special line. A competitor may submit as many separate statements (each of which will cover one item in subject 4) as he thinks proper.

The competitor will be held responsible for the accuracy of the statements made in answer to the questions in this examination, and it will be necessary for him to make a sworn declaration of their accuracy, in presence of a notary who will attest the declaration by affixing his seal, before submitting his application for approval and rating.

The competitor will be required to submit with his application the names and addresses of from three to five professional men to whom he is well known and with whom he has had business relations. These references should be able to testify to the good general reputation of the competitor, as well as to his technical experience and skill, both general and special.

Age limit, 25 to 45 years on the date of the examination.

Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for application Form 304 and special form. No application will be accepted unless properly executed and filed, with the material required, with the Commission at Washington prior to the hour of closing business on November 13, 1907.

The examination for assistant technical editor will consist of the subjects mentioned below, weighed as indicated:

Subjects:	Weights.
1. Thesis (on subject to be assigned in the examination room. Competitors will be allowed to select one of two or three subjects).....	40

2. General and technical training (rated on application)	30
3. General and special experience (rated on application)	30
Total	100

A graduate in civil engineering with some practical experience in structural engineering, especially as regards concrete and reinforced concrete, will be preferred. Experience in writing on technical and engineering subjects is required. Applicants whose training and experience do not fulfill the conditions will not be admitted to the examination.

Age limit, 20 years or over on the date of the examination.

This examination is open to all citizens of the United States who comply with the requirements.

Applicants 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 Form 1312. No application will be accepted unless properly executed and filed, in complete form, with the Commission at Washington prior to the hour of closing business on November 2, 1907.

UNIFORM BUILDING LAWS*

By F. W. Fitzpatrick, Architect.

That you deemed this subject, "Uniform Building Laws," of sufficient importance to be discussed at this Congress, indicates the prominence the matter has attained in your esteem and that you asked me lead in its discussion is to begin with, most flattering to me personally, but also shows that in Canada at least the profession appreciates the advantages to be gained by the necessity there is for working in closest touch with and upholding the building departments of the country, which departments together with those of my own country, across the border and those of Europe and Asia and of even Australia are at last firmly united in an International Association, whose Vice-President is your enthusiastic secretary pro tem and whose Executive-Officer and Consulting-Architect I have the honor of being.

One of the very foremost purposes of that Society is the securing of greater uniformity in building requirements. There is absolutely no reason that can be advanced why those laws should not be uniform while it would take me all day to enumerate the good and sufficient reasons why they should be uniform. There is no more sense in having them dissimilar in the different cities of a country than there is in having, as we now have, radically dissimilar divorce laws in the States. You practicing Architects realize how much bother these jumbled up regulations can be. In the old times when an architect seldom went out of his own bailiwick it mattered less, but now every one of you have commissions in Montreal, in Toronto and in a dozen other places. And you are confronted not with merely differences to meet local conditions but in one city you are told that a twelve-inch wall will carry so much load while in another place twenty-five miles away the ordinance permits you to put twice that load on a wall of the same dimension. Builders have still more fretting difficulties. They figure construction one way, sensibly,

probably even according to plans for a building in some other town than where they live and lo and behold they run up against, so to speak, unexpected and perhaps new regulations that change not only the profit there may be on the work but may possibly compel complete revision of plans meaning delays and oftentimes litigation.

Building laws, at least as they were until very recently, were a mere jumble of make-shift regulations, the outgrowth of necessities that were more than apparent and that had to be met by men generally ill-fitted by training or experience to cope with them. There was little communication between cities and such a thing as standardizing these regulations was undreamed of. Indeed few cities deemed them worthy of much thought and the result is evident all about us in the hundreds and thousands of old buildings, shabbily built, without any regard to fire-prevention and that are now a standing menace to our every community. Our new buildings to be at all safe have to be built not only with ordinary care and intelligence but with extraordinary precautions to protect them from the hazard that lax regulations have created.

On "our" side of the line—the half of me that is not Canadian is now addressing you—municipalities, underwriters and architects are pretty thoroughly awakened to the necessity there is for the standardization of all municipal regulations regarding buildings. A splendid effort is being made to have one uniform law passed by every community. Only in the strictly local phases of the subject can there be the slightest necessity for special requirements; the basic and general regulations, particularly those referring to strength of materials, mode of construction, what constitutes fireproof construction and what does not and all those matters should by all means be uniform and standard.

In the first place where many band together to obtain some end the means taken toward that accomplishment can be more thorough, more all-covering than can any individual effort. The underwriters, for instance, have a uniform building code that they are urging all cities to adopt and that is most excellent. It is the work of the leading experts of the country, years have been spent in solving it. We, this Society, helped materially in having a splendid ordinance written for the city of Cleveland. We still look upon that as the best so far conceived and have had it adopted by many other cities, but the underwriters are making such strenuous efforts to have their ordinance adopted that rather than to scatter our labor and to be pulling at cross purposes we have set aside what we deem the very best and now most zealously work in conjunction with the underwriters and advocate their ordinance. There is nothing like unifying efforts "I union fait la force" you know, and for that very reason we are particularly anxious to secure the earnest co-operation of the architects. On the other hand, where an ordinance is devised especially for some particular city or town it is usually the work of a committee of local men, the members of which at best have but a local experience and are more generally political appointees than shining experts. Why, I know of one very important city indeed that rebels at the idea of adopting anything that anyone else has and is now at work upon its own building ordinance that is in charge of a lawyer, one builder, one architect, a plumber, two business men—one a dry-goods man, the other, a butcher—a doctor and three real estate agents. The architect has never built anything more important than a school-house and the lawyer's practice is in the police court.

