THE AMERICAN ARCHITECT AND BUILDING NEWS.

DECEMBER 25, 1897.

THE close of the year is a good time for reviewing the events of the preceding twelve months, and drawing useful conclusions from them, and young architects who are enjoying the leisure which comes to so many of them at this period will find it interesting and instructive to employ a part of that leisure in studying buildings which are beginning to lose the freshness of their youth, and noting the points in which the changes due to the action of time first begin to show themselves. It will be found that very few years elapse, in most cases, before some of these changes are visible, and the young architect who is able, by care and knowledge, to postpone the changes due to the action of time first begin to show themselves. The law of Illinois providing for the examination and licensing of architects is to be put in force at once, and examinations of candidates are to be held for the first time on January 11 and 12, at Chicago, and on June 21 and 22 at the University of Illinois, at Urbana. Applications for examination must be made upon the printed form provided by the Board of Examiners, and must be filed, with a fee of fifteen dollars, at the office of the Secretary of the Board, at Room 1112 Chamber of Commerce Building, Chicago. If the application is made in due form, notice will be sent to the applicant of the time, place and extent of the examination, which will occupy two days. If the candidate fails to pass the examination, for cause, by the Board of Examiners, and an application is made within the time that the license is in force.

THE cracks which will have produced between the floor-boards are so obviously a consequence of the shrinkage of the boards as to need no explanation; but the effect of prolonged drying on wood sometimes has consequences which are not so easily explained. Heavy timbers often twist, in addition to shrinking, and the twisting may lift the flooring in places more than the shrinkage would allow it to sink. The occupants of a house that we know were for a long time annoyed, at certain seasons, by the rattling of the dishes in the dining-room. There was no trouble of the sort when the house was built, but it was not long before this tendency developed itself, and, in winter, any movement about the room caused the table to shake, and the dishes on it to clatter. The explanation of the matter was found to be that a long girder, which supported the middle of the dining-room floor, and rested on piers in the cellar, was, in the dry season, lifted, by warping, slightly away from the piers, and, in winter, as the moisture is increased by the fact that the symptoms are often intermittent, disappearing in summer, to recur when the furnace-fires are lighted in winter. Another malady, which is disastrous, and often dangerous, declares itself only after the lapse of eight or ten years, and affects the marble-work of the building. If this is furnished with marble mantels, the shelf becomes loose; and if the pilasters have carved decorations, the carving falls off, and the pilasters themselves begin to lean out from the walls. Where the marble is used about the plumbing-fixtures, it is found that the walls plates have separated from the walls behind them, and can be lifted away with the hands, if, indeed, they do not fall off on their own account; the basins show a wide joint between the wall and the supporting brackets or ornaments, once firmly secured to the marble, are either loose or wholly detached. If marble floor-tiles have been laid in vestibules or halls, they can be felt to rock under the feet, and this rocking is caused by the shrinkage of the marble thresholds laid on the tiling break in two or three pieces. All this is due to the change in the plaster of Paris, which is universally used for setting marble. So long as the plaster retains the water which it takes up in setting it is a comparatively tenacious substance, and will hold marble securely; but this combined water gradually dissolves in the atmosphere, and, of course, causing an exasperating rattling itself, and, in winter, any movement about the room caused the plaster to vibrate, striking the top of the pier at every vibration, and, of course, causing an exasperating rattling pulse would set it vibrating, striking the top of the pier at every vibration, and, of course, causing an exasperating rattling

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A HOUSE, in process of construction in Bremen, fell a few days ago, fortunately without injury to any person. The house was three stories high, and built with nine-inch walls, as the Bremen building regulations permit. As the materials used in the city are generally good, this thickness would generally be sufficient, but it appears, according to the Deutsche Bautechnik, that the front wall was supported above the second floor by iron beams, which, in turn, rested on a single girder, supported, at the front of the building, on a hollow pier with only about two and one-half inches bearing on the brickwork. The bricks under the end of this girder were probably crushed by the load, for the pier fell in, letting all the iron beams fall, and bringing down the front of the building. The matter is to be made the subject of judicial investigation, although no one was hurt; and it will be interesting to see what the result may be.

THE National Sculpture Society, having been called in to judge the designs submitted for the Soldiers' and Sailors' Monument of Hudson County, New Jersey, has made, through the Committee appointed to examine the models, a report, which places first the design by Philip Martiny, sculptor, and Ackerman & Ross, architects, and recommends its adoption. The second place is awarded to the design by Charles H. Niehans, sculptor, and Henry Bacon, architect; and the third to that by J. Massey Rhind, sculptor, and Arthur D. Pickering, architect. Thirty-nine designs were offered in competition, and the Committee speaks highly of their general excellence and interest. Although neither the Committee nor the National Sculpture Society would wish to explain both the number and excellence of the designs by the fact that the Sculpture Society was to furnish the jury of award, there can be no doubt that this is the real explanation, and communities or associations that have in mind the spending of money for works of art, and who wish to get something of value for their money, will do well to take care in making known to artists that their designs will be judged by persons whose award will command respect.

