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THE INLAND ARCHITECT AND BUILDER

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IN THE WEST.

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Architects and Builders throughout the West will confer a great favor on the Editor of this Journal by sending him news pertaining to the craft in their section of the country, particularly items of new buildings.

THE INLAND ARCHITECT AND BUILDER will spare no endeavor to furnish valuable news and information to those interested, professionally or incidentally, in the planning, building, decorating and furnishing of homes or commercial or public structures. A variety of attractive illustrations will be presented in each number, the best of engraving and printing contributing to their production.

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WITH the present number THE INLAND ARCHITECT AND BUILDER enters upon its second year. Its growth in circulation, in advertising, in influence, in popularity, has far exceeded the most sanguine expectations of its publishers. At the beginning of its new year, and the commencement of volume III, its publishers desire to express their gratitude for the hearty welcome it has received, not alone from the architectural and building fraternity, but from many other professions and trades that have done so much to aid in the success it has achieved. During the coming year THE INLAND ARCHITECT AND BUILDER will be greatly improved in all its departments. It will continue to be a journal devoted to the interests of the architect and builder, and will endeavor to aid, in every way it can, the advancement of the architectural and building arts, and will also aim to embrace in its scope every kindred branch of those professions. Sample copies of this issue will be sent to many persons who are not subscribers, with the earnest desire that they will examine it and decide upon the value of such publication to them.

IT is certainly time the public were waking up to the fact that our public schools are not what they should be, both as regards heating and in ventilation. It has not been wholly because architects have planned improperly, but largely because the school boards have been too full of theory and surprisingly lacking in practical knowledge. The attitude of the average board was exemplified in the criticism made by some members of that of Chicago upon a certain high school building, that really, in sanitary as well as other appointments, is superior to any of those previously built, when it was said it had too much ventilation. It is not so much a question of whether a school building can best be heated by hot-air or by steam, for each system has many advantages; but what will be the most healthy and yet cost the least. These two questions come so close together in the popular mind that the sanitary aspect is almost wholly lost sight of in that of the cost. No system will heat or ventilate a building without the liberal use of coal, and when the use of coal is restricted the engineer is too apt to turn off the ventilating apparatus, and save his heat. With an idea of saving coal the heating apparatus is, as a rule, shut down from the hour of school closing till the engineer appears the next morning, and then the apparatus is expected to warm the building comfortably in a few hours, which he does at an expense of coal greater than would be incurred should the fires be kept burning all night. So much for the financial side. The sanitary is even more open to criticism. In a certain schoolroom a hot-air register was located directly in front of and less than four feet distant from a desk where the pupil sat all day in a current of air that left the register at a temperature of more than two hundred degrees, and more than ninety on the desk in front of the pupil, and still if the pupil, after sitting in such a current of air for a few weeks, should become sick, it would be charged to too much study. The whole system of building public schools needs close revision. Capable architects and sanitary engineers should be employed, the best apparatus purchased under their direction, and then the cost should not be counted in money saved, but according to the results obtained for the comfort and health of the pupils. Following this rule, school boards will never be criticised by the tax-paying public, nor will they be compelled to expose their want of practical knowledge through making the criticism of "too much ventilation."

THE long strike of the window-glass workers, which was inaugurated seven months ago, against a reduction of from ten to twenty per cent, came to an end on the 30th ult. The conference committee, composed of members of the Window-glass Workers' Association and Western Manufacturers' Association, have been wrestling together for many months, seeking for something of a satisfactory nature on which to base a settlement; the result of which is, the workers resume at last year's wages, which were paid on the 1st inst., and until July 1 the wages will be governed by a sliding scale based upon the price of glass. The present card-rate is sixty and twenty per cent. If prices advance the wages of the workmen will be increased accordingly, and a corresponding reduction will be made in case of a decline in rates. The scale will be subject to changes every four weeks, the employes to be notified if any change is necessary. Hereafter workmen making over forty-eight boxes per day will be paid double wages, half of which will go to the Workers' Association. While the settlement is regarded as a victory for the workmen,

great concessions were made by them before a settlement could be reached. By the resumption about three thousand men will be furnished employment at once, while as many more will find work in the factories of the West. The strike has cost both manufacturers and workmen many thousands of dollars, and has entailed much suffering on the families of many of the strikers.

THE draughtsmen of the enterprising and progressive city of Minneapolis, Minn., have taken a step in advance of their professional brethren in most of the older cities in the West. They have just formed an association under the name of the "Architectural League of Minneapolis," with the following officers: Geo. E. Bertrand, president; H. W. Jones, vice-president; Francis W. Fitzpatrick, secretary; Walter S. Pardee, treasurer, and a roll which starts the organization with a membership of twenty-four (Fellows). The association is divided into four classes of members, designated as follows:

1. Fellows: those who have studied architecture at an institute of technology, or in an architect's office, for at least three years, having all the rights and privileges, voting, holding office, use of rooms, etc. etc.
2. Juniors: young men not having yet completed the three years' study necessary to admit them to fellowship.
3. Associates: practicing architects, artists, engravers, engineers, etc.; and
4. Honorary members: parties taking an interest in the society and elected by a three-quarters vote, who, with the associates and juniors, enjoy all privileges except those of voting and holding office.

The objects of the association, as set forth in Article 2 of the constitution, are

"To improve the social relations of the students of architecture in the city; to facilitate their study of both the artistic and scientific elements of the profession, and to create a more just and elevated public appreciation of art."

The means taken to reach the foregoing objects are, according to Article 3,

"The providing of a suitable apartment wherein are to be collected designs, models, pictures, casts, specimens, etc. etc.; the regular meeting of the members for discussion and interchange of ideas; the forming of clubs among the members for modeling, sketching, etc., or such other means as may be considered the most efficient for the study of architecture and the general culture of art."

The purposes the League has in view in forming the association are in every essential commendable, and we congratulate the draughtsmen of Minneapolis upon their enterprise and evident devotion to the progression of their art and their own advancement.

THE twenty-ninth annual report of Dr. Norman Bridge, president of the board of education of this city, for the year ending June 30, 1883, has just made its appearance, and contains much important information of both interest and value. As a matter of special interest at this time, inasmuch as it is one of the timely topics of the day, and receives no small share of attention in various parts of the country, it is gratifying to find our worthy superintendent an open and earnest advocate of manual training schools, taking the view that they are nothing but high schools with the practical part added. Dr. Bridge says:

Many of the boys who leave the high schools before the end of the course do so because obliged to go to work; others, because the bustle and promises of business are more alluring than school, and they prefer to go to work. Can the course not be made more inviting to them without lessening, but with increasing, its usefulness for them? Most undoubtedly the addition of a course in manual training and business methods would accomplish this end. The experience of the schools of manual training is, that constant care must be exercised lest the pupils neglect their literary studies for the drawing and the shop, the tools and the things. The addition of some short course of this kind, even tentatively and in a small way, to our high-school curriculum, for such boys as elect to take it, would at once, if we may judge by the experience of others, increase the charm and usefulness of these schools for a very considerable number of pupils, many of whom now receive little or no instruction after leaving the grammar school. It is said that there is no room in our high-school course for industrial studies, and that therefore the suggestion is impracticable. But such a position is absurd, since the manual training schools are nothing but high schools with the practical part added and some or all the studies of the dead languages cut off. It cannot be impossible to engraft a department of manual training upon our high-school course, nor need the trial step be costly. The time has come for an innovation in this direction, and the board ought to take up the consideration of the subject with this end in view.

Up to the present time the best example of an industrial and mechanical training school to be found in the West is the one connected with the Washington University at St. Louis. Some time ago the managers of the university gladly relinquished its night school to the school board of that city, and proceeded with the development of a scheme of mechanical

education, which culminated in the establishment of the existing manual training school. It is now established on a solid basis, and its practical working, and the benefits sought to be conferred, have been closely watched by some of the most influential citizens, who have demonstrated their earnest sympathy with the movement by continuous contributions toward its support, which now aggregate a large sum. A step in advance has also been taken in that city by engrafting upon one or two of the public schools—notably the Stoddard school—a system of manual training, the practical and successful workings of which, it is claimed, have exceeded the most sanguine expectations.

A MASTER plumber, of Chicago, on being asked why it was that his profession, perhaps more than any other, has become the object of so many coarse jokes and sneers at the hands of both the press and the public, made reply:

"It is all because the profession is full of chumps and tinkers who are unworthy of the name of plumber. They are not fit to be shoemakers or blacksmiths, much less plumbers. Why, sir, plumbing is the most skillful and artistic work to be done about a building. You'll not find an architect who knows the first principles of our business. These tinkers around town who have set up in the profession for themselves, used to be mere helpers at \$7 and \$8 a week. They found they could open up a shop for a few dollars, get the patronage of their acquaintances, and make a little more—say \$10 or \$12—and this is what ruins the legitimate and practical members of our association."

The American plumbing practice, the proper method for granting license, the decay of the plumbing apprenticeship system, plumbing modern and old, together with the favorable influence in many directions which the Master Plumbers' Association of Chicago, and similar organizations in other cities, are asserting, are timely topics for discussion, and we are glad to find them so ably agitated in some of the leading sanitary and building journals of the country. The answer to the query above propounded certainly contains very much that is true. In former days, the plumber acquired a knowledge of his trade only after serving at it as a regular apprentice for a number of years, at least from three to five, while in England the old system of seven years' servitude was insisted upon in regard to an apprentice; and at the end of his term, the master was to make him "take up his freedom, according to the usage of the city." But the old condition of things no longer exists, and a master of the present day has a great many embarrassing circumstances to contend with if he undertakes to teach a boy his trade. The whole system of plumbing has undergone so many changes—so many new devices have been introduced—that, as an old master plumber says: "In this day the plumber has very little to do except setting up the different articles which have been made by others." It may be said that plumbing at this day "has become the most skillful and artistic work to be done about a building"; and we may also add that there is scarcely a branch of the building trade which needs more careful inspection than plumbing work. The evils complained of in the plumbing profession should be remedied; licenses should be granted only to those who are thoroughly qualified to receive them; and perfect knowledge should be exacted from all new applicants for license. Then there would be fewer "chumps" and "tinkers" who are a disgrace to, and cast dishonor and censure upon, the "profession." Schools must be established where young men can go day or evening and receive instruction in practical plumbing; or it should form a part, and a very important part, in the mechanical studies pursued in the manual-training schools. As a specially distinctive organization, the Master Plumbers' Association must use all the means at its command to elevate plumbing to the highest plane of thoroughly practical and skilled workmanship.

M. R. F. J. REID, special representative of THE INLAND ARCHITECT AND BUILDER, having recently returned from Europe, where he spent several months during the latter

part of the past year, left Chicago on Tuesday last for the East. During his absence he will visit the principal cities, and will personally call upon many of our readers and advertising patrons. We feel assured he will meet with a kindly greeting.

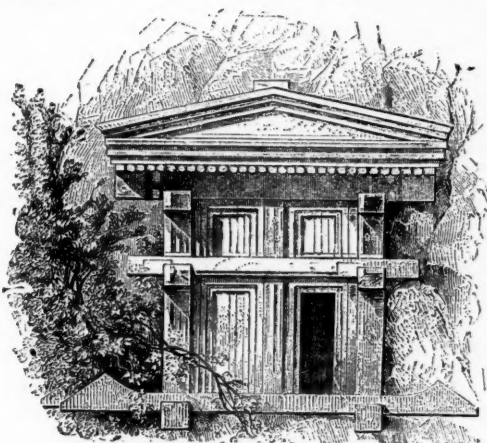
Architecture.

LECTURES DELIVERED AT THE UNIVERSITY OF CHICAGO

BY W. L. B. JENNEY, ARCHITECT.

PART X.—THE CLASSIC PERIOD.

ANOTHER interesting group of architectural remains in Asia Minor is in Lycia, which was, with the neighboring islands, the most important of which was Rhodes, inhabited by a colony of Ionians during the Greek period. They engaged in commerce and were rich and flourishing.



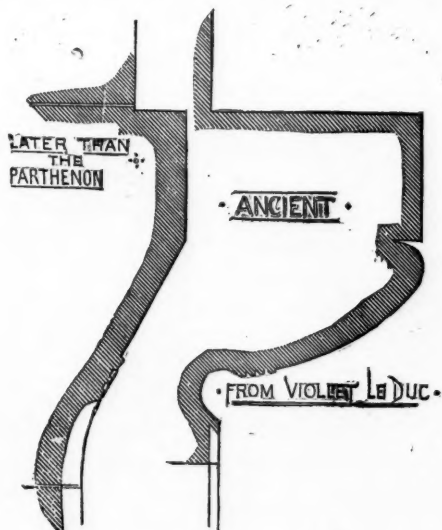
Rock Cut Lycian Tomb. (Taxier Asië Mineure.)

We will now return to Hellenic Greece and to the Doric, which was the true Grecian style.

The Trojan war was the last great military event of the Pelasgic civilization. The next four hundred years were to the architect the dark ages of Greece. At length architecture makes its appearance, after this long obscurity, at Corinth, and in a form very different from anything found at Mycenæ. It was no longer elegant and ornate, like the Pelasgic arts of Asiatic growth, but was massive, of bold proportions, and strongly suggesting an Egyptian origin.

In the Parthenon the height of the column is 6 diameters; in the temple at Corinth, 4.47 diameters; in the temple at Delos, of the time of Philip, 7 diameters.

Compare these two profiles of the Doric capital.



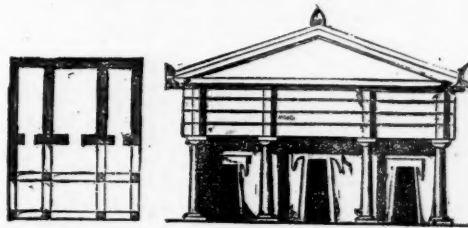
Profiles of Doric capitals. (Violet-Leduc.)

It has long been held in popular belief that the Greek Doric is a reproduction in stone from a wooden original. This is erroneous, as can easily be demonstrated.

The oldest seems to be of the time of the Persian congress under Cyrus. Anything older must be in wood, as it is only in its infancy that stone construction so closely resembles the wooden original, although forms originally in perishable material are long preserved, as in Egypt.

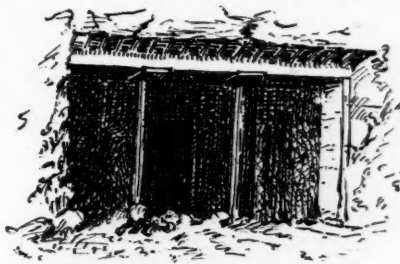
As soon as the workmen become accustomed to the use of stone, they abandon this close copying of the wooden forms.

Vitruvius tells us that the Etruscans had two classes of tombs, one circular and one rectangular.



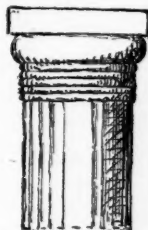
Plan and Elevation of an Etruscan Temple. (Fergusson.)

At Beni Hassan, on the Nile, nearly 3000 B.C., in a rock-cut tomb, was used what is known as the proto-doric column.



No 1. Tomb at Beni-Hassan.

Another that is still nearer the Doric of the Greeks, was at Karnac, certainly one thousand years before anything in Greece.