* Paper read before the first congress of Canadian architects, at the Institute of Architects of Canada, in convention, August 19-20-21, 1907, at Montreal.

Imagine the building regulations that that city will have.

Not only are we clamoring for uniformity of building laws but we are making considerable headway in inducing the state authorities, your provincial governments, to establish the minimum of excellence that will be permitted in any building anywhere within the confines of the state or province. There are towns of size sufficient to be classed as almost cities in which there is not one iota of regulation. Anyone and everyone builds as he wishes. Those places are growing and it is only a question of time when they will be commercial centers of note. Think of the heritage of poor construction and the resultant fires and loss of life and property that will be their portion on account of the present laxity in building matters. With the state or province establishing as I say a standard of construction below which nothing will be allowed and seeing that its laws are lived up to by creating the office of state or provincial fire marshal it will be an easy matter for the cities in each grand division which have due regard for their own safety and the permanence of construction to adopt other and additional uniform regulations that will incorporate these basic ones that obtain throughout the whole section. There need be no conflict of authority or clash of regulations and it is a movement that merits well of you. Not only should you be interested in it as public-spirited citizens but individually it is good business policy for you to give this propaganda all the impetus you possibly can.

Our building requirements should not only be uniform but they should be severe. I have heard people clamor against this and say that it would necessarily make building more expensive and be a great hardship on the poor man, a specious argument and veriest sophistry. As things are today the poor man pays an almost unbearable tax simply because he and his fellows and his fathers have been permitted to build shoddily.

This so-called cheap construction—which is the most expensive of all—has become such a habit that it can be said to be in the blood. We are contaminated with it. Even the architects have it in virulent form but of them more anon.

We have reached a point where the community has to legislate and do it strenuously for it must be recognized that little can be expected of the individual, even where his own interests are at stake. As far as building is concerned the average individual will only build as well as he is compelled to. The essential purposes of building restrictions should aim at the preservation of property and the protection of the interests of the many against the aggression or even the private rights of the individual. Now since fire is the chief destroyer of property, virtually the most contagious of diseases, everything should be done to stop the growth and destruction wrought by this plague. The community does not legislate for the benefit of the individual. We don't ask it to. It is meet and right that it legislate to prevent and to control contagious diseases, which may spread from the unclean or ignorant person who originates them to the community at large. "Just as no legislation aims at the prevention of contagious diseases is held by the public too grinding and unendurable, so no disease that can effect the public welfare is more contagious than a conflagration, and yet comparatively little effort is made by the public to deal with it preventively."

We appropriate and spend hundreds of millions of dollars a year in an endeavor to handle this disease after it has broken out. The maintenance of our fire depart-

ments, high water pressure and the payment of insurance premiums, all in the endeavor to cure fire, costs these two countries over \$500,000,000, but when it comes to spending a little money or to enact sufficient legislation to stop, to prevent this scourge, ah, it is another matter and it immediately becomes time to economize and to not interfere with the people's "right". After all it is the community itself that is the real culprit since it has permitted and does permit buildings to be erected that inevitably mean fire, the murder of innocent citizens and the destruction of much property when it really has the power to absolutely prevent conflagrations if not ordinary fires.

To prevent destruction a building must perforce be indestructible; to not burn it must be incombustible and to not be damaged by fire it must be fireproof. It is not asking too much that our building laws be uniform and even at the risk of being thought visionary and one expecting the millenium I would insist that those laws prohibit everything but incombustible and fireproof construction. Mark my words, it is only a question of time when such regulation will be enforced and the sooner we have it, the better, the less danger will there be of other such horrors as San Francisco and Baltimore. Am I an alarmist? Look at the conditions about you, the narrow streets, the vast amount of wood in your buildings, the unprotected windows and think of how slight a margin there has been right here in Montreal between what might have been only a serious fire and what might have been a conflagration that would have wiped out one-half your highly combustible city.

"The theory under which advances in fireproof building have been made hitherto is largely, if not altogether, a mistaken one. It has been the assumption that a real estate improver as a sane business man, should be able to perceive how much it was to his own ultimate advantage to build an indestructible building, and so save in the long run a large amount in insurance on building and contents. The true theory, and it is incontrovertible is that incombustible buildings must be built. It is really immaterial to the taxpayers whether an individual elects to let his building be destroyed by fire, but it is of very real interest to the public that the property of other people shall not be destroyed at the same time. This once comprehended, it is easy to see that the real responsibility rests on the public and not on the individual. It is for the public then to examine the ways in which it can discharge its duty to itself at least cost to the taxpayer and here, as in the case of all other contagious diseases time is the essence. It is desirable and necessary, imperative to substitute unburnable for burnable buildings with the shortest delay possible since a conflagration may occur at any minute."

We cannot leave that process of transformation to the individual and the community may only act through wise laws and their rigid enforcement. Why should those laws be more exactly or more strictly enforced in one community of a country than in another? "Unjust discrimination"—and uniformity is the only thing that can efface that stigma.

But the state can coax its people into this right way of building as well as it has the power to force them into it. Why should not our taxes be upon a sliding scale? Why should a man who voluntarily builds well and pays the increased cost of such construction be taxed upon a virtually self-imposed tax, a species of compound interest as a penalty for having so well-built? Would it not

be infinitely more equitable to have a regular ground tax to begin with and then a sliding scale of tax upon improvements, buildings, the minimum rate upon those of the first-class, fireproof structures that cost the community the lowest amount, the very minimum of expenditure for protection, fire departments, etc.; and then charge the maximum rate against the old combustible and dangerous structures, for the comparative safety of which the city has to spend so much for fire departments and all that sort of protection?