A REMARKABLE undertaking has been very quietly completed in Italy. From time to time, for the last forty years, the technical journals have given partial accounts of the work which was going on for draining the Lake Lucius. This lake lies in a valley of the Apennines, some seventy miles southeast of Rome, and about one hundred and twenty from Naples. This valley, which is nearly two thousand feet above the sea, is entirely surrounded by mountains, so that it forms an enclosed basin, occupied partly by very fertile meadow-land, and partly by the water of the lake. Unfortunately, the proportion between the land and the water is very variable, so that, after a series of rainy seasons, the farms which had been tilled for years, and even the habitations of the farmers themselves, become submerged in the lake, to reappear, perhaps fifteen or twenty years later. The advantages of draining the lake consist partly of reclaiming the sixty thousand acres or so of rich land, on which it covers, have been obvious for many centuries, and history represents the Equi and Marsi, who inhabited the territory, as appealing to the Roman commonwealth, long before the imperial era, for aid in preventing the periodical inundations of the lake. In the time of Claudius operations were really begun in earnest by the central authority, and the skill and energy of the Roman engineers were sufficient to cut a tunnel, more than four miles long, partly through hard rock, and partly through disintegrated ledges of the most dangerous kind, with an entrance to the little river Liri, which afforded an outfall to the sea for the lake waters. It has been supposed, in modern times, that this enterprise, on which the Imperial Government is recorded to have spent eighty million dollars, was really begun in earnest by the central authority, and we now know that it was carried through successfully, and that it drained away the water of the lake until it became gradually choked by the fall of loose earth, but was never finished before completion, but we now know that it was carried through successfully, and that it drained away the water of the lake until it became gradually choked by the fall of loose earth, but was never finished before. In the course of ages, the accumulation of stones and rubbish so completely interrupted the flow of water that the tunnel was practically useless, and the periodical rise and fall of the lake poured through the tunnel, at the rate of forty-eight cubic metres per second, into the sea. A history of the work was published some time ago, which should have great interest for engineers, but the Torlonia family is said, for some unexplained reason, to have bought up all the copies in booksellers' hands. However, the main facts are well known. The French engineers began their work by measuring the inflow into the lake, and the outflow through the tunnel, and the result of the chart of the lake shows that the tunnel could be proportioned to both, and the accuracy of their conclusions may be inferred from the fact that the tunnel, which is about fifteen feet in diameter, is filled to within eighteen inches of the top by the flow. In general, the new tunnel follows that of the Roman engineers, but it is much larger, the Romans having evidently no conception of the capacity required. Moreover, the Roman engineers did not possess instruments like ours, and the alignment of their tunnel was found to be irregular, sometimes falling below the true direction, and sometimes rising above it, so as to form a succession of traps. The formation, even where the rock is firm enough to keep in place without lining, is full of water-bearing seams, and the work was one of great difficulty and danger throughout. Our modern engineers had adopted a curious mode of lining, consisting in scouring the walls and ceiling of the tunnel with timber uprights and planks, and substituting by degrees concrete for the timber planking. As it was necessary to leave the uprights until the end of the operation, the concrete was filled in around them, and they were finally cut off, flush with the concrete surface. Of course, they soon rotted away, leaving holes, through which water and mud came freely, so that this ignorance of the properties of timber must have had much to do with the choking of the tunnel. The French engineers, of course, lined the work in the modern fashion, and there is every reason to believe that the present tunnel will endure for many centuries.

THE London Daily Mail learns that the sculptor of the famous silver statue of Miss Ada Rehan, which was shown at the Chicago Exposition, has been engaged to execute a statue of President McKinley for the Paris Exposition of 1900, the figure to be seven feet high, and to be made of solid gold. It is estimated that the value of the bullion contained in it will be more than a million dollars. The owners and exhibitors of this remarkable object are, our London authority tells us, certain "Western millionaires," who have formed a "syndicate" for the purpose of having it made. Whether the Western capitalists have devised this scheme from pure love of art, or whether they expect to earn interest on their investment by showing the statue to the curious, we are not informed.
THE GARDEN OF THE VILLA LANTE.

About forty miles to the northward from Rome lies the little hill-set city of Viterbo, one of the most picturesque and sympathetic towns in Italy, and famous for its many fountains and the remains of its beautiful Romanesque architecture.

Some eight or ten kilometres from Viterbo is Bagnaia, whose purple roofs cluster about the gates of the Villa Lante, which contains one of the loveliest of the Italian formal gardens. Coming into the town, the carriage crosses a little ravine over a bridge that leads one directly into the piazza. On the left is the Municipio, enclosing view is presented to the visitor, with a suddenness that makes him feel the surprise intentional.

