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CONTENTS.

NOTHING is more commonly heard just now among architects and builders than a discussion whether the present high prices of materials will last. In the case of iron, there is reason for the great advance in price which has taken place within the past eight months. Not only had prices of iron previously, owing to distress among the rolling-mills, been abnormally, and sometimes ruinously, low, but the opening of the present year found the conditions of the iron market entirely changed. The great mills, in their competition for the home market, had brought the labor-cost of finished iron, by means of enormous expenditures on improved machinery and plant, to the lowest point ever known. This advantage enabled them, for the first time in the history of the iron-trade, to undersell in Europe the product of European mills. It is true that there is not much direct profit to American mills in exporting iron, but, so long as an outlet for surplus iron, even at the mere cost of production, can be found in Europe, the danger of overstocking the market here is avoided, and just so much iron can be retained at home as, under the protection of the tariff, can be sold at two-and-one-half or three times the price for which the same iron is delivered in Europe. Moreover, the abatement of financial uncertainty brought with it a general prosperity which led to the building of new railways, and it is said that about twenty-four hundred miles of new track have been contracted for within twelve months, all this involving a large demand for rails and bridge materials. As the mills could hardly fill their orders for rails and bridge-plates, they advanced prices for structural iron sufficiently to check the demand, and enable them to devote more of their time and force to the more pressing railway work. Whether similar causes have led to the advance in copper is not so certain. That electrical industries have developed, and that the consumption of copper has increased in proportion, is undoubtedly true, but the facts do not seem to account for the consumption of all the copper which is alleged to have disappeared from the market, and there has been an element of unscrupulous speculation about the copper industry which makes it not improbable that prices may drop as rapidly as they have risen. With other building-materials, the reasons for an advance seem to be chiefly sentimental. We heard recently of a builder who bought, last March, a quantity of sheathing for twenty-three dollars a thousand feet. Not long ago he wanted some more sheathing of the same sort, and went again to the dealer. He found the pile from which he had picked his first lot, in much the same condition as when he had left it. When he inquired the price at the office of the lumber-yard, he was told that, as a special favor, he might have some of the sheathing for thirty-five dollars a thousand. He declined to purchase at that price, and, so far as we know, the pile is still for sale. In this case, therefore, and probably in many others, the advance is rather theoretical than real. A man who sells as many carloads of lumber a week now as he did last year, and at a price twenty-five per cent higher, may claim that his market has advanced to that extent; but if he sells only half as much at the higher prices, it is fair to assume that these are above the real market, and that sooner or later, they will find their level. That a great deal of projected building has been postponed or abandoned this year because of the high prices of materials every architect knows, and it is becoming a serious question whether the next season will see a further postponement.

THE National Academy of Design, in New York, has given another sign of renewed vitality in an unexpected strictness in the examinations for admission to its classes. Hitherto, applicants have been only required to present a drawing from the antique, and if this was reasonably satisfactory, the candidate was admitted. Now, as no tuition-fees are required in the antique class, and the number of candidates has, in consequence, greatly increased, the committee in charge have thought the time favorable, not only for raising very materially the standard of admission, but for making sure that the drawings offered are really the work of the persons offering them, and candidates are now required to make their trial drawings at the Academy itself, which is open for the purpose during the first week in October, November and February. At the October examination only sixty-six out of two hundred applicants were accepted, many former pupils having been rejected, and it is not surprising that a certain amount of discontent has been aroused. However, the candidates who feel themselves capable of better things can try again without very serious delay, and those who are incapable of doing anything better should congratulate themselves on having this fact plainly indicated to them, so that they can arrange for adorning some other profession than that of art.

THE last, we hope, of the attempts to interfere with the award in the competition for the New York Soldiers' and Sailors' Monument was made a few days ago, by the publication of a letter from a sculptor, claiming that the design for the monument which has been adopted for its new situation is "a reproduction or adaptation of the Temple of Vesta at Tivoli," and calling upon the recipient of the letter to use his influence "to prevent this superfluous commemoration of Vesta, virtuous and admirable as that defunct heathen divinity doubtless was, and forestall a foolish dissipation of the city's money and self-respect." In regard to the city's self-respect, we might observe that nothing would do more to recover some of that sentiment, which has been "dissipated" in scores of cruel and wanton swindles perpetrated on deserving artists within the past twenty years, than, for once, to have the city's representatives keep honestly and loyally to a contract made in regard to an artistic matter, without regard to heathen divinities, defunct or otherwise. As a matter of fact, the new monument does not bear any resemblance to the Temple of Vesta at Tivoli, beyond the circumstance that it is circular in plan, and is ornamented with columns, characteristics which it shares with scores of other monuments, antique and modern.

THE most important piece of archæological news of the week is that mentioning the fall of nine columns in the great temple at Karnak, in Egypt. The group of Theban temples, of which that known as the Temple of Karnak is the largest and most complete, has long been undergoing exploration, and it is quite possible that the excavations which have brought to light statues and inscriptions have also contributed to the ruin of the building in which they were contained. Although the columns themselves are of granite, they stand on plinths of sandstone, which has been gradually disintegrated by the action of the atmosphere, and of the Nile floods, during the three or four thousand years which have elapsed since they were set in place, so that, when exposed by digging around them, they are in condition to give way under the weight of the superstructure, and an accident of this kind seems to have been the cause of the catastrophe.

ONE advantage of an imperial policy, carried out in the English fashion, is that it gives English professional men a chance to enjoy, occasionally, some novel sensations. It must be, for example, interesting to build as Mr. Donnan, of Mandalay, did recently, a Buddhist temple, for a Board of Burmese Trustees, with the help of native workmen. Some years ago, in the reign of the good King Theebaw, who kept rubies and emeralds in barrels in his palace, and slaughtered his subjects in droves, the wooden pagoda which sheltered the colossal statue of Buddha at Mandalay was burned. The statue itself, although so heated that streams of melted gold ran from its surface, was saved, through the heroism of the townspeople and the palace officials. Soon after this, the English, who had long disapproved of King Theebaw's conduct, became unable to endure further his infractions of the Golden Rule, and made a descent upon him, killed a large number of his subjects, stole his rubies and emeralds, and, incidentally, annexed his kingdom to their Indian possessions. Under British rule the city of Mandalay prospered, and the pious inhabitants found themselves at last in condition to provide their miraculous statue, which, according to their legends, had received from the breath of Buddha himself the power of walking and talking, with a new shelter. After a long discussion it was decided, on the advice of English engineers, to construct the new temple of masonry, and Mr. Hoyne Fox, a professional architect, and Government Engineer at Rangoon, prepared a design, which was approved, and carried out under the supervision of Mr. Donnan, an engineer of Mandalay. The design, in the traditional Burmese style, was cleverly rendered in masonry by Mr. Fox, and carried out, apparently, with great skill, the stagings being erected over the head of the statue, which it would, of course, have been sacrilegious to disturb. This circumstance caused for a time a little embarrassment. The barefooted native workmen found that the lime mortar burned their feet, as they walked over the masonry, and put on slippers to protect themselves. Some priests noticed this, and denounced the disrespect to the god involved in wearing shoes over his head. The Trustees wished to avoid the possibility of stirring up any miraculous resentment, and requested that no slippers should be worn on the work. The masons, however, would not expose their feet to the lime, and as no one could be found to take their places, the building operations, after being suspended for some three weeks, were quietly resumed with the old masons, slippers and all, and neither Buddha nor his priests made any further objection. As the building approached completion, astrologers were consulted in regard to the selection of an auspicious day for the raising of the finial, which, in building pagodas, is celebrated by a public festival. In this case, the finial consisted of seven heavy rings, surmounted by a ball, and the festival continued for eight days, one ring being set each day for a week, the fixing of the ball, accompanied by a salute of fifteen guns, marking the final day. Mr. Donnan says, in the *Indian Engineer*, that he had read in the Burmese records accounts of ceremonies in connection with the opening of various works of public utility, and the accounts had always mentioned that, during the ceremony, an earthquake was felt, produced by the "nats," or good spirits of the heavens, in token of their approval. Remembering this, he observed to some of the native spectators, in the course of the festivities, that, in order to have the celebration complete, there should be an earthquake, to show the approval of the "nats." The morning after making this remark, a shock of earthquake was distinctly felt, showing that the nats like to see English engineers building heathen temples.

THE first announcement that has reached us of the International Congresses which are to be held in connection with the Paris Exposition of next year gives information in regard to the Congress of Methods of Testing Materials of Construction. Many of our readers will, no doubt, be interested in this Congress, the management of which is in most distinguished hands. Among the members of the Committee of Organization are M. Candlot, whose reputation as an expert in the testing of materials is world-wide; Professor Bodin, of the École Centrale des Arts et Manufactures; General Gras, permanent inspector of artillery manufacture; General Borius, President of the military committee on engineering science; M. Polonceau, former President of the Society of Civil Engineers, and many others of equal note in the scientific world. The sittings of the Congress will occupy a week, from the ninth to the sixteenth of July. The foreign participants in the Congress will be divided into three classes, one consisting of a "committee of patronage," the members of which, as well as a certain number of honorary Presidents, are chosen by the local Committee of Organization from among persons in other countries known to them by reputation, while the second includes persons, or societies, who are acceptable to the managing committee, and who pay, as "membres donateurs," a contribution of not less than fifty francs; and the third includes the "membres adhérents," who pay only twenty-five francs. All members, of every class, receive gratuitously the publications issued by the Congress, and may procure, for ten francs, tickets entitling members of their family to be present at the meetings of the Congress. The Committee will endeavor to secure reduced rates for members of the Congress on the French railways, and it is hoped that similar concessions may be made by other Continental roads. In the course of the Congress, and after its close, it is intended to arrange entertainments and visits, particulars of which will be given later. The Committee earnestly desire to know as soon as possible how many persons are likely to attend the meetings and entertainments of the Congress, so that comfortable provision may be made for them, and request those who hope to be present to send early notice of their intention, it being understood that this notice does not bind them in any way, but is asked for simply to guide the Committee in their plans.

IT is much to be wished, in the interest of taxpayers, that our Eastern cities would investigate the method of keeping down street-dust by sprinkling with petroleum, which is so much in favor in California, and has been found so successful on the principal railways throughout the country. At present, in the East, the streets are sprinkled with water, and the cost charged to the owners of abutting property, upon whom it bears very heavily. We have before us a Boston tax-bill of the present year, charged upon a small estate, with one hundred and eighty feet frontage, on two macadamized streets, of moderate width, on which there is very little traffic, in which the street-watering item alone is more than fifty-one dollars. Counting both sides of the street, this is at the rate of three thousand dollars per mile per annum for sprinkling with water, while the experience of California shows that when once saturated with petroleum, they will be free from dust for many years without further care.

THE sprinkled part of the California roads is sixteen feet wide, and the cost is two hundred dollars a mile. The sprinkled part of the streets in Boston would probably be twenty-four feet wide, which, in the same proportion, would cost three hundred dollars a mile, or one-tenth as much, for an application which would prevent dust for several years at least, as the house-owners of Boston are obliged to pay every year for watering under the present system.

THE editor of the *Builder* has, apparently, taken a vacation-trip to New York, and is pleased with the city, which, as he says, represents a successful endeavor to unite utility and beauty. Even the high buildings in the lower part of the city, which afflict so severely most of the native critics, seem to him a frank and successful device for making the most out of the restricted space in the business portion of the island. A walk through lower Broadway on a breezy day in March would suggest reasons why high buildings have inconveniences for the public, if not for their owners and tenants, and it is safe to say that, even in New York, very few more of them will be built. Apart from the enterprise and originality shown in the "skyscraper" office-buildings, he finds, however, a great deal of artistic interest in other portions of the city. The Riverside Park, which he calls, with justice, "one of the finest residential sites which can be found on either side of the Atlantic," is lined with dwellings in a great variety of styles, ranging from Moorish to Greek, and even this jumble he finds more interesting than the monotony of English or Continental streets. What it might be without the restraint of educated taste it is hardly possible to guess, but, as he says, "the educated American sets a higher value on art than does the average Englishman, or, indeed, a citizen of any other country except France." Such an expression as this from an authority so competent is as surprising as it is gratifying, and it is even pleasanter to be told, as we are in the next sentence, that "there can be no doubt that it is beyond the Atlantic that we shall find the finest buildings of the future."

THE SAFETY OF THEATRE AUDIENCES.[1] — I.

AMONG the main objects of the British Fire Prevention Committee, as stated in the By-laws, I find the following, viz,

"To direct attention to the urgent need for increased protection of life and property from fire by the adoption of *preventive* measures, and

"To use its influences in every direction towards minimizing the possibilities and dangers of fire."

Having been invited by the Chairman of the Executive Council to prepare a paper for the publications of the Committee, I propose to discuss briefly the question of personal safety in theatres. I am well aware of the fact that the ground has been gone over so thoroughly by competent writers as to leave hardly a possibility of making any new or promising suggestions, yet I hold that some good must come from agitating the question over and over again. It is a matter of common observation that when a serious fire disaster has occurred, whether in a hotel, an asylum, a dwelling, or a theatre, the press for awhile takes up the subject and discusses means and remedies, while the thoroughly alarmed and frightened public stays away from those theatres or hotels the reputation of which from a safety point-of-view is doubtful. It is, unfortunately, the rule, however, that as soon as the first excitement subsides, the general interest ceases and after a very short interval, things begin to go again the same way as before, and safety measures or precautions against the well-known dangers to life and limb in such structures are either neglected or forgotten.

In this question history truly repeats itself, and, to quote but a few instances, let me recall the numerous suggestions for theatre reform, the flood of plans, pamphlets, newspaper articles and the revisions of theatre ordinances, etc., which came forth immediately after the calamity of the Ring Theatre fire in Vienna, in December, 1881, or the sentiment in favor of better means of safety which was aroused by the theatre fire at Exeter in September, 1887, in England; or the intense public excitement following the deplorable disaster of the Paris Charity Bazaar fire, in May, 1897; or finally, the horrors of the recent catastrophe of the burning of the Windsor Hotel in New York, which occurred in the afternoon of St. Patrick's Day, March 17, 1899, and caused the loss of many lives. In every instance mentioned, and these instances might be multiplied indefinitely, the public excitement which followed the casualty did not last more than a few weeks.

Now I hold that the subject is too important to be dismissed so soon from our thoughts. The interest in this grave question should, on the contrary, be kept up and maintained, and measures of safety agitated until all dangerous public buildings are either made perfectly safe or are closed up. Owners or managers of theatres, in particular, must be given to understand that their highest duty toward the public lies, not in giving them attractive performances, but in providing absolute safety to the public while assembled in their buildings.

To begin with, let me state that I shall confine my remarks to a consideration of safety measures for the theatre-goers and the performers and stage-hands. I shall leave out of consideration the question of the safety of the building — in other words, the subject of protection of property from fire — except in so far as the safety of the building incidentally helps to increase the safety of the people assembled during a performance, on both sides of the curtain. The safe construction of the building and measures tending to reduce the immense losses due to the destruction of such buildings by fire are, no doubt, desirable, but compared with the problem of how to avoid the terrible loss of life due to theatre-fire calamities, they are of secondary importance. Besides, the matter of safe construction has been well and thoroughly discussed in numerous excellent treatises, of which I would only mention the recent standard work by Mr. Edwin O. Sachs, "*Modern Theatres and Opera-houses.*" Another reason why stress will not be laid upon fire-resisting construction, and which will be brought out in what follows, is that incombustible or fireproof construction, *per se*, cannot and does not absolutely prevent theatre-fire disasters. For instance, an ill-planned theatre, having its exits badly arranged, or insufficient in number, may, in case of a real or false alarm of fire, prove a veritable death-trap, though its construction may be thoroughly fireproof; and *vice versa*, a theatre which is combustible, which has wooden staircases, and which lacks fire-extinguishing appliances, may yet be so planned and arranged as to afford the public perfect means for quick escape from smoke and fire, and, therefore, be the safer of the two. This instance indicates clearly that there are other safety measures of much more importance than fire-resisting construction.