In all of this the architect plays a most important part. He should be the intermediary between the constituted authority of the State and the individual, his client. In seeking to have uniform and wise laws enacted looking to safe and sound as well as fireproof construction we should have his most earnest and enthusiastic co-operation. I take it that here, in Canada, you gentlemen do so actively co-operate with the Building Departments and others interested in the same laudable endeavors. In what I will say I have particularly in mind conditions with which I am more familiar than with those existing hereabout. Yet even here there may be cases quite analogous to those we lament as so common across the border. With us it is undoubtedly true that the architect is very largely to blame for poor construction from a fire protection standpoint. As a general rule the architect lacks the conservative instinct and those of both the new and the old schools know less and care less about the fire protection element which enters into the construction of a building than about any other feature. Though carelessness and ignorance in the matter of inspection are also very largely responsible for this kind of work and for the toleration of and connivance at experimental construction that so often leads to fatalities and to considerable loss; witness our many collapses of reinforced concrete buildings even while under construction. It is lamentable that so little attention is paid to what really constitutes safe building. Our architects go along in the same old way as a matter of habit. Wood was used by their predecessors and little distinction was made between combustible and noncombustible materials, between what was lasting and what was perishable and the habit has struck. The average practitioner, I am sorry to say, is infinitely more concerned about some carving on the exterior or a specially fine mantelpiece, something that he terms the artistic features of his building, than he is about the real essentials of that construction. He forgets that true art is truthful and that however beautiful a facade may be if what it conceals is poorly built, flimsy and dangerous then indeed is his chef d'oeuvre but a whitened sepulchre.

Granted that the average client is cranky and inclined to peremptorily command his architect, the latter's duty is quite clear. He should no more permit himself to build anything that can be classed as a dangerous building than should a doctor give a patient poison even though he should ask for it. Indeed is it not most unwise to have laws that allow him to do so? There was a time when, as in the other learned professions, if a man presumed to dictate to or be overbearing with his architect, the latter in substance would tell him to go to various and sundry places and would throw the job after him. I have seen that done right here in Montreal and more than once. That time has gone by. That the architect has brought this change upon himself by his own subservience to the prospective client, by his extreme solicitude to not lose a job, his willingness to mea-

sure swords with any and all competitors, in competitions and tests of price as well as of skill, and has consequently weakened his position and given the owners of property an upper hand that they never dream of using in dealing with the medical or legal professions is neither here nor there. The fact is that the average architect does not stand superlatively high in the esteem of the average man. But the architect must be a poor talker indeed, a man of little force if he cannot persuade his client that to build something artistic is wise and to build something durable is necessary. He should arm himself with such statistics and data as to be able to convincingly impress that client with the folly of poor, experimental or combustible construction. Heavens! there is surely matter in abundance and facts galore readily accessible, matter of common knowledge testifying to the desirability, the necessity there is for more substantial and permanent construction. The architect who pleads that he does not know much about fireproof building and is not aware of the appalling losses of life and property that are the results of just such ignorance as his has no place in the profession and the sooner he is ruled out of it, the better.

The good, the capable architect needs no encouragement on my part to advise his client to build well but even to him it would be a decided help if our laws were such that the client had to build well, and that those laws compelled the same uniform excellence wherever the architect may have clients would be but an added boon and one for which he should strive. But his isolated personal effort in that direction will not count for nearly so much as if he would join his fellows and in association with all those societies having for their purpose the same general objects, the common weal in one grand united effort to secure good, adequate and uniform building laws.

THE ST. THOMAS MEMORIAL CHURCH

The new St. Thomas Memorial Church of Oakmont, Pa., is an imposing stone building located at the corner of C and Fourth Streets, the extreme width on Sixth street being 75 feet, and on Fourth street its length is 126 feet.

The building is designed in the early English style of Gothic architecture and is one of the best examples of this style in western Pennsylvania; all of the exterior and interior details being carried out in perfect harmony.

The building has the massive appearance characteristic of the mediaeval church and is dominated by a large tower on the corner, 18 feet square and 68 feet high, with an octagonal stair turret on one angle, which gives access to the roof by a winding stairway, and heightens the picturesque effect of the building.

The main entrance to the auditorium is through this tower, and on the lower side of the building there is a carriage porch and entrance which add greatly to the architectural beauty. In the gable between the tower and porch is a beautiful tracery window cut entirely from stone and glazed with leaded glass; this window is one of the finest features of the entire building as the effect is equally good from the street or auditorium.

This window was constructed by Rudy Brothers Company, of this city and is in keeping with the general excellence of their work in Pittsburgh and vicinity.

The appearance of the Fourth street side is enhanced by the heavy buttresses which take up the thrust of the

roof trusses, and by the projecting wing of the organ chamber.

The rear of the church is exceptionally good on account of the irregular effect given by the projection of the octagonal sanctuary, flanked on either side by two large stacks. Architecturally, the effect is almost equally good from any point of view, each side having some particularly pleasing feature. Inside the treatment is in harmony with the exterior and the entire effect is good.

Entrance is had from the tower and carriage porch to a large lobby, in which is located the baptismal font, in accordance with early English tradition.

The lobby is separated from the main auditorium by a large stone arch, which is duplicated at the front of the chancel by another of a more elaborate design.

The main auditorium is about 40 feet by 70 feet and has a seating capacity of 425. This room is beautifully lighted by the large stone tracery window in the front gable and by nine other tracery windows on the side. These windows are all glazed with leaded glass of Gothic design and the colors are soft and harmonious.

The walls are wainscoted with oak to the height of the window sills and the aisle floors are tiled. The roof is supported on hammer beam trusses, which add to the churchly effect, and the entire ceiling is of wood, divided into panels and stained a rich seal brown to harmonize with the wainscoting and furniture.