First lies the level flower-garden with the great fountain in the centre, farther back the ramps between the pavilions, and then the other terraces, rising to where a tiny leaping thread of water...
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\text{The American Architect and Building News. (Vol. LVIII. — No. 1149.)}
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shows white against the woods. And the levels are so well arranged that all the intervening basins and fountains can be seen, from the front terrace down to the bank of the high-water-mark, which crowns the lower level.

The terraces are artificial and are built upon the original grade instead of being excavated from the hillside, so that the gardens diminish in depth as they ascend along the general slope, only at the upper sides. The pavilions, the right-hand one for the fountain, close to which the guests are entertained from the level of the first terrace; opposite the entrances of the pavilions, in the retaining-wall of the next terrace, are grottos with figures in stucco. In the large basin below, the flower-gardens have on their vaults curiously paintings in perspective, now partiallyobliterated.

The villa belonged originally to the Bishops of Viterbo. Cardinal Niario began in 1477 to embellish it, and this work continued under Roldio, fifth Cardinal-bishop. His successor, Giusti, however, could not support the expenses of the property and leased the house and gardens for a long term.

Toward the year 1664, Gio. Francesco Gubbina, sixth Cardinal-bishop, completed the unfinished works.

The place passed into the hands of the Popes, Cardinal Peretti or Merulo and then to the States of the Church, about 1888. He built the second casino. Finally, Alexander VII ceded the villa to Duke Bonomarolo, of the Lante family, whose descendants, with great good nature and charming courtesy, admitted foreign visitors at any time, and the townspeople are given the freedom of the garden on Sunday.

My first visit chanced to be on a Sunday in January and there were many contadini in their holiday dress strolling about and giving the place the note of vivid color it needed for January is a sober month in Italy. The beauty of the villa and its value as a study of the picturesque were so impressed on me that I determined to return in the summer and make the drawing to which these notes serve as an accompaniment. The formal portion seemed to me very elaborate as an impression of what might be done with a comparatively small area of gently sloping land. This part is beauti-fully kept up with just the right note, neither prim nor neg-lectful, and it reassures the tourist of old places still daily and familiar use.

The Villa Estense with which this villa might be contrasted, equally beautiful in its own way, has been suffered to ruin wild — the trees and shrubs overhang and partially obstruct the paths and the roses are lost in the high grass. It is wonderfully lovely but very melancholy, and yet one would hardly wish it otherwise, forlornly enough; but logic is swept away in a review of one's impres-sions of these Old World gardens. Nevertheless one is glad that there is a villa to be studied where he may see what a place properly taken care of may be.

But my choice pitched upon the garden of the Lante rather than upon the one in Tivoli, because the latter, being upon an exceedingly steep hillside, has less bearing than the other upon ordinary problems of this kind. The slopes upon which the formal garden of the Villa Lante is built are much more gentle and the supply of water feeding the fountains is much less generous. The architect of the Villa d'Este levied upon one of the many torrents that tear through the territory of Tivoli, the clever way in which a stream but ten inches wide and four deep, moving at a fairly rapid rate, can be distributed and used for its utmost effect is very instructive. The water is brought over the hill by a viaduct and falls in a cascade into the semicircular recess between the sides of the basins, and from the basin on the highest level it then rushes into the fountain set within the high octagonal enclosure of clipped box. This fountain is skilfully contrived with small basins that serve as reservoirs some of them as head. From here it is led underground some feet and flows out again to race down a curiously made to simulate a strange kind of crawfish, over a shelf held between the fore-claws of the monster in another water-fall to a semicircular basin where two colossal water-dietes recline. Formerly, the basin-rim and the balustrades and staircases-ramps at this point had jets and spots of water and must have been most effective, but these are now disused. The tops of the balustrades are hollowed into conduits as the pedestals into reservoirs for the mouths on their fronts. On the level of this basin is another reser-voir, some fifty feet long, into which the water rises again and gathers in the basin of the next level. After this the water rushes into the basin set upon the balustrades that surround the fountain, the four water-dietes are aglow, and great pots of white and pink and lavender hydrangeas are placed up on the terrace and shine out against the shadows of the plane trees.

Evidently a formal garden need not be an arid desert, but a spot full of cool and shady places,—one large sunny area for flowers, with clipped yews, and orange and lemon trees set formally in boxes, but the rest all overgrown by great trees and refreshed by the sound of falling waters.


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A MEXICAN OBJECT-LESSON.

SOME years ago,—so many in fact that most people have for-gotten the incident about to be related,—Mexico made more the usual amount of preparation for the celebration of el Dia de la Independencia, the 16th of September, as they celebrate this day as the birthday of National Independence. In the capital, the most prominent features of the street decorations were four triumphant arches, erected in that succession of streets in direct line (it is a characteristic of Mexican streets that they change their names with each block, so that we would call a single street a succession of streets) between the Zooloto and the Alameda. Of these, one was erected by the American Club, and another was contributed by the Frenchmen, but no one inquires any further.