Now examine the Parthenon, the culmination of Greek art. A Doric temple of the time of Phidias and Pericles, about the year 438 B.C. Its columns are but a refinement of those of Beni Hassan and Karnac. The lintel is used as it was used in Egypt. The Asiatic influences are found in the pediments and the cornice. To the Greek is due the adaptation of these to his wants and the exquisite refinement and elegance of proportion that marks the entire structure and places it at the very head of all architectural constructions.

There is now no doubt but what color was used externally in both the Doric and Ionic orders. In the Doric, generally speaking, all those parts which by their position were protected from the weather, were colored, while those parts particularly exposed were left plain. In the Ionic the carved parts were gilt or picked out with gold on a colored ground. Existing remains show that color was used to heighten the effects of the carvings.

The Ionic order was of Asiatic origin; its prototype is found on the plateau of Persepolis. In the hands of the Greeks the order was much simplified and treated with all that artistic ability that they displayed in everything they touched.

The Ionic order has more mouldings, and is richer, lighter, more elegant and more graceful than the Doric. The column has a base.

The neck moulding of the Ionic capital is the Assyrian honeysuckle, carved with exquisite feeling.



Altogether the order is very beautiful; still, for temple architecture, the Doric must rank as a higher class of art, as being in all its details best adapted to its purpose. A well-known and very charming example of the Ionic is the Erechtheum on the Acropolis at Athens.

Mooresque Decoration.

OUR illustration of the interior of Oriental Masonic Hall will give but an inadequate idea of the brilliant and artistic decorations which have just been completed, and which may be considered now as perhaps the best exponent of oriental decoration in the West. This hall was built some years ago for the exclusive use of the different bodies of the Masonic fraternity. Its architecture is Moorish in design and imitates the Alhambra, which is the very summit of perfection of Moorish art, as is the Parthenon of Greek art.

The Moors ever regarded as true, what we of the present day hold to be the first principle in architecture,—to *decorate construction, never to construct decoration*. In Moorish architecture, not only does the decoration arise naturally from the construction, but the constructive idea is carried out in every detail of the ornamentation. We believe that true beauty in architecture results from that "*repose which the mind feels, when the eye, the intellect and the affections are satisfied from the absence of any want.*"

The Mohammedan races, and Moors especially, have constantly regarded this rule. They ever regard the useful as a vehicle for the beautiful, and in this they do not stand alone; the same principle was observed in all the best periods of art. It is only when art declines that true principles come to be disregarded; or, in an age of copying, like the present, when the works of the past are reproduced without the spirit which animated the originals.

Harmony of form appears to consist in the proper balancing and contrast of the straight, the inclined, and the curved. It is to the neglect of this obvious rule that we find so many failures in paper-hangings, carpets, and more especially articles of costume. The lines of papers generally run through the ceiling most disagreeably, because the straight is not corrected by the angular, or the angular by the curved. So of carpets: the lines of carpets are constantly running in one direction only, carrying the eye right through the walls of the apartment.

When we examine the system of coloring adopted by the Moors, we shall find that as with form, so with color—they followed certain fixed principles founded on observations of nature's laws, and which they held in common with all those nations who have practiced the arts with success.

The ancients always used color to assist in the development of form, always employed it as a further means of bringing out the constructive features of a building. The colors employed on their stucco-work were in all cases the primaries, blue, red and yellow (gold). The secondary colors, purple, green and orange, occur only in the Mosaic dados, which, being near the eye, formed a point of repose from the more brilliant coloring above. This also appears to be in accordance with a natural law; we have the primary blue in the sky, the secondary green in the trees and fields, ending with the tertiaries on the earth; as also in flowers, where we generally find the primaries on the buds and flowers and the secondaries on the leaves and stalks.

The arched ceiling proper of the hall is the primary blue of the sky and studded with golden stars, and to all true masons emblematic. The recessed side sections of the ceiling, formed in many bays with arched ceilings and intersecting oriental arches, are gorgeous in their colorings. On the moulded surfaces is placed red, the strongest color of the three, in the depths, where it might be softened by shadow; blue in the shade, and gold on all surfaces exposed to light, for it is evident that by this arrangement alone could their true value be obtained. The several colors are either separated by white bands, or by the shadow caused by the relief of the ornament itself—and this appears to be an absolute principle required in coloring: colors should never be allowed to impinge upon each other. The columns supporting the arches are in different shades of gold bronzes; the flat surfaces between show interlaced patterns of diaper work. In coloring the grounds of the various diapers, the blue always occupies the largest area; and this is in accordance with the theory of optics, and the experiments which have been made with the prismatic spectrum. The rays of light are said to neutralize each other in the proportions of three yellow, five red and eight blue; thus it requires a quantity of blue equal to the red and yellow put together to produce an harmonious effect, and prevent the predominance of any one color over the others.

In the reconstruction of the hall the artist conceived the happy thought to decorate and improve the large windows by introducing rich fretwork in the heads of the window recesses, which come down to the spring of the arches; below these, in the opening, hang heavy oriental curtains, enhancing the general beautiful effect, which with the handsome upholstery of the seats, the richly geometrical oriental carpet, under a brilliant illumination of hundreds of gaslights, make this the most elegant Masonic hall in this country. The artist, Mr. H. J. Milligan, so widely known through the excellent decoration he has produced in many of the churches, and public and private houses, in Chicago and throughout the

West, has proven himself well worthy the confidence of the owner of the building, A. E. Walker, Esq., to whose liberality it is (and that without regard to cost) that Chicago and the Masonic fraternity owe and are enabled to exhibit this most artistically decorated hall.

Art Styles in Furniture.

WHILE the term architecture is generally understood to apply to the science or art of building, and architect, as designating a person who designs or is a professor of building, there is another distinctive individual who cuts a very important figure in the domestic world as the architect of household furniture. He is the family architect, so to speak, and to the apparently inexhaustible skill and ingenuity of his busy and fertile brain, we are indebted for the multifarious shapes and ornamentation of all the furniture made. By the cleverness and ingenuity he displays in unfolding his skill he makes the home cheerful—

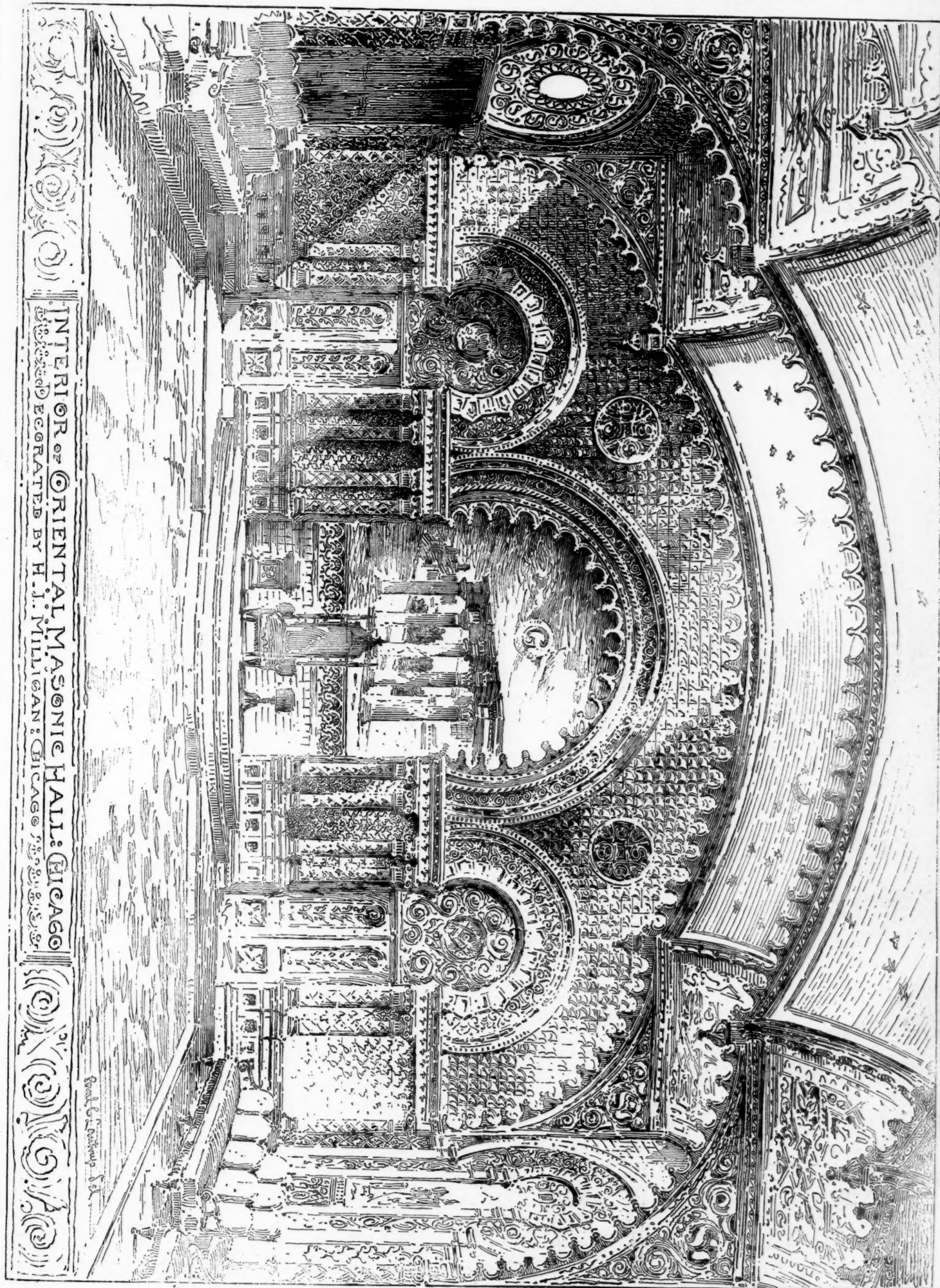
"A thing of beauty and a joy forever."

He shows that the knowledge of his art is of indispensable value to the world at large; for, while it is possible to do without very many things which add to the comfort and adorn the household, it would be impossible to get along without furniture. Chairs to sit in, bedsteads to sleep on, tables to eat from, and many other articles of the household, could not be disregarded, for without these all household decoration and ornamentation would be not only useless but preposterous. It is altogether probable that very few persons, even among the more intelligent and thoughtful, who step into a large and thoroughly equipped furniture establishment, rich in its display of costly furniture of rosewood, mahogany, walnut, cherry, oak, maple, etc., ever give a thought to the architect whose artistic genius and skill have planned every design, from the plainest article to be seen to the most expensive and elaborate; exquisite in their delicate and costly carved work, and resplendent in their superb finish. In keeping with the caprices of the times, furniture has its periodical changes in patterns and modes of construction. Every now and then, in the lapse of a few decades, there is a craze for the Antique, and the works of ancient artists are sought after to find out how they painted, and made statues and vases and articles of bric-a-brac, as far back as the days when the Greeks and Romans were in the height of their splendor and power. Today there is a revival of this craze, and designers are busy on antique chairs and bedsteads, in use during the Elizabethan period, or when the earlier kings of France were on the throne. Almost anything in the furniture line which bears a striking resemblance to the antique, not only in construction but in color, which imparts the appearance of age, meets with ready disposal. Another feature of furniture designing at the present time is a revival of the Renaissance, a style of decorative art freer than the antique, and which became so prominent when revived by Raphael in the time of the pontificate of Leo X. There is the English, French and Italian Renaissance, all different in many respects. The style most adopted in this city seems to run after the Italian. Still another style of ornamentation, which is coming into use largely, is the Rococo, a kind of florid embellishment which prevailed, more especially in France, at the close of the eighteenth and at the beginning of the nineteenth centuries. By some it has been thought to be rich, though luxuriant, and by others it is condemned as a weak attempt to refine and improve upon the purest models of art, producing capricious, fantastical or childish results. It is generally used to denote what is *outré* or fantastic in decorative art, and in many respects bears a close resemblance to the ornamentation of China and Japan.

Carved work on bedsteads, bureaus, sideboards, etc., is becoming very elaborate and popular. New styles of mirrors have come in use, and very few persons who are furnishing handsome and expensive homes will buy other than mirrors with a beveled edge. The effect produced is at once pleasing, while it gives to the mirror an appearance of thickness and strength. The demand for furniture made from genuine woods is much greater than it has been, and imitation furniture of the more expensive woods is growing in disfavor. Ebonized wood for parlor and chamber uses has probably seen its best day, and is fast losing its popularity. Bronze ornamentation for furniture is also becoming a feature, and imitations of the eccentric bronzes of an age long since past have again come into play. Many of them are well executed, the figures being in relief, and vary in character

"From grave to gay, from lively to severe."

There seems just now to be on the tapis a metal age, and within a short period it is likely we shall witness another complete revolution in many articles which add to the comforts of the home. Wrought-iron work, handsome in style and in shape, artistic, light but strong, is working its way to the front, and it will soon, for all purposes of ornamentation and for practical use, perform a useful part in the household. Brass bedsteads are already popular, and are both handsome and ornamental; but the day of elaborate changes and workmanship in wrought-iron is yet to come.



The Chicago Manual Training-School.

THIS institution was most auspiciously opened on the 3d inst., although the building is not yet complete. The school opened with an enrolled pupilage of sixty-five boys between the ages of fourteen and fifteen years. Many of our most substantial citizens were present, including members of the Commercial club, who contributed so liberally of their means toward the erection of this splendid school-building. The opening address of the president of the board of trustees, Mr. E. W. Blatchford, covered two points, viz.: First, good moral character; and, second, the ability to do things. The object of the manual training-school, as set forth in the charter, is as follows:

Instruction and practice in the use of tools, with such instruction as may be deemed necessary in mathematics, drawing, and the English branches of a high-school course. The tool instruction, as at present contemplated, shall include carpentry, wood-turning, pattern-making, iron chipping and filing, forge-work, brazing and soldering, the use of machine-shop tools, and such other instruction of a similar character as may be deemed advisable to add to the foregoing from time to time, it being the intention to divide the working hours of the students, as nearly as possible, equally between manual and mental exercises.

COURSE OF STUDY.

The following is the proposed course of study:

FIRST YEAR.

Arithmetic, algebra, English language, history, physiology, physical geography, free-hand and mechanical drawing, shopwork—carpentry, wood-carving, wood-turning, pattern-making, proper care and use of tools.

SECOND YEAR.

Algebra, plane geometry, physics, mechanics, history, literature, geometrical and mechanical drawing, shopwork—forging, welding, tempering, soldering, brazing.

THIRD YEAR.

Geometry, plane trigonometry, bookkeeping, literature, political economy, civil government, mechanics, chemistry, machine and architectural drawing, machine-shop work, such as fitting, turning, drilling, planing, etc.; study of machinery, including the management and care of steam-engines and boilers.

The hours of study will be six daily—from 9 to 3:30, with a half-hour's intermission, and the plan pursued, for some time at least, will be to divide the school into three classes, of about twenty to twenty-five pupils each. The studies will then go on in rotation, three hours being given to manual training, inclusive of drawing, and three hours to the regular course of study as given in the public schools, the text-books being similar to those in use in the high schools. The training-school differs from the high school in omitting from its required studies foreign and ancient languages and in giving prominence to mechanical drawing—the principal difference being, of course, the scientific manual instruction which the school was especially founded for.

The rules regarding admission are as follows:

Candidates for admission to the first year must be at least fourteen years of age, and must present sufficient evidence of good moral character. They must pass a satisfactory examination in reading, spelling, writing, geography, English composition, and the fundamental operations of arithmetic as applied to integers, common and decimal fractions, and denominate numbers. Ability to use the English language correctly is especially desired. No pupil will be retained whose habits are of an idle or immoral character, or whose companionship would be likely to be an injury to his fellow pupils.