A study of the principal causes of theatre-fires and panics, and of the dangers which arise in such cases, should form the basis of the subject of prevention. It also offers the best clues for the essential requirements to be insisted on for the protection of theatre-goers and performers.

According to the carefully-compiled statistics of Mr. Foelsch and Mr. Sachs, 207 fires out of a total of 401 of which the cause could definitely be ascertained, or somewhat over fifty per cent, had their origin either on the stage or near the stage in the stage part of the building. The causes of these fires were defects in the gas-installation: unprotected gas-lights, careless or defective arrangement for the lighting up of the gas, defects in the heating-apparatus, fireworks, lamps, explosions, the firing of guns and defects in the electric-light installation. Therefore, the stage in a theatre is the point where the majority of fires break out, and the stage-construction, the scenic-apparatus and its lighting require above all to be improved and made safe, if theatre-fires are to be reduced in frequency.

When Mr. Foelsch's first paper on "*Theatre Fires*" was published in 1870, he had collected statistics of 130 fires; when his book came out in 1878, it contained a record of 523 fires; the appendix to his book, issued in 1882, increased this number to 631, and in his last essay on theatre fires published in 1889, he enumerated 936 fires. Mr. Edwin O. Sachs, who continued the work of Mr. Foelsch, published in 1897 a list of 1,115 theatre-fires (up to May, 1897).

In his last book, "*Reminiscences from the Life of a Civil Engineer,*" Mr. Foelsch gave the following statistics, in intervals of six years: —

From 1841–1846	occurred	32	theatre-fires.
" 1847–1852	"	41	"
" 1853–1858	"	40	"
" 1859–1864	"	41	"
" 1865–1870	"	82	"
" 1871–1876	"	96	"
" 1877–1882	"	161	"
" 1883–1888	"	215	"

The point brought out by these statistics is that the average number of theatre-fires per year is on the increase. This agrees with the deductions from statistics as given by Mr. Sachs. While the average annual number of fires in the last 30 years is 27, the average of the last 20 years is 33, and that of the last 10 years is 36. This may be partly due to the increasing number of theatres erected, and partly, possibly, to the fact that the statistics of the last decade are more accurately kept. Still, one would hardly expect such a startling result in view of the numerous really valuable suggestions made from time to time regarding improvements for the safety of theatres.

Occasionally, one finds the subject divided into measures of safety to be applied to *old* buildings, and those that should be carried out in *new* buildings. From my point-of-view, this division is unimportant, except in so far as the older buildings are naturally more dangerous, and likewise more difficult to improve, than theatres of more recent construction, which, as a rule, are better planned, better constructed and better equipped and maintained. On the whole, the principal measures of safety apply to both classes of buildings, and they can be carried out, with only few exceptions, whether the building is old or new. Of course, those who wish to avoid risks always go safer by shunning the older buildings and patronizing only the recently-built theatres, at least in the larger cities, where special theatre-ordinances are enacted. For instance, a very little reflection ought to teach theatre-goers that theatres in which the electric-light is installed, particularly on the stage, are less dangerous than those still provided with gas-illumination, or that theatres necessarily located in a block are much safer if there are large courts on each of their sides, giving numerous means of egress to the open air in case of an alarm or panic.

In my paper I shall have in view constantly the dangers from fires or panics breaking out *during* a performance. Statistics show that during the last 100 years (1797–1897), at least 9,355 persons lost their lives in theatre-fires. This loss of life seems so appallingly large as to certainly make it worth while to make continued attempts to minimize the dangers to which people crowded together in a theatre during a performance are exposed. Mr. Sachs, in his work on "*Fires and Public Entertainments,*" which forms a continuation of the statistical figures gathered with so much diligence and labor by the late engineer Aug. Foelsch, informs us that out of 769 theatre-fires, 103, or about 13.5 per cent, broke out *during* the presence of the audience. These figures certainly point out the graveness of the dangers to theatre-audiences and stage-personnel. Dr. Brouardel, in an interesting article on "*La mort dans les théâtres,*" explains wherein these dangers chiefly consist. He tells us that loss of life in theatre-fires or panics is due to burns by the fire and the flames; by suffocation, due to the heat, the smoke or fire-gases, by shock or fright, and by the crush or jam of the panic, in which people are trampled to death, or have their chests crushed in and die from hemorrhages, etc.

It follows that in the case of a fire or panic the chief and essential conditions for the safety of the human beings are, first, *fresh air*, to prevent suffocation by smoke and gases, and exhaustion by the heat of the flames; second, *light*, for darkness leads to confusion, frantic struggles and crushes, and, third, *plenty of unobstructed exits* leading to out-doors, for the lack of proper exits and obstructions in passage-ways, or on stairs, leads to jams and causes many violent deaths.

In considering the principal measures of safety for spectators, players and stage-hands, I shall not, in this paper, follow the usual course of describing and discussing the various parts of theatre-buildings, their planning, construction, arrangement and equipment, but I shall consider the safety measures as nearly as possible in what appears to me to be their relative order of importance. Fire-protection in theatres includes the following safety measures, viz: —

1. Means to permit the audience and the stage personnel to make their escape safely in case of either fire or panic.

2. Measures tending to prevent an outbreak of fire, and for quickly detecting and signalling a fire outbreak.

[1] A paper by Wm. Paul Gerhard, Civil Engineer, Consulting Engineer for Sanitary Works, Corresponding Member American Institute of Architects, Honorable Corresponding Member British Fire Prevention Committee, etc. Reprinted from the publications of the British Fire Prevention Committee.

3. Measures for protecting the play-goers against fire and smoke.
4. Means for the protection of the stage personnel.
5. Measures for confining a fire to the stage and preventing its spreading.
6. Means for saving life.
7. Means for fighting fires in their incipiency.
8. Measures to guard against a panic.

1. Means to permit the audience and the stage personnel to escape in case of fire or panic.

Under this heading will be considered the question of theatre-exits; which safety measure I place at the head of the list, because it is by far the most important measure. In this, all leading authorities are agreed. The safety of the persons assembled in a theatre-building depends more upon properly-arranged means of egress than upon fire-resisting construction, or upon the provision of suitable fire-appliances.

Experience teaches that a theatre-fire may become fatal to life within five minutes after the discovery of the fire. What must be done, therefore, in every such building, whether old or new, is to provide such means of egress as will insure the emptying of the entire house within three or four minutes. Rightly carried out, this safety measure is entirely sufficient to save the lives of all people, spectators, as well as performers, even when all other precautions, be they ever so good, are neglected.

But there is still another reason why the question of theatre-exits is *all important*. Frequently false alarms of fire occur in a theatre, or a small stage-fire is put out in its incipiency, yet sudden terror may seize the audience, and though their lives are threatened by neither flames nor smoke, they become panic-stricken and a wild stampede towards the exits occurs. In such a case, the safety of the audience from the danger of being trampled to death, or crushed in the jam, depends entirely upon a provision of proper and sufficient exits to afford a possibility of quickly reaching the open air.

Under "exits" should be understood much more than merely the exits proper. We must include under this term the arrangement and dimensions of the seats, the width of the passages between the seats, the number of seats between aisles, the width and number of aisles, the size of the gangways in the rear of the seats in the auditorium, the arrangement of vestibules, foyers and lobbies; the dimensions, planning and construction of staircases, the fire-escapes and balconies, the arrangement and width of exit-doors, the door-bolts, and the lighting of the exits. In other words, the term "exit" includes the entire road which a spectator seated in the audience has to travel in order to reach the open air.

In Publication No. 4 of the British Fire Prevention Committee, "*Theatre Exits*," the subject has been admirably treated by Mr. Alfred Darbyshire, and Mr. Thos. Blashill has referred to the same subject in his paper on "*Lessons from Fire and Panic*." Mr. Sachs has, perhaps, struck the key-note in the following most important advice, which theatre-owners and managers would do well to take to heart: "Everything to insure good exits should be done, even if some of the other requirements of modern theatre-construction have to be given a second place. As far as the audience is concerned, suitable exits and straightforward planning should be given precedence." Equally true is the statement of Mr. Darbyshire: "Construction may minimize the risk of a fire-outbreak, equipment may prevent the spread of fire, but clear exits and good planning will principally contribute to the safety of an audience."

The problem of how to secure the quick and safe departure of a theatre-audience is largely a question of its proper and sufficient subdivision. While this is, to some extent, secured *a priori* by the division into different tiers, this in itself would not be sufficient, particularly if exits from different tiers are made to lead into a common lobby. Each section should be again divided and made to leave by several independent outlets. In other words, the audience in the parquet, balcony and gallery should each be decentralized as much as possible. The exit-passages from different sections should, under no circumstance whatever, cross each other, meet, or be combined; each subdivision should have *at least* two entirely separate and independent exits leading to the open air; in large buildings a greater number even may be required. The spectators occupying gallery-seats have the farthest to travel, and should, therefore, have the best facilities for exits, whereas, actually the reverse is often the case.

It is not at all necessary that all the exits provided in a theatre should be used as entrances before the performance begins; but it is essential that all exits should be used nightly, *after* the performance, so as to familiarize the public with the different routes of travel. Nothing, to my mind, is worse in a theatre than the provision of so-called *emergency* exits, which are supposed to be used only in case of threatening danger.

The number of exits will depend upon the number of tiers and the size of the theatre; the number of tiers should be limited, and the gallery should not be located too high above the street-level, nor should the main auditorium ever be located a story above the street-floor. In general, smaller theatres may be considered safer than larger houses. The arrangement of a sunk pit, so common in English theatres, is unknown both in the United States and in Continental theatres. The pit arrangement is good in so far as it reduces the height of the upper gallery above the street-level and thereby shortens the exit from the most dangerous part of a theatre. In the United States building regulations call for the principal floor of the theatre to be not more than a few steps above the sidewalk.

The arrangement and placing of the exits will depend upon the plan of the theatre and this, in turn, is determined by the available site. Clear planning is most desirable, so that in the event of danger the audience may clearly see their way out; as a rule, a symmetrical arrangement of both sides of each tier will conduce to the quicker emptying of the theatre.

It would be well to institute actual tests of the time required to empty a theatre-building. According to Foelsch, a theatre in Milan, Italy, having thirteen exits opened, was emptied in June, 1887, in less than 4 minutes (the size or capacity of the house is not stated). I am informed by a person who has frequently visited the Wagner performances that the Bayreuth Theatre, having a capacity of 1,500 persons, can be emptied in just 2 minutes. The Fifth-Avenue Theatre in New York (holding 1,400 persons) can be emptied in 2½ minutes, the larger Gaiety Theatre in Boston (3,000 persons) in 4 minutes; the recent Abbey Theatre in New York (1,450 persons) in 1½ minutes. The large Madison Square Garden in New York, which holds 17,000 people, requires 4½ minutes for emptying. All these are examples of more recent buildings.

The minimum width of an exit and exit-door for 500 persons or less should be 5 feet, and for every additional 100 persons, 20 inches should be added to the width.

Regarding the arrangement of the exit-doors, it is of the greatest importance that these should swing outward, for many a disastrous panic and loss of life were caused by doors which opened the wrong way, and which could not be opened during a jam because the maddened crowd was pressing against them in their frantic efforts to reach the exits. It is not sufficient that doors should open outward, but they should swing entirely out of the way in order not to form, when opened, an obstruction in a passageway or staircase.

All exit-doors should be plainly designated as such in large legible letters; all other doors may be either marked "No exit" or should have the name of the room into which they open marked, such as "cloak-room," "toilet-room."

Doors of exit leading to staircases should never open directly upon the stairs, but there should always be a wide landing between the doors and the stairs. Under no circumstances should doors with lock and key be tolerated in a theatre; exit-doors may be provided with bolts placed on the inside and at shoulder-height, and of such construction as to be easily drawn or pushed back. Several so-called panic-bolts are now obtainable which fulfill the requirements of safety. In the Abbey Theatre of New York City the exit-doors are controlled by electric openers, which are operated by pressing a button, either from the stage or from the manager's office. The device is, perhaps, not new, for it was proposed in 1882 by a clergyman, Don Ravaglia, and tried with success at the Allighieri Theatre, in Ravenna, Italy.

Regarding the staircases in a theatre, these should be wide and easy; they should never have any winding steps, nor should there be single steps. Very long stairs should be broken by wide landings. All risers and treads should be uniform, to prevent stumbling. Stairs should be at least 4 feet 6 inches wide, and if possible they should be made wider than the width of the corridors leading to them. A strong and well-fastened hand-rail should be provided at both sides of the staircase, and very wide stairs should be divided in the centre by a centre-rail. No obstructions of any kind should be permitted in staircases of theatres. Concerning construction, it is desirable, though by no means absolutely necessary, that the stairs should be fireproof or incombustible. Ill-planned fireproof-stairs may not prove to be as safe as well-arranged wooden stairs. Iron stairs with slate-treads are better than stone stairs. Stairs enclosed on both sides with brick walls are better and safer than open-well stairs. It is essential that stairs leading to the exit should be smoke-proof.

All corridors, halls and passages should be planned of ample width to accommodate the number of people passing through them. They should be not less than 3½ feet wide for 200 persons, and for every additional 100 persons 6 inches in width should be added.

The aisles in the auditorium should be of proper width, and sufficient in number, as this will assist greatly in the quick emptying of the house. The minimum width of aisles should be 3 feet, and it is desirable that the width of the aisles should increase toward the exits. Aisles should never have steps, but must be planned with gradients or inclines. All passages and aisles should be kept free and unencumbered; no extra chairs, camp-stools, or other temporary obstructions should ever be permitted. There should be a sufficient number of aisles between the seats, so that persons in leaving may quickly reach the aisle. Most theatre-regulations prescribe that there should be no more than 12 seats between aisles. The dimensions of the seats should be generous, not only for comfort's, but principally for safety's, sake. The seats should be from 18 to 21 inches wide, and the distances between the rows of seats should be from 29 to 31 inches, (generous dimensions are 20 inches wide and 33 inches deep). All seats should be well fastened, for loose chairs might become, in times of panic, a dangerous obstruction by accidental overturning. The seats should be the so-called flap-seats, hinged so that they may be turned up out of the way, thus affording more room between the rows for people passing between them.

The gangways or passages at the rear of the auditorium seats and all foyers, vestibules, lobbies, colonnades or terraces reached by the play-goers from the aisles should be generous in size and of capacity

to hold the entire number of persons of each tier. They must be well-ventilated and be free from any smoke. Each tier must, in addition to the regular exit-ways, be provided with external iron safety-balconies and iron fire-escapes, leading to open courts in those theatres which have only one front on the street. These fire-escapes should be constructed so that they can be well and conveniently used by women, children and infirm old persons generally. It is very necessary that the fire-balconies and stairs be covered or roofed over, so that they may not become slippery and dangerous in freezing weather. It is also important that these fire-balconies and stairs be kept at all times entirely free and unobstructed.

Given plenty of exits through which a crowd may safely escape in case of fire or panic, it is necessary that all exits, passages and corridors and stairs, including, as I believe, the rear portion of the auditorium, be lighted by some lighting-system which is entirely independent of the lighting-system of the stage or the main auditorium. Where gas or electric light is used in the theatre, it is usually required that the exits be lit by vegetable-oil lamps or candles, but either of these should be well protected from draughts. If gas-lights are used, they should be supplied from an entirely separate gas service, and the gas-lights should be controlled by gas-keys with detachable keys, in order to prevent mischievous persons from tampering with lights which are so absolutely essential to the safe retreat of an audience.