The third arch was the production and contribution of the Indian gardeners of Itacaltoco. It was composed entirely of the vegetable products of the bogsgy soil of what in earlier days were the Chamaps, or floating-gardens of Lake Texcoco. These vegetables were ingeniously gathered into bouquets and fastened to a large frame of bamboo. The entire work was completed in Itacaltoco, brought to the city and carried through the streets by men and boys. Many of the barefoot Indians and set up in place, in the most matter-of-fact way. The whole arch was the production of the city of Mexico, and the lilies were quarried and carved in distant mountains, brought into the pueblo of Tenochtitlan, and placed in the temples, to the per-petual wonder of future ages, who cannot understand how a people without mechanical appliances could accomplish such tasks. The arch from Itacaltoco attracted attention by reason of its oddity rather than for any beauty it possessed.

The fourth arch was supposed to be the city's own contribution to the decorations. Where the Calle Puente de San Francisco emerges upon the Avenida de Juarez, at the southeast corner of the Alameda,—a most conspicuous place,—workmen began its erection a week before; and with characteristic deliberateness, they labored upon it up to six o'clock on the eve of the great national fiesta, but, to all appearances, without completing it. All the while it gave promise of a very chaste, Classic design. Doric columns were to support an arch.

On the morining of the 16th, in its unfinished state, it looked as though an earthquake had overthrown it: a rough post propped up the arch; a few contadini set up parts of it, but the upper portions of the design lay strewn about the ground where the workmen had left them the eveing before. The poor arch which the whole street was marred by this unfinished arch. And when the proces-sion passed down the street one of the floats bearing a tablet of "Progress" was found to be too broad to go through the arch, and had to turn down a side street. Every one who viewed the street decorations, looking at this incomplete arch, exclaimed "What a pity!"

The next day the workmen began to remove the unfinished arch, and then it was discovered that a joke had been perpetrated. The "Economic and Industrial Arts and Enterprises" of Mexico as they then were (they have worn a brighter aspect since) had been intended to contribute to the decoration of the arch, and, being incompletely finished in the Inception, but failing to fulfil its promise; having to be propped up and tied together, and so narrow as to block the wheel of a carriage... The arch of the Indian gardeners of Itacaltoco, under the patronage of Carlos Academy of Fine Arts,—had put forth a parable, which, to have written or spoken publicly, might have cost him his liberty. L. VIAJEFO.

FORGEBIES AT SOUTH KENSINGTON.

increase in the number of connoisseurs has led, among other efforts, to the extension of the contents of museums and picture-galleries. Works which formerly were admired and copied with suspicion, for example, doubted whether any museum in Europe would give the "Lemolffl's" observations have not only created mysteries involving the Italian works in Munich, Dresden and Berlin, but about those in
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other galleries. As for the recent additions to the Louvre collections, they are accepted as excellent subjects for the exercise of the picturesque imagination.

Visitors to the South Kensington Museum were aware that from time to time objects were withdrawn from exhibition or, if retained, were transferred from one gallery to another. It is a well-known fact that other institutions are as anxious to make room for new objects by the withdrawal of old as the South Kensington Museum is to avoid the repetition of a similar process. It appears that during the last few years there has been a great deal of interchange of objects between the South Kensington Museum and the British Museum. The most recent instance of this interchange was the loan of a number of objects from the South Kensington Museum to the British Museum, and the loan of a number of objects from the British Museum to the South Kensington Museum.

Faitini, who is a highly skilful carver, and he has probably done certain parts of the work. It is very difficult to tell which are the parts. All the parts of it were new. We bargained about it, and bought it for 602/. I believe he qualified that statement afterwards, and pointed out the few pieces which he said were ancient. I may tell the committee, however, that this gateway is about 20 feet wide and 25 feet high and weighs tons, and that it is hardly natural or likely that any person would care to sell it, unless he had sold or tried so and been forced to the church there. He did not disguise the fact that many portions of the ancient decoration were forgeries, and I was amazed that this great deal was new in it. I may say that Molinari was very old then, and that this had happened long before, and the gateway had been built by King Ferdinand of Naples, who had sold or tried to sell decorations to the church there. I believe that he had sold or tried to sell it.

In confirmation of this, believe me, Pietro Faitini. I may say that I have verified the statement that if the restoration had been on anything like the scale I should like to have put up a piece of it restored to show what it was like when complete.