Back of the auditorium is the chancel with the organ chamber on one side, the sanctuary in the middle and the choir and rectors room on the other side.

The chancel and sanctuary are more richly finished than the other portions of the church and are lined with a high wood wainscoting ornamented with Gothic panels, and have floors of marble mosaic, with marble steps leading from the auditorium to the chancel.

The pews, pulpit and all other furniture are designed in perfect harmony with the structural parts of the building, and the walls are decorated in buff and brown to correspond with the woodwork.

The electric lighting is accomplished by means of eight large chandeliers dropped from the trusses and by numerous wall brackets. All the fixtures were specially designed in the prevailing Gothic style of the whole. The church is heated and ventilated from plants located in the basement, where there are two large gas furnaces and two stack heaters, which are connected to the ventilating shafts that exhaust the foul air in the auditorium at regular intervals.

One of the most attractive things in the church is the Memorial altar of Caen stone, which was installed at a cost of Five thousand dollars.

All of the work has been done in the most substantial manner and the workmanship was of the very best obtainable and the building should outlive many generations. Mr. R. Maurice Trimble, of this city, is the architect and he has, in the design of the new St. Thomas Memorial, made a distinct addition to the Episcopal Church architecture of Western Pennsylvania.

Milligan and Dible, of Oakmont were the contractors and builders. The stone in this church was furnished by the Ohio Quarries Company through their Pittsburgh representatives, The Martin Brick Company.

THE GREENSBURG M. E. CHURCH

The two churches, The M. E. Church at Greensburg, Pa., and the Presbyterian Church at McKees

Rocks, Pa., which are shown in this issue were both designed by the local architect, Mr. O. M. Topp.

The M. E. Church at Greensburg which cost, including the organ, \$80,000 is designed in a modified Gothic style and is built of Empire Ohio sandstone with Cleveland stone trimmings.

The main auditorium is wainscoted with brick and has brick arches sprung from columns of Indiana limestone. The woodwork in this church is a particularly attractive feature and makes a very pretty interior as the ceiling is finished in open timber work suggesting the old time chapels.

The stone work on this church was all done by Samuel Holmes of Allegheny, Pa.

THE McKEES ROCKS PRESBYTERIAN CHURCH

The Presbyterian Church at McKees Rocks is also of the Gothic style of architecture and is built of Beaver County sandstone and trimmed with Cleveland stone.

The main auditorium has a capacity of 450 and there is also a Sunday school room, which has accommodations for 600. The entire cost of this building was \$40,000.

Charles S. Smith of Centre Avenue, Pittsburgh was the general contractor.

LOCAL NOTES

Mr. J. B. Reinhalter, the Pittsburgh representative of The Woodbury Granite Company of Hardwick, Vermont has been put in charge of all the territory west of Pittsburgh and will hereafter devote his time between the Pittsburgh and Chicago offices of the company.

It was through the efforts of Mr. Reinhalter that The Woodbury Granite Company was awarded the contract for furnishing over 600,000 cubic feet of Hardwick White Granite for the new Wisconsin State Capitol at Madison, which is said to be the largest contract ever awarded in the history of the granite business in this country.

The growth of this company has been most remarkable as it has been but fifteen years since the first stone was quarried at Hardwick, but its record is one that may well be envied by many of the older granite companies as they have had the Woodbury product specified in many of the finest public and most beautiful private buildings that have been recently erected in this country, among which are The Pennsylvania State Capitol, The Cook County Court House, The Kentucky State Capitol, The Providence Post Office and Custom House, The Essex County (N. J.) Court House, The American Bank Note Company's building in New York and many others.

During Mr. Reinhalter's absence from the Pittsburgh office this territory will be looked after by his assistant, Mr. A. E. Foster, who has been in this business for twenty-five years, and who comes here from Denver.

James L. Stuart, formerly resident manager for James Stewart & Company, Contractors, New York and Pittsburgh, has opened offices in the Stevenson Building, 341 Sixth Avenue, and has already secured several large contracts; among others, The Central Power Building,

(Continued on Page 41.)

THE OHIO QUARRIES COMPANY



VIEW OF BUCKEYE QUARRY, THE OHIO QUARRIES COMPANY.

Usually the development of a stone property proceeds slowly. To enter a field and in less than five years to become one of the largest producers of a standard stone is a feat that had been rarely, if ever, accomplished until it was done by the Ohio Quarries Company, whose magnificent plant is located near Amherst, Ohio, about thirty-five miles west of Cleveland. Less than five years ago this company acquired by purchase about one-half section of the finest stone land in Lorain County, where the largest quarries of Cleveland Sandstone are located. They proceeded with unusual vigor to open and develop their quarry, erect derricks, build water reservoirs, power houses and mills and to install the best stone working machinery that could be obtained.

One who has not visited the plant can hardly appreciate what has been accomplished in this short time. The quarry, which is about 1000 feet long and 150 feet wide, has been opened to a depth of more than 200 feet, and is said upon reliable authority that it is the deepest sandstone quarry in this country. It will help one to realize the great depth of this stone deposit to state that the depth of the quarry is equal to the height of some of the tallest skyscrapers in Pittsburg.

The stone is remarkably uniform in color and texture and is readily worked either by hand or by the latest improved machinery.