The safety measures named will secure the safe escape of the play-goers from a theatre in case of a false or real alarm of fire. Equally necessary are the means for the safe escape of the theatre personnel, comprising the performers, musicians, dancers, stage-hands, etc. In some performances there are sometimes as many as three or four hundred people behind the curtain, and their safety is of as much importance as that of the theatre audience. The stage-house, therefore, requires several properly arranged and located exits, leading directly to outdoors and preferably located on the two opposite sides of the stage. There should be wide passages around the three sides of the stage, divided from it by fire-walls. There must also be well-arranged, strongly-built stairs from the dressing-rooms of the actors leading to the exits, and these stairs should in every respect be as safe as those for the audience; they must be smoke-proof and kept well lighted until the emptying of the stage-house. The dressing-rooms should not be located too high above the stage, nor up near the rigging-loft, from whence escape is more difficult.

For the stage-hands there must be at least two fireproof-stairs leading from the flies and the rigging-loft down to the stage.

2. MEASURES TENDING TO PREVENT AN OUTBREAK, AND FOR QUICKLY DETECTING AND SIGNALLING A FIRE.

We have seen, in the foregoing remarks, how very necessary it is, in case of a fire breaking out in a theatre-building during a performance, to get the people out of the building as quickly as possible, and in such a manner as to prevent any panic, jam or stampede.

We must now consider briefly some of the general measures which will tend to prevent an outbreak of fire. These measures comprise chiefly four points of consideration, namely, the site and plan of the building, the construction and equipment, the managing and watching, and, finally, the theatre inspections.

Regarding the site for a theatre, a free site is, of course, the ideal one. In some Continental cities this is insisted upon, but in both England and the United States of America a free and isolated site is very exceptional. Most American theatres have only one street front, and until quite recently many such buildings were badly hemmed-in on the sides, so that it was almost a matter of impossibility to provide a suitable number of safety exits. In recent theatre-buildings located in the middle of a city block, a compromise has been effected by making provision for wide courts on both sides of the front. Some of the stage-exits and the outside fire-stairs lead into these courts, which must have a certain minimum width, depending upon the number of persons which the theatre holds.

In choosing the site for a theatre, due regard should always be had to the neighborhood and the surroundings. A theatre should never be located near dangerous trade establishments, large factories, etc. Danger of fire from without should be guarded against as much as fire from within. The location of a theatre in rear courts, with entrances passing through front buildings devoted to other purposes, is one that is universally considered out of the question.

The general arrangement of the plan should be as clear and symmetrical as possible, as this increases the safety. The number of tiers should be as small as possible, and never more than three tiers above the parquet. The subdivisions comprise the parts devoted to the public, such as the entrances, stairs, vestibules, foyers, and the auditorium; and, on the other hand, the parts devoted to the players, viz., the stage, the dressing-rooms, the manager's offices, the property-room, the scene-dock, the engine and boiler room, etc. It is well to eliminate from a theatre-building in the front part of the house all stores, living-apartments, restaurants provided with kitchens, etc., and from the stage part of the building the scene-dock, the painters' and carpenters' shop, the steam-boilers, the gas-meter vaults, the property and costume rooms; in short, all rooms for storage of a considerable amount of inflammable materials, etc.

It is not my purpose in this paper to discuss theatre-construction, except to indicate in a general way that, as the safety of a building has a direct bearing upon the safety of the people in the theatre, all walls should be well-built, solid fire-walls, and that there should be as many subdivisions as practicable, each made as fire-resisting as possible, and divided from the adjoining division by properly-constructed fire-walls. Besides, the theatre should have a fireproof roof, to guard against danger of a conflagration from the outside, and all chimneys and smoke-flues should be built in the very best manner possible.

As explained heretofore, the stage of a theatre is the chief danger-point, hence particular care is necessary to make it as fire-resisting as possible. The stage is the place where a vast quantity of very inflammable material, such as woodwork, canvas, paper, ropes, is concentrated. The scenic decorations are naturally subjected to a constant drying-up process by the great heat to which they are nightly exposed. They are always to be considered as being in danger of fire from their exposure and closeness to open lights, wherever gas-light is still used, and they are apt to catch fire very quickly. It is self-evident, therefore, that the stage should be made much safer than it is found to be in the majority of theatres, by eliminating from it combustible material so far as practicable. The central part of the stage must necessarily remain a wooden construction, owing to the requirements of the numerous stage-traps, but the two sides of the stage, the so-called wings, the fly-galleries, and, finally, the gridiron and the stage-roof can, and should, be constructed of fire-resisting material. Moreover, all scenic decorations can be rendered safer against catching fire by being impregnated with chemicals. All woodwork, the scenery and finally the costumes, particularly the light gauze costumes worn by the ballet girls, should be rendered non-inflammable by impregnation, which in the case of dresses must be repeated after each wash. The canvas scenes may be covered with fireproof-paints, and indeed one may go a step farther and substitute for the wooden and canvas decorations those of sheet-iron held in light, iron frames, or else asbestos-cloth, as urged by modern stage reformers. Instead of hemp cords, wire ropes should be used, and for the wooden drums and hoisting-apparatus the more modern hydraulic or the electric stage-appliances should be installed. No scenery accumulation should be permitted on or near the stage, and special fireproof scene-docks should be provided for the purpose beyond the limits of the stage-house.

A special point, namely the lighting of the stage and of the decorations, requires some mention. We know well that most fires originating on the stage are due to defective stage-lighting or to open flames, hence the stage-lighting should be modified. Such a modification — nay revolution — came about with the introduction of the incandescent electric light. It is scarcely necessary for me to praise its many points of superiority over gas-light for the theatre-stage, for its advantages are now well recognized. Of course, its installation does require careful attention to the details, but with wiring well insulated, and with motors and dynamos located in a special annex, nearly all danger is eliminated. The electric-light is not only brilliant, but readily brought under control. It does not vitiate the air, and above all, it does not create the fierce heat which is due to the numerous gas-flames serving to illuminate a scene. Finally, it does away with the dangerous lighting-up processes of rows of gas-lights, and thus removes one of the dangers inherent to the gas-lighting system. Hence the use of electric-light instead of gas is rightly considered one of the best measures to prevent fire in a theatre. It is, perhaps, unnecessary for me to mention specially that the above recommendation of the electric-light is confined to the incandescent light only, for the arc-light must be regarded as rather dangerous for use on the stage of a theatre. Where, however, electric-light is not available, and gas must be used, special pains should be taken to reduce the accompanying danger as much as possible, particularly where open flames are necessary, which should always be well protected. Care should also be taken in using the best available means for the lighting of rows of gas-lights, particularly those which illuminate the battens and likewise should care be bestowed on movable gas-hose connections for shifting pieces of the scenery. The lighting of the stage and of the main part of the auditorium, excluding the gangways at the rear of the seats, should be controlled from a gas-table on the stage, and the lighting of stairs, corridors, lobbies and foyers should be entirely separate and controlled from the foyer only.

To render a theatre safe, there should be but one central heating-apparatus. Heating by steam is preferable to furnace-heating, which latter has a tendency to render the inside woodwork very dry.

Every theatre-building should have sufficient protection against lightning. The protection which a proper system of lightning-rods affords should not be underrated. Lightning-rods may prevent the outbreak of fire, and they may likewise serve to avert a serious panic, which may follow where a theatre-building is struck by lightning. In August, 1894, the Royal County Theatre, at Reading, England, was struck by lightning and the resulting fire completely destroyed the building, which, fortunately, was empty at the time. In several instances, where theatres were struck by lightning during a performance, the panic which followed resulted in the deaths of several people. Quite recently, on the night of June 7, 1899, a theatre at Chautauqua Lake, in the State of New York, was struck by lightning while a play was in progress. "With the crash, all the lights went out, but the audience was prevented from stampeding by the coolness of an actor." Still more recently, on the night of September 5, 1899, Robinson's Theatre in Cincinnati, O., was struck

by lightning during a heavy rainstorm, and the entire fire-department had to be called out, as the flames immediately burst forth.

A further safety-measure to prevent an outbreak of fire consists in the efficient watching of the theatre-building, particularly before and during a performance. The inspection should be directed particularly to the heating and lighting apparatus of the theatre. Many fires break out within two hours after the close of a performance, hence it is an excellent precaution to have the entire building carefully gone over and watched nightly. To insure safety of the spectators, however, with which we are principally concerned, it is necessary to maintain in a theatre, during the entire performance, an efficient fire-watch, composed of well-drilled and experienced members of the city fire-department, and to institute and maintain daily inspections before the performances.

Then again, safety is attained by having regular periodical inspections of the building by fire-experts, architects, engineers, and firemen, and also special inspections and actual tests of the gas-piping, of the electric appliances, of the water and fire-extinguishing appliances, also tests of the efficient working of the stage-roof ventilators, to which I will refer hereafter, of the fire-alarm apparatus, of the heating-apparatus, and of the lightning-rod protection. Besides these, there should be occasional inspections by the authorities, which should preferably be unannounced.

Every theatre should be provided with the most improved and modern means for quickly detecting, reporting and signalling an outbreak of fire. This includes an automatic fire-telegraph system and telegraphic or telephonic communication with the nearest fire-engine house, with fire-department headquarters, with the city water-reservoir or water-department headquarters, and with the station-house of the life-saving patrol.

Finally, many measures tending to prevent an outbreak of fire are matters belonging to theatre-management. Every theatre-manager should issue rules of order, and should see to it that they are strenuously enforced. He should insist upon and maintain strict discipline and order in all parts of the building; he should maintain regular fire-drills carried out by the stage employés and the theatre-staff. Instruction should be given in the use of the fire-extinguishing and life-saving appliances, and special instructions issued to the watchmen in the theatre.

Gas-leaks should be reported immediately; lamps on the stage, if required, should be handled with care, and all exposure to draughts avoided; the use of alcohol-lamps in the dressing-rooms should be forbidden; safety-lanterns or electric-candles should be provided for use of those entering large costume or property rooms; extreme caution should be exercised in the lighting of foot and batten lights of gas, and in the use of matches, candles, oil-lamps, firearms, fire-works, representations of conflagrations in spectacular plays, benzine or turpentine in workshops or costume-rooms. Smoking should be rigidly prohibited in all parts of the house, including the actors' dressing-rooms, and be permitted only in a special fireproof smoking-room. All accumulation of rubbish, straw, oily rags, etc., and combustible material, liable to spontaneous combustion, must be avoided. No obstructions should be permitted of the fire-appliances. The manager should not only enforce the greatest carefulness of persons on or near the stage, but also insist upon the constant and nightly use of the fireproof-curtain; he should see personally that all exits are constantly used and that they are kept efficiently lighted until all persons have left the building.

[To be continued.]

ARCHITECTURE IN AMERICA.

IT is true that religion has had great influence on art and architecture. It is equally true that "art is the mother of devotion," but the question is whether both of these, namely, religion and architecture, take their flight as civilization progresses. One would think this would be the case if the opinions which have been expressed so well by Mr. George Clarence Gardner, in the *American Architect* of September 23, are correct. He says, "First of all, the statement may be made, broadly, that none of the Fine-Arts has ever amounted to anything which was not founded on religion, or was not an outgrowth from it. It is only, I think, by accepting this statement without qualification that the wonderful artistic development of certain nations at certain periods of the world's history can be explained, unless their growth can be said to keep step with the growth of civilization. But civilization apparently has nothing to do with it. This, of course, depends on the definition of civilization, but, taking the word in its generally-accepted sense, it cannot be said that those countries which have made the most rapid progress in all that constitutes a well-governed state have shown any marks of superiority in their art or their architecture."

This makes civilization to hinge on government and seems to ignore the fact that it has existed when government was defective and even oppressive. The illustrations which the writer draws from modern history may be said to favor his position, but if we go back to ancient times, illustrations might be given which would prove just the contrary and the question is whether the history of architecture can be written without taking in these times, and whether its proper effect can be shown if we exclude them.

There are several points which are important to consider if we would properly understand the subject. It is a fact that religion in ancient times was the chief source of both art and architecture, and none of the fine-arts then amounted to anything which was not an outgrowth from it. There was a good reason for this. Religion was the chief influence and was placed above all other influences, but was in a sense exclusive and remote from the touch of the common and unlearned classes. The temple was a shrine and was rarely entered by any one except the officiating priest, even the king was not allowed to enter the "Holy of Holies" — and yet the king was always ready to contribute the wealth of his empire to the support of the sanctuary. This would naturally result in the rapid progress of architecture in these ancient seats of empire.

1. There was an astronomical system which embodied itself in the architecture of the period. It was not merely the worship of deified kings or personal divinities but there was a worship also of the nature powers under animal and human semblances which required both art and architecture to express. Illustrations of this are numerous.

2. The influence of the learned classes was felt in those times more than in modern days.

The very arrangement of the cities on the plains of Babylonia was according to the points of the compass. The centre was sacred, but the divisions of the empire were arranged around this centre according to fixed rules, very much as was the case in China. The orientation of the Pyramids was according to fixed rules of astronomy as it was then known.

If we go to Babylonia we shall find the lofty Zigurat lifting its terraced platforms above the city, each terrace having a different color to indicate the stellar divinity to which it was consecrated, the shrine to the sun being placed on the uppermost terrace or upon the summit. "The Egyptian emperors, gods deified by their subjects while living, and by their families and brother-rulers when dead, built the tremendous 'palaces' of which a few ruins are now left us as symbols of their omnipotence," but these so-called "palaces" were temples which were the outgrowth from primitive shrines. The priest and emperor was the same person at this time — or at least the priests were subject to the emperor — but even then the influence of the learned class was paramount and the temple was sacred to the worship of the divinities, rather than to the deifying of the king. The great propyleæ lifted their massive and lofty forms high up before the temples themselves, and entrance to the courts was gained by the people only as they were led by priest and king together in the great religious processions. Preceding these temples were the Pyramids, but even they were guarded from approach by long lines of sphinxes, and the interior was perfectly inaccessible, for they were devoted to the preservation of the dead.

The progress of architecture was, however, the same in Egypt as in Babylonia and Assyria. The shrine was brought a little nearer to the people, though the same motto was written in unseen letters on the temple as it had been on the shrine: —

"Procul, Procul, este profani."

In Greece the temple was also a shrine and the people were excluded from entering.

The great temple of Zeus at Olympia was, to be sure, accessible, or, at least, the court was open to the people, and was full of the specimens of art, and was itself a triumph of art, but it was preceded by the shrine which was a mere cella in Antis and contained a single statue, the celebrated statue of Zeus.

These peripteral temples were models of art and architecture. The columns were carried entirely around the cella, but were the outgrowth of the original shrine. The preceding varieties were, first, the "temple *in antis;*" second, the "prostyle" and "amphi-prostyle," and the "peripteral."

3. It was during this strange development of the shrine into the temple that the progress of Hellenic architecture was made, and the change from Doric to Ionic, and from Ionic to Corinthian, took place. Certainly it cannot be denied that religion was the source of architecture and art in Greece. Even the highest and best specimens of statuary were those in which the artists embodied their idea of divinity. There was an inspiration in art which brought out the spirit of divinity from the mute stone and made it speak. The light of divinity shone through the dead marble.

The Semitic people embodied their ideas of divinity in their architecture more than in their art; but the highest development was in the poetry of the Hebrews. Their temple was a shrine at the outset and continued to be, but it underwent the same changes as in Egypt, Assyria and Greece.

Solomon's Temple was a palace for the Great King who was invisible, but who dwelt in the "Holy of Holies," and was approached only through many sacrifices.

4. The question is, whether civilization has done away with this idea of the divinity being separate from the people, and whether architecture has declined because of this fact. There has certainly been a change, and if the worship of art as the embodiment of divinity is the only true form of religion, then it is manifest that civilization was, and always is, bound to dismiss art and architecture, or, at least, neglect and leave it to obscurity. But is this the correct definition of religion? Is it not as limited and imperfect a definition of religion as the author's definition of civilization? Civilization does not consist altogether in government, nor does religion consist altogether in art. There was a fireside in ancient homes and the divinity of the hearth was supreme even in Greece. Any one who has read the famous work of De Coulanges will realize this. The

Lares and the Penates were always present. The home was modelled after an entirely different pattern. The architecture of the house was exactly the reverse of that of the temple in Greece and may have been so in other Oriental countries. There was a dead wall outside of the house, but within there were columns, works of art, and a court with fountains playing within the court. The gateway was exclusive, strangers were rarely admitted to the sacred precincts without some kind of an introduction.