From the evidence of Sir J. C. Robinson the doorway is mainly a modern work. The following account of it by him is a further revelation of an industry which has existed for more than a century in Italy, and of which this is a typical example. The doorway was in the old feudal castle of the Counts of Pitili, near Brescia, one of the oldest towns in Italy, and was building a very magnificent palace, and could hardly be admitted for sale to the Museum and refused, and both he and Sir John Donnelly ought to have known that the correspondence and my report on the doorway were in the registry of the Department. Although Molinari, the Milan dealer, began by asking 1,600, for the doorway, it is evident that he undertook that it might at that time have been obtained for about 300./., for it had already been found to be quite unsalable. The owner, as Mr. Armstrong, however, paid 600./. for it, and I should think the expense of transmission to England and its reerection at South Kensington was about 1,000./. I think it is evident that the doorway would have been dear at any price, inasmuch as it is an overfuit, such, indeed, as no person having even the most rudimentary knowledge of Italian fifteenth-century sculpture could have failed to perceive. The doorway is, in fact, a spurious modern "make-up" by an ornamental sculptor who was living at Brescia, one of the oldest towns in Italy, and where the ancient ornamental parts were the basements, which constitute the rest of the doorway. I may say that I have verified the exact number of ancient decorations, and the rest of the doorway is my work except six medallions. In confirmation of this, believe me, Pietro Faitini. I may say that I have verified the statement that if the restoration had been on anything like the scale I should like to have put up a piece of it restored to show what it was like when complete.
the advantages of their undertaking, and the remarks sustaining the provisions of a contract similar to the one agreed upon the amount of such damages in good faith, and without courts where the Roman law prevails, award such damages as they may deem reasonable, but must allow the damages, whether actual or estimated, as agreed upon by the parties. The bargain may be an unfortunate one for the delinquent party, but it is not the duty of courts of common law to relieve parties from the consequence of their own improvidence, where the contracts are free from fraud and illegality. The same doctrine is announced in other cases that might be cited.

Red Recoverals for Delay.—For delay in construction of a building or lot, caused by another's delay in removing his building so far as it overhangs the lot of the first party, the rent recoverable may be recovered in a suit having been contracted for and commenced, and the building having been rented in advance, from a certain time, for a definite period, at a specified rent.

(Jozke vs. Pleasants (Tex.), 39 S. W. Rep. 623.)

Measure of Damages for Prevention of Performance.—The measure of damages for the breach of a building contract by the owner is preventing the contractor from the performance is the difference between the contract price and the amount which the contractor would have cost the owner to perform it, including as a part of such cost the reasonable value of his own time that would have been occupied with it. (Jozke vs. Pleinants (Tex.), 39 S. W. Rep. 606.)

Liability of Owner for Delays of Architect.—If the architect employed by the owner to superintend the erection of a building, which is delayed by the owner, and the owner makes the architect the agent of its proper performance, delays the contractor unereasonably in his work for the benefit of the owner and other contractors, and by allowing such other contractors to obstruct the work, renders necessary for the contractor to do his part in an unusual manner, which in a large measure, to the cost, the owner is liable to such contractor for the loss resulting. (Genesse vs. Third Ave. R. Co., 49 N. Y. Supp. Rep. 8.)

A GREAT BUDDHIST RUIN IN JAVA.

Miss E. R. SCIDMORE has written for the Century an inter- resting account of a visit to the Buddha ruins in Java. She says of the great temple:—

"A gray rain showered indistinguishably on a hill-top, and after a run through a long, arched avenue we came out suddenly at the base of the temple. Instead of a mad, triumphant sweep around the great pyramid, the ponies balked, rooted themselves past any lashing or "Gee-evee-in," and we got out and walked under the noonday sun, around the hony high-altar of Buddha, down an avenue of tall kapoks, and past a wall of sculptured figures and trees, which serve the needs of plants may be very close.

DR. GEORGE VIVIAN POORE, who is already well known from his writings on the subject of hygiene, has published a little book on dwelling-houses which contains some interesting information about a good many other things than dwelling-houses. For us Americans, in fact, English applied sanitary science is so utterly impracticable that hardly any which read it are hardly more than curiosities. Some of the readers probably could tell distressing stories of experiences with English "disconnecting traps" in the circumstances and results, and the fact that they choked them all winter long; and Dr. Poore's model arrangement for house-drains, in which the pipe, outside the house, is shown supported, high above the ground, on a sort of wrestle-work, hardly seems a serious proposition to an American. However, the problems of final disposition of drainage matters are much the same here as in Europe, and Dr. Poore's experiments in sewage disposal are instructive. In general, he prefers dry methods for isolated country-houses, and gives descriptions and illustrations of his garden, fertilized with house-wastes. In making his experiments he has presented some details of the process of "humification" of refuse which grows a part of at least. It is well known that bacteria and fungal organisms are expelled from the bodies of animals, often in enormous numbers, so that Dr. Poore suggests that these organisms may play an important part in the conversion of the matters in which they exist into innocuous substances. In addition to the knowledge which has been gained of the action of living organisms in "nitrifying" putrescent substances, modern vegetable physiology shows that many plants are incapable of taking up nutrients from the soil unless the latter contains certain fungi, which seem to prepare the food in an assimilable form for the more highly organized plants. Analyses of vegetable and animal manures, to take a familiar example, will not grow "well unless leaf-mold is mixed with the soil. Now leaf-mold has very little nutritive quality, but it is loaded with the most necessary of the ingredients, and it appears that its use is in promoting the growth of the "hard-wooded plants" in practical, to say the least, useful to the soil with the fungoid growths, which enable, in some way, the threadlike roots of these plants to penetrate the hard and around the roots. In the March of the same way, leguminous plants are found to flourish in proportion to the number of fungoid excrescences which appear upon their roots, and, when such plants are grown, the soil appears to be found to render it fertile for other crops. That these vitifying fungi are far more abundant in well-manured soil is easily demonstrated, and the value of such contributions to the fertility of the soil is abundantly shown.