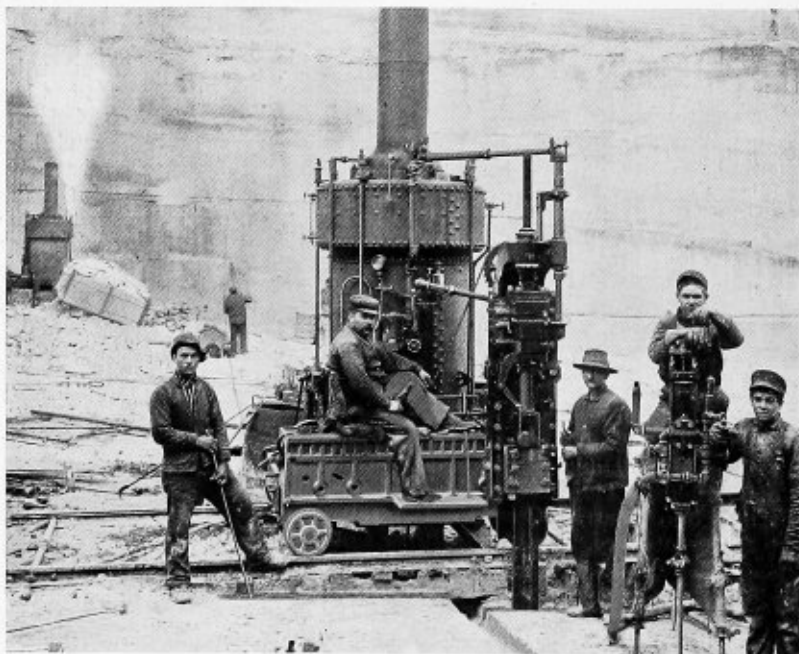
The blocks are quarried by means of the latest improved Sulli-

van channelers and steam drills, and are hoisted by massive derricks, having a capacity of thirty tons each, which are operated by powers driven by electricity. The capacity of this one quarry is between 1,500,000 and 2,000,000 cubic feet annually, and it is being enlarged to meet the growing demand for the stone which is increasing in favor with the architects and cut stone contractors throughout the country.

The stone from this quarry, which has been appropriately named "Buckeye" Quarry, is especially in good favor in the Pittsburg district where it has been extensively used.

The water which accumulates in the hole is pumped into reservoirs built from the stripping of the quarry, and is piped to the mills a distance of one-half mile. The two reservoirs have a capacity of about 8,000,000 gallons of water.

The saw mills, two in number, contain twenty-four unusually large modern gangs. The saws in the second mill built since the accompanying view was taken, and which only shows a part of the plant, are operated entirely by direct connected motors, a new idea as applied to stone working machinery. These saws are operated day and night, and the stone handled quickly and economically by means of five electric travelling cranes, operated on a steel tramway that is one-third of a mile in length. In addition to the saws they have in operation a planing mill for planing curbing and



CHANNELER AND DRILL, THE OHIO QUARRIES COMPANY.

building stone, a diamond saw and a mill containing seven lathes for the manufacture of grindstones, which is a considerable part of their business. Grindstones varying from four pounds to six thousand pounds are manufactured and shipped to all parts of the United States and large quantities are exported each year.

A central power plant in which is developed the electrical power for all the mills is a splendid building of brick and stone, in which engines and dynamos of the latest improved patterns are in operation.

The machine shop where the Company repairs its own machinery and makes new parts is a model of its kind, containing lathes, planers, drill presses, shapers and everything necessary to make up a complete repair department.

This company controls the Lorain & Southern Railroad Company connecting with the Lake Shore & Michigan Southern Railway Company. The equipment consists of two standard type locomotives and a number of flat and dump cars.

The main office of the Company is in the Citizens Building, 818 Euclid Avenue, Cleveland. W. A. C. Smith is general manager and George B. McGrath is sales agent. It is ably represented in Pittsburg and the surrounding territory by the Martin Brick Company with offices in the Empire Building.

Anyone interested at all in the stone industry would be well repaid for a visit to the plant of the Ohio Quarries Company.



PART OF THE OHIO QUARRIES COMPANY'S PLANT.

(Continued from Page 39.)

an eight story, steel frame building approximating \$200,000.00 for the Oliver Estate; a seven story Mercantile Building to be erected on Liberty Avenue, approximating \$180,000.00; and a Coach Shop for the Pittsburgh & Lake Erie Railroad at McKees Rocks. Mr. Stuart is also dismantling the building on Oliver Avenue, formerly occupied by the Pittsburgh Gazette, and is constructing a Portland Cement Plant for the Chicago Portland Cement Company at La Salle, Ill., approximating \$500,000.00.

Mr. Stuart is a graduate civil engineer from one of our leading universities and a member of the American Society of Civil Engineers. He has had a long and varied experience in the contracting business and is well qualified for work of large magnitude.

WEALTH IN CEMENT AND CRUSHED STONE

In 1889 the United States produced about 7,000,000 barrels of cement from clay, marl, lime, and slag, which had had previously small commercial value. The product was appraised at \$5,000,000, but had not enough importance to be included in the Census totals. In 1906 the output of all kinds of cement as reported by the Government was 50,027,321 barrels, worth more than \$54,000,000. Of this great addition to the wealth of the country, probably not far from one half was derived from the slag of our blast furnaces, and formerly regarded as a costly nuisance rather than as a source of profit. It appears that less than 4,000,000

barrels of the 1906 output were natural rock cement, whereas nearly 45,611,000 barrels were made from slag and from the marl which exists in vast bogs in many states.

The first annual report of the Steel Corporation showed 486,000 barrels of cement produced in 1901; the 1904 report included 540,000 barrels; in 1906 the output of the Corporation reached 2,000,000 barrels; and now this branch of the industry has become so important that it has been found necessary to separate it from the steel and iron department and organize an auxiliary corporation to handle it. This year's production in the Chicago region will approximate 5,000,000 barrels.