5. The change which occurred after, upon the introduction of Christianity, was very marked. It opened the house and made it attractive on the outside, but it also opened the sanctuary and made it attractive on the inside. The temple became a house and the house became a temple.

6. This is the work which civilization under the influence of Christianity, has accomplished and is still accomplishing. There was a time when the open-air temple was prevalent in England. Stonehenge is a good specimen of this ancient architecture, but if we compare Stonehenge with St. Paul's, or the Treasure-house of Mycenæ with St. Peter's at Rome, we shall see the contrast. The adornment of the walls of St. Peter's was the work of the highest art and was accomplished by the best artist. It was also the product of civilization. Learning had revived; art had arisen out of its ashes, phœnix-like; religion was extant. The frescos of Fra Angelica had developed into the painting of Michael Angelo. St. Peter's is unlike the Sistine Chapel; it is designed for the people, and free entrance is given to its sacred precincts. Still the Mediæval idea was that the cathedral was to be totally unlike the home, and there was an air of exclusiveness about it, for while the people were admitted and received an influence from the art forms, yet the peculiar charm of the home was lacking. In America the church is rapidly growing into a home for the people. This is the American idea and is worth considering.

7. What shall we say of the Puritan? There was a time when he thought that the worship of art was idolatry. The Puritan was an iconoclast by virtue of this false idea, but did the Puritan stay in that mood? Did he not bring the home with him to America, and was there not a sacredness to that home, homely as it was? The argument is plain. It was the religion of the household which was transported and became the source of true progress in this country. The home of the Aryan was inherited. Greece, Rome, France, England, Germany were the resting-places where the divinity of the hearth remained for a time — that divinity dwells in America. France is, after all, not the best model. While there may be there the best models of art, there are not the best homes. Government is not as stable in France as in England, Germany or in America.

8. As to the future of art and architecture in America, there is much uncertainty, for architects seem to be inclined nowadays to make their profession subordinate to that of the engineer. In fact, there are editors of architectural journals who say that they have no interest in the history of architecture. The question which they ask first of all is, how can they adapt their art to the new-style building. In other words, the "skyscraper" has revolutionized the whole system. This looks as if modern civilization was likely to dismiss architecture and religion altogether from society, and subordinate everything to the demands of commerce. The decorating of a steel-frame and making a big ornamental box is not architecture. There is a process of differentiation going on which will separate the house-architecture from that of the church, the church-architecture from that of the public edifice, such as capitols, libraries, halls, institutions of learning, and will also give place to the strange anomaly which is called the "skyscraper." The unity of architecture is not likely to appear again. There may be an American style, but it will appear in the home rather than in the commercial building, or even in the public edifice, or in the modern "flat." This style will, it is to be hoped, supplant the ugly excrescences which have arisen as a result of copying the Old World patterns. Queen Anne style has had its days, as has also the Mansard. Holland and Germany have given about all that we can bear. The American style, probably, will be the outgrowth of the patterns which we have inherited from England and have been embodied in the old Colonial buildings. The religion of the home was embodied in that style; it may be modified, but cannot be borrowed from France or Italy. The American home is the object to which we may well give our best thoughts and make it the place where religion and civilization shall dwell together.

STEPHEN D. PEET.

SOCIETIES

NEW YORK CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.

AT the annual meeting of the New York Chapter of the American Institute of Architects, held on October 11, 1899, the following-named officers and committees were elected: —

President, Walter Cook; *Vice-President*, A. W. Brunner; *Treasurer*, James B. Baker; *Recording Secretary*, A. L. Brockway; *Corresponding Secretary*, Charles I. Berg; *Executive Committee*, P. L. Le Brun, John M. Carrère, Richard H. Hunt and H. R. Marshall. *Committee on Library*, William S. Post, H. R. Marshall and Thomas Tryon; *Committee on Education and Publication*, William M. Kendall, John Galen Howard and C. A. Rich; *Committee on Examinations*, A. F. D'Oench, Representative on the Board of Examiners, R. W. Gibson, Joseph Wolf, A. L. Brockway, William A. Boring and R. M. Upjohn; *Auditing Committee*, William A. Boring and George L. Heins; *Nominating Committee*, A. L. Brockway, Charles A. Gifford and E. P. Casey; *Committee on Professional Practice and Competitions*, George E. Harney, Joseph H. McGuire and Walter B. Chambers; *Committee on Fine-Arts Federation*, Walter Cook, G. L. Heins and A. W. Brunner, *Delegates;* William R. Mead, R. H. Hunt and William H. Russell, *Alternates.*

CHARLES I. BERG, *Corresponding Secretary.*

THE T-SQUARE CLUB OF PHILADELPHIA.

THE T-Square Club has lately begun the work of the year under the presidency of Mr. Adin B. Lacey. The opening meeting was largely attended, not adjourning till after midnight, much interest being aroused by the first of the series of seven competitions, upon the basis of which, taken as a whole, a European Travelling Fellowship will be awarded in June. It was the desire of the committee to encourage logical thought by giving continuity to the monthly problems in relating them to the same subject. After careful consideration they set the every-day problem adapted to the practical uses of the draughtsman, a modern American suburban house with accessories. The Committee, however, in line with the recommendations of the Architectural League of America, have gone further, giving a local character to the design, in requiring that it shall reflect the spirit of Philadelphia institutions, but at the same time the latest developments of our modern American life, and that the disposition of the estate shall be considered in its relation to the community. In the first competition, which was practically a preliminary sketch, mentions were awarded to Mr. Lloyd Titus, First; Mr. I. Edgar Hill, Second; and Mr. Herbert C. Wise, Third.

In addition to the regular monthly competition, an exhibition of over one hundred sketches made by the members of the Club during the summer was held and mentions awarded, in the following order: To Mr. Alfred M. Githens, for sketches of manor-houses in England; to Mr. Arthur Brooke, for architectural studies in pen and pencil; and to Mr. Wm. A. Supplee, for water-colors of scenes in Holland.

The T-Square Club is making strenuous efforts to ensure a signal success for the exhibition to be held at the galleries of the Art Club, from December 17, 1899 to January 6, 1900, and to give the catalogue added interest and value.

The Exhibition Committee has been fortunate in securing the experienced assistance of Mr. D. K. Boyd, under whose presidency the Club was incorporated, as editor of the catalogue and director of the exhibition.

ARTHUR S. BROOKE, *Secretary.*

ILLINOIS CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.

AT the annual meeting of the Illinois Chapter of the American Institute of Architects, held in the Art Institute on Monday, October 16, the following officers were elected for the ensuing year, viz: —

President, S. A. Treat; *First Vice-President*, W. C. Zimmermann; *Second Vice-President*, P. B. Wight; *Treasurer*, H. B. Wheelock; *Secretary*, George Beaumont.

GEORGE BEAUMONT, *Secretary.*

ILLUSTRATIONS

[Contributors of drawings are requested to send also plans and a full and adequate description of the buildings, including a statement of cost.]

SOUTHEAST ANGLE OF COURT-YARD: "RICHMOND COURT," BOSTON, MASS. MESSRS. CRAM, GOODHUE & FERGUSON, ARCHITECTS, BOSTON, MASS.

[Gelatine Print issued with the International and Imperial Editions only.]

"RICHMOND COURT" APARTMENT-HOUSE, BEACON ST., BOSTON, MASS.

PLANS and other illustrations of this group together with description will be found in our issue for March 18, last.

A COMPETITIVE DESIGN FOR EVACUATION MONUMENT, DORCHESTER HEIGHTS, SOUTH BOSTON, MASS. MESSRS. CABOT, EVERETT & MEAD, ARCHITECTS, BOSTON, MASS.

GRACE CHURCH, BROOKLYN, N. Y. MR. H. M. CONGDON, ARCHITECT, NEW YORK, N. Y.

THIS church will be situated on the corner of Brooklyn Avenue and the Eastern Parkway, a very prominent position, the lot measuring 150′ x 220′. Ultimately a rectory will connect with the church at the west end, on Brooklyn Avenue. The season's work will stop with the laying of the foundations.

THE SAME FROM THE NORTHEAST.

[The following named illustration may be found by reference to our advertising pages.]

MONUMENT TO PASTEUR, LILLE, FRANCE. LOUIS CORDONNIER, ARCHITECT; M. CORDONNIER, SCULPTOR.

This plate is copied from *L'Architecture et la Construction dans le Nord*.

[Additional Illustrations in the International Edition.]

THE COURTYARD FRONTS: "RICHMOND COURT," BEACON ST., BOSTON, MASS.

[Gelatine Print.]

ENTRANCE TO ST. ALBAN'S HALL: "RICHMOND COURT," BOSTON, MASS.

[Gelatine Print.]

PART OF STAIRCASE: CHÂTEAU DE BONNETABLE.

THE HIGH ALTAR: THE ORATORY, BIRMINGHAM, ENG.

SANDSEND HOTEL, SANDSEND, ENG. MR. F. A. TUGWELL, ARCHITECT.

SUMMER-HOUSES, ETC., SCARBOROUGH, ENG. MR. F. A. TUGWELL, ARCHITECT.

COMMUNICATIONS

[*The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.*]

THE LIGHTING OF A CATHOLIC CHURCH.

First National Bank Building, Pittsburgh, Pa., Oct. 13, 1899.

To the Editors of the American Architect:—

Dear Sirs, — Will you kindly tell me through the medium of your journal, "the best modern method for lighting Catholic churches by gas, and where should the fixtures be placed"? The church in question has two rows of columns and a dome at crossing of transepts and nave. It is to be wired for electric-lights and consideration must, therefore, be given to the latter system, which will come into use at some future time.

By complying with the above, you will oblige, yours truly,

J. T. Comes.

[We do not think that there is any rule in regard to the subject. The clergy of Catholic churches generally make the effect of the interior of their own church a matter of loving, and often very intelligent, study, and they are usually familiar with many church buildings, at home and abroad, so that the architect's trained knowledge and taste may find advantage in consultation with them. The best foreign churches usually have lamps suspended through the nave, and the long vertical lines do much to give an effect of height to the roof, and of repose to the interior, but care should be taken, in using light in this way, not to make the clusters of lamps too large, for nothing is more disagreeable than a glare in one's eye. The lighting of the dome, if it is large, will best be done by several small suspended clusters, aided by side-lights, and not by a large central chandelier. The aisles must, probably, have side-lights. In general, by far the best effect will be obtained by using a large number of small clusters, or even single lights, both for side-lights and overhead lamps. It costs more to wire in this way, and the expense for fixtures will be greater, but a church illuminated by a multitude of little sparkling lights is so infinitely superior in beauty and convenience to one fitted with huge chandeliers, like a theatre, that the extra cost should not be regarded. — Eds. American Architect.]

NOTES AND CLIPPINGS

The Organization of a Tinplate Trust in England. — The Welsh tinplate-makers are trying to make permanent the improvement in trade which has appeared among them. This is very evident, and to make matters better, they are trying to take their workpeople along with them. Herein they are wise, for the tinplate-trade in the principality has suffered so much in the past through strikes and lockouts that any scheme having for its object the placing of the industry upon a more profitable basis which did not include the operatives as well as the masters would be a foredoomed failure. The industrial warfare now going on in Denmark, with all its disastrous consequences to masters and men alike, affords another lesson in the same direction. It was recently proposed to form an alliance in the Welsh tinplate-trade upon the same basis as that existing in the bedstead-trade and some other industries of the country. Practical investigation, however, found this unsuited to the tinplate-makers' requirements, but the matter of combination was not allowed to rest here, and the issue is that an association is now almost completed, entitled the Plate and Sheet Manufacturers' Association, which will include nearly the whole of the Welsh makers, and have for its object a prevention, if possible, of the hitherto ruinous underselling which has prevailed. Articles of association have to be signed by about eighty firms, many of them limited liability concerns, before the project can be considered in any way complete, and we understand that the adherence of the necessary majority is being rapidly secured. At present the controllers of some 280 mills have signed, and a canvass of the trade, conducted some little time since, showed that practically all the employers were in favor of the movement. Among the earliest matters which will have to be considered by the new body are various minor labor troubles which have arisen at some of the individual works, and the representatives of the men's union are to be invited to a joint conference to deal with these disputes. At a previous gathering of the employers, uniformity of wages was considered an essential to the general welfare; but to make wages uniform meant that the Llanelly employés and some others should give up 13 1-2 per cent of wages that they were entitled to by agreement until the end of next December. This, however, they did give up, and thus established what ought to be a nine-months' peace in the tinplate-trade and an excellent foundation for the combination now being formed among the employers themselves. — *London Engineer.*

A Sculptor brought to Terms. — The Victor Emanuel monument which was unveiled in Turin a few weeks ago has had a curious history. As far back as 1879 King Humbert gave a million lire for the purpose of having a worthy monument of Victor Emanuel erected in that city. The task was assigned to the sculptor Carlo Costa, who agreed to complete the work by 1886, and who gradually received all but 60,000 of the million lire. But the monument was not completed by 1886, nor even by 1896. The city then brought suit against Signor Costa, who defended himself on the grounds that he could not command his inspiration, that in the good old day artists were not expected to furnish works on time, and that Leonardo da Vinci, for example, had required eighteen years for one of his works, and forty for another. But although all the artists sided with Costa, the city insisted on the work being promptly done, and the artist at last yielded and finished what is conceded to be a very fine statue. — *N. Y. Evening Post.*

Ammonia as a Fire-extinguisher. — The editor of the *National Druggist* gives some highly interesting information respecting the fire-extinguishing qualities of aqua ammoniæ, which are worthy of attention, as the following statements will indicate: "In one instance, where fire had originated, probably from spontaneous combustion, in a pile containing several tons of cotton-seed, and the interior of which was almost a solid body of live coal, a half gallon of ammonia completely smothered the fire. In another, which occurred in Savenay, France, the vapors of a tank containing fifty gallons of gasoline caught fire in the linen-room of a laundry. The room was instantly a mass of living flames, but a gallon and a half of ammonia-water thrown into it completely and almost immediately extinguished the fire. The ammonia was in a glass demijohn in an apothecary's shop next door to the laundry, and was thrown into the room by the druggist as an experiment. To use his own words in reporting the circumstance. . . . 'The effect was instantaneous, torrents of black smoke rolled upward in place of flames, and in a moment every trace of fire was gone. So completely was the fire extinguished, that workmen were enabled to enter the room almost immediately, where they found the iron tank of gasoline intact.'"