Boathouses and Mooring Stations.*

To the regular meeting, December 4th, a paper on the moving of boats on the Schuylkill River was presented by Mr. Joseph T. Richards, who illustrated his remarks by a large series of drawings and photographic views projected by the electric lanterns.
The new span is a double-track deck Pratt truss, 235' 7" long, c. to c. of end pins, consisting of eleven panels of 21' 9" each, 25' 9" in depth, the trusses being spaced 19' apart, c. to c. The total weight of both spans, including floor systems and track as moved, was about 1,250 tons.

The old metal span was known as a Linville truss, being a double intersection, or Whipple, type. The method of renewal was to build the new span, complete, alongside of the old one, and move it in place and the old one out, between trains. The preparations for moving all went on during the erection of the new span, so that by the time the latter was completed everything was in readiness for the interchange of the two spans. Six ordinary 85-pound track rails were laid in their normal position on substantial framing, reaching across the bridge seats, and upon them a nest of continuous rollers was placed. One hundred and thirty-six of these rollers were used under each end of the spans. The power to move the spans was supplied by four engines, so placed as to have a maximum capacity of 50 H. P. at each end of the bridge.

As there was a clearance of but 4" between the masonry and the top chords of the bridge, it was important that the two ends should travel at the same rate in moving the necessary distance of 27', and two recording devices were adopted to maintain this regularity. An east-bound train passed over it at 2.57 p. M.; the track was broken at 2.58; both spans started to move at 2.59; the old span was moved out and the new one was in position at 3.01 and 28 seconds. At 3.08 the east-bound track and at 3.10 the west-bound track were connected ready for trains. No accident or delay of any kind occurred in connection with the operation.

At the close of Mr. Richards's paper a general discussion followed upon the subject of moving bridges and other framed structures.
AN ECHO CURED BY WIRING.

MENFORD, Mass., December 31, 1877.

TO THE EDITORS OF THE AMERICAN ARCHITECT:

Dear Sirs,—It occurred to me that you might like to know of a successful experiment lately made here of destroying the echo in the Unitarian vestry by the method of wiring. I am, etc.

C. FRANCIS O'BRIEN.

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MAIN ENTRANCE: CHICAGO PUBLIC LIBRARY, CHICAGO, ILL.
SHEPLEY, REUTAN & COOLIDGE. Architects.
ENVOI OF THE ROTCH TRAVELLING SCHOLARSHIP.
CATHEDRAL OF ST. JOHN AT OSNABRUCK.
HANOVER.
SCALE 1 IN. = 1 FEET

12TH CENTURY

CHURCH AT ROYAT.
[FUT-DE-ROME]
FRANCE.

PHAN, MAINZ.
GERMANY.
SCALE 1 IN. = 1 FEET

DOUDA HUY.
BELGIUM.
SCALE 1 IN. = 1 FEET

WIND OWS.

MINSTER - FREIBURG.
SCALE 1 IN. = 1 FEET.
MINTERNE CHURCH: MEMORIAL WESTERN GALLERY TO THE LATE LORD DIGBY.

A. H. RYAN TENISON, A.R.I.B.A.,
FRONT AND END OF LORD DIGBY'S PEW, MINTERNE CHURCH.

NEW SEAT AND ENDS, MINTERNE CHURCH.

Notre-Dame-de-la-Couture,
Dernay, France.
V. S. GOVERNMENT BUILDING
TRANS-MISSISSIPPI INTERNATIONAL EXPOSITION
OMAHA, NEBRASKA:
J. K. TAYLOR, SUPERVISING ARCHITECT.
REVOLVING DOORS.

One of the most vexatious problems met with in the construction and maintenance of large buildings has been satisfactorily solved by the invention and development of the revolving door. No outlay can be made for a building that affords so much comfort and gives so large a return for the money as the adoption of the new door system.

The engraving here presented represents our standard "Style E."

It is handsomely made of the best material and best cabinet-work. The ceiling is made with deep cornice and two sunken panels underneath, all being veneered. The four bent plate lights in the curved walls are usually 48" x 30" in size, and give the structure a rich and elegant appearance, an ornament for the finest buildings. Panels are also shown below the bent glass, and handsome turned posts form the four jambs and the centre support of each wall.

"Style C." is among the plainest kind of doors, having solid wood walls, but serving the same purpose as the more expensive structures.