The limestone industry in the Chicago-Joliet region has responded vigorously to the impetus thus given to quarry owners. Instead of being an incidental of stone-cutting, crushing is now the chief work of the region.

The people of Chicago have a peculiar interest in the crushed stone business by reason of owning somewhere near 15,000,000 cubic yards of spoil banks along the Sanitary District Canal between Joliet and Chicago. On August 8th last year the Commissioners of the District made a contract to sell the stone for 10½ cents a cubic yard, plus a sliding scale premium of from 45 to 55 per cent of net profits, and the successful bidder put up a \$100,000 bond to guarantee performance. Thus favored with an immense store of cheap limestone and situated at the coming center of cement production, it will be surprising if Chicago does not soon become the Concrete City.—At the Market, Chicago.

BOOK REVIEWS

MODERN CIVIC ART, by Charles Mulford Robinson. To the lover of the city beautiful and what it means to those who live in it this book will appeal strongly. It takes the modern city as a whole and in its several sections and points out with a master hand just how conditions both architectural and sanitary can be improved, and it is well illustrated with numerous photographs of what has been done both in this country and abroad to make the cities more pleasant and beautiful in all respects. Mr. Robinson handles his subject in an interesting and instructive manner and Modern Civic Art will be appreciated by all who are really working for the uplift of the City beautiful. (G. P. Putnam's Sons, Publishers, New York and London).

SPRINGER & PATTERSON**ELECTRICAL****CONTRACTORS**

All Kinds of Electrical Construction.

218 FERGUSON BUILDING

Tels. C. D. & P. 2136 Court
P. & A. 1281 Main**PITTSBURGH, PA.****Kittanning Brick & Fire Clay Company**

AND

Martin Brick Company

MANUFACTURERS OF HIGH GRADE

GRAY**BUFF****MOTTLED**

AND

RED BRICK**EMPIRE BUILDING****PITTSBURGH, PA.**

PENNSYLVANIA LINES

WINTER TOURIST TICKETS

TO

CALIFORNIA, FLORIDA, SOUTHWEST AND SOUTH**AT SPECIAL FARES****HOMESEEEKERS' EXCURSIONS**

TO THE

WEST, NORTHWEST, SOUTH, SOUTHWEST

FOR PARTICULARS write or call on

F. W. CONNER, District Passenger Agent

515 PARK BUILDING, PITTSBURGH

In the construction of a building, the relation of the architect and engineer to the building, are very similar to the relation of the physician to his patient.

The designing and construction of the fireproofing is only one of the elements of the building which the general practitioner must treat.

It is so important an element, however, and so vitally concerns the welfare of the building that it might be worth while to call in a specialist.

We are specialists in fireproof construction, and this is the largest organization in the world devoted exclusively to this work. The services of our engineering and designing departments, our long and constantly broadening experience, and all our vast fund of data, are at the service of the profession for the discussion of specific cases. Ask us to discuss with YOU the fireproofing of YOUR prospective building and "put it up to us" to prove

our claim that we can give you the best construction at a reasonable and acceptable cost.

Let us help you while you are planning. Don't wait until after your work is done. Write us or call at any of our offices.

National Fire Proofing Company

MANUFACTURERS OF TERRA COTTA HOLLOW TILE
CONTRACTORS FOR FIRE PROOF CONSTRUCTION

CHICAGO
Hartford Building

PHILADELPHIA
Land Title Building

ST. LOUIS
Victoria Building

CINCINNATI, Union Trust Building

PITTSBURG
Fulton Building

BOSTON
Old South Building

WASHINGTON
Colorado Building

NEW YORK
Flatiron Building

MINNEAPOLIS
Lumber Exchange Building

LOS ANGELES
Union Trust Building

LONDON, ENG., 27 Chancery Lane

"The Builder"

DURING THE CURRENT YEAR

=====1907=====

will publish a series of exceptionally attractive home designs, with floor plans, specially prepared for "THE BUILDER" by different architects.

These plans will be of great practical and suggestive value to contractors and others engaged in suburban home-building.

The best way to insure getting every one of these plans is to subscribe for "THE BUILDER," which is sent to any address for

\$2.00 a year

"THE BUILDER" will also contain an exceptional number of special articles of more than ordinary interest to all identified with construction and decoration.



Designs and plates furnished for all illustrative purposes.

Cuts of portraits, buildings, plans, etc., made quickly and at reasonable prices.

Our fine copper half tone plates cannot be equaled for brilliancy, sharp details and unusually fine printing qualities.

New location:--100-108 Smithfield St. Telephone 3909 Court.

Own a Home in Atlantic City

One block from and in sight of the Ocean with a

\$20 Investment

You can have this property for your own use. We will sublet it for you at a good rent, and take care of all details for you.

This is the chance of a lifetime to own a beautiful home and at the same time make a safe and profitable investment.

AGENTS WANTED

FOR FULL PARTICULARS WRITE TO

The Atlantic City Home and Investment Co.

REAL ESTATE AND LAW BUILDING

Rooms 1, 3 and 5

ATLANTIC CITY, N. J.

Enterprise Contracting Co.

ALBERT KLICHER, Manager.

PILE DRIVING, TRESTLE AND DOCK
BUILDING, EXCAVATING, DREDGING,
SEEP WELLS AND CONCRETE WORK.

Fulton Building · PITTSBURGH, PA.

Bell 2694 Grant

The Carter Electric Co.

ELECTRICAL CONTRACTORS

Electrical Construction Work of all Descriptions

ARROTT POWER BUILDING

Lewis Building PITTSBURGH, PA.

Telephones: Bell 1774 Grant, P. & A. 1774 Main.