The corner-stone was laid September 24 last, and the work, under the direction of the architect S. S. Beman, has progressed since with satisfactory rapidity, all things considered. The building will accommodate 350 pupils, and will be provided with ample space and facilities for the prosecution of the course of practical and theoretical instruction set forth in the curriculum. It will also be equipped with every modern convenience, including a steam-engine, marble lavatories, electric bells, etc. Speaking-tubes from the director's office communicate with all parts of the building.

It is expected that the building will be fully completed early in March, and it will be formally opened with appropriate ceremonies as soon thereafter as convenient.

Pullman's Palace Car Co's Offices.

THE erection of these offices for this company by architect S. S. Beman, which are now almost ready for the roof, gives to Chicago the largest and architecturally the most imposing office building yet erected. It is built upon foundations and first story of red Jonesborough granite with St. Louis pressed brick above ornamented liberally with belt cornices and trimmings of red terra-cotta; a belt course of this material above the second story producing one of the finest effects and possessing an artistic richness that is unsurpassed. The building measures 127×170 feet and is ten stories in height or one hundred and sixty-five feet to the top of the corner tower. It is thoroughly fireproof in construction, all the floors, ceilings, girders and furrings of outside walls, columns, etc., being covered with fireproof tile, while the partitions throughout the structure are built of hollow tile, giving a light but thoroughly substantial division to the interior at a vast reduction in expense as well as an economy of room. The main staircase will be of marble, and fine elevators will operate for the use of passengers and the carrying of freight. The steam-heating and ventilation is upon an improved plan; and in the hands of one of the best known steam-heating firms in the country, this important feature will be scientifically constructed. The Durham system of iron house drainage is used, the practical advantages of this system having been satisfactorily tested at the city of Pullman; and in all other sanitary points the building will have as perfect construction and appointments as the best builders this age of advanced knowledge in building economy can supply. Besides containing the general offices of Pullman's Palace Car Company, both for this country and abroad, the army headquarters will be here located and offices of firms controlling large interests. The three highest stories will probably be laid out in flats, while a portion of the ninth story will contain a restaurant for the use of occupants of the building. Owing to the fact that many of the details of the interior being not yet arranged, and as at a later date details of the building will be illustrated, a more extended description of this mammoth structure is deferred.

The Builders and Traders' Exchange.

THE satisfactory announcement was made in our last issue, that all the various trades in this city, representing every branch of the building interests, had convened at a preliminary meeting for the purpose of putting on a solid financial basis the organization of "The Builders and Traders' Exchange of Chicago." Since then other meetings have been held, and on the 16th ult., at a full attendance of leading representatives of the building trade, the organization was consummated. A charter has been secured under the corporate laws of this state, Geo. C. Prussing, H. C. Hoyt, Geo. Tappan, D. V. Purington and F. C. Schoenthaler being the incorporators.

The first organization of builders in Chicago was effected in 1880 by the master masons, and was called the Master Masons' Association. This was established with the view of forming a nucleus for an association composed of the entire building fraternity upon the plan adopted by The Builders and Traders' Exchange. But it is only now that this plan has seemed about to become a success, and it is due not only to the earnest work of the leading contractors of Chicago, but to the pressing need of such an association that the enterprise has not only begun a rapid growth, but is beyond doubt destined to be the greatest and most successful of builders' associations in the United States.

The purposes of the Exchange, briefly stated, are to promote and elevate the mechanical and industrial interests; to inculcate just and equitable principles of trade; to establish and maintain uniformity in commercial usages by rules and regulations; to acquire, preserve and disseminate valuable business information; to adjust differences and settle disputes between members, or between members and others; to acquire, own and dispose of property, both real and personal, for the benefit of the Exchange; and for other purposes conducive to the interest of its members.

The officers elected are:

President, George C. Prussing; first vice-president, J. P. Ketcham; second vice-president, E. Baggot; secretary, F. C. Schoenthaler; treasurer, Amos Grannis; directors for one year, George Tapper, Jonathan Clark, James A. Miller, H. C. Hoyt, W. E. Frost; directors for two years, James John, J. B. Sullivan, W. H. Chenoweth, Charles B. Kimbell, C. C. Thompson; inspectors of election for 1885, F. E. Spooner, James H. Rice and Adam J. Weckler.

Among these gentlemen are carpenters and builders, masons, ironmen, brick manufacturers, stone-cutters, proprietors of stone-yards, limemen, lumber dealers, manufacturers of sash, doors and blinds, plumbers, gas-fitters, building contractors, etc. Every branch of building is represented, and a large membership is desired. Every nationality is represented, and the design is to make the enterprise cosmopolitan in every respect. The Exchange is to have meetings daily.

The gentlemen who originated this worthy project and have carried it through to a successful and promising consolidation, are entitled to no small praise. It is well known that most of the large cities in the country have for some time past supported organizations similar in kind, and notably in New York, Boston and New Orleans, have these grown to wealthy and influential and powerful organizations, while those of Philadelphia, Cincinnati and St. Louis are likewise flourishing. This new exchange has taken for its model the Boston plan, and the various gentlemen already identifying themselves with it are sanguine that it will become one of the most prosperous and useful establishments of its kind in this country. A permanent location for the meetings of the exchange will be fixed upon at an early day.

The large hall immediately under the permanent building material exhibit of Architect Henry Lord Gay was earnestly considered as a place of meeting, both because of its light and floor space, and because of its proximity to the exhibit. This is certainly a strong reason why it should be located there, where the builder and his work could be seen together, and this location has been strongly advocated by some, while others seem to think that a location more central would be desirable. The exhibit being in the heart of the business section, where business men could conveniently visit it, makes this position valuable, but on the other hand the high rent asked for the hall makes the exchange hesitate. Meanwhile the city in the neighborhood of the present Master Masons' Association rooms is being thoroughly canvassed for suitable quarters, but with little success. The location of the exchange, wherever it may be for the coming year, will be but a temporary one, for the certain growth in that time will demand large, convenient and permanent quarters, which will either be secured in the neighborhood of the city hall, or by members of the association forming a company and building a structure of their own. The latter project would seem the most advisable and one worthy of the representatives of the great building interests of Chicago. The exchange has 250 members, with applications coming in daily. A membership is anticipated of at least 3,000, and that, too, within a comparatively short space of time. Any individual or firm of mechanics, manufacturers, or traders of good repute, whose avocations connect them with the trades or industries of building, may become a member of the exchange upon election by the board of directors. The usefulness of the exchange is apparent to all when every interest connected with building in a great city like Chicago may be brought together daily for consultation at a central point. There need be no misgivings about its sure success.

Look Out for Fraud.

A MAN by the name of W. H. Lee has been representing himself as an agent of "Building" and taking subscriptions for the same in Chicago and vicinity. He is pronounced a fraud by Wm. T. Comstock, the publisher, and the public warned against him. J. W. Taylor, the Chicago dealer in architectural publications, reports that Lee has also been representing him without authority and pocketing the proceeds.

C. H. McCONNELL, the manager of Haverly's Theatre, is about to reconstruct the entire interior, a description of which will be made at a later date. Though the architects have not been engaged, it is probable that architects Kimball and Wisedell, of New York, will complete the changes

Building-Stone.

PAPER READ BEFORE THE CHICAGO ACADEMY OF SCIENCES,
NOVEMBER 27, 1883.

BY W. L. B. JENNEY, ARCHITECT.

II.

(Continued from page 14b, Vol. II, No. 5.)

THE question of preservation of stone has of late years attracted much attention. Many methods have been proposed and tried, but none have been all in all so satisfactory as to come into general use. Paint is effective for the short time it lasts, but disfigures any good stone, and certainly cannot be recommended. Oil fills the pores of the stone for a time, but discolors the surface.

There is a process that was applied to the building of Mr. L. Z. Leiter, occupied by Meyers, Strauss & Goodman, Monroe and Fifth Avenue. The surface is warmed by a charcoal stove, and then a hot solution of paraffine and creosote is applied with a brush. The creosote tends undoubtedly to increase the durability of the paraffine. This treatment is open to the objection of discoloring the stone.

There is a process known as the "Lundberg," which is applied by a company in this city. This material is said to be an insoluble metallic substance. There is a stone in the Chicago postoffice, treated six years ago, that today appears better than any other stone in the building.

Some method of preserving the stone in our city buildings is certainly very desirable. How many are so seriously discolored that whatever beauty they may once have possessed is lost. The Chicago customhouse and many other buildings of both limestone and sandstone have the surface scaled off over considerable areas.

While we are seeking a preservative we must not lose sight of one element of destruction, muriatic acid, which is very generally used in cleaning buildings. It is almost impracticable to prevent its use, so much does it diminish the labor.

We have hastily reviewed the different kinds of building-stone, and examined such specimens as I have been able to procure. I have by no means exhausted the subject. There is much more to be said, but probably I have said quite enough for one evening. It is easy to see that Chicago is not wanting in a variety of good building-stone of all the species and of all colors, and if the architects fail to build both substantially and beautifully they certainly cannot excuse themselves on the ground of the want of material.

If the parties making the examination of a stone can visit the quarry, they should look for outcroppings and for detached stones that have been long exposed to the weather. When these can be found they will give valuable information in regard to weathering qualities, which are all in all the most important. One must be sure these detached pieces come from the part of the quarry under examination, for the different strata are often very different in quality.

Stones for building purposes are classified as granites and other igneous rocks, slates and schists, sandstone, limestone.

Granite is a primary rock: compact, crystalline and unstratified. It is composed of feldspar, quartz, and mica crystallized promiscuously together, the proportions varying greatly. Dana gives a kind of average composition: feldspar 40 per cent, quartz 30 to 40. There are many varieties of granite. Mr. Bodwell, of the Hollowell & Bodwell Granite Co., tells me that he has a collection of over sixty. The varieties are caused by the character and proportion of the ingredients, and the manner in which they are assembled.

The quartz is pure silica, a very hard glassy substance in crystals or amorphous, grey white or colorless.

The feldspar in good granite is crystalline, lustrous, and not earthy in appearance. Its grains are of different shape and size, and the color runs through a large variety of shades, from white to grey, yellow to brown, pink to red, etc.

The mica is silicate of alumina with iron manganese and magnesia in semi-transparent glistening scales, which can easily be flaked off with a knife. The color may be brown, dark grey or black.

The durability of granite depends upon the quantity of quartz, the nature of the feldspar and the disposition and quantity of the mica. If there is much quartz it will work hard, but will weather well if the feldspar is good.

Feldspar is silicate of alumina with silicates of lime, soda and potash, in groups of three or all together. The most common form of feldspar in the best granites is oligoclase or soda feldspar. The potash feldspar or orthoclase is the most liable to decay. If the mica or the feldspar contain an excess of lime, soda or iron, the granite is liable to decay.

Iron, either as the oxide, or as the white radiated pyrites (called marcasite), affects the durability of granite as well as all other stone, if in considerable quantity. It can be detected by soaking a sample in water to which one per cent of nitric acid is added, and then exposed to a dry atmosphere. It can often be seen with a good glass.

The bright yellow iron pyrites, crystallized in a cubical form, appear to do little harm. These crystals have been found in a bright, unaltered condition in Glasgow in the slate of a roof one hundred years old. Chemically, these two forms of pyrites are the same, although physically so distinct. The white radiated pyrites decay quickly. In using granite in several varieties in the same building the best effect is produced by placing those of finest grain near the eye.

I have here samples of some of the numerous granites brought to Chicago.

The Hollowell white granite is quarried at Hollowell, Me., about two miles below Augusta, on the Kennebec river. This quarry is fully developed, and is capable of furnishing twenty thousand tons of large building stone in a year. This granite is composed of quartz and feldspar with a little mica. It is fine grained and has been tested with a crushing weight

of twenty-five thousand pounds per square inch. It has a rift parallel with bed. This stone is used for the new State House at Albany, N. Y., and the new Board of Trade in this city and other Chicago buildings. This granite is used for buildings and monuments.

Fox Island or Harbor granite, used in the three principal fronts of the new Board of Trade in this city. This stone is from extensive quarries on Fox Island, southeast coast of Maine. It lies in very thick sheets. It is coarse in fleck and of a medium grey color. It has a rift lengthwise of vein and perpendicular to the bed. Used exclusively for building. There is also on Fox Island a quarry of fine dark mixed grey, and one of black granite.

The Jonesboro granite is quarried at Jonesboro, Me. It is of a reddish color, coarse in fleck. Like all the red granite, the stone is difficult to quarry, it having been deposited in mass and in large boulders instead of layers, like, for example, the White Hollowell. The first story of the new Pullman office building is entirely constructed of this granite.

At St. George, N. B., is found a granite of a deep red color. It is said to be the deepest red of any known quarry. This stone is also quarried with difficulty and has neither rift nor grain. The entrance to the First National Bank building in this city is of this stone.

At Sprucehead, near Thomaston, Me., is found a granite with coarse black, white and green grains. It is easy to quarry and to work, was used in the postoffice of Atlanta, Ga. I have also samples of the Rhode Island granite, Quincy granite, red granites, etc. etc.

Gneiss. All the stones usually called granite are not true granite—some are gneiss, which has the same composition as granite, but with traces of lamination, caused by the mica and other ingredients being more or less in layers. Gneiss splits most easily in the direction of the mica layers. Others are syenite and syenitic granite. True syenite consists of quartz, feldspar, and hornblende; it differs from true granite by the substitution of hornblende for mica.

Syenitic granite is composed of crystals of quartz, feldspar, mica and hornblende. That is to say, the composition of true granite with the addition of hornblende. This is the stone found in Syene in Upper Egypt, whence the name syenite and syenitic granite for stone resembling granite and containing hornblende.

These syenites are generally of darker color than ordinary granite, caused by the grains of hornblende which is a silicate of lime and magnesia, and in the dark green and black varieties contains much iron. It is very tough and hornlike, whence the name. If the feldspar is of good quality, hornblende granite, it is exceedingly durable, and will take a fine polish.

Porphyritic granite contains large, distinct, independent crystals of feldspar, scattered at random through the mass.

Trap rocks consist of feldspar and hornblende. They are very hard and tough, and make good road metal and paving stones, but are not much used for building purposes.

Green stone is allied to trap, and although called green stone, some varieties are nearly black. The grains are not as coarse as in granite. The color is due to chromium. Green stone is found on the Hudson just above New York and in the Orange Mountains of New Jersey. These stones are durable but cannot be obtained in large blocks and are therefore only used for irregular ashlar work. The green stone in this market is called Philadelphia or Pennsylvania. It is quarried in the eastern part of that state.

Next in order is slate, an argillaceous rock, compact and fine grained. Originally a sedimentary rock, but will no longer divide along the planes of bedding, but split readily along what is called the "planes of slaty cleavage," to which is due our roofing slate—not a building stone in one sense, but it is the best roof covering yet introduced, although one of the oldest. A good slate should be both hard and tough, it should give a sharp metallic ring when struck. It should not splinter under the slater's ax, should be easily "holed", without danger of fracture, and should not be tender or friable at the edges.