Among the leading features of the revolving door, we may mention that it takes the place of all the doors in the main entrance. The revolving door is its own vestibule: none other is required. It economizes space and dispenses entirely with the unsightly storm-houses and sheds, its removal during the summer season being unnecessary, as it may be erected so as to become a permanent part of the building.

By keeping the crowds separated, it prevents collisions, thus accommodating a greater number of passengers than any other door system, making an accessible entrance, free from obstructions, and as light and airy in appearance as if no winter doors were in use. The noiseless action of the door itself, as well as its exclusion of street noise, is one of its many commendable features.

The four wings may be folded flat on each other, and moved aside by one person, single hand, in the fraction of a minute, thus leaving a clear passageway for furniture, bulky packages, or full ventilation.

The complete exclusion of all wind, rain, snow, and dust, during the severest storms, while persons are passing in and out, is the crowning merit of the revolving door.

A word about infringements: —

Every meritorious invention, as a rule, is attacked by pirates. The revolving door is no exception. The projectors of this enterprise have expended much time and money in bringing this invention to its present state of development. The patent pirate, however, does not begin his nefarious work when the invention is first patented, he waits until the inventor has spent his years and thousands to make it popular, then he appears with a bland smile and begins the robbery. The patent pirate has all the low instincts of the marine pirate but lacks his courage.

The first revolving door was put into actual use during the memorable blizzard winter of 1887-88. It withstood that severe test with perfect success. This pioneer revolving door was erected in the building corner Fourth and Chestnut Streets, Philadelphia, by T. Van Kannel, the originator and inventor of revolving doors.

This company now owns and controls the original patents on revolving doors and is simply able to enforce its rights. In this connection, we think it our duty to inform the public of these facts and to warn them against making, selling, or using revolving doors infringing our patents.

The doors have been in successful use for the past five years in the most prominent buildings in the country.

We will be pleased to furnish architects and others with blueprints and descriptions of the door for various uses, as office-buildings, hotels, churches, also for interior use, etc. For estimators, estimates and full information, address, VAN KANNEL REVOLVING DOOR CO., 235 Broadway, New York, N. Y.

NOTES.

Henry R. Worthington has opened branch offices at Nos. 713-17 Perdido Street, New Orleans, and at 317 North Ninth Street, St. Louis, where those who have need of a power-pump of any kind can acquire the needed information as to style, capacity and cost.

We have just received two large contracts during the last few days, one to install the Webster System of Steam-heating in connection with the Works of Rand Drill Co., Tarrytown, N. Y., and the other to install the Webster System in connection with the large new Harlem Building, New York City.

Contracts have been taken also for installation of the Webster System of Steam-heating for the purpose of giving greater efficiency and economy in connection with steam-heating plants, some of which are in old buildings, while others are for new installations: Galo Shoe Co., Haverhill, Mass.; New Britain High School, New Britain, Conn.; Parker Flock, Lowell, Mass.; Simon Silk Mills, Easton, Pa.; Minnesota State Prison, Stillwater, Minn.; South Boston Buildings, Wormwood and Binford Streets, South Boston, Mass.

Our Works are running to their full capacity...
and there are a number of large prospective
orders in right, which proves the appreciation of the
merit of the Webster System of Steam-
heating, and allied specialties.

Very respectfully,

WARREN WEBSTER & CO.

CINCINNATI, OHIO.

BUILDING INTELLIGENCE.

Reports for the American Architect & Building News.

ADVANCE EUMORS

Philadelphia, June 28.—The Warren & Mississaugus took out a
handsome contract for the building.

Architect C. G. Munroe has finished plans and is taking
orders for the construction of the following buildings for
the Seaboard Air Line Railroad Company, for which he will
receive a commission.

Pittsburgh, Pa.—The Watson Memorial Presbyterian Church, Allegheny, will erect a new stone and brick church at Perrysville and Riverview Aves., to cost $11,000.

Richmond, Va.—Mr. P. F. Murphy is preparing to erect a new theatre here which will cost $30,000. Plans are being prepared by different parties and when one is selected the work will be commenced.

Springfield, Ill.—The will of the late Thomas Brady has been filed, in which he bequeaths $14,000 to establish an old people's home at Springfield.

St. Louis, Mo.—Improvements amounting to over $100,000 will be made to the Lindell Hotel. Plans have been drawn, and provide for a two-story addition to the old building. There will be over 100 new rooms.

Washington, D.C.—Chief of Fire Department Parris recommends in his annual report ten new fire-engine houses, to cost $282,000.

Warrensburg, Mo.—A fine opera-house and hotel will shortly be erected in this city. Plans are being prepared. John Smith and W. P. Hunt, of this city, and Lawrence Bruce, of St. Louis, are the interested parties.

Ware, Mass.—H. P. Cummings & Co. have been awarded the contract to build the new Methodist Church. Estimated cost, $10,000.