Supply of Sea-water to London. — We learn that a company is about to be formed for the purpose of bringing sea-water to London, from an intake at Lancing, in Sussex, whence the water is to be pumped to a level of nearly five hundred feet at the top of Steyning Hill. It will then flow by gravitation through a main aqueduct to Battersea, and thence across the Thames to Cromwell Road, South Kensington, whence branches are to be laid for service in Paddington and Kensington, Mayfair, Marylebone, and the Strand districts, and in Whitehall and Westminster from a conduit at Charing Cross. It is also proposed to lay another branch main from Farringdon Street to Shoreditch, and along the Bethnal Green Road to Victoria Park. We hope that the main object of this is to provide for sea-water swimming-baths in London, which would be an immense boon. A company was formed a good many years ago to start a very large sea-water swimming-bath in the neighborhood of Westminster, but the project was abandoned, we believe through difficulty in raising the required capital. We should think that a company for providing sea-water in London for this purpose ought to succeed, if the operations are on a large scale and the supply of water ample. — *The Builder.*

Remodelling the Blue-coat School. — One of the most interesting buildings in Westminster, known as the Blue-coat School, which stands at the rear of the Hotel Windsor, in what was formerly Palmer's Village, is now being extensively remodelled, with a view, it is understood, to its being taken over by the existing school in Palmer's Street. This quaint old school, according to an inscription on the pediment of the south front, was founded in 1688 by William Greene. Its old-fashioned windows have been replaced by others of modern design, but the statue of a Blue-coat boy over the doorway of the north front, and a painting of one of the scholars beneath the pediment on the south side, have been permitted to remain untouched. The schoolmaster's house adjoining, which was erected by public subscription in 1709, has, however, been replaced by a large and pretentious building. It is interesting to note that the school was recently sold to the local vestry on the condition that it should not be demolished until the expiration of twenty-five years. In addition to the Blue-coat School, there were also Black-coat and Green-coat institutions in Westminster, and there is a Gray-coat School, which celebrated its bi-centenary last year, all of which derive their names from the distinctive garb worn by the pupils. — *London Daily News.*

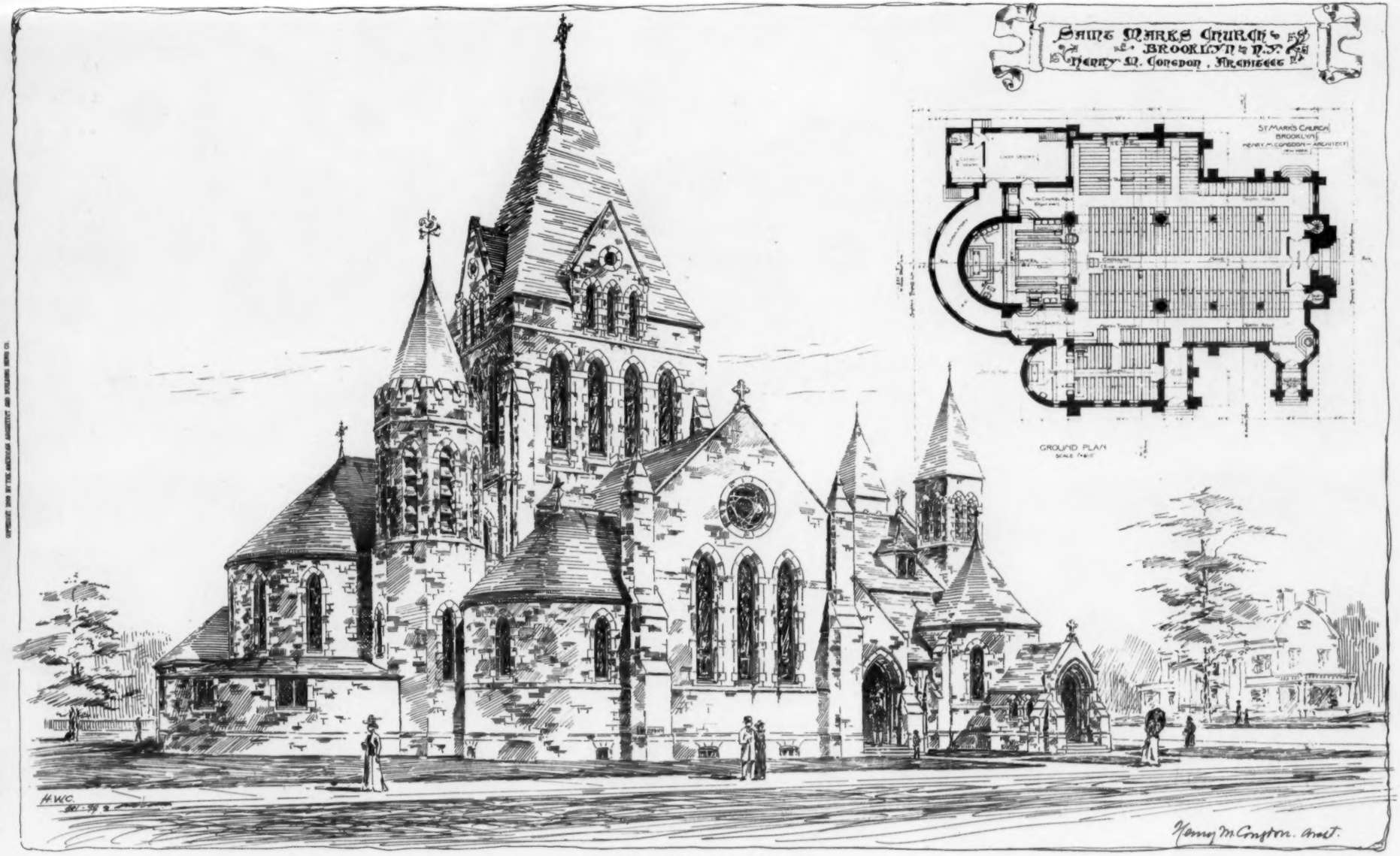
S. J. Parkhill & Co., Printers, Boston, U. S. A.

RICHMOND COURT APARTMENT
CRAM, GOODHUE & FE

PARTMENTS, BEACON STREET, BOSTON.
ODHUE & FERGUSON, ARCHITECTS.

A COMPETITIVE DESIGN FOR THE EVACUATION MONUMENT, DORCHESTER HEIGHTS, SOUTH BOSTON, MASS.

CABOT, EVERETT & MEAD, ARCHITECTS.



ST. MARK'S CHURCH, BROOKLYN.

VIEW FROM NORTHEAST.

American Architect and Building News, Oct. 21, 1899. No. 1243.

ST. MARK'S CHURCH, BROOKLYN.

VIEW FROM NORTHWEST.

The American Architect and Building News

A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART.

VOL. LXVI.—No. 1248.] SATURDAY, OCTOBER 21, 1899. PRICE, {REGULAR ISSUE, 15 CENTS. IMPERIAL " 25 "

BUILDING MATERIALS.

Reported for the American Architect and Building News.

BUILDING MATERIALS	New York. (*Wholesale Prices.*)	Boston. (*Prices to Builders and Contractors.*)	Philadelphia.
STONE. (℔ *cubic foot, rough.*)			
Foundation:			
Dimension	@	5 00 ℔ ton.	@ 5 00
Block	@	4 60 ℔ perch.	Conshohocken
Rubble	@	1 25 @ 1 50	1 45 @ 2 50
Sandstone:			
Longmeadow	@ 80	80 @ 90	
Kibbe	@ 90	90 @ 1 10	95 @ 1 05
Brown (Connecticut)	1 00 @	1 00 @ 1 30	1 05 @ 1 25
Amherst Ohio	90 @ 95	90 @ 1 00	85 @ 95
Berea "	75 @ 1 00	85 @ 90	55 @ 75
Berlin "	75 @ 1 00	80 @ 90	85 @ 95
Belleville	80 @ 1 25	25 @ 1 35	1 00 @ 1 10
New Brunswick (Dorchester)	@ 1 00	75 @ 90	1 05 @ 1 15
Potsdam Red	@ 1 50	@ 1 40	@ 1 40
Caen	@	@ 2 00	1 25 @ 1 35
Carlisle, English	@ 1 05	@ 1 05	95 @ 1 05
Corse Hill (Scotch)	@ 1 05	@ 1 05	95 @ 1 05
Granite: (*Maine*)		@ 60	55 @ 65
Limestone:			
Bedford	45 @ 1 25	95 @ 1 00	75 @ 85
Joliet	1 00		Richmond
Lemont		10 50 per ton.	℔ 75 @ 1 50
Serpentine			Perch 4 50 @ 5 50
Bluestone: (℔ *sq. ft.*)			1 in. th. 10 @ 25
Sidewalk	30 @ 5 00	40 @ 1 75	37 @ 50
Planed	50 @ 6 00	@ 75	
Marble: (℔ *cu. ft.*)			
Lee, Mass	@	1 75 @ 2 50	2 00 @ 2 50
Rutland, white and blue	@	@ 3 00	2 00 @ 3 00
Sutherland Falls	1 25 @ 1 75	@ 2 00	1 70 @ 3 00
Glens Falls, black	@	@	4 00 @ 4 50
Italian, blue-veined	@	@	2 50 @ 2 75
" Sienna	@	@	@ 5 00
Tennessee, red	@	@	4 00 @ 6 00
" Knoxville	@	@	3 00 @ 4 00
Pennsylvania, blue	@	@	2 00 @ 3 00
Vermont, white	@	@	2 25 @ 3 00
Slate: Roofing (℔ *square*)			
Green	5 00 @ 6 00	4 75 @ 5 25	2 90 @ 3 60
" unfading	5 00 @ 6 00	5 50 @ 6 50	4 25 @ 5 00
Purple	5 00 @ 6 00	5 50 @ 6 50	4 50 @ 5 50
Red	@ 10 00	10 00 @ 11 00	11 50 @ 13 00
Black, Lehigh	4 25 @ 4 75	@	4 00 @ 4 35
" Chapmans	@	@	4 50 @ 5 00
Genuine Bangor	4 35 @ 5 50	4 75 @ 5 90	4 35 @ 5 50
Unfading black	6 00 @ 8 50	6 00 @ 8 50	6 50 @ 9 00
" "	5 50 @ 8 00	5 50 @ 8 00	6 50 @ 9 00
Tiles, Am. ℔ M	@	@	@ 28 00
N. Peach Bottom, war. unfading	@	@	5 76 @ 6 25
Fire Clay Roof Tile on cars at fac.	8 00 @	8 00 @	8 00 @
LUMBER. — ℔ M.			
Boards: (*Ordinary dimensions.*)			
Pine, 1st quality, clear	65 00 @ 75 00	70 00 @ 80 00	47 50 @ 60 00
" 2d quality	55 00 @ 60 00	65 00 @ 70 00	38 00 @ 48 50
" 3d quality	18 00 @ 22 00	55 00 @ 60 00	27 50 @ 36 50
Spruce	@ 25 00	19 00 @ 23 00	15 00 @ 21 50
Hemlock	ea13½ @ 14	15 00 @ 19 00	11 50 @ 13 75
Yellow pine	20 @ 40	25 00 @ 35 00	14 00 @ 29 00
Cypress	@	35 00 @ 55 00	30 00 @ 38 00
Clapboards:			
Pine	@	35 00 @ 55 00	14 00 @ 25 00
Spruce	@	30 00 @ 36 00	*Not sold.*
Framing Timber:			
Pine			25 00 @ 37 30
Spruce	14 00 @ 16 00	20 00 @ 23 00	15 00 @ 21 50
Hemlock	12 00 @ 16 00	15 00 @ 18 00	14 00 @ 20 00
Yellow pine	18 00 @ 21 00	26 00 @ 55 00	22 50 @ 30 00
Laths:	@		
Pine ..... Round Wood	@	2 25 @ 2 50	2 75 @ 3 00
Spruce ..... Slab	@ 3 00	3 00 @ 3 25	2 30 @ 2 35
Shingles:		@	
Pine, shaved ℔ M	5 00 @ 6 00	@ 450	
Pine, sawed " "	4 00 @ 5 00	1 50 @ 2 00	
Spruce, sawed " "	1 50 @ 2 00	3 50 @ 4 00	{20" 5 50 @ 60
Redwood ℔ 125.	1 40 @ 1 60	@ 6 00	{24" 8 @ 21
Cedar split ℔ M	@	3 00 @ 4 00	{20" 35 @ 14
Cedar sawed " "	18 00 @ 20 00	5 00 @ 6 50	11 00 @ 14
Cypress, Split 7 x 24 " "			

Monument to Pasteur, Lille, France.
Architect, Louis Cordonnier; sculptor, M. Cordonnier.

From *L' Architecture et la Construction dans le Nord.*

Ready to-day, Part IV "Georgian Period."

WANTED.

POSITION.—Wanted a draughtsman who can make scale-drawings and details of woodwork. Henry W. Wilkinson, 807 James St., Syracuse, N. Y. 1242

WANTED.

POSITION.—Eleven years' experience, public and private work. First-class all-round draughtsman and superintendent. $75 per month. Address "X. I.," care *American Architect.* 1243

WANTED.

POSITION.—An experienced architect accustomed to handling large building operations would accept a good offer as such. "H.," Room 54, Bible House, New York City. t.f.

WANTED.

POSITION.—Man with college training, experienced in large work, with best references, would like to make change. Salary $150, or interest in business with smaller salary. Address "Designer," care *American Architect.* t.f.

WANTED.

PARTNER.—A partner wanted, with capital or influence, by a draughtsman with fourteen years' experience on large work. For the past five years has received $35 a week salary, in present position four years, has taken two years special course at Boston Tech., has won scholarship, can give best references. Address "Influence," care of *American Architect.* t.f.

BUILDING PATENTS.

[*Printed specifications of any patents here mentioned together with full detail illustrations, may be obtained of the Commissioner of Patents, at Washington, for five cents.*]

634,484. EXPANDED-METAL PARTITION.—Louis F. Sylvester, Woonsocket, R. I.

634,487-488. ELECTRICAL INDICATOR.—Montgomery Waddell, New York, N. Y.

BUILDING PATENTS.

634,491. ATTACHMENT FOR DOORS.—George J. Winter, Buffalo, N. Y.

634,513. ELEVATOR.—Harriet R. Tracy, Paris, France.

634,547. STEAM HEATING APPARATUS AND DEVICE FOR CONTROLLING ACTION THEREOF.—Clarence E. Van Auken, Chicago, Ill.

634,561. FLOOR-SETTING TOOL.—Leverett A. Manwaring, Lebanon, Conn.

634,562. BRICK.—Felix Pagnon, Lyons, France.

634,572. FLOAT FOR FLUSHING-TANK VALVES.—Alexander Clarke, New York, N. Y.

634,580. SANITARY PROTECTOR FOR WATER-CLOSET SEATS.—Frank E. Miller and George L. Wheelock, New York, N. Y.

634,581. CARPENTER'S SQUARE.—Rob't H. Miller, Morristown, N. J.

634,596. DOOR-CHECK.—George W. Warner, Freeport, Ill.

634,671. ADJUSTABLE SUPPORT FOR TEMPORARY CENTERINGS.—Marc Perret, Belley, France.

634,692. POLE OR COLUMN.—John Lanz, Pittsburgh, Pa.

634,693. CLAMP FOR POLES OR COLUMNS.—John Lanz, Pittsburgh, Pa.

634,739. INTERIOR FIRE-RESISTING CONSTRUCTION.—Albert T. Stearns, Boston, Mass.

634,782. STAIRCASE-RULE.—Eugene Walter, Heilbronn, Ger.

634,821. LOCKING OR UNLOCKING MEANS FOR EMERGENCY EXIT-DOORS.—Thomas E. Hewitt, London, Eng.

634,854. SPRING-HINGE.—William F. McKee, New York, N. Y.

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

[*Although a large portion of the building intelligence is provided by their regular correspondents, the editors greatly desire to receive voluntary information, especially from the smaller and outlying towns.*]

ADVANCE RUMORS.

Atlanta, Ga.—It is stated that plans for the new $100,000 Carnegie Public Library will be secured by competition. All Atlanta architects may submit plans, and 10 outside architects are to be invited by the Building and Grounds Committee, T. H. Martin, Chairman; first prize, acceptance of plans on the schedule of charges of the American Institute of Architects; second prize, $500; third prize, $300. J. H. Dinwiddie, of Atlanta (formerly of Chicago), will be supervising architect.

Ann Arbor, Mich.—It has been announced by Dr. Victor C. Vaughan, dean of the medical department, that plans have been completed for the new science building to cost $250,000.

Ashland, O.—Plans have been drawn by Vernon Redding, Mansfield, for a three-story warehouse, 50' x 212', for F. E. Myers & Bro.; cost, $20,000.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Buffalo, N. Y.—It is said that Architects Lansing & Beierl have drawn plans for a new public bath-house on Woltz Ave., near Stanislaus St. The building will be of brick and stone, two stories high, and will cost $20,000.