One excellent quality in slate, and the one that is my excuse for mentioning slate among the building stones, is that it will not absorb moisture to any considerable extent, which makes it very valuable as a damp course, for which it is often used in Europe, more than in this country. If the top of the basement or foundation walls soon after they are clear of the ground, are covered across their entire thickness with a layer of good thick slate laid in clear Portland cement mortar, it will effectually prevent any moisture from ascending the walls. This is really more important than is usually supposed, not only for outer walls but also for basement partitions, in which, in many of our city houses, I have traced the moisture up the brickwork five or six feet, by the discoloration, and it no doubt ascended much higher.

(To be Continued.)

Our Illustrations.

Page 11, front elevation and plans of the new Farmer's National Bank building, at Ripley, Ohio. By architect E. Anderson, Cincinnati, Ohio. The lot being only 18 by 60 feet, and surrounded on three sides by buildings which shut out the light and air, presented unusual difficulties which have been creditably handled by the architect. The building is three stories, executed in iron for the first story, and solid Buena Vista freestone walls above, and galvanized iron cornices and acrotia, polished plate and rolled cathedral glass windows. The banking room is 16½ by 25 feet. The height of this room is fifteen feet, with the floor tiled with black and white marble; the vaults of massive iron, and safe in the center and rear. Also a perspective of the offices of the Covington & Cincinnati Suspension Bridge Co., at Covington, Ky., by the same architect.

Page 5, interior of the Oriental Masonic Hall, Chicago, decorated by H. J. Milligan. Illustration from sketches by Paul C. Lautrup. For description see page 4.

Supplement: Perspective of new Pullman's Palace Car Company's office building, by S. S. Beman, architect. For description see page 6.

Page 9. Fragments of Chicago architecture. Sketched by Cicero Hine.

Architectural and Building Notes.

CONTRACTS for the rebuilding of the De Steiger Glass Factory, in La Salle, Ill., have been made, and work commenced.

THE metal-roofers are taking steps toward improving the quality of the zinc and tin employed in roofing, and making the use of the superior metal uniform.

FOR the accommodation of the world's fair in 1887, San Francisco will put up buildings costing \$1,000,000. They will be erected in Golden Gate park.

THE senate committee on public buildings and grounds ordered a favorable report on the bill providing for the erection of public building by contract with the lowest bidder.

THE Master Plumbers' Association have decided to secure the rooms on La Salle street, between Lake and Randolph, lately occupied by the Hartford Fire Insurance Company, as permanent quarters.

ARCHITECT F. B. TOWNSEND, of this city, has prepared plans for an Industrial School, to be erected for the Unity Church Society, as soon as the weather will permit. Its dimensions will be 44 by 44, two stories and basement and built of brick and stone; cost, \$9,000.

ARCHITECT A. C. VARNEY, Detroit, has about completed an elegant design for a staircase for Andrew Hair, the caterer of that city, to cost \$600. The wood principally used will be cherry. The design is said to be very artistic, and considerable time is required in which to do the turning and carving.

THE Master Plumbers' Association give their annual entertainment and hop on the evening of Wednesday, the 20th inst., at the Grand Army Hall, E. Washington street. The occasion will be one of social pleasure and reunion of the members and their friends, and the object to raise funds for the library and apparatus for the use of the association.

ARCHITECT H. R. WILSON has in course of construction several buildings, among which is a block of brick stores for J. K. Bigelow, 50 by 70 feet, three stories and basement, plate-glass front, situated at the corner of Lake and Page streets, to cost \$20,000. Also a residence for Wm. Rogan, at 690 West Adams street, three stories and basement, to cost \$15,000.

AMONG the recent contracts made by the Northwestern Terra-Cotta Company are those for the ornamentation of the Councilman Office building and Open Board of Trade. That now nearing completion, the ornamental work upon the Pullman buildings, is one of the finest specimens of the art ever produced in the West, a belt course running across the front above the first story being especially striking.

ARCHITECT J. C. COCHRANE, having been elected architect for the new courthouse at Marshalltown, Iowa, has gone to that point to consult the directors. It may be mentioned that the board of directors of the Joliet courthouse in that city have decided to build upon the old lot, and have accepted Mr. Cochrane's plans for the new building. It will cost about \$123,000; will be 76 by 144 feet in dimensions, and will face on four streets.

A PLATE-GLASS insurance company, having to pay 1,456 losses in eight months to September, reports, 343 breakages from stone throwing, etc.; imperfect glazing caused 144; 86 door plates were broken by wind, and 59 by wind and hail; burglars, 76; malicious persons, 43; runaway horses, 24; persons falling on the sidewalk, 39; window cleaners, 103; moving shutters, 54; with other breakages from 59 down to 1, the last caused by a flying owl.

ARCHITECT L. G. HALBERG is constructing, on the corner of Van Buren street and Ogden avenue, a two-story and basement photo-studio, for Saunders & Deach, front of Indiana pressed brick, of unique design, with ornamental sides, to cost about \$5,000; two stores and four flats on Wells street near Elm, three stories, attic and basement, to cost about \$15,000; for H. H. Roundtree, Platteville, Wis., frame residence, to cost \$5,000; for Dr. J. R. Cozine, at Englewood, a two-story building, attic and basement, to cost \$1,835.

ARCHITECT O. L. WHELOCK is building for himself a residence on Ellis avenue, between Oakwood avenue and Brook street. Pressed brick is the material used, with brownstone trimmings. It will be two stories and basement in height, 32 by 58 feet, with a high roof. One of the features of the interior is a diagonally-shaped parlor. A brick barn in the rear will be 36 by 29 feet and two stories. The plans of the barn are peculiar, and something out of the ordinary style of architecture for similar structures.

ARCHITECT WAESCHER is constructing two factory buildings for the Newbury estate, which will cost about \$50,000 apiece. One of these is at the corner of Franklin and Illinois streets, and the other at Superior and Wells streets. They will be particularly strong and solid, and also will be well lighted. Material of brick with stone trimmings. Each are five stories high. The same architects have just completed for E. W. Blatchford, a handsome and substantial-looking building, which cost \$30,000. It forms an addition to the shot-tower building on the corner of Clinton and Fulton streets.

THE Wight Fireproofing Company have just received the contract for the fireproofing of the American Bank Note Company's building, in New York. The contract calls for the covering of all columns and girders and the ceilings with porous terra-cotta, and the entire plastering, amounting to about \$32,000. In Chicago this company are placing a mansard roof on the Pike building, corner State and Monroe. This will be built of porous terra-cotta bricks set between I-beams, making a form of mansard that, had it been practiced before the great fire, would have saved many buildings.

ARCHITECTS BAUER & HILL have completed extensive alterations in the panorama building. This structure, which at the time of its erection received extended description in these columns, was found to be inadequate

to accommodate the unexpected crowds which have thronged it ever since its completion, to see that remarkable painting, "The Battle of Gettysburg." The building is now not only a model structure for panorama purposes, but is perhaps the finest and most commodious ever erected in this country, containing some features superior to like edifices in the old world, and is alike a credit to the architects and to the management.

J. J. LOCKWOOD has received the contract for furnishing all the pressed brick for the Western Indiana railway depot at Chicago. Philadelphia pressed brick will be used, also a large quantity of moulded and enameled brick, the latter from the Enameled Brick Company's works at Philadelphia. The contract covers about 400,000 pressed brick, and Mr. Lockwood is to be congratulated upon receiving this order, which is not entirely owing to the company's preference for Philadelphia brick, but also because of this gentleman's reputation among architects and contractors as a reputable business man, whose contracts are delivered on time, and are always up to the specified standard.

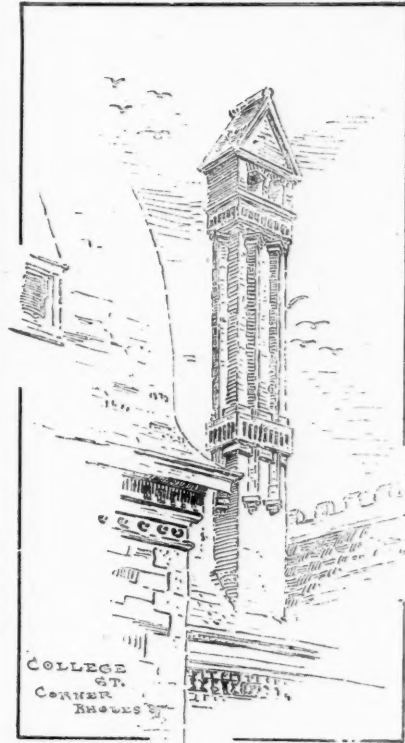
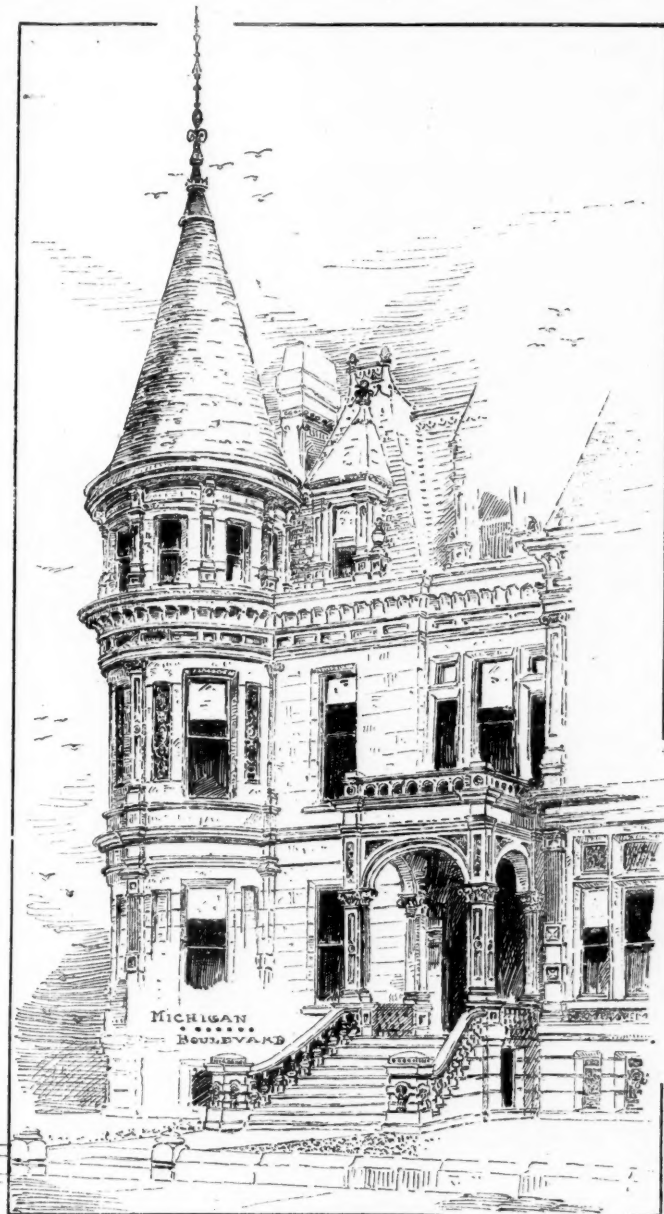
THE Pioneer Fireproof Construction Company, of Chicago, is the new name of the Ottawa Tile Company so long and favorably known in the line of furnishing fireproof material for building. Wishing to be more thoroughly identified with Chicago, where they have been practically located for many years, the old name being taken from the works of the company at Ottawa, as the new name is to express the claim of this company to the succession to the first concern to place fireproof tile in buildings as a protection against fire. In wishing the company a continued success under its new name, it is but opportune to remark that the public owe to the fireproofing construction companies more appreciation than to fire insurance, as the former make the cause impossible while the latter only deal with the effect.

ARCHITECT C. L. STILES is just finishing the fine residence built for Mrs. Russell, at the corner of Monroe and Laflin streets. It is two stories and basement. Anderson pressed brick is used in the front and sides; trimmings cut-stone, with mansard roof, and cost \$10,000. Also a fine residence at Elgin, Ill., for D. E. Wood. It is a veneered building, with high Gothic roof, two stories and basement; front built of white or cream-colored brick, and trimmed with Anderson red brick, which gives the frontage a handsome appearance. Cost \$9,000. The same architect is also making plans for the completion of Grace church at the same place, by the addition of a story and a tower. Complete, the building will cost \$16,000. Also three houses in Lighter's addition to La Grange, to cost \$3,500 each.

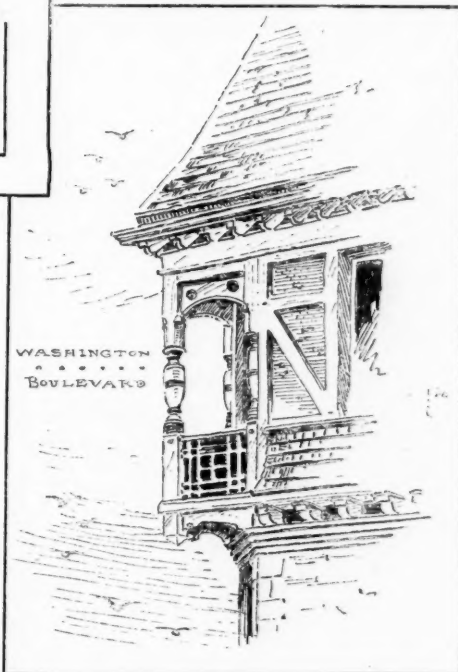
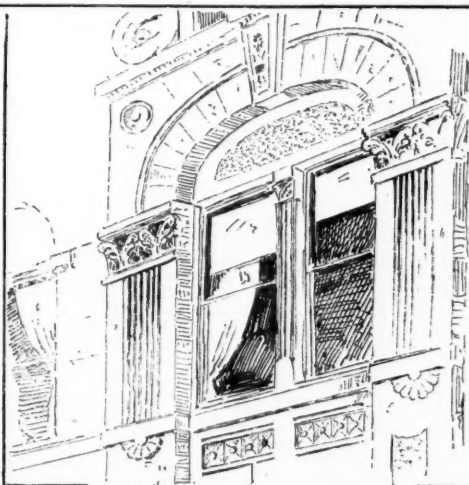
ARCHITECT J. H. HUBER has in process of erection a fine residence for Mr. M. W. Duffley, at No. 42 Bellevue place, with pressed brick front and terra-cotta trimmings. Basement steps and sidewalk of New York blue stone. A special feature of the front will be the second story oval bay window of galvanized iron, with bent plate-glass and very rich and costly stained glass; interior feature is stairway, which will be of red oak, butternut and cherry; the second story is to be lighted by a large stained glass dome; the house is to cost, complete, \$10,000. Mr. Huber also has plans for a three-story flat-building for Mr. T. Parker, on Honore street, to cost \$6,000, also for three-story flats, with pressed brick front, terra-cotta trimmings, stained glass transoms and all modern improvements, to be erected on Rush street near Oak, for Mr. J. Moerschbaeche, to cost about \$8,000. Also a residence and barn on Larrabee street, for Mr. J. Becker, to cost about \$9,000, and a mission church for the German Baptists, being erected on the corner of Burling and Willow streets; the church will be dedicated the last Sunday in January; the cost is \$11,000.