SANKEY BROTHERS

MANUFACTURERS OF
ALL GRADES OF

RED BRICK

Office: 2112 Carson Street, South Side,

PITTSBURGH

BOTH PHONES.

Kittanning Brick & Fire Clay Company

— AND —

Martin Brick Company

MANUFACTURERS OF

HIGH GRADE GRAY, BUFF, MOTTLED AND
RED BRICK.

Empire Building PITTSBURGH, PA

House and Decorative Painting.

Office, Sign and Store Painting

V. J. MORGAN

HARDWOOD FINISHING, ENAMELING
AND GRAINING, GILDING, TINTING, ETC.

111 Oakland Ave., PITTSBURGH.

Bell Telephone 445 Schenley.

The Graff Company

MANTELS and TILING

955 Liberty Street,

PITTSBURGH, P. A.

W. W. MILLER

General Contractor

540 WINEBIDDLE AVENUE, E. E.

PITTSBURGH

BELL CEDAR 129 R

E. T. GRAHAM

PAINTER OF HOUSES

22 Park Way

ALLEGHENY, PA.

Many Architects and Builders included in BELL TELEPHONE'S big list of over 25,000 new sub-services last year.



1907 will see many more in the fold

How 'bout you?

For rates and any other information, call 8000 Grant and ask for CONTRACT DEPARTMENT

Bell Telephone Building, Seventh Avenue, PITTSBURGH

402 Court—TELEPHONE—267 Main

E. R. CLULEY

*Painting, Decorating,
Hardwood Finishing*



543 Fourth Avenue, PITTSBURGH

PORCELA



Cleans Like Magic

W. J. STEVENSON & CO.

Marble, Tile and Slate Work

SOLE AGENTS FOR

The Olmsted Blackboard

312 Park Building, Pittsburgh, Pa.

PHONES:—P. & A. 2971 Main; Bell 754-3 Grant

E. J. Detrick Co.

MARBLE AND MOSAIC WORK
FINE MANTEL AND FIREPLACE WORK
TILES FOR FLOORS, WALLS, BATH ROOMS, ETC.

We solicit opportunity from Architects and Builders to estimate

FIFTH FLOOR, HEEREN BUILDING

Penn Ave. and Eighth St., Pittsburgh, Pa.

R. H. ELLIOTT

E. KENNEWEG



Twin City Art Glass Works

Corner SANDUSKY and ROBINSON Streets

P. & A. PHONE 515 NORTH
BELL PHONE 334-R CEDAR

ALLEGHENY, PA.

DAVID DUNLOP

Designing
Sketching
Engraving
ON

Wood, Copper and Zinc

Pittsburgh, Pa.

P. & A. TEL. 2313

P. & A. TELEPHONE 757

ROOFING

ROOF PAINTING

**W. H. KNODELL
TINNER**

510 East Diamond Street

ALLEGHENY, PA.

CONDUCTORS REPAIRING GUTTERS

Bell Phone Brady 355.

P. & A. Phone Chester 68.

BRUCKMAN LUMBER CO.

DEALERS IN ALL KINDS OF

Building and Hardwood Lumber, Mill Work

Yards: West Market Street and Preble Avenue

Office: Preble Avenue near Island Avenue

ALLEGHENY, PA.

McClure Timber Co.

PITTSBURGH, PA.

FIR

ALL SIZES

YELLOW PINE

OAK

LARGEST STOCK

HEMLOCK

P. LeGOULLON

SUCCESSOR TO

W. B. LUPTON & CO.

ACTINOLITE, ASPHALT, SLATE,
TILE AND GRAVEL**ROOFERS**

DEALER IN

ROOFING SLATE AND ROOFING MATERIALS

ROOMS 614 BESSEMER BUILDING

TELEPHONE 539

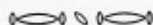
PITTSBURGH, PA.

TELEPHONES: Bell Court 1048. P. & A. Main 3493.

Pittsburg Ladder & Scaffolding Co.

(FRANK BROWN, Manager.)

506 Fourth Ave.

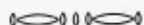
**SECTIONAL
EXTENSION
AND STEP**Adjustable Scaffold Jacks—Swing Stages
Scaffolding for HireL
A
D
D
E
R
S**T. W. JONES****STAIR BUILDER**

2603 PENN AVENUE

PITTSBURGH, PA.

PATTERSON & SHAW**BUILDERS and
CONTRACTORS**No. 30 East Robinson Street, North,
PITTSBURGH.**AMERICAN LUMBER & MFG. CO.**

EVERYTHING IN

Lumber and Mill Work

PUBLICATION BUILDING

PITTSBURGH, PA.

TELEPHONES: Bell, 1353 Court—P. & A. 2292 Main

RODGERS SAND COMPANY

DEALERS AND SHIPPERS OF

ALL KINDS OF SAND AND GRAVEL

BY BOAT, RAIL OR WAGON

123 Water Street

PITTSBURGH, PA.

HIGH GRADE

ZENITH GAS RANGES, FURNACES
AND LAUNDRY STOVES**Stephenson Manufacturing Co.**

JOHN C. BASH, Manager.

Bell L. D. Telephone 860 Cedar
P. & A. Telephone 696 North207 - 209 Sandusky St.
ALLEGHENY, PENN'A.**Patterson Coal & Supply Co.**

ANTHRACITE AND BITUMINOUS

COALPhoenix Portland Cement, Washington Building Lime,
Ideal Wall Plaster, Lime, Cement, Sand, Sewer
Pipe, Fire Brick, Fire Clay, Grate Tile, Etc.

1222 Grant Ave., ALLEGHENY, PA.

Phones: Bell, 213 Cedar; P. & A., 213 North.