Chester, Pa.—Bids are now being received for a new $100,000 public high-school building; Seymour Davis, 907 Walnut St., Philadelphia, architect.

Chicago, Ill.—Report states that a site has been secured on Armour Ave., near 37th St., for the new $50,00) four-story building, which is to be erected by the Howard Manufacturing Co., a new corporation composed of leading colored citizens. A. C. Howard, 3413 State St., is president.

East Liberty, Pa.—John Williams is to erect a $40,000 warehouse here.

Elkhart, Ind.—A. H. Elwood, 202 S. Main St., has let the contract to Wehmeyer & Miller, of Goshen, for the erection of a brick factory for the Soudan Manufacturing Co.; cost, $10,000.

Galveston, Tex.—Plans have been completed by G. B. Stowe, 220 Twenty-second St., for a five-story fireproof office-building to be erected by the Investment & Loan Co., on Tremont and Post-office Sts.; cost, $60,000.

Harrisburg, Pa.—The Van Dorn Iron & Steel Co. of Cleveland, O., holds the contract for enlarging the county jail, at $94,850.

Hayward, Wis.—Plans have been prepared for an Indian School to be erected here; cost, $60,000.

Houston, Tex.—Report states that C. Burns will erect a $20,000 opera-house at Main and Texas Sts.

Lincoln, Ill.—It is stated that the contract for erecting 14 new ward buildings at the Illinois Asylum for Feeble-minded Children has been awarded to Wm. F. Hoyle for $162,950.

Louisville, Ky.—A new church is to be erected for the 4th Ave. Methodist congregation. It will be 95′ x 100′, of stone with slate roof; cost, $60,000. Rev. J. W. Moore, pastor. Dodd & Cobb, Equitable Building, architects.

McKeesport, Pa.—It is stated that the First Presbyterian Society will erect a new edifice at the corner of 6th and Market Sts., to cost $60,000. Of this amount $40,000 is already subscribed. Rev. J. J. McCarrell may be addressed by architects as no plans have yet been selected.

Milwaukee, Wis.—It is reported that the J. G. Wagner Co. has purchased land adjoining its plant on St. Paul Ave., and will erect a $60,000 factory.

New Castle, Ind.—Stephen O. Yates, Richmond, has prepared plans for four brick and stone buildings for the American Shovel Co.; cost, $30,000.

New York, N. Y.—Mr. Isaac L. Rice, 100 Broadway, will erect a handsome residence on Riverside Drive, corner of 89th St. It will be colonial in style, five stories high, with front of either Georgia white marble or Indiana limestone. The cost will be nearly $1,000,000.

A two-story brick church is to be erected at 45 E. 27th St., for the French Church of St. Esprit; cost, $50,000. Brun & Hausen, architects, 1125 Broadway.

Niles, Mich.—Plans have been prepared by C. A. Dennison, of Warren, for a $40,000 school-building to be erected here.

Norfolk, Va.—It is reported that the hospital of St. Vincent de Paul, recently burned, will be rebuilt at a cost of about $150,000. Sister Superior Bernard.

Philadelphia, Pa.—Manufacturers George Watkinson & Co. are about to erect a large felt boot factory on Schuylkill Ave. at the foot of Reed St. The main building will be of brick and iron, two stories high, 137′ x 154′ 2″, with a one-story rear extension, 30′ x 92′.

A permit has been issued to William Weightman, owner, for the erection of a $50,000 building on Market St., near 20th St.

Pittsburgh, Pa.—Plans have been prepared for alterations to the People's National Bank Building, to cost $35,000.

It is reported that a new hotel, 61′ x 100′, will be erected at Ringgold and Locust Sts. by J. P. Coursin, of McKeesport; cost, $50,000.

Pittsfield, Mass.—Neill Wilson is preparing plans for a residence for Harold B. Daniels to be built on the South Shore of Onota Lake.

Rice Lake, Wis.—A company called the P. H. Parker Mercantile Co. has been organized with a capital of $65,000 to erect a large business building.

Richmond, Va.—It is stated that preliminary drawings have been prepared by Noland & Baskerville, Chamber of Commerce Building, for the hospital, to be erected by N. S. Bosher, E. T. D. Myers, C. W. Taraner and others. It will be 60′ x 150′, five stories high, built of pressed brick with stone trimmings, and will cost about $100,000.

Rock Island, Ill.—It is reported that the contract for the construction of the new station at this place for the Chicago, Burlington & Quincy Railroad has been awarded to Collins Bros., at $45,000.

Salt Lake City, Utah.—It is stated that W. H. Roney, of Chicago, Ill., has received the contract for the library, normal and physical buildings for the University, for $116,831.

San Francisco, Cal.—S. A. Seymour will erect a large fireproof building on Market St., near 7th St.; cost, $90,000. Architects, Shea & Shea, 26 Montgomery St.

Santa Ana, Cal.—The plans of Parkinson & Bradshaw have been accepted for the county court-house.

Sault Ste. Marie, Mich.—It is stated that a $30,000 union depot will be erected here.

Seattle, Wash.—The Board of Education have accepted plans for the new high-school building; cost, $200,000.

Washington, D. C.—The Virginia Hotel Co. has just been incorporated. The charter gives the right to build and operate a hotel in Virginia or the District of Columbia. The capital stock is $500,000, divided into 1,000 shares. The president is Joseph E. Willard, of Fairfax, Va. It is conjectured that it is the purpose to acquire the Willard Hotel property, and either to erect a new building on that site or change and improve the present structure. The owner of the hotel property is Joseph E. Willard.

West Roxbury, Mass.—The First Parish Unitarian Church will build a new church near the present building, toward Centre St. The new building will be of Dedham pink granite, 50′ x 89′; estimated cost, $20,000.

Worcester, Mass.—Press reports state that E. T. Chapin, 141 Beacon St., has completed plans for a workingmen's hotel to be erected here, at a cost of about $50,000.

APARTMENT-HOUSES.

Chicago, Ill.—*Leavitt St. and Campbell Park*, three-st'y st. flat, 32′ x 84′, comp. roof, steam; $17,500; o., L. M. Davis; a., Wm. G. Krieg, 99 Metropolitan Block.

Detroit, Mich.—*Second Ave.*, four-st'y & base. bk. & st. apart., 47′ x 87′, steam; $25,000; o., George Wallace, 543 Second Ave.; a., F. Carl Pollmar, 26 Cleland Building.

New York, N. Y.—*E. Seventy-seventh St., No.* 245, six-st'y bk. & st. flat, 25′ x 88′ 8″; $28,000; o., M. K. Wallack, 240 E. 79th St.; a., G. F. Pelham, 503 Fifth Ave.

Amsterdam Ave., cor. 166th St., five-st'y bk. flat & store, 25′ x 95′; $20,000; o., Daniel Coffey, 73 W. 11th St.; a., J. P. Leo, 143 W. 125th St.

Nineteenth St., nr. 3d Ave., 2 six-st'y bk. & st. flats, 30′ x 80′ 10″; $56,000; o., B. A. Klein, 125 E. 120th St.; a., G. F. Pelham.

One Hundred and Twenty-fourth St., nr. Broadway, six-st'y bk. flat, 90′ 10″ x 100′; $115,000; o., Anthony Clinchy, 336 E. 13th St ; a., G. F. Pelham.

One Hundred and Thirty-eighth St., nr. Willis Ave , 5 five-st'y bk. flats & stores, 25′ x 82′; $50,000; o., Gaines & Roberts, 703 E. 135th St.; a., H. T. Howell, 748 E. 138th St.

Webster Ave., nr. 169th St., 3 four-st'y bk. flats & stores, 18′ & 26′ x 75′; $45,000; o., A. Wexler, 617 E. 11th St.; a., H. T. Howell.

Eighth Ave., cor. 118th St., 2 five-st'y bk. & st. flats, 25′ x 95′ & 25′ x 87′; $50,000; o., Daniel Hennessy, 799 Madison Ave.; a., Neville & Bagge, 217 W. 125th St.

W. Twentieth St., No. 222, five-st'y bk. & st. flat, 25′ x 71′; $25,000; o., Louis Kohn and Louis Leavy, 235 E. 114th St.; a., Edward Wenz, 1491 Third Ave.

Courtlandt Ave., cor. 160th St., 3 five-st'y bk. & st. flats, 25′ x 87′, 25′ x 77′ & 21′ x 78′ each; $70,000; o., John Dolsen; a., G. F. Pelham, 503 Fifth Ave.

St. Nicholas Ave., cor. 151st St., 2 seven-st'y

Continued on page xiv.)

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Chicago, Ill.—*Leavitt St. and Campbell Park*, three-st'y st. flat, 32′ x 84′, comp. roof, steam; $17,500; o , L. M. Davis; a., Wm. G. Krieg, 99 Metropolitan Block.

Detroit, Mich.—*Second Ave.*, four-st'y & base. bk. & st. apart., 47′ x 87′, steam; $25,000; o., George Wallace, 543 Second Ave.; a., F. Carl Pollmar, 26 Cleland Building.

New York, N. Y.—*E. Seventy-seventh St., No.* 245, six-st'y bk. & st. flat, 25′ x 88′ 8″; $28,000; o., M. K. Wallack, 240 E. 79th St.; a., G. F. Pelham, 503 Fifth Ave.

Amsterdam Ave., cor. 166th St., five-st'y bk. flat & store, 25′ x 95′; $20,000; o., Daniel Coffey, 73 W. 11th St.; a., J. P. Leo, 143 W. 125th St.

Nineteenth St., nr. 3d Ave., 2 six-st'y bk. & st. flats, 30′ x 80′ 10″; $56,000; o., B. A. Klein, 125 E. 120th St.; a., G. F. Pelham.

One Hundred and Twenty-fourth St., nr. Broadway, six-st'y bk. flat, 90′ 10″ x 100′; $115,000; o., Anthony Clinchy, 336 E. 13th St ; a., G. F. Pelham.

One Hundred and Thirty-eighth St., nr. Willis Ave , 5 five-st'y bk. flats & stores, 25′ x 82′; $50,000; o., Gaines & Roberts, 703 E. 135th St.; a., H. T. Howell, 748 E. 138th St.

Webster Ave., nr. 169th St., 3 four-st'y bk. flats & stores, 18′ & 26′ x 75′; $45,000; o., A. Wexler, 617 E. 11th St.; a., H. T. Howell.

Eighth Ave., cor. 118th St., 2 five-st'y bk. & st. flats, 25′ x 95′ & 25′ x 87′; $50,000; o., Daniel Hennessy, 799 Madison Ave.; a., Neville & Bagge, 217 W. 125th St.

W. Twentieth St., No. 222, five-st'y bk. & st. flat, 25′ x 71′; $25,000; o., Louis Kohn and Louis Leavy, 235 E. 114th St.; a., Edward Wenz, 1491 Third Ave.

Courtlandt Ave., cor. 160th St., 3 five-st'y bk. & st. flats, 25′ x 87′, 25′ x 77′ & 21′ x 78′ each; $70,000; o., John Dolsen; a., G. F. Pelham, 503 Fifth Ave.

St. Nicholas Ave., cor. 151st St., 2 seven-st'y

Continued on page xiv.)

COMPETITIONS.

SOCIETY OF BEAUX-ARTS ARCHITECTS.
SEASON 1899-1900.

NOTICE: RELATING TO COMPETITIONS.

For all problems except sketch problems, as follows: —

Students intending to compete are required to send sketches to the undersigned within fifteen days from date of programme. All sketches received later than this will be thrown out.

These sketches are to be on tracing-paper, and unless otherwise ordered, are to consist of one plan, one section and one elevation as a scale of 1-16″ to the foot.

The finished drawings must be mounted on strainers or compo board and forwarded to W. S. Budworth & Son, 424 West 52d St. (expressage prepaid), before the expiration of three months from the date of the programme.

The scale at which the finished drawings are to be made will be noted on the programmes.

The finished drawings, unless otherwise ordered, may be rendered in water-color or India-ink.

Non-observance of the following conditions will render the student liable to be thrown *hors de concours*: —

First. — If the sketch is carelessly drawn.
Second. — If the limits set by the programme are exceeded.
Third. — If the rendered drawings differ materially from the sketch.
Fourth. — If the sketch is received after the limit set by this notice.
Fifth. — If the finished drawings are not delivered to Messrs. Budworth & Son, or to the express company or other public carrier within the limit fixed by this notice.

For sketch problems as follows: —

No restrictions are made upon method of rendering the sketch, but the drawing is limited to a single sheet of paper not larger than 14″ x 20″. A plan and section at 1″ to the foot and an elevation or perspective of 1-8″ to the foot will be required unless otherwise ordered.

Each competitor is required to design and render the problem unaided, and to devote but eighteen hours of actual work upon it.

The finished sketch must be sent flat, unmounted, to the undersigned, within fifteen days from the date of programme.

All drawings will be exhibited and judged at the next regular exhibition of the Society after the date fixed for their reception.

The jury will award mentions at its discretion which will carry values as follow: —

First mention for an order problem	1½ values
" " a plan problem	2 "
Second mention an order problem	1 "
" " a plan problem	1 "
Mention for a sketch	½ "

The sketch problems and the Class B problems are open to all students of architecture. The Class A problems are only open to students who have obtained at least four values in Class B, of which one value must have been obtained for an order problem.

All announcements relating to the competitions will be published in *Architecture and Building* of New York.

(Signed) ERNEST FLAGG,
Chairman of Committee on Education,
35 Wall St., New York City.

October 15, 1899.

A REVIEWING STAND ON A LARGE CITY SQUARE.

[CLASS A, PROGRAMME NO. 17.]

COMPETITION NO. 36.

The Committee on Education proposes as a subject for this competition, "A Reviewing Stand on a Large City Square," intended as a memorial of a naval victory.

REQUIREMENTS.

There shall be a central tribune for the reviewer and distinguished guests to accommodate about fifty people and a covered stand on each side of it to accommodate at least two hundred people. The pavilion containing the tribune and also the stand must communicate with a large vestibule or reception-room placed back of them, adjoining which are to be two retiring-rooms, toilet-rooms, etc. The material to be used is cut stone, and the general appearance of the structure should be monumental and dignified though not too heavy.

Ornamental flag-poles and lighting fixtures in metal should be used in a way calculated to impart a festive appearance to the design.

The greatest dimensions of the building must not exceed 150 feet.

The finished drawings are to consist of a plan and section at one-eighth inch scale, and an elevation at a quarter scale.

(Signed) ERNEST FLAGG,
For the Committee on Education.

October 15, 1899.

A BOAT-HOUSE AND A LANDING STAGE FOR A YACHT CLUB.

[CLASS B, PLAN PROGRAMME NO. 11.]

COMPETITION NO. 36.

The Committee on Education proposes as a subject for this competition, "A Boat-house and a Landing Stage for a Yacht Club."

The property of the club lies on the shore of a small bay, and includes several hundred feet of water front. The shore rises rather abruptly from the water to a plateau about ten feet above the water-level. The greatest dimensions of the building must not exceed 150 feet. It is to be built of stone and wood.

REQUIREMENTS.

A lounging-room, which is also to be used for club-meetings and is to have one or two fireplaces. A cloak-room, toilet-room, locker-room, a boat-shed at least 50 feet long, for row boats; this latter may be built on a large float or upon piers and arches over the water. In the latter case there must be one or more landing stages or floats. There must be a large piazza on the land side and a piazza or broad overhanging balcony on the water side.

The plan and section are to be rendered at an eighth scale and the elevation at a quarter scale.

(Signed) ERNEST FLAGG,
For the Committee on Education.

October 15, 1899.

AN OPEN PAVILION IN A PUBLIC PARK.

[CLASS B, ORDER PROGRAMME NO. 11.]

COMPETITION NO. 36.