ARCHITECTS BURNHAM & ROOT are preparing plans for two school-houses, one of eight and one of sixteen rooms, at Hyde Park. They are to be built on a new theory, the idea being to have all rooms face the south, making a radical departure from the old quadrilateral building. Also plans for rebuilding the Las Vegas Hotel, lately destroyed by fire, at Las Vegas, N. M. The new structure will contain three hundred rooms. To be built of Bradford sandstone. In addition to this the Atchison, Topeka & Santa Fé R. R. Co. will build a number of cottages adjoining the hotel, to accommodate the guests who will be served from the hotel. The cottages will contain four, five and six rooms each. These architects also report two fine residences for James Franks and C. C. Thompson. That for Mr. Franks will be 46 by 80 feet, two stories, an adaptation of the Romanesque, and that for Mr. Thompson will be 35 by 80, the two stories Renaissance in style, of the earlier Georgian type. Also two picturesque suburban residences for W. E. Hale and John Davis, on Drexel Boulevard. One will be of grey stone for the first story, with red slate above. The other will be built of a very large and fine pressed-brick, from Chester, Ill.

ARCHITECTS COBB & FROST have the preliminary sketches and plans of a proposed opera house to be built upon the corner of Washington and Clark streets. The opera house company have secured the lease of the ground from the Peck estate; but the lot is encumbered by a three-story brick building called the Exchange building, built after the fire by the Johnson estate upon a lease of the ground which expires May 1 next. The building will probably at that time be torn down and the work of excavation and building upon the opera house immediately commenced. The proposed structure is 182 by 107 feet; will be nine stories and basement in height, and will contain, beside an auditorium to seat twenty-five hundred people, nine stores on the first floor and about three hundred and fifty offices. It will, of course, be thoroughly fireproofed, hollow tile being used for the partitions. The basement and first story will be of rough-faced brownstone, and the stories above of dark red pressed-brick and brownstone trimmings with molded brick and terra-cotta ornamentation. The structure will cost about five hundred thousand dollars. These architects are now at work on the plans for two very handsome houses, each 30 by 60, three stories and basement, to be of pressed-brick, for Mr. O. W. Potter, president of the North Chicago Rolling Mill Company, to be erected on Forty-seventh street, near Greenwood avenue. They will be finished about September 1.



FRAGMENTS OF
CHICAGO ARCHITECTURE
SKETCHED BY
CICERO MINE



Lumber Notes.

THE log crop of the Eau Claire, Wisconsin, will be very close to 200,000,000 feet.

A NUMBER of northern men are visiting East Tennessee in search of timbered lands.

DURING the past year Ludington shipped 121,357,000 feet of lumber to Chicago, against a shipment of 121,603,000 feet for 1882.

IN the forest products of the United States the annual yield in raw material—such as lumber, fuel, bark, etc.—at a low estimate reaches fully \$800,000,000 in value.

THE Muskegon Car and Engine Company will have to purchase 500,000 feet of hardwood lumber, 1,000,000 feet of softwood, and 1,500 tons of iron to fill a contract for building 500 box cars for the Nickel Plate railway.

THE most encouraging reports have come from the pineries, of plenty of snow and good roads, enabling work to be prosecuted with vigor for a long season, whereby a full crop of logs will be got out in some sections before spring comes to break up the roads.

It is said that along the Saline and Ouachita rivers and on Bayou Bartholomew, in Arkansas, is standing today, oak that will match in quality and size the best that is to be found anywhere in the United States. A diameter of from four to six feet, and a clear height to the first branch of sixty and seventy feet is not uncommon.

A SOUTHERN exchange says: "It is only a question of time, and that, too, a very short time, when the great lumbering industry of the country will be transferred to the southern states of Arkansas, Georgia, Florida, Mississippi, Louisiana, the Carolinas and Texas, and those states be rendered as prosperous by the utilization of their pine forests as have been the white pine regions of the Northwest."

FEW states in the Union have a larger area of valuable timber lands than has Tennessee. Of her 26,000,000 acres of territory, only about 9,000,000 are in cultivation, leaving 17,000,000 acres, nearly all of which is more or less covered with valuable timber. Deducting 1,000,000 acres for waste land, and this is a most generous estimate, there remains 16,000,000 acres of timber land, most of which has been but slightly, if at all, disturbed by the woodman's axe.

INDICATIONS point to the probability that a greater proportion of good logs will be put in this season than there was last. The markets are all glutted with No. 2 stock, while the better grades are relatively scarce. A prominent Menominee operator admits that his concern will discard the very poor timber this season, thus a portion of the lumber market will be comparatively free from culls, or as shakely lumber used to be called in the neighborhood of Chicago, "De Coudres."

FOR yellow pine in the South, there is certainly much to hope for in the immediate future. Stocks are nowhere very large, while the demand is certainly increasing at a rate that will in a short time absorb much larger quantities of this wood than ever before in the history of the trade. Southern pine manufacturers are not rushing things as they have heretofore done, to their own injury, and the market will not soon be overstocked as has been the case in the last two or three years. Logs are reported scarce at many of the mills, which fact will also aid in restricting the cut. The sales of yellow pine are constantly increasing in this city.

Art Notes.

GEORGE HARVEY, formerly of this city, and now in Burlington, Iowa, is painting some figures which he intends sending here to exhibit.

PAULSON, the marine artist, has his studio on a yacht which he owns, and he says his rent is very low. (Probably at water level). He intends sketching along the lake the coming spring.

THE furniture designers are busy, ever at work evolving something new for the woodturner, the woodcarver and the manufacturer. Many new designs in furniture will be ready in the course of a few days, and may be seen at the large furniture stores.

THE Art Guild is engaged in decorating its apartments, and the month will be one of preparation for the decorators' evening to be given in March, at which time the highest productions of decorative art ever exhibited in this city will be produced for public inspection.

AT Stevens' gallery there is a caricature of a fruit-piece, by Platt, that is not only clever as a take-off, but a good thing in itself. Instead of the conventional apples, pears, peaches, grapes and wine-bottle, Platt has radishes, onions, cucumbers and a flask of oil. The vegetables have been well handled.

THE principal novelty at O'Brien's is a large sunset scene "On the Susquehanna," by the late W. S. Young, whose works a few years ago gave him a world-wide reputation. The soft light, luminous shadows and fine perspective make this a marked picture. "On the English Coast," by Bromley, is one of the finest marines this artist has ever exhibited.

AT Thurber's there are several fresh pieces, one of which is "Fairy Land," a flower-piece by Gookins, with much color, a pale fairy with a parasol, and a black elf as attendant, perched on rose-stems, and other effects. "The Railway Station," by A. D. Beecher, is an excellent representation of an early and ancient arrival at a country station. The solitary occupant of the waiting-room, he has seated himself on the rude bench, with a valise on either side, adjusted his glasses, and buried himself, mentally, in a newspaper.

THERE is on exhibit in Stevens' gallery a special collection of nearly one hundred pictures, many of which are the work of Mr. Walter McEwen, who has recently returned from Europe, where he has spent the most of his time during a number of years past. The collection is very much

admired. Mr. McEwen has done some superior work in pastel or chalk, especially in the line of portraiture and study heads. His collection, of his own paintings, is a very interesting one, and fully warrants the interest David Neal has taken in this young artist.

A Chicago Office Building.

THE building of large structures for office purposes is not remarkable in Chicago, but there are facts connected with the history and construction of the Calumet office building which call for special mention, because of the fact that the builders, Messrs. Mortimer, Tapper & Grannis are also the owners.

These gentlemen came to Chicago when Chicago was little more than a village, and through their exceptional skill as masons and mason contractors—trades to which they served their apprenticeship in England, they became leading builders of Chicago; erected many of the most important structures of the city; and are quoted as authority in all questions of building construction, especially those where foundations and foundation-walls are to be constructed.

In 1866, Mr. Geo. E. Mortimer and Wm. Tapper purchased a strip of ground five feet and one-half wide, fronting on Monroe street, and running back siding on La Salle street one hundred and eighty-nine feet for \$2,500, and, until the great fire, they had a small office on this corner. Subsequently the owners of the adjoining property, made a proposition by which an exchange was made, Mortimer and Tapper giving all but the seventy-eight feet front upon which the building stands for forty-five and a half by seventy-eight feet in the rear, giving then a valuable lot seventy-eight feet front by fifty-one feet deep, or exchanging six hundred and ten square feet for three thousand five hundred and fifty-three square feet, the difference showing the value placed upon "front feet" at that time. The front feet were gold and the rear lot copper, and though they gave a full equivalent, Mortimer and Tapper received the larger quantity, and to them equally valuable, as it gave them a building site.

Mr. Amos Grannis, who has been no less prominent among Chicago builders, and is the owner of the Grannis block, associated himself with these gentlemen for the construction of the Calumet.

The building is an illustration of what can be done upon a small piece of ground.

The foundations were commenced almost two years ago, and slowly and steadily they were laid—sufficient time being given them to settle perfectly, which, it may be remarked, is too unusual a custom in Chicago building. These foundations are isolated pyramidal piers—a form which has been found to be the only thoroughly reliable one for Chicago.

The Romanesque style is followed in the architecture, the walls presenting a fine appearance, being composed of a beautiful dark red St. Louis hydraulic press brick, which gives an exceedingly massive as well as rich expression to the exterior.

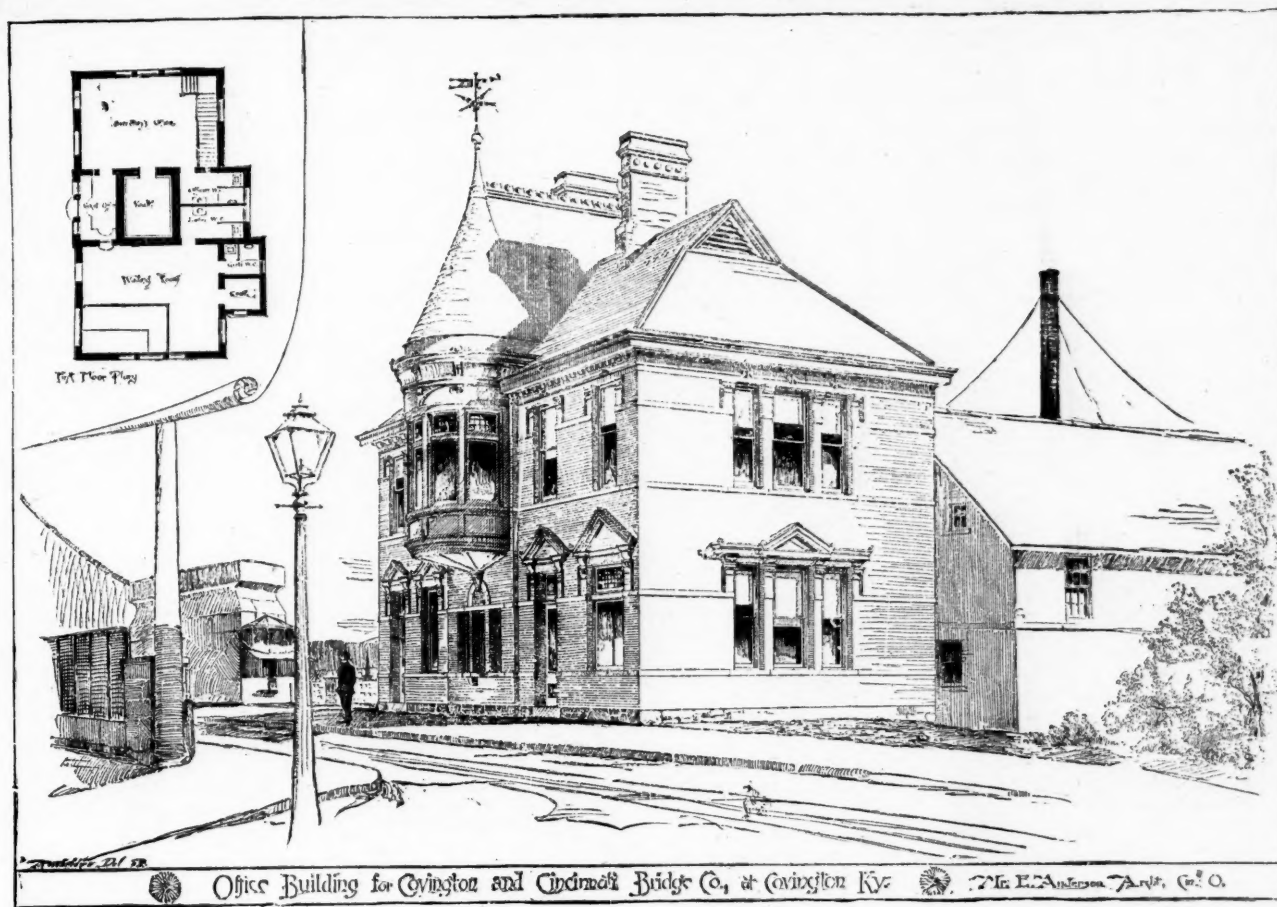
The fireproofing is most thorough and extensive throughout the building, the material being fireclay tile. All the ceilings are fireproofed with fireclay tile, and the partitions are constructed of hollow tile. An evidence of the strength of these walls is demonstrated beyond question in this building, as there is a wall eighteen feet long by one hundred and thirty feet high, built in place without extraneous support, being used to inclose all the gas and water pipes of the building. The vaults are lined with furring tile. The ceilings are applied directly to the under side of the wood joists, dispensing with all lathing and crossfurring, making an absolute fire-proof floor, at much less cost than ordinary iron beam construction. This is the first building in the world constructed by this method, and as an example of fireproofing is highly commendable to the Ottawa Tile Company, of Chicago, who executed the work.

The entrance is a novelty in the history of the finishing of office buildings. A vestibule containing the registers of the offices, which are framed in antique brass, and to harmonize with this is used—and for the first time, too—wainscoting of metallic tiling that opens a new era in the decorating of not only office buildings, but the utility of which spreads into every field where tiling can be used, and opens new vistas in the decorating perspective of the future.

The offices, fifty-six in number, are all finished in hardwood, and a novelty in office finishing is the papering of the entire walls and ceilings throughout the building. The plumbing, gasfitting and steam-heating are each complete, and, though worthy, are too extensive for extended description, while as a whole the structure, besides being an ornament and a lasting credit to the city, is a monument to the builders and an example to the building profession, showing what enterprise, foresight and practical application can do. It not often happens that an enterprise of this extent is projected, carried through and owned by members of the building profession while they are still in the contracting business, and not retired capitalists.

The contractors for the construction were J. J. Lockwood, who furnished the St. Louis pressed brick; Tomlinson & Reid, the dimension stone; M. W. Powell & Co., six-ply cap-sheet roof; the Metallic Tile Company; the Chicago Wire and Iron Works; Foskett & Brown, the plumbing and gasfitting; John Davis & Co., steam-heating and ventilation, which contract included a Baragwanath feed-water jacket heater and the Schroll smokeless furnace; Nat Faxon, the contract for wall-paper, which is one of the largest ever placed in this city; the painting, glazing and finishing of woodwork, and lettering of the registers, by Theo Lattan, Jr.; the extensive hardware contract, including Niles' patent knobs, locks, etc., and transom-lifters, and the Zeller air-bell and enunciators for the elevator service, for which L. S. Baldwin are the agents,—a device which is fast taking the place of electric bells, especially for elevator service.

Situated as this building is, midway between the courthouse and the city hall on the north, and the new board of trade, the open board and the customhouse on the south, the location is unexcelled. The architects are Burnham & Root, and the building, with the genius and experience of these leading architects, combined with that of the owners, who are well-known builders, has made the Calumet truly a model office building.



New Publications.

HINTS ON THE DRAINAGE AND SEWERAGE OF DWELLINGS. By WM. PAUL GERHARD, Civil Engineer. New York: William T. Comstock, 6 Astor Place, publisher. Price \$2.50. Sent by mail free of postage.