Wallace Optical Co.Suite 503-505 Diamond Bank Bldg.
PITTSBURGH, PA.EYES TESTED
PRESCRIPTIONS PROMPTLY FILLED
ALL WORK GUARANTEED**RUDY BROS. CO.**DESIGNERS AND
WORKERS IN GLASS—
STAINED, MOSAIC
AND LEADED. :: :: ::HIGHLAND AND CENTER AVENUES,
E. E. PITTSBURGH, PA.

George A. Cochrane, Jr.

Rob't K. Cochrane.

George A. Cochrane Co.

General Building Contractors

1210-1216 WASHINGTON AVENUE,
ALLEGHENY, PA.

Telephones: P. & A., Chester 127; Bell, Brady 127.

Goehring & Bartley

EVERY KIND OF

Builders' Hardware and Structural Iron

WHOLESALE AND RETAIL

Hardware, Painters' Supplies, Brushes, Window
and Plate Glass.

6203 PENN AVENUE, EAST END,

Both Phones: Bell 341 Highland
P. & A., 341 East**PITTSBURGH****Enterprise Contracting Co.**

ALBERT KLICHER, Manager.

Pile Driving, Trestle and Dock Building,
Excavating, Dredging, Seep Wells
and Concrete Work.

Fulton Building, PITTSBURGH, PA.

BELL 2604 GRANT.

Allegheny Cornice and Skylight Co.Sheet Metal Window Frames and Sash.
All Architectural Sheet Metal Work.

Slate, Tin, Gravel and Slag Roofing.

Metallic Skylights, Galvanized Iron and Copper Cornices.
GRANT AVE. and BOQUET ST.

Phones: Bell, 1857 R Cedar.

P. & A., 1161 North.

ALLEGHENY, PA.



WISCONSIN STATE CAPITOL—GEO. B. POST & SONS, ARCHITECTS

THIS IS THE LARGEST GRANITE CONTRACT EVER AWARDED—TO QUARRY, CUT, CARVE AND SET 600,000 CUBIC FEET OF FINE CUT HARDWICK WHITE GRANITE FOR THE

STATE CAPITOL, WISCONSIN



WOODBURY GRANITE COMPANY

Woodbury Gray and Hardwick White Granite

Home Office: HARDWICK, Vermont

GEORGE H. BICKFORD, GENERAL MANAGER

PITTSBURGH OFFICE: FARMERS BANK BUILDING - J. B. REINHALTER, Representative

ESTABLISHED 1876

INCORPORATED 1895

Star Encaustic Tile Company

MANUFACTURERS OF

UNGLAZED ENCAUSTIC FLOORING TILE

FOR DURABLE, SANITARY AND
ARTISTIC TILE WORK

MEDALS GRANTED AT WORLD'S COLUMBIAN EXPOSITION, CHICAGO,
ILL., 1893, AND AT ST. LOUIS, FAIR, 1904.

OFFICE AND FACTORY,
BLUFF STREET, NEAR GIST.

PITTSBURGH, PA.

P. RIESECK, Structural Iron Work, FIRE ESCAPES,

Joint Hangers, Pavement Lights, Fire Proof Shutters,
Iron Stairways, Wall Ties.

ALLEGHENY AVE. and REBECCA ST.,
ALLEGHENY, PA.

Phones: Bell 657 Cedar. P. & A. 657 North.

ROBERT W. ARDARY

JOHN G. BURNS

Ardary-Burns Co.

CONTRACTORS FOR

HEAVY and GENERAL HAULING
TEAMS FOR HIRE

LIBERTY AVE. and 31st ST. PITTSBURGH, PA.

Telephones: P. & A. 103 Lawrence—Bell 103 Fisk.

HENRY SHENK COMPANY

Contractors and Builders

LEWIS BUILDING, PITTSBURGH

W. N. Kratzer & Co.

Manufacturers

STRUCTURAL STEEL

and STEEL CONSTRUCTION.

Buildings, Roof Trusses, Girders, Columns, &c.

*Structural Shapes in stock
for hurry orders. . . .*

5212-50 Smallman St. PITTSBURGH, PA.

Pittsburgh Iron and Wire Works

ESTABLISHED 1847

TAYLOR & DEAN

MANUFACTURERS OF

*Ornamental Iron and Wire Work, Iron Fencing
Elevator Enclosures—Artistic Grill Work.*

FIRE ESCAPES OF ALL KINDS

GENERAL OFFICE: MARKET STREET.

**Factories: 201 to 206 Market St.
2518-2420 Penn Ave.**

H. L. KREUSLER

Building

Construction

3301-3309 Penn Ave. PITTSBURGH, PA.

SANKEY BROTHERS

MANUFACTURERS OF

ALL GRADES OF

RED BRICK

OFFICE: 2112 CARSON STREET, SOUTH SIDE,
PITTSBURGH

BOTH PHONES

SANDSTONE

The Ohio Quarries Company own and operate what is generally conceded to be the finest stone plant in the United States. They produce from their **BUCKEYE QUARRY** the best quality of Northern Ohio Sandstone commonly called **CLEVELAND**, **AMHERST** or **BEREA** stone, and they are prepared to supply it promptly in any quantity. This quarry is now opened to a depth of over two hundred feet and the stone is unsurpassed in appearance and durability.

Their mills, containing twenty-four large modern gang saws, enable them to make especially prompt shipments of sawed stone for building purposes or for flagging.

Correspondence or an interview respectfully solicited from those interested.

THE OHIO QUARRIES CO.

REPRESENTED IN PITTSBURG BY

THE MARTIN BRICK COMPANY.

EMPIRE BUILDING.