This little building is supposed to stand on the bank of a lake, and is to form an interesting point of view from a public drive. It may have grottoes and fountains in its base.

The roof is to be supported by columns of the Corinthian order. The building may be ornamented with statuary. The plan of the pavilion proper must not exceed 40 feet in its greatest dimension.

The finished drawings are to consist of a plan and section at one-eighth scale and an elevation at one-quarter scale, and a sheet of details rendered at one-quarter the size of execution.

(Signed) ERNEST FLAGG,
For the Committee on Education.

October 15, 1899.

A BAND STAND AT A LARGE SEASIDE RESORT.

COMPETITIONS.

[CLASS B, SKETCH PROGRAMME NO. 60.]

COMPETITION NO. 36.

The Committee on Education proposes as a subject for this competition, "A Band Stand at a Large Seaside Resort."

It is to be planned to accommodate a band of 100 musicians. The back of the stage may be formed by a great niche to act as a sounding-board.

The construction is to include a dressing-room and a toilet-room, but these may be supposed to be under the stage. There may be a colonnade or covered way at either side.

The greatest dimension of the construction must not exceed 150 feet.

The material to be used is wood.

(Signed) ERNEST FLAGG,
For the Committee on Education.
1244

LIBRARY. [At Fort Worth, Tex.]
The Committee for the Carnegie Public Library is prepared to receive plans for the above building, **November 1, 1899.** For particulars and conditions apply to HOWARD MESSER, local superintendent. 1243

HOSPITAL. [At Patton, Cal.]
Competitive drawings are wanted **October 30** for a State Hospital; estimated cost $200,000, including fixtures and accommodations. 1243

COURT-HOUSE. [At Martinez, Cal.]
Architects are invited to submit, in competition, **October 16,** plans and specifications for a fireproof court-house. J. D. WIGHTMAN, Chmn. Bd. Supervs. 1242

PROPOSALS.

ELECTRIC LIGHT FIXTURES. [At West Point, N. Y.]
West Point, N. Y. Sealed proposals will be received here **until November 13, 1899,** for furnishing and putting in place electric-light fixtures for Memorial Hall. Address MALVERN-HILL BARNUM, quartermaster. 1244

CANAL. [At Chicago, Ill.]
United States Engineer Office, 1637 Indiana Ave., Chicago, Ill. Sealed proposals for constructing twelve miles, or less, of Western Section, Illinois and Mississippi Canal, will be received **until November 13, 1899.** W. L. MARSHALL, maj. engrs. 1244

STEEL CONSTRUCTION. [At Benton Harbor, Mich.]
Bids are wanted for the steel construction work for a $30,000 opera-house to be built by the Bell Opera-house Co. C. A. BREHMER, of South Bend, Ind., archt. 1243

BRIDGE. [At Alameda, Cal.]
U. S. Engineer Office, Flood Building, San Francisco, Cal. Sealed proposals for erecting double draw-span bridge, approaches thereto and piers therefor, across tidal canal at Fruitvale Ave., near Alameda, Cal., will be received here **until November 14, 1899.** W. H. HEUER, major engrs. 1244

PROPOSALS.

ANNEX TO COURT-HOUSE. [At Atlanta, Ga.]
Sealed proposals will be received **until the 27th day of November** for all the labor and materials necessary and required for the building and erection complete of the independent annex for the Fulton County court-house, including the connection between the present court-house and the proposed independent annex. H. E. W. PALMER, chairman. 1244

STONE. [At St. Augustine, Fla.]
U. S. Engineer Office, St. Augustine, Fla. Sealed proposals for delivering 27,000 tons, more or less, of stone in place in jetties at mouth of St. Johns River, Fla., will be received here **until November 3, 1899.** C. H. McKINSTRY, captain engineers. 1244

ELECTRIC PLANT. [At Annapolis, Md.]
Proposals will be received at the Bureau of Navigation, Navy Department, **until the 2d day of November, 1899,** for the installation of an electric-lighting plant at the United States Naval Academy, Annapolis, Md. A. S. CROWNINSHIELD, chief of bureau. 1244

ADDITION TO HOSPITAL. [At West Point, N. Y.]
West Point, N. Y. Sealed proposals will be received here **until October 27, 1899,** for the construction of addition to Cadet Hospital. Address Q. M., U. S. Military Academy. 1243

CHURCH. [At Schenectady, N. Y.]
Bids are wanted for the erection of St. John's Church. EDW. W. LOTH, architect, 253 Broadway, Troy, N. Y. 1243

CITY-HALL. [At Pittsburg, Kan.]
It is stated that bids are wanted **October 25** for a city-hall, to cost about $35,000. E. E. McKIBBAN, architect, Muscogee, Ind. Ter. 1243

SCHOOL. [At Chester, Pa.]
It is stated that bids are wanted **November 1** for a high school. JOSEPH D. OLIVER, Chmn. Bldg. Com. 1243

FRAME BUILDING. [At Kiowa Agency, O. T.]
Department of the Interior, office of Indian Affairs, Washington, D. C. Sealed proposals will be received at this office **until October 29, 1899,** for furnishing and delivering the necessary materials and labor required in the construction of a frame building at the Kiowa Agency, O. T. W. A. JONES, commissioner. 1243

PROPOSALS.

OFFICERS' QUARTERS. [At Fort Hamilton, N. Y.]
Officers' Quarters, Fort Hamilton, N. Y. Sealed proposals will be received here **until October 26,** for construction of a double set of non-commissioned staff officers' quarters, including plumbing. S. E. ALLEN, Quartermaster. 1243

ADDITION TO HOSPITAL. [At West Point, N. Y.]
West Point, N. Y. Sealed proposals will be received here **until October 27, 1899,** for the construction of addition to Cadet Hospital. Address Q. M., U. S. M. A. 1243

EXTENSION OF STABLE. [At West Point, N. Y.]
West Point, N. Y. Sealed proposals will be received here **until October 27, 1899,** for extension of cavalry stable. Address Q. M., U. S. M. A. 1243

SCHOOL. [At Brownsdale, Minn.]
Bids are wanted **October 30** for a school. H. A. BROWN, District Clerk. 1243

BUILDING INTELLIGENCE.

(*Apartment-Houses Continued.*)

aparts., 65′ x 90′ & 85′ x 92′; $100,000 each; o., Arthur Gorsch, 149 Broadway & 1444 Third Ave.; a., Frank Wennemer, 143 W. 125th St.

St. Louis, Mo. — *Goodfellow and Maple Aves.*, two-st'y bk. stores & flats, 60′ x 60′, comp. roof; o., W. J. Brennan; a., Theo C. Lind.

CHURCHES.

Brooklyn, N. Y. — *Eighty-second St. and Eleventh Ave.*, one-st'y fr. church, 40′ x 88′, seating capacity, 150 seats; $8,000; o., St. Phillips-by-the-Sea, Rev. John Sattig, pastor, 725 Carroll St.; a., Alfred Parfitt, 26 Court St.

New York, N. Y. — *E. Twenty-seventh St., Nos.* 45-47, two-st'y bk. church, 65′ x 96′ 1″; $50,000; o., French Church of St. Esprit, on premises; a., Brun & Hauser, 1125 Broadway.

EDUCATIONAL.

Hurley, Wis.—Two-st'y bk. school, 68′ x 94′, shingle roof, steam; $20,000; o., Board of Education; a., Van Ryn & De Gelleke, 53 Merrill Building, Milwaukee.

Muncie, Ind.—Two-st'y school, 38′ x 60′, slate roof, hot air; $10,000; a., L. C. Howard, 245 The Johnson.

FACTORIES.

Brooklyn, N. Y. — *Watkins St.*, nr. Glenmore Ave., six-st'y bk. factory, 50′ x 95′; $10,000; o., Sarah H. Wolf, 184 Christopher Ave.; a., O. Lowenson, 39 Cortlandt St., New York.

S. First St., cor. Roebling St., four-st'y bk. factory, 25′ x 72′, flat roof, steam heat; $6,500; o., Adam E. Schulz, 267 Grand St.; a., A. E. Fischer, 1123 Broadway, New York.

Chicago, Ill. — *N. Ashland Ave.*, seven-st'y bk. & st. yeast factory, 100′ x 150′, comp. roof; $25,000; o., Northwestern Yeast Co, 889 N. Ashland Ave.; a., W. Carbys Zimmerman, 618 Steinway Hall.

Detroit, Mich. — *Howard St.*, two & four-st'y bk. brewery, 75′ x 190′, slate roof, steam; $40,000; o., Amer. Brewing Co., Howard & 12th Sts.; a., Mueller & Mildner, 115 Union Trust Building.

Indianapolis, Ind. — *Parry Ave.*, one & two-st'y bk. factory (20 buildings), 80′ x 400′, slate roof, steam; $150,000; o., Parry Mfg. Co.

Kalamazoo, Mich. — Four-st'y bk. building, 60′ x 200′, gravel roof, steam; several smaller buildings; $20,000; o., Kalamazoo Sled Co.; a., C. A. Fairchild.

New York, N. Y. — *Division St.*, seven-st'y bk. shop, 23′ x 48½′; $15,000; o., Gordon, Levy & Co., 169 Canal St.; a., Chas. Meyers.

Wyandotte, Mich. — Two-st'y & base. bk. factory, 60′ x 180′ x 300′, comp. roof, steam; $70,000; o., Dealers' Vehicle Co., 1103 Majestic Building, Detroit, Mich.

HOUSES.

Boston, Mass. — *Off Seaver St.*, nr. Humboldt Ave., Ward 21, two-st'y fr. dwell., 31′ x 34′, pitch roof, furnace; $4,500; o., Elizabeth Graham; b., J. P., Campbell, 26 Boylston St., Jamaica Plain.

Montebello Road, nr. Walnut Ave., Ward 21, 2½-st'y fr. dwell., 38′ x 42′, pitch roof, furnace; $7,500; o., Cheever Newhall, Tremont Building; b., Oscar Johnson.

Talbot Ave., nr. Washington St., Ward 24, 8 four-st'y fr. dwells. & stores, flat roofs, steam; $40,000; o., W. L. Morrison, 45 Milk St.; b., Morrison Bros

Draper St., nr. Bowdoin St., Ward 20, two-st'y fr. dwell., 25′ x 50′, pitch roof, hot water; $4,500; o. & b., John H. Moore, Liberty St., Everett.

Auburn St., nr. Albany St., Ward 17, 4 three-st'y bk. dwells., 20′ x 40′, flat roofs, stoves; $16,000; o., John McWeeney; b., T. L. Connolly, 41 Hunneman St.

Columbus Ave., cor. Davenport St., Ward 18, 3 three-st'y bk. dwells. & stores, 23′ x 55′, flat roofs, stoves; $18,000; o., A. Wieskinsky; b., A. Diamond, 15 Spring St.

Davenport St., Ward 18, 2 three-st'y bk. dwells., 23′ x 55′, flat roofs, stoves; $12,000; o., A. Wieskinsky; b., A. Diamond.

Albion St., No. 68, Ward 9, four-st'y bk. dwell., 13′ x 15′ x 50′, flat roof, stoves; $6,000; o., Joseph Milansky; b., J. Foternick, 105 Brighton St.

Pleasant St., No. 50, Ward 20, 2½-st'y fr. dwell., 28′ x 53′, pitch roof, furnace; $6,000; o., Catharine A. Powell, 72 Mayfield St., a., F. G. Powell.

Nightingale St., cor. Wales St., Ward 20, 3 two-st'y fr. dwells., 26′ x 41′, pitch roofs, furnaces; $14,000; o. & b., Fred'k J. Rockwell, 22 Leonard St., Dorchester.

Greenwood and York Sts., Ward 20, two 2½-st'y fr. dwells., 35′ x 46′, pitch roofs, hot water; $12,000. o. & b., J. S. McLean.

Brooklyn, N. Y. — *Beverly Road*, cor. E. 15th St., five 2½-st'y fr. dwells., 24′ x 38′, shingle roofs, hot air; $15,000; o., C. C. Manger, 809 Flatbush Ave.; a., G. Hutchings.

Chicago, Ill. — *Junior Terrace*, two-st'y bk. & fr. dwell., 28′ x 34′, shingle roof, furnace; $5,000; o., R. G. Marek, 167 S. Water St.

Detroit, Mich. — *Philadelphia Ave.*, 2½-st'y fr. dwell., 35′ x 40′, shingle roof, furnace; $5,000; a., Kastler & Hunter, 927 Chamber of Commerce Building.

East St. Louis, Ill.—*St. Clair Ave. and Voss Lane*, two-st'y bk., st. & fr. store & dwell., 31′ x 74′, flat roof; $9,000; o., Barney Ponkey; a., A. B. Frankel, 4 Commercial Building.

Latta Ave., No. 1211, two-st'y fr. dwell., 35′ x 42′, shingle roof, hot water; $5,000; o., Dr. G. H. Parsons; a., B. A. Mueller.

Jersey City, N. J. — *Stuyvesant St. and Boulevard*, three-st'y fr. dwell. & store; $6,500; o., M. Budendick; a., E. M. Patterson.

Louisville, Ky.—2½-st'y bk. dwell., slate roof, steam; $8,000; o., John Donborfer; a., D. X. Murphy, 5th & Market Sts.

Minneapolis, Minn. — *Dupont and Lincoln Aves.*, 2½-st'y dwell., 33′ x 45′, combination heat; $6,000; o., H. N. Chadbourn; a., MacLeod & Lamoreaux.

Newark, N. J. — *Eleventh St.*, nr. S. Orange Ave., three-st'y bk., st. & terra-cotta dwell., 22′ x 45′; $6,000; o., M. Monheimer; a., Wm. E. Lehman.

Livingston St., three-st'y bk. dwell.; $5,500; o., Morris Clear; a., Wm. K. Schoenig, 418 Springfield Ave.

Lafayette St., nr. Adams St., three-st'y bk. dwell., 30′ x 52′; $8,000; o., Chas. Bickel; a., Alfred Peter.

Newton, Mass. — *Arlington St.*, two-st'y fr. dwell., 27′ x 47′, pitch roof, furnace; $6,500; o., Miss A. Hyde; b., W. J. Henderson.

Lawrence Road, two-st'y fr. dwell., 29′ x 45′, pitch roof, furnace; $7,500; o., Franklin Williams; b., John Campbell; a., Chapman & Fraser, Boston.

Philadelphia, Pa. — *Torresdale Ave. and Granite St.*, 2½-st'y fr. dwell., 32′ x 60′; o., Mrs. Adaline Q. Brand; b., Louis Raffetto; a., P. P. Elkinton.

N. Fifth St., No. 3006, three-st'y bk. dwell. & store, 18′ x 65′; o., Chas. Tag; b., Engel & Schubert.

Park Ave., Nos. 2901-25, 12 two-st'y bk. dwells., 15′ x 42′, & one three-st'y bk. store & dwell., 16′ x 50′; $41,000; o. & b., George A. Bibyew.

N. Fifteenth St., Nos. 3337-41, 3 three-st'y bk. & steel dwells., 15′ 8″ x 57′; $9,900; o. & b., Henry G. Shultz & Son.

St. Louis, Mo. — *Pennsylvania Ave.*, nr. Lafayette Ave., 2½-st'y bk. dwell., 29′ x 42′, slate roof, furnace; $7,000; o., E. Jaier and Miss M. Jaier; a., O. J. Welhelmi, Granite Block.

St. Paul, Minn.—*Laurel St.*, nr. Victoria St., 2½-st'y fr. dwell.; $4,600; o., Ella F. Hall; b., John Hasslen; a., Louis Lockwood.

Windsor, Ont. — *Park Ave.*, 2½-st'y bk. dwell., 35′ x 56′, slate roof, furnace; $9,000; o., St. Alphonsus' Roman Catholic Church; a., Fred Henry, 435½ Richmond St., London.