This book, consisting of two hundred and two pages, ought to be studied by architects, plumbers, builders, civil engineers and reputable physicians everywhere, since they are the persons who have so much, in fact everything, to do with the sanitary condition of the homes of the people. We do know that very few cities have suffered more than Chicago in past years through imperfect drainage and an imperfect system of sewerage. The defects in the drainage, by which so much discomfort and sorrow have been occasioned, are by no means the least worthy of consideration. Not many men would need to examine the drainage of their homes to find serious defects, and it is no less true that many of the houses which are being erected at the present time are as sure to be cursed by sewer gas, as that they shall be inhabited. Complaints have come up from every quarter of the city at stated times that sewer gas is noticed in public buildings, in the streets, and in private houses where it has not been known before. The reason of this is sometimes due to the prevalence of strong northeast winds, which drive the water up the river, and consequently the sewers become choked. The pressure within the sewer has been so great that gas has been forced through the traps, both within houses and in the street catch-basins. There are many anxious inquiries as to some effective method of disposing of noxious gas, and it is apparent that something potent must soon be applied. To assist in this work wherever needed is the object the author had in view in publishing the book in question, and he has gone very far indeed toward a solution of many difficult problems involved in drainage and sewerage. The title "Hints" has been chosen purposely, for this little volume cannot, and does not, pretend to be an exhaustive treatise on the subject. It contains, however, a great deal of very useful and very valuable information, and an unusual collection of illustrations of plumbing appliances, all of which are explained and their merits or defects carefully pointed out. This little work ought to find a place in the library of every well regulated household. In the meantime it behooves every citizen who prizes health and happiness to look to his own house to see whether he is not harboring a dangerous enemy. Mr. Gerhard concludes his book with this paragraph: "To contribute his share in the prevention of 'preventable' disease has been the author's aim in writing these hints. His hope is that in a near future we may find in and around every human habitation, in the city and in the country, 'pure air, pure water, and a pure soil.'

BOOK OF DESIGNS FOR SCHOOL HOUSES, AND SUGGESTIONS AS TO OBTAINING PLANS, AND HOW TO HEAT AND VENTILATE SCHOOL BUILDINGS. By G. P. RANDALL, Architect. Chicago, 1884.

Perhaps there are few architects in the West who are better qualified than the well-known author of this neatly-printed little pamphlet of ninety-six pages, to write upon the topics suggested in the above title. Mr. G. P. Randall, the author, for the past twenty-seven years has made a specialty of designing school buildings, and during that time has resided in this city. In that period he claims to have designed a great number of school buildings, more, probably, than have fallen to the lot of any other architect in this city or in the Northwest, but his business also includes a large number of designs for hotels, private dwellings, stores, banking houses, etc. This pamphlet is directed more especially to school boards and educational men, and to whom it will prove not only of interest, but of much practical value. The question of architects' fees, the general principles of Ruttan ventilation and how it works, sub-earth ventilation, hollow walls in buildings and how they should be constructed, with some fifteen designs of school houses, and thirteen designs of churches and public and private buildings, constitute the main features of the work. Mr. Randall has always been largely interested in sanitary work, and is thoroughly qualified to speak on this subject from an architectural standpoint.

SWINTON'S STORY-TELLER. A weekly of choice, complete tales, edited by Prof. WM. SWINTON. Swinton, Barnes & Swinton, 20 Lafayette Place, New York City, publishers.

Preeminently the best of "story-tellers" is this entertaining weekly visitor, which with its fresh, entertaining stories, breaks the monotony of practical life. Each number is complete in itself, containing from five to seven complete tales of the highest order of literary merit. These stories are always wholesome as well as entertaining, as it is the plan of the publishers to give each week a reproduction of the choicest tales from the pens of the world's most noted story-tellers, as well as to present the best original contributions from the most noted of European and American story-writers. Thus coming, as this neat magazine does, with the unobtrusiveness of a friend, and with a friend's entertaining powers, it fills a place in the literature field of the day that the hundreds of publications of greater or lesser pretensions shoot past, or perhaps aim at but never strike—that of complete stories by writers of acknowledged ability. The subscription price is four dollars a year.

FIRE-PROOF BUILDING MATERIALS. An Illustrated Catalogue of the Raritan Hollow and Porous Brick Co., New York.

One of the neatest illustrated little pamphlets that has come to us, and of special interest to those who intend to build fire-proof structures. The most important buildings in New York and other cities have had the hollow burnt clay flat arch brick laid in their floors, and the hollow burnt clay and porous terra cotta brick in their partitions and roofs, all of which have given satisfaction. During the past year the company have manufactured and shipped over 1,000,000 square feet of material, or, in other words, enough to cover twenty-three acres.

THE CLAY WORKER.

This is a new candidate for public favor in the special line of the clay-working interests, including brick, sewer-pipe, roofing, encaustic tile, terra cotta, pottery, etc. The first number has a substantial look, is handsomely printed, and its reading-matter is evidently prepared with care, and the subjects treated are well handled. The field its publishers have chosen is a good one, and as the interests represented are among the leading

industries of the country they will doubtless sustain a paper of this kind if properly and ably conducted. The number which comes to us is sixteen pages in a handsome cover, on the title page of which are some appropriate designs, partly in color. It is published monthly, at Indianapolis, Ind., by Frank W. Patten & Co. Price \$1 per year.

Mosaics.

MESSRS. ORR & LOCKETT have furnished an outfit of tools for the manual training school, valued at \$1,000, which is described as one of the most complete assortments of small tools this firm have ever handled.

THE Smith & Egge Manufacturing Company is placing a large number of orders in this city for the giant metal sash, chain and fixtures, for hanging sash. They are in use in a large number of private residences and public buildings. Mr. George W. Murphy represents the company here.

THE Stewart Ceramic Co., of New York, are the sole manufacturers of Morahan's patent crockery stationary washtubs, for which the claim is made that they are the only perfect washtubs in existence. They are kept clean with little trouble, and are firmly set up, as many as desired, on galvanized iron stands with hardwood top.

WHEELER'S wood filler is unsurpassed as a finish for hardwood, and is used in the finest public and private buildings in the country, as well as by cabinetmakers and other workers in wood. Breinig's lithogen silicate paint is a product of the same makers, and is very durable and economical, one gallon equaling two gallons or more of the best mixed paint.

It has been suggested that the St. Louis Hydraulic Pressed Brick Co. should store, say a million, brick in Chicago, so that architects can know to a certainty when they can have this excellent material; for though the company's Chicago agent is energy itself, he would not be able to supply brick on short notice should the long bridge be swept away, and besides architects would specify them with more confidence were they able to see them in stock.

THE Rotunda Furnace, designed by the manufacturer, Mr. A. M. Lesley, of New York, for warming public and private buildings, is strongly commended to public favor by those who have given it a trial. In its construction, the aim has been to secure a large heating surface, with ease in its operating and managing; also, absolute freedom from leakage of gas. Its operation is very simple and easy; ashes and clinkers are easily disposed of, and complete control over the fire is obtained by draft-slides in the doors and by a damper in the smoke pipe. One reference says, "We doubt if a better furnace can be found."

THE Tobey Furniture Company have found it necessary to increase their space for the grate, mantel and tiling department of their house. This necessity has long been felt, and they have just secured a space 50 by 100 feet, adjoining the space previously occupied by them in the basement of their building, where they will now have ample room, for a time at least, to display to the best advantage the large and elegant stock of these goods and of the latest designs which they usually carry. Patrons of the house can now make their selections of these goods to a much better advantage than ever before. No finer selection is to be seen anywhere.

THE Hallowell Granite Co. are now cutting the "drum" for the Yorktown monument. When cut it will weigh twenty-five tons. It is to be nine feet six inches in diameter, and eight feet ten inches high. It is doubtful if there is another place in the country where such stones can be quarried. The derrick to be used in erecting this monument is now being constructed in Boston. The mast, a single stick, will be 102 feet long, with a boom 98 feet. They were cut in Oregon and brought around Cape Horn, as trees suitable to make them of could not be found in any other part of the country. The monument will be surrounded by thirteen figures in bas relief, representing the original thirteen states cut in the same material as the "drum."

THE United States Encaustic Tile Works of Indianapolis, Ind., although only a little more than six years old, has become one of the best known tile companies in the United States. During the past year the company has entered largely into the manufacturing of high-art majolica tiles for mantel facings, hearths, wainscoting and ornamental purposes. The company has just completed two very large contracts, one being the Statehouse at Des Moines, Iowa, and the other the customhouse and postoffice at St. Louis, Mo. Among the many contracts now on hand might be mentioned the new government building at Topeka, Kas., two hotels in Kansas, three courthouses in Indiana, one in Illinois, a large State building at Columbus, O., containing 40,000 feet, a large six-story apartment house, also a fine residence at Cleveland, O., and ten national banks located in different parts of the country.

THOSE who were so fortunate as to attend the railway exposition in this city last year, will perhaps remember the large and varied display made by the Murphy Company Varnish Makers, one of the leading firms in their special line in this country. In order to meet the wants of the trade in the Northwest with promptness and dispatch, they have just opened an office in this city at 262 Wabash avenue. It is one of the handsomest offices on that wholesale thoroughfare; it is fitted up with good taste, with the woodwork of ash. The office, which occupies the front space in the building, is separated from the large storeroom, which extends to the rear, by an elegant stained glass partition, which is quite attractive. In the storeroom proper there are arranged fifty 500-gallon cans, which will contain a stock of the various varnishes manufactured by this company. With the facilities now at their command they can serve their customers with the utmost readiness. The office here is under the management of Mr. A. B. Garner, whose large experience peculiarly qualifies him to serve both the company and the public in the most acceptable manner.

THE Hamline University, situated midway between St. Paul and Minneapolis, is now about completed, and is said to be one of the best built structures in that section of the country. Special care has been taken

in the matter of warmth and ventilation, to make it comfortable and healthful. A very complete system of ventilation furnishes a supply of fresh air to every room in the building. The windows have all double sash, both sets weighted and sliding. The basement walls are thirty-one inches thick, with an air space, and the walls throughout are furred out. The floors are all deadened, two inches of mortar being laid in the interstice between two floors laid diagonally to each other. Particular pains has also been taken with the plumbing. The woodwork throughout the entire building is in the natural colors, and for the most part is oak. The heat is furnished from an entirely separate building several rods distant, so that there can be no possibility of a fire originating from that source. George Summers, of Minneapolis, had the contract for the building, which, when entirely finished, will cost \$60,000. W. H. Hayes, also of that city, is the architect.

SOME of the handsomest work in the way of designs for interior furnishings, emanate from the well known firm of Tomlinson & Carsey who have their main office in Central Music Hall. They are designers and manufacturers, having recently built a large factory in the southern part of the city, the main building of which is 50 by 123 feet, five stories high, with which is connected an 80-foot extension, two stories high, for special manufacturing purposes. The varied and complicated machinery with which the factory is supplied, is run by power furnished by an engine of 80-horsepower. It would take a good deal of space to mention in detail the numberless articles of household furniture and interior fittings for use, ornament and decoration manufactured here. The firm make a specialty of house furnishings from special and original designs to suit the taste or fancy of the patron. The firm not only design furniture complete for rooms en suite, but all the panneling and fine fancy woodwork which goes so far to ornament the home in all conceivable ways, is supplied by them. They manufacture all kinds of carved work, from the plainest to the most beautiful and ornate; a sample of the latter, being a Japanese design carved in mahogany, a marvel of beauty and of the carver's skill, was recently furnished to the home of Mrs. Judge Caton. The business of the firm is steadily increasing, as all their work is of the most substantial kind and greatly admired for its construction and exquisite designing.

Inventive Genius in Building.

- 289,373. Faucet. William J. Barr and John L. Nelson, Chicago, Ill.
 289,411. Electric Annunciator. Frederick Happersberger, Madison, Ind.
 289,422. Brick Machine. John A. Lafer, Albion, N. Y.
 289,426. Ventilator. Michael A. W. Louis, Washington, D. C.
 289,435. Door-lock. V. Mumford Moore, Ravenswood, Ill.
 289,458. Sash Balance. Gary B. Smith, Denver, Col.
 289,459. Spokeshave. Gary B. Smith, Denver, Col.
 289,666. Door-catch. Frederick J. Lee, Oswego, Kan.
 289,710. Self-acting Faucet. Anton Prier, Charles Doherty and Pierce E. Everett, Kansas City, Mo.
 289,744. Steam-pipe and Boiler Covering. La Fayette Aldrich, Milwaukee, Wis.
 289,769. Brick Machine. William A. Graham, Carlisle, Pa.
 289,832. Window-blind. Jacob B. Hartman, Wooster, O.
 289,847. Water-back and Boiler-fitting for Ranges. James McGinley, Chicago, Ill.
 289,885. Door-hanger. Caleb Brinton, Chicago, Ill.
 289,900. Protecting Iron Water-pipes from Rust. Frederick Eaton, Los Angeles, Cal.
 289,937. Basin and Water-closet Valve. Holland Smith, San Francisco, Cal.
 289,948. Device for Joining Lumber. Clarence A. Williams, Webster City, Iowa.
 290,024. Lock and Latch. Henry Heese Freeman, Milton, Ontario, Can.
 290,048. Self-closing Hatchway. Charles C. Hartung, St. Louis, Mo.
 290,084. Combined Register and Ventilator. William H. Maxfield, Maysville, Ind.
 290,093. Door-hanger. David Nickel, Morris, Ill.
 290,133. Metallic Plastering Surface. Jas. Stanley, New York, N. Y.
 290,203. Sash-cord Guide. William W. Boyington, Highland Park, Ill.
 290,210. Spacing-instrument for Drawing. George P. Conant, Geneva Lake, Wis.
 290,226-228. Composition for the Ornamentation of Walls and Ceilings. Murray Gibson, Philadelphia, Pa.
 290,247. Knob-attachment. Francis Lattimer, Richmond, Nova Scotia, Can.
 290,260. Crane. Thomas R. Morgan, Sr., Alliance, O.
 290,261. Brick-kiln. Lambert Niehaus, St. Louis, Mo.
 290,266. Chimney-cowl and Ventilator. Joseph F. Pond, Cleveland, O.
 290,277. Device for Closing Bricks in the Walls of Wells or Cisterns. William H. Small, St. Louis, Mo.
 290,297. Elevator-brake. Richard W. Weymouth, Denver, Col.
 290,331. Safety attachment for Elevators. Ernst C. L. Kunneke, Dayton, O.
 290,352. Portable Door-fastener. Edward Franklin Pfund, Sacramento, Cal.
 290,373. Sliding Door or Shutter. Elias H. Walton, Cincinnati, O.
 290,398. Friction-Hinge. Frank S. Clarkson, Baltimore, Md.
 290,400. Door-securer. Wash Coe, Leavenworth, Kan.
 290,457. Weather-boarding Gauge. Jacob Miller, Rockport, Ind.
 290,464. Hinge. Alf N. Parnall and George A. Parnall, Denver, Col.
 290,476. Grate. John R. Robertson, Selma, Ala.
 290,487. Scaffold-support. Thomas J. Shaughnessy, Marshall, Mo.
 290,512. Brick-kiln. Thomas B. Anderson, Allegheny, Pa.
 290,521. Stay-roller for Sliding-doors. Warren M. Brinkerhoff, Auburn, N. Y.
 290,568. Window-screen. Herman F. Geist, Cleveland, O.
 290,573. Chimney for Furnaces. Daniel McBride, Graham, Chicago, Ill.
 290,584. Illuminating Tile. Jacob Jacobs, New York, N. Y.
 290,603. Sewer-trap. Louis A. Pelletier, San José, Cal.
 291,026. Steam-radiator. William H. Brooks, West Point, N. Y.
 291,057. Skylight. Oliver C. Hubbell, Cleveland, Ohio.
 291,060. Fire-escape. William F. Kientoff and Philipp Bertemes, Englewood, Ill.
 291,063. Electrical Annunciator. Albert E. Leitch, Dayton, Ohio.
 291,074. Refrigerating Chamber. Aaron Myers, Hamilton, Ohio.
 291,078. Stone-dressing Machine. Wheeler Perkins, Methuen, Mass.
 291,114. Building-block. Joseph Wadleigh, Milks Grove, Ill.
 291,129. Wrench. William C. Baskin, Red Elephant, Col.
 291,169. Spring hinge. Walter Duncan, Chicago, Ill.
 291,176. Fireproof Compound. Lawrence Felldin, San Francisco, Cal.
 291,178. Plane. William B. Fenn, Meriden, Conn.
 291,192. Support for Beams and Girders. Peter H. Jackson, San Francisco, Cal.
 291,212. Lime-kiln. John T. Meredith, Milwaukee, Wis.
 291,254. Window-blind. Joseph Williams, San José, Cal.
 291,303. Fastener for the Meeting-rails of Sashes. George W. Curry, St. Louis, Mo.
 291,342. Cross-clip for Metallic Skylights and Glazed Roofs. George Hayes, New York, N. Y.
 291,347. Heater for Steam and Water. Alden Holt, Boston, Mass.
 291,380. Draughting-Implement. Nevin Milloy, Cincinnati, Ohio.
 291,392. Locking-Latch. Elijah Nyswonger, Hanford, Cal.
 291,418. Plastering Compound. Hannah E. Scales, Newton, Mass.
 291,413. Brick-Machine. Frank W. Shelley and Samuel Kiser, Anderson, Ind.
 291,428. Frame for Hot Air Registers. Chas. W. Trotter, Rochester, N. Y.
 291,466. Door-Check. Chas. R. Bickford, Elyria, Ohio.
 291,481. Fire-Escape and Hook and Ladder Carriage. Isaac G. Morgan, Des Moines, Iowa.
 291,508. Plastering Composition. Henry Graf, Sebawing, Mich.

- 291,510. Apparatus for Warming the Upper Rooms of Buildings. John Samuel Heizer, Rushville, Ind.
 291,586. Protector and Supporter for Fire-Escapes. Harlan Fairbanks, Boston, Mass.
 291,666. Ventilator. John M. Ayer, Chicago, Ill.
 291,712. Knob-Attachment. William H. Goune, Chatham, Ontario, Can.
 291,734. Artificial Stone. Wm. Howell, Philadelphia, Pa.
 291,737. Self-Opening and Self-Closing Hatchway. David Humphreys, Norfolk, Va.
 291,824. Floor-Jack. Thomas L. Wilber, Scio, Neb.
 291,836. Window-Screen. George W. Boynton, West Oakland, Cal.
 291,910. Fire-Escape. John A. Johnson, Chicago, Ill.
 291,919. Combined Ventilator and Chimney. William F. Matthews, Dallas, Tex.
 291,926. Window-Screen. William H. Munn, Milwaukee, Wis.
 291,956. Fastening for Tool Handles. Thos. Albert Sweet, Cambria, Cal.
 292,017. Carpenter's Square. William R. Jones and Samuel E. Jones, Toccoa, Ga.
 292,040. Weather-Strip. Ira Paddock, Greeley, Kan.
 292,042. Door-Latch. Melvin Harry Palmer, St. Louis, Mo.
 292,046. Disinfecting-Tank for the Disposal of Sewage. James J. Powers, Brooklyn, N. Y.
 292,047. Flexible Shutter. John P. Recker, Indianapolis, Ind.
 292,055. Combined Trap and Overflow for Wash-Basins, Water-Closets, Sinks, etc. Carroll L. Riker, Brooklyn, N. Y.
 292,071. Seat for Public Buildings. George H. Thompson, Platt-mouth, Neb.
 292,092. Guard to Hatchways. Henry J. Bleuler, Boston, Mass.
 292,101. Shutter. Melvin Cottle, Scipio, Kan.
 292,117. Sash-Fastener. Robert B. Hugunin, Hartford, Conn.
 292,119. Process of Making White Lead. Johann Karl Kessler, Milwaukee, Wis.
 292,120. Weather-Strip. Wm. R. Kizer, Hammond, Ill.
 292,135. Sliding-Jaw Vise. Wm. H. Northall, Bridgeport, Conn.
 292,149. Method of Constructing Buildings of Artificial Stone. Theodore W. Tyrer, Stillwater, Minn.

Synopsis of Building News.

Chicago, Ill.—The Builders' and Traders' Exchange of Chicago, was incorporated on the 30th ult., the papers being filed at Springfield; no capital; object, to promote mechanical and industrial interests; incorporators, George C. Prussing, George Tapper, D. V. Purinton, H. C. Hayt, and F. C. Schenthaler, also the Chicago Opera House Company; capital, \$500,000; incorporators, Charles Henrotin, Edward Koch, William D. Kerfoot, Philiskey E. Stanley, and Samuel C. Walker. The leading representatives of the manufacturing industries in Chicago report the outlook to be fully as good, if not somewhat better than at this period last year. There seems to be a pretty uniform faith in the recuperative powers of the country, and in a fair trade, induced by natural consumption during the current year. The general conditions are superior to those existing at this time last year. Most manufacturers in iron concede that their hope for the future lies in the revival of railroad building, and an improved condition of the iron markets. Manufacturers of metallic cornices and ornamental ironwork, and of all such iron material as enters into the construction of the better class of buildings, report the outlook encouraging. There will be a large amount of building done in this city during the current season, and much of this will be of fire-proof nature, which will call for a large amount of fire-proof material. In a large line of materials, prices are low, in many instances lower than last year. Window and plate glass are the exception; the long strike and the apparent scarcity of these commodities will continue to exercise a controlling influence in sustaining prices for some time to come.

Architects J. T. Moulton & Son, who make a specialty of building grain elevators, report there will be built at Englewood this spring, on the Lake Shore & Michigan Southern railroad track, a transfer grain house, for transferring car-loads directly from one car to another, taking weights in the transit—ten cars at once. Dimensions, 30 by 192 feet. It will be built for Maynard & Richards. The builder is not yet determined on. J. T. Moulton & Son furnish the plans. This firm will also build this season, for the Lake Superior Elevator Company, at Duluth, Minn., a grain elevator of the capacity of 1,200,000 bushels. The foundation will be pile and stone, the superstructure of wood, covered with corrugated iron; roof of tin. There will be nine receiving and eight shipping elevators, with engine and boilers of 700-horsepower. Dimensions, 82 by 312 feet, and 142 feet high. The boiler-house near by will be of brick, 32 by 62 feet, with a brick chimney 145 feet high. Also for the Union Improvement and Elevator Company, at Duluth, Minn., during the ensuing season, a grain elevator with a capacity of 750,000 bushels; foundation, pile and stone, superstructure of wood, covered with corrugated iron and tin, with roof of tin. It will have five receiving and five shipping elevators, with an engine and boilers of 400-horsepower. The elevator will be 84 by 192 feet, and 142 feet high. The engine and boiler house adjoining will be of brick, 32 by 62 feet, with a brick chimney 145 feet high.

Architect M. L. Beers reports the present condition of things good, prospects for the year promising. He has under way for D. A. Pierce and H. N. Porter a fine building, to be built on Fifty-third street, near Hyde Park avenue, Hyde Park. They will have a frontage of 80 feet and be 65 feet in depth, three stories, with cellar, in height, Anderson pressed brick front, terra-cotta trimmings, and brownstone cap sills and bond blocks. There will be four stories on the first story. The two upper stories will have sixteen flats, with four entrances to same, and balconies in rear of both stories. The store fronts will be of plate and cathedral glass. The flats are arranged for three or six rooms each, with all necessary conveniences. The stores are to be done on or before May 1.

Architects Pierce & Speyer report ten houses on Thirty-seventh street and Vincennes avenue, which will be three stories high and basement, built of Anderson pressed brick, trimmed with ornamental brick and terra-cotta. The fronts will be made attractive with plate-glass windows, etc.

U. P. Smith's row of ten residences, corner of Thirty-second street and Cottage Grove avenue, under the designs furnished by Architects Wheelock & Clay, who supervise the construction, are in process of building. Anderson pressed brick is used.

Architect Julien Zittel is supervising a two-story building for Mr. Gestlen at 279 and 281 La Salle avenue. Anderson pressed brick is used.

Architects Furst & Rudolph have let contract for a residence for Mr. Macwoof, at corner of Wabash avenue and Thirty-third street, on which the Anderson pressed brick will be used.

Architects J. W. Cassell & Co. have let contracts to James M. Clark for two residences for S. M. Hall and Mrs. Preston, on Adams street, between Western avenue and Oakley street. They will be built with Anderson pressed brick.

Architect Fred. W. Wolf is building a brewery for Mr. Jung, on South Halsted and Thirty-seventh streets, of brick, 34 by 80 feet, to cost \$15,000. He has also commenced a brewery on Larrabee street, for Ernst Bros., to cost \$20,000; also four houses, of two flats each, on Hoyne street and Lexington avenue, to cost \$20,000. Plans are also completed for a new factory on West Lake street, near Jefferson, 75 by 140 feet, for the L. Wolf Manufacturing Company; also preparing plans for brewing-house and machine-houses at Indianapolis, Ind., for C. F. Schmidt, to cost \$35,000; also a brewery at Cleveland, Ohio, for Isaac Leisy, to cost \$30,000.

Architect P. W. Buehl has in course of construction the following buildings: A four-story front on West Twelfth street, for Henry Beahrendt, to cost \$18,000; a three-story stone building on Blue Island avenue, for J. Dumond, to cost \$8,000; a three-story building for Huber & Martin, to cost \$7,500; a four-story furniture factory for F. Winther, to cost \$15,000; a three-story flat-building for A. Kastler, to cost \$5,500; and a three-story and attic stone building on West Twelfth street, for Peter Jene, to cost \$8,000.

Cincinnati, Ohio.—Architect A. C. Nash: Church of the Presentation, on Walnut Hills, to be built of river limestone, 54 by 143 feet, with a seating capacity for one thousand people. Plans are also being made for the erection of a new church building on the site of the Christian church, on Kemper lane, Walnut Hills, and the plan will be adopted on or about March 1. The Church of the Advent is also having plans prepared for additions to the church on Kemper lane, near Cemetery street.

Columbus, Ohio.—Architect Maetzel has prepared for Hoster & Sons the plans for a handsome business block on the west side of High street, between Broad and Gay streets. Work on the new structure will commence in the early spring.—The civil engineer of the Baltimore & Ohio Railway Company is engaged in surveying the tract which that company has purchased for its new shops, and getting things in readiness for beginning active work.

Des Moines, Ia.—Architects are busy on new work, and the prospects are good for an early and active season.

Architects B. J. Bartlett & Son: For R. T. C. Wood, dwelling-house, eight rooms, frame, to cost \$3,500. Cumberland Presbyterian Church, Sedalia, Mo.; brick, trimmed with stone and Anderson ornamental brick; 80 by 90 feet; to cost \$15,000; now receiving estimates. For Richard Snell, of Des Moines, hotel at Fort Dodge, Ia., three stories,

to contain six stores and fifty rooms, 120 by 140 feet, brick walls, faced with Anderson brick, to cost \$40,000; plans now making.

Architect Sidney Smith, of the same city, reports prospects for spring work very good, particularly for residences; work will probably be delayed considerably on account of scarcity of brick to commence with: For Dr. E. S. Mercer, brick and stone dwelling, three stories and basement, iron roof, 55 by 73 feet, to cost \$30,000; contract not let at present. For Augustus Pratt, stone building, brick with terra-cotta trimmings, three stories and basement, 22 by 125 feet, to cost \$9,000; under way. For Edwin Davis, brick tenement block, two-stories, tin roof, 44 by 66 feet, to cost \$10,000. For E. S. Dandy, brick and stone residence, two stories and basement, iron roof, 53 by 62 feet, to cost \$20,000. For E. D. French, brick and stone residence, three stories and basement, iron roof, 40 by 56 feet, to cost \$10,000.

Bricklayers and brickmasons (front), \$4.50; carpenters and cabinetmakers, \$2.50; finishers, \$3; laborers, \$2; painters and glaziers, \$2 to \$5; plasterers, \$4.50; plumbers, \$3 to \$5; stonecutters, \$3 to \$4; stair-builders, \$2.50 to \$3.

Detroit, Mich.—Outlook very favorable. The following is a list of buildings, most of which will be started in March or April.

Architect A. C. Varney: For Louis Lambert, brick and stone block, three stories, corner Bates and Farmer streets, 60 by 100 feet, to cost \$25,000. For Wm. A. Butler, same as above, corner Woodward avenue and Elizabeth streets, 43 by 100 feet, to cost \$16,000. For S. R. Callaway, manager Grand Trunk railroad, three-story residence, stone front, on Peterboro street, to cost \$9,000. For H. E. Emmons, two-story residence, brick, slate roof, on Warren avenue, 30 by 60 feet, to cost \$4,000. For Hibbard Baker, alterations, residence on Jefferson avenue, to cost \$4,000. For Wm. B. Wesson, a three-story brick factory for Detroit Elbow Works, Bienbien street, 80 by 95 feet, \$9,000; John Brennan, mason, and McEnhill & Moore, carpenters. For Wm. Rowe, two-story brick residence, corner Park and Columbia streets. For John A. Waterfall & Son, three-story brick residence, brick residence corner Cass avenue, 30 by 70 feet, to cost \$5,000. For Milton Henwood, alterations brick residence, Fourth avenue, corner Selden streets, \$2,500. For A. C. Varney & Bro., four two-story brick dwellings, Caroline street, to cost \$5,000; A. Skinner, mason, and J. J. Gordon, carpenter. Engine house and firemen's hall, two-story brick, in Oxford, Mich., to cost \$7,000; also for Henry Vinton, two brick stores, to cost \$4,000; also for E. R. Clark a brick store to cost \$3,000. For E. H. Hong, two-story frame residence in Newton, Kan., to cost \$7,000. For George Bardeen, two-story frame building at Kalamazoo, Mich., to cost \$6,000.

The St. Mary's congregation have decided to build a \$60,000 edifice on Woodward avenue. The plan of the church has been adopted. The structure will be of Roman style, and when completed will no doubt satisfy all.

Dubuque, Ia.—Building outlook is good, although but little work is in the hands of the architects. The indications are that prices will range lower than during 1883.

Architect F. D. Hyde: For Hyde Clark, one-story frame building, for roller-skating rink, open timber roof, 50 by 114, to cost \$2,000; under way; James Howl, builder. For Bishop Hennessey, block of three two-story brick residences, 64 by 48 feet, to cost \$7,000. For St. Joseph's College, four-story wing to main building, brick, mansard roof, 40 by 70 feet, to cost \$15,000; and for W. H. Peabody, two frame residences, two stories, each 22 by 46 feet, to cost \$3,500.