MERCANTILE BUILDINGS.

Buffalo, N. Y.—*Grant St. and Delavan Ave.*, three-s'y bk. store & flat building, 110′ x 120′, comp. roof, steam; $40,000; o., W. C. Jones; a., Dixon & Rockwood, 19 Court St.

Madison, Wis. — Two-st'y bk. & st. business block, 66′ x 100′, gravel roof, steam; $15,000; o., Prof. C. S. Schlichter; a., Gordon & Pannack.

OFFICE-BUILDINGS.

Boston, Mass. — *State St., No.* 70, Ward 6, ten-st'y bk. & st. office-building, 34′ x 74′, flat roof; o., R. S. Codman *et als.*; a., Peabody & Stearns.

Elkader, Ia. — Three-st'y & base. office-building, 42′ x 94′, slate roof, steam; $20,000; o., Elkader State Bank; a., Guido Beck, cor. 8th & Main Sts.

Philadelphia, Pa. — *Chestnut St., No.* 1611, four & two-st'y store & office building, 22′ x 155′, steel-fr. bk. construction; o., Thomas B. Wanamaker; b., Doyle & Doak; a., Keen & Mead.

PUBLIC BUILDINGS.

Pittsburg, Kan. — *Fourth and Pine Sts.*, three-st'y bk. & st. city-hall, 74′ x 103′, slate roof, steam; $25,000; o., City; a., E. E. McKibben, Muskogee, I. Ter.

STABLES.

Boston, Mass. — *Saratoga St., No.* 954, Ward 1, fr. stable, 15′ x 17′, pitch roof; $400; o., Chas. Bonanno, 11 Chelsea Ave., E. Boston.

Graham Ct., from Graham St., Ward 16, fr. stable, 14′ x 18′, pitch roof; $400; o., Minnie Safford, 10 Willow Ct.; b., Chas. Woodman.

Brooklyn, N. Y. — *Railroad Ave.*, nr. Fulton St., 2 two-st'y fr. stables, 16′ x 27′; $500; o., F. W. Strassle, 243 Hemlock St.; a., C. Infanger.

Milwaukee, Wis. — *Grand Ave., rear No.* 2522, two-st'y bk. stable with coachman's quarters, 29′ x 48′; o., Gerhard Winner; a., Crane & Barkenhausen.

New York, N. Y. — *Havermeyer Road, L. I. Sound*, two-st'y fr. stable, 58′ x 88′; $7,000; o., C. P. Huntington, 2 E. 57th St.; a., R. Maynicke, 725 Broadway.

BUILDING INTELLIGENCE.

(*Stables Continued.*)

Fulton St., nr. Kossuth Ave., one-st'y fr. stable, 12′ 6″ x 21′ 6″; $200; o., W. B. Wordman, Fulton St., Wakefield; a., Wm. Greenless, Two Hundred and Thirty-eighth St.

Terrace Pl., nr. King Ave., 1½-st'y fr. stable, 16′ x 22′; $300; o., Fred'k Boss, 1011 Tremont Ave.; a., W. C. Dickerson.

E. One Hundred and Forty-fourth St., Nos. 627-629, one-st'y bk. stable, 18′ 10″ x 23′ 6″ & 75′ 2″; $2,000; o., Manhattan R. R. Co., 195 Broadway; a., A. Arctander, 360 Alexander Ave.

Philadelphia, Pa.—*N. Sixty-first St., rear, No.* 329 two-st'y bk. stable, 20′ x 26′; o. & b., Hayburn & McManus.

Frankford Ave., nr. Church St., two-st'y bk. stable, 16′ x 40′; o., H. Silberstein; b., F. B. Mankley.

Somerville, Mass.— *Washington St., No.* 22, two-st'y stable, 56 stalls; $2,000; o., Samuel Pote, 473 Sumner St., E. Boston.

STORES.

Detroit, Mich. — *Farrar St.*, four-st'y bk. store building, 25′ x 100′, comp. roof, furnace; $10,000, o., Joseph Kengel, 58 Farrar St.

Dixon, Ill. — *First and Peoria Sts.*, two-st'y & base. bk. store & office building, 25′ x 110′, tin roof, hot water; $9,000; o., R. H. Howell; a., M. H. Vail.

Oshkosh, Wis. — Three-st'y store-building, 40′ x 100′, metal roof, steam; $15,000; o., Frank Purcey; a., E. E. Stevens, 158 Main St.

Philadelphia, Pa. — *Market St.*, nr. 20th St., two-st'y bk. & iron store-building, 87′ x 194′; $50,000; o., William Weightman; b., Benjamin Ketcham's Sons; a., Willis G. Hale.

TENEMENT-HOUSES.

Brooklyn, N. Y. — *Sixtieth St.*, nr. 4th Ave., 3 three-st'y bk. flats, 26′ 8″ x 62′; $24,000; o., Samuel Tate, 269 Forty-ninth St.; a., T. Bennett, 198 Fifty-third St.

Putnam Ave., nr. Tompkins Ave., three-st'y bk. flat, 25′ x 64′; $7,000; o. & a., T. B. Boujant, 272 Lewis Ave.

Meserole Ave., cor. Eckford St., 3 three-st'y fr. flats, 25′ x 70′; $20,000; o., Wm. H. Port, Norman Ave. & Russell St.; a., Ph. Tillion, 121 Meserole Ave.

Columbia Heights, nr. Pierrepont St., five-st'y bk. flat, 25′ x 101′, steam heat; $25,000; o., Louis Horowitz, 116 Clinton Ave.; a., F. Jacobson, 54 W. 18th St., New York.

New York, N. Y. — *Elizabeth St., Nos.* 118-120, 2 six-st'y bk. flats & stores, 25′ 5″ x 88′, 88′ 9″; $48,000; o., Edw. R. Poerschke, 55 St. Marks Pl.; a., Chas. Rentz, 153 Fourth Ave.

Jerome Ave., nr. 184th St., 2 three-st'y fr. flats, 26′ x 50′; $15,000; o., William R. Hardy, n cor. 176th St. & Grand Boulevard & Concourse; a., S. C. Browne, 143 W. 125th St.

Broome St., cor. Mangin St., six-st'y bk. & st. tenement, 50′ x 70′; $40,000; o., Arthur Gorsch, 149 Broadway & 1444 Third Ave.; a., Frank Wennemer, 143 W. 125th St.

WAREHOUSES.

Brooklyn, N. Y. — *Forty-first St.*, nr. Bulkhead & 1st Ave., 2 eight-st'y bk. warehouses, 100′ x 225′ & 75′ x 225′, tar & gravel roofs; $140,000; o., The Bush Co., 27 William St., New York; a., W. Higginson, 108 Fulton St., New York.

New York, N. Y. — *Fifty-second St.*, nr. 7th Ave., ten-st'y bk. warehouse, 100′ x 100′ 5″; $200,000; o., Manhattan Storage Co., 52d St. & 7th Ave.; a., Jas. E. Ware & Son, 3 W. 29th St.; b., M. Eidlitz & Son.

W. Twenty-second St., Nos. 3-7, ten-st'y bk. & st. loft buildings, 82′ x 98′ 9″; $150,000, o., Jos. McCutcheon, Greenwich, Conn.; a., Jas. B. Baker, 156 Fifth Ave.

Philadelphia, Pa. — *Germantown Ave., Nos.* 1327-33, two-st.y bk. & steel storage building, 70′ x 115′; $15,000; o., Wm. Burk & Bro.; b., Geo. Frederick.

Professional Ethics.

The following . . .
. . . CODE OF ETHICS . . .
Prepared in Conformity with the Best Standards of Practice, and Recommended to its Members by the Boston Society of Architects, was . . . . . .

ADOPTED BY THE SOCIETY, FEBRUARY 1, . . 1895. . .

SECTION 1. No Member should enter into partnership, in any form or degree, with any builder, contractor, or manufacturer.

SECTION 2. A Member having any ownership in any building material, device or invention, proposed to be used on work for which he is architect, should inform his employer of the fact of such ownership.

SECTION 3. No Member should be a party to a building contract except as "owner."

SECTION 4. No Member should guarantee an estimate or contract by personal bond.

SECTION 5. It is unprofessional to offer drawings or other services "on approval" and without adequate pecuniary compensation.

SECTION 6. It is unprofessional to advertise in any other way than by a notice giving name, address, profession, and office hours, and special branch (if such) of practice.

SECTION 7. It is unprofessional to make alterations of a building designed by another architect, within ten years of its completion, without ascertaining that the owner refuses to employ the original designer, or, in event of the property having changed hands, without due notice to the said designer.

SECTION 8. It is unprofessional to attempt to supplant an architect after definite steps have been taken toward his employment.

SECTION 9. It is unprofessional for a Member to criticise in the public prints the professional conduct or work of another architect except over his own name or under the authority of a professional journal.

SECTION 10. It is unprofessional to furnish designs in competition for private work or for public work, unless for proper compensation, and unless a competent professional adviser is employed to draw up the "conditions" and assist in the award.

SECTION 11. No Member should submit drawings except as an original contributor in any duly instituted competition, or attempt to secure any work for which such a competition remains undecided.

SECTION 12. The American Institute of Architects' "schedule of charges" represents minimum rates for full, faithful and competent service. It is the duty of every architect to charge higher rates whenever the demand for his services will justify the increase, rather than to accept work to which he cannot give proper personal attention.

SECTION 13. No Member shall compete in amount of commission, or offer to work for less than another, in order to secure the work.

SECTION 14. It is unprofessional to enter into competition with or to consult with an architect who has been dishonorably expelled from the "Institute" or "Society."

SECTION 15. The assumption of the title of "Architect" should be held to mean that the bearer has the professional knowledge and natural ability needed for the proper invention, illustration and supervision of all building operations which he may undertake.

SECTION 16. A Member should so conduct his practice as to forward the cause of professional education and render all possible help to juniors, draughtsmen and students.

BUILDING MATERIALS.

Reported for the American Architect and Building News.

	New York. (Wholesale Prices.)	Boston. (Wholesale Prices.)	Chicago. (Prices to Builders and Contractors.)	Philadelphia. (Prices to Builders and Contractors.)
BRICK.—₱ M.				
Common: *Cargo afloat.*				In Yard.
Pale	1 50 @ 2 00	Domestic Com. 8 50 @ 9 50	Building 4 50	Sq. Hard 8 00 @ 9 00
Jersey	4 75 @ 5 00	Domestic Face	sewer add 1.00	" @ 7 00
Long Island	@	18 00 @ 25 00	hollow, add 1.25	Salmon @ 5 50
Up River	4 75 @ 5 00	Philadelphia { 35 00 @ 40 00	Enam. Imp. Bk.	Sq. " @ 5 50
Haverstraw Bay 2d	@ 4 75	10 00 @ 11 00	125 00 @ 145 00	Light Stretchers
" 1st	@ 5 00		Enam. Domes.	9 00 @ 11 00
Hollow	@ 7 00	Phila. mould { 50 00 @ 80 00	70 00 @ 85 00	Medium " @ 12 00
Fronts:	@		Select Red Sand-Mold...10 00	Red " @ 12 00
Croton, Brown	@ 12 00	Enamelled B'k. Imported	St. Louis Hyd'le Press..27 00	Dark " @ 12 00
" dark	@ 12 00	Enam. (edge)	Collinsville, do 22 00	Pressed @ 12 00
" red	@ 12 00	105 00 @ 120 00	Findlay, do 22 00	Paving @ 17 00
Chicago pressed		" (edge & end.)	Chicago, do assorted shades 16 00 @ 20 00	11 00 @ 13 0
" Moulded		120 00 @ 135 00	Chicago, do Brown..24 00	Second " @ 12 00
Baltimore	37 00 @ 41 00	Domestic.	Chicago, do Red Roman..24 00	Third " @ 10 00
Philadelphia	19 00 @ 21 00	Enam. (edge)	Chicago, do Br'n Roman..27 00	
Trenton	17 50 @ 18 50	90 00 @ 100 00	Bushnell Buff 25 00	Dom. { @ 65 @ 85
Milwaukee		" (edge & end.)		
Moulded:		110 00 @ 115 00		
Red Pressed	@ 29 00		*Not sold.*	1 30 @ 1 50
Buff "	@ 27 00		75 @ 1 00	S.H.Fa'l 2 00 @ 1 50
Moulded Red & Buff	45 00 @ 70 00		75 @ 1 00	@
Enamelled: *Imp.*			2 50 @ 2 60	2 85 @ 3 15
Enamelled (edge)	85 00 @ 100 00		2 50 @ 2 60	2 30 @ 2 60
Enamelled (edge and end)	90 00 @ 110 00		2 50 @ 2 60	2 85 @ 3 15
CEMENT, LIME, etc. (₱ *cask.*)			2 50 @ 2 60	2 75 @ 2 85
Rosendale Cement	90 @ 1 00	5 00 @ 1 00	2 50 @ 2 60	Belg'n 2 10 @ 2 40
Louisville "	@	@	3 75 @ 4 25	Hemmoor
Utica, Akron, Buffalo, Milw'ke.	*Not sold.*	@	2 90 @ 3 20	2 50 @ 2 75
Portland, Eng. (Gibbs)	2 25 @ 2 50		@	2 75 @ 2 85
" " (R. B. & S.)	2 50 @ 3 00		@	Josson
" " (Black Cross)	2 25 @ 2 50		2 80 @ 2 90	2 60 @ 2 75
" " (Burnham)	2 50 @ 2 50	2 20 @ 2 50	3 10 @ 3 30	3 00 @ 3 25
" " (White's)	2 65 @ 3 00	@	2 75 @ 2 90	2 75 @ 2 85
" French (Lafarge)	3 00 @ 3 75	@ 5 00	2 85 @ 3 00	B. Egl. 2 50 @ 2 75
" Ger. (Alsen)	2 90 @ 3 25	2 75 @ 3 00	2 75 @ 3 25	3 00 @ 3 50
" " (Fewer)	2 25 @ 2 40	B'ks, Shoobridge & Co.,	6 00 @ 7 00	6 50 @ 7 00
" " (Vorwohler)	2 50 @ 2 90	English 2 30	9 00 @ 10 00	8 00 @ 9 00
" " (Lagerdofer)	@	2 75 @ 3 00		
" " (Dyckerhoff)	2 75 @ 3 00	@	*Not sold.*	White Lime ₱ bush 25 @ 30
" " (Hanover)	2 50 @ 3 00	@	45 @ 55	White Mash 1 25 @ 1 50
" " Stettin, (Anchor)	2 35 @ 2 45	3 50 @ 4 00	45 @ 55	1 00 @ 1 00
Roman	2 75 @ 3 00	@ 7 00	*Not sold.*	
Keene's coarse	4 25 @ 4 75	8 00 @ 9 00	*Not sold.*	
" superfine	@ 6 50		1 00 bulk, 75c.	
Lime:			*Not sold.*	*Not sold.*
Lime of Teil	@ 4 00		*Not sold.*	*Not sold.*
Hydraulic Lime	@ 1 45	@	1 65 @ 1 75	1 50 @ 2 25
Chicago Lime in bulk	St. John @		1 75 @ 1 90	1 75 @ 2 50
Wisconsin Lime	75 @ 80	@ 90	12 @ 20	20 @
Rockland and Rockport, (Com.)	85 @ 90	@ 95	20 @ 25	30 @
Rockland, finish	@	@	1 00 90 1 25	
Kelley Island Lime, finish	@ 65	*Not sold.*		
State, Com. cargo rates	@ 75	*Not sold.*		
State, finishing	1 30 @ 1 40	1 85 @ 2 00		
Plaster-of-Paris (calcined)	@ 1 60	@ 2 25		
" (casting)	14 @ 16	25 @ 30		
Hair (cattle) ₱ bush	17 @ 19	@ 30		
" (Goat)	1 00 @ 1 25	1 00 @ 1 75		
Sand, ₱ load				