Architect F. Herr: For Sisters of Mount St. Joseph Academy, four-stories, 53 by 100 feet, to cost \$20,000. For Sisters of St. Francis, a chapel, 46 by 75 feet, to cost \$10,000. For Mr. J. Simons, a block of stores, three stories, 75 by 100 feet, to cost \$10,000; also a block of stores for Deichman & Hoffman, at Le Mars, Ia., 75 by 100 feet, to cost \$2,000; also at Prairie du Chien, Wis., College of the Sacred Heart, 96 by 135 feet, four stories, to cost \$45,000. All the above to be finished this year.

Frankfort, Ind.—The prospects at this time are fair for a good season.

Architect J. W. Hammond: For Richard Neptune, Thornton, Ind., two-story brick building, 40 by 51 feet, to cost \$6,000; receiving bids. For Taylor Harshman, Jefferson, Ind., two-story frame, 28 by 35 feet, to cost \$2,000; receiving bids. For Harrison Derrick, Frankfort, Ind., two-story brick, 38 by 50, to cost \$5,000; preparing plans. For Coultter Giden & Co., Frankfort, Ind., three-story storehouse, pressed brick and stone front, 22 by 132 feet, to cost \$6,000; preparing plans. For Fred Tice, three-story storehouse, pressed brick and stone front, 21 by 132 feet, to cost \$5,000.

Grand Rapids, Mich.—The outlook for building the coming season looks fair, on the whole promising; but it is a little too early to tell, specifically, much about it.

Architect D. S. Hopkins: Grace Church rectory, two-story wood dwelling, 44 by 29 feet, cost \$3,000, under way; builders, Bennet & Osburn. The following are all two-story frame dwelling houses, under way; builders, Whitmer & Foster: For George Seymour, 38 by 24 feet; cost \$2,500. For Henry Ward Beecher, 38 by 24 feet; cost, \$2,500. For John Jewett, 42 by 24 feet; cost, \$3,000. For A. Doak, 42 by 38 feet; cost, \$3,000. For Henry Bliven, 38 by 24 feet; cost, \$2,500. For D. S. Hopkins, 49 by 30 feet; cost, \$3,500. For D. C. Underwood, 49 by 30 feet; cost \$4,000. Andrew Verburg, 48 by 49 feet; cost, \$3,000; projected. For Charles Sligh, two-story wooden dwelling, 40 by 28 feet; under way; cost, \$2,500; builder, D. H. Mosher.

Hastings, Neb.—Present condition fair, although a little too soon to tell positive. Architect C. C. Rittenhouse: Grand Island school, at Grand Island, two stories, eight rooms, brick with stone basement, 84 by 80 feet, under contract; to cost \$20,000; material used, St. Louis pressed brick and stone basement. For H. A. Koenig, Citizens National Bank and office building, 66 by 70 feet, under contract; to cost \$23,500; Chas. Gunther, builder. Doniphan school, at Doniphan, two story frame, four rooms, 38 by 42 feet, \$2,500. For S. N. Wolbach & H. C. Held, two-story store and office building, brick with stone basement, 47 by 100 feet, to cost \$11,000; projected. Nebraska Loan & Trust Co. office building, three-story and basement, pressed-brick and stone basement, 66 by 120 feet; to cost \$27,000; under contract; builders, Mc El Hinney & Johnson and Scales & Clark. For the college board, two-story building, seven rooms, brick, with stone basement, 60 by 70 feet; to cost \$12,500; under contract; builders, Mc El Hinney & Johnson and Geo. E. Cisney. For James M. Ragan, frame residence, two-stories, 28 by 48 feet, to cost \$3,800. For J. W. Small, ditto, two stories, 32 by 50 feet; to cost \$4,200. For Stock Co., brick with stone basement hotel, three stories, 100 by 125 feet; to cost \$35,000. For Wm. Brach, ditto, 26 by 58 feet; to cost \$2,200. For C. H. Dietrich, two-story and basement office, stone and pressed brick, 44 by 90 feet; to cost \$14,000; nearly complete. For P. P. Webster, two-story frame residence, 28 by 40 feet; to cost \$2,350.

Indianapolis, Ind.—Prospects not very flattering at present. People here are always late in starting but for desirable rental property there is a good demand.

Architect C. A. Wallingford: Berkshire Life Insurance Co., two-story frame, 30 by 60 feet, to cost \$5,000; contracted for; Junglaus & Schumacher, builders. For E. Coffin, Bismarck, Dak., two-story frame, 40 by 60 feet, \$6,000; projected. For J. S. Catherwood, Hoopston, Ill., two-story frame, 40 by 60 feet, to cost \$3,000; projected.

Kansas City, Mo.—It is too early to state with any certainty as to the building outlook further than that there is much talk.

Architect A. Van Brunt: For J. C. Horton, brick dwelling, cost \$11,000; just finished. For F. J. Baird, ditto, cost \$11,000; nearly finished. For A. A. Whipple, ditto, cost \$10,000; just finished; builder, J. Andrews. For W. M. Smith, ditto, cost \$6,800; nearly finished; builder, W. B. Everhart. For C. E. Holbrook, brick and frame dwelling (remodeling), to cost \$4,800. For Judge Wm. Holmes, addition of fourth story to structure, to cost \$3,800. First Presbyterian Church, brick edifice, basement Sunday-school, 58½ by 92 feet, to cost \$30,000. Plans are complete for these last three, but contracts not yet let. First Congregational Church, stone edifice, Sunday-school on first floor, 84 by 147 feet; enclosed and Sunday-school complete. For J. Murray, brick and frame residence, to cost \$4,000; plans finished.

Architect S. E. Chamberlain: The present condition is merely nominal, but the outlook is good. For Geo. Schaffer, five stories, brick, cut-stone front with gravel roof, 62 by 112.6 feet, partly under way, to cost \$40,000; A. C. Hopkins, builder; contractors of other branches not yet let. For C. N. Munson, three-story frame, shingle roof, 30 by 40 feet, to cost \$3,500.

Louisville, Ky.—Prospects fair, with some building under way. Too early yet to give many points.

Architect H. Molters: For J. C. Walton, office-building, frame one and a half-story, 18 by 40 feet; to cost \$1,600. Also the following at other points: New Orleans, La., a three-story brick and iron structure for club rooms, 40 by 96 feet, to cost \$25,000; under way; Reusch & Co., builders. Cotton Exchange, Memphis, Tenn., four-stories, brick, pressed brick exterior, stone and terra cotta trimmings, slate roof, 72 by 146 feet; to cost \$99,340; Pearce & Morgan, Indianapolis, builders. For James Buckner, at Pass Christian, Miss., seaside cottage, frame, with verandas and slate roof, 113 by 60 feet; to cost \$19,000. For New Orleans Elevated Railroad Co., New Orleans, passenger depot and train sheds, pressed brick, terra cotta and stone trimmings, slate roof, three stories high, with a frame office building, one-and-one-half story, 18 by 40 feet; to cost \$1,600.

Milwaukee, Wis.—Architects report that the outlook for new buildings this year is most encouraging. Already a large number of plans for buildings, principally residences to be erected, are being prepared, and the architects' offices are daily visited by

people who contemplate building, to obtain figures, etc. The Merchants' Association has taken steps toward securing the erection of a hotel on the east side. The scheme calls for a building to cost about \$1,000,000.—The new central station to be built is designed to be a model, and will include a courtroom. The Normal school will be erected on the \$12,000 lot purchased on the west side by the city for that purpose. It will be a very handsome structure.

Moberly, Mo.—Prospect very good, but brick is scarce. Brickmakers who can carry a stock through the winter have been out of stock for two months. Good shipping point and the brick made are good; which is the cause of the demand.

Architect Edwin Cook: For Thomas O'Neal, two-story brick storeroom, 26 by 80 feet, to cost \$3,000. For George Ritchie, two-story frame dwelling, 18 by 30 feet, with an L 16 feet, to cost \$2,000. Plans for both structures under way.

Muncie, Ind.—The county commissioners, at a special meeting a few days ago, decided to build a \$200,000 courthouse on the site of the old one. Work will begin in the spring.

Muskegon, Mich.—Architect D. S. Hopkins, Grand Rapids, sends us the following list of buildings he will supervise: For E. W. Merrill, three-story brick block, 44 by 131 feet, cost \$15,000; projected. County offices, one-story brick, fire-proof, to cost \$9,000. Ward School House, three-story brick (8 rooms), to cost \$13,000; projected. In the way of general building notes the same architect also sends the following as a list of two-story frame dwellings under way at various points: For F. G. Kinwan, Blent, Dak., 49 by 30 feet, cost \$3,500. For R. Furniss, Niagara Falls, Ont., 42 by 38 feet, cost \$3,000; under way. For T. Streeter, Tunkhannock, Pa., 48 by 29 feet, cost \$2,500; under way. For C. J. Hazard, Hightstown, N.J., 42 by 38 feet, cost \$3,000; under way. For C. N. Hurlburt, Elk Rapids, Mich., 42 by 24 feet, cost \$2,500; projected.

Norfolk, Va.—Prospects fair, and considerable building will be done during the coming season.

Architect Frank B. Smith: Brick residence, stone trimmings, 30 by 90 feet, three stories; to cost \$12,500. For R. C. Taylor, two dwellings, 35 by 51 feet, four stories; to cost \$10,000. For W. H. Talbot, restaurant and club rooms, three stories; to cost \$5,000. For E. Black, dwelling, 25 by 36 feet, four stories; to cost \$4,000. For D. Lowenberg, twelve two-story brick dwellings, and six stores; intended to cost \$20,000. Three dwellings on York street, four stories, pressed brick, with stone and terra-cotta trimmings, to cost \$13,000; also machine-shop and foundry, to cost \$4,000.

Omaha, Neb.—With the exception of some small cottages for workingmen, there is very little building under way at the present time. Prospects only fair; much talk but little activity.

Architect A. I. Large, Jr.: For Yost & Ney, Omaha, Republican publishers, four-stories and basement, walls of brick, roof asphaltum, 33 by 130 feet, cost \$26,000. Basement now in, work to resume in spring. Several plans projected, but not far enough developed to make public.

Topeka, Kas.—Architect H. M. Hadley: For A. W. Tinkham, a brick residence, to cost \$5,000. For E. P. Baker, frame residence, to cost \$4,500. For T. E. Bowman, frame residence, to cost \$2,200. For Ansel Gridley, a three-story double store building, to cost \$6,000. For Dr. O. B. Moss, a two-story, frame, double tenement, to cost \$5,000; plan just completed. For J. G. Eddy and H. J. Davenport, of Burlington, Vermont, block of seven tenement houses, two story and basement, basement to be cut stone and the stories above brick, to cost \$21,000; plans completed and contracts awarded; will be built as soon as spring opens. At Columbus, Kansas, a large schoolhouse, costing \$13,000; also for A. F. Hunt, plans for a two-story double store, to be built of brick and stone, to cost \$10,000; also for Mr. Hunt, a plan for a \$20,000 hotel; contract not yet let; also preparing plans for same party for a brick residence at Columbus, to cost \$5,600; also plan for an Episcopal church in North Topeka, just completed, at a cost of \$3,000; also making plan for a college-building to be built at Saline, Kansas.

St. Louis, Mo.—The Mechanics' Exchange Building Company will soon be incorporated, and, it is said, will proceed to build one of the finest structures in that city. The exchange is strong, both in membership and financially. The limits established for its location are between Sixth and Ninth streets, and Market street and Washington avenue. Several sites in this territory have been offered and will be considered as soon as the company is formed.—President Mulcahey, of the Mechanics' Exchange, has taken the contract for the erection of a large addition to the Central Female College, at Lexington, Mo., to cost \$25,000.—The Third Baptist Church congregation will begin in the spring to erect their new church on Grand avenue, next to the St. Vincent's Seminary, on the south side. The church will be built of stone, and cost about \$75,000.—An eastern capitalist is to build the new quarters for the Guernsey Furniture Company. The front of the establishment, as shown in designs made by Miller & Pitcher, will be more gorgeous and flashy than any other store or house front in the city.—The work on the Exposition building is progressing as rapidly as possible.—A number of English capitalists are to erect a building to cover the entire block on the east side of Twelfth street, between Olive and Locust streets, estimated to cost \$2,500,000. The report says that Mr. James Stewart, the architect, has just completed the plans for the new structure. It will be built of granite. The style is Byzantine, with an elegant facade and trimmings. It will be five stories high, including a basement, which will be almost on the level of the street. It is said that the Bank of England will have an interest in the building, a portion of which will be used for banking purposes and foreign exchanges. The block will extend back to the alley, and, next to the customhouse, will be the finest and most costly piece of architecture in the city.—The proposed big apartment hotel, to accommodate 3,000 guests, is to be erected on Grand avenue. The building will be 654 feet front by 245 feet in depth, seven stories in height, and absolutely fire-proof. Iron and stone will be used throughout in place of wood, so that fire cannot extend from one room to another, and patent automatic closings will be placed in the elevator shaft at each floor. The site of the hotel is 10 feet above the level of the river, affording an extensive view of the city and the country for many miles around.—Architect Chas. K. Ramsey reports the outlook good for spring work. A large amount was held in abeyance for a time on account of cold weather, but is now being pushed forward rapidly. For T. P. Riddle, a twelve-room dwelling house, brick wall, terra-cotta trimming, slate roof 31 by 68 feet, to cost \$11,000; under way. For John C. Vogel, alteration of an old dwelling to stores and offices, three stories high, brick walls, 42 by 61 feet, to cost \$8,000; under way; Wm. Damon, builder.

St. Paul, Minn.—Buildings aggregating an anticipated expenditure of \$1,500,000 are projected this season, including the Hotel Ryan, the Chamber of Commerce, the National German American bank, and the government building, besides a splendid business block, designed by architect George Wirth, for Hon. E. F. Drake, and to be erected on Fourth street, immediately west of the Drake block. The building is to be six stories above the basement, reaching a height of 96 feet above the sidewalk, the respective stories being basement, 10 feet; first story 18 feet; second and third stories, 13 feet each, and the remaining stories 12 feet each. The basement is to be fitted for store purposes. The building is to be so divided as to accommodate two wholesale houses. There will be two large skylights, and by an invention of E. F. Drake, the openings at every floor will close automatically in case of fire. The front of the edifice will present several novel features. In the second story, the pipestone will be used to alternate in layers with pressed brick, and the columns between all the windows will be of polished jasper, from the Sioux Falls quarries. The end piers and range work over the front will be of jasper, rusticated with heavy carved corbels. The upper stories will be faced with pressed brick and terra cotta; and the cornice will be of brick and stone.

T. L. JOHNSON, the gentlemanly representative of Keuffel & Esser, of New York, has just completed a semi-annual tour of the West, where he has visited not only the dealers in engineering and architectural instruments, but made many friends for his house among the engineers, who are always glad to see the representative of this most popular firm.

THE commencement of the construction of the Armour & Kent building at an early day, seems to be an established fact. While the architects say that estimates are being prepared, and the lot has been ordered cleared, and this only has been done, the firm have placed matters in such a position that the beginning of excavation may be looked for as soon as the weather will allow.

BERRY BROTHERS, the popular varnish house of Detroit, are sending out very attractive paper-weights for desk use, in the shape of metal kegs of varnish, accompanied by hardwood inlaid disks, finished with the excellent hard oil finish, manufactured by this firm. With the paper weight stamped "Berry Brothers' Celebrated Varnishes," and the handsome sample of their wood finish, this firm are well represented.