Brooklyn, N. Y.—Hancock St., cor. Lewis Ave., four-story brown & limestone flats, 25' x 85'; $15,000; o. & b., Walter F. Clayton, 73 Bainbridge St.; a., Alex. F. Hedman, Arbuckle Building.

Worcester, Mass.—The Episcopal Church of the Reconciliation will shortly erect a parish house. It is to be 76 x 26', one-story hip-roof building. Chas. H. Alden, of Boston, is the architect.

Webster, Mass.—Rand & Taylor and Kendall & Stevens, Boston, have completed plans for an addition to the insane Asylum. Estimated cost $30,000. Not let.

Local papers state that bids are about to be asked for erecting the new Market House at Baum, Center and Beatty Sts., East End, on plans prepared by Architects Peabody & Stearns, of Boston; estimated cost, $125,000. W. R. Holmes, Chmn. Bldg. Com., was commissioned to prepare plans.

The American Architect and Building News.
Atlas

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NEW YORK BUILDINGS:
HAVEMEYER BUILDING,
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AMERICAN SURETY BUILDING,
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JOHNSON and PRESBYTERIAN BUILDINGS.
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is the strongest and most serviceable Cement made, and will permit the admixture of a larger amount of sand or gravel with less loss of strength than any other brand; it is therefore the most economical. It is the finest ground cement made, and has the largest bulk to the barrel.

The following test, made in actual work, by Col. D. C. Houston, Corps of Engineers, U. S. A., at the sea wall around Governor's Island, New York Harbor, has never been equalled by any other cement. It is as follows: Tensile strength per square inch, one day, 384 pounds; seven days, 600 pounds; thirty days, 818 pounds.

For Sidewalks it gives the best color, and the most endurable wearing surface. Most of the prominent Railroad Bridges and the large Office Buildings of the country stand upon a foundation of concrete made of ALSEN'S CEMENT.


Cathedral of St. John the Divine.

New York, N. Y.

We offer the illustrations of the competitive designs for the great Protestant Episcopal Cathedral now building on Bloomingdale Heights, New York, submitted by the following Architects:

CARRÈRE & HASTINGS, New York, N. Y.
EDWARD P. CASEY
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FREDERICK C. WITHERS
PARFITT BROTHERS, Brooklyn, N. Y.
W. HALSEY WOOD
CRAM & WENTWORTH
JOHN LYMAN FAXON
PEABODY & STEARNS
STEPHEN C. EARLE
T. P. CHANDLER, Jr.
COPE & STEWARDSON
W. S. FRASER
L. S. BUFFINGTON
VAN BRUNT & HOWE

In all, fifty-seven plates [loose], 14 x 20 inches, printed on plate-paper.

Price, $2.50 per set.
ACETYLENE GAS.

The group of substances known as carbides in America and acetylides in Europe has always been at once a puzzle and a promise. Briefly, for all commercial purposes, the process of making carbides is an American invention and its use an American industry. Of this group calcium carbide is the only one which can be used commercially. The manufacture of the carbide is simplicity itself.

The Naphy generator consists of a drum of sheet-steel, depending for size on the amount of carbide to be held. Within it is a receptacle for carbide and a spraying apparatus. Into this drum are made two man-holes, one to supply carbide, the other to take out the waste. Three pipes also enter, one to carry in water, another to give exit for the gas, while a third is used to remove any water which may appear needful to use in cleaning.

There is also mechanism for turning over the charge of carbide, which once in a while may be desirable or needful. Connected with the drum are two valves, one for the control of the water, the other to control the pressure of the gas at the burners. A pressure-gauge and a blow-off are also furnished. The pressure of the gas within the drum exactly and automatically controls the water-supply.

Such is the Naphy generator. For more than a year it has been in practical daily use lighting shops, dwellings, houses, stores, and in every situation it has proved its worth. Insurance interests, at first hostile, have become its friends, and even its advocates, and, finally, those who own the basic interests in the various carbide and acetylene patents have come to recognize it in their official, as well as individual, capacity as "the generator for the practical use of acetylene."

Having obtained a means of making acetylene, the next essential thing to have was a means of burning it.

At length the same man who invented, or, better phrase, reasoned out the proper form of generator remembered that he had seen a burner with two tips in which the mutual action produced a flat flame, and that the holes in these tips were straight and round, and could be cleaned. Neither Bray nor Mills tips can be so treated. This solved this part of the problem, and, as before, the rest was only mechanical and manual labor. Now the battle is won. A tip is cut to fit the market with which acetylene lighting is an assured success. Burning a very small amount of the gas, it gives a unit of light which is useful and pleasing. Not so great as to cause a sense of glitter and glare, as does the Welsbach mantle, its superiority in hue and luminosity puts the incandescent filament and the ordinary street gas outside the pale of rivalry.

So much for the means of utility. But what of the gas itself? What are its proofs of superiority that is demanded the first place among gaseous illuminants, and indeed lay claim to the second place among all, sunlight alone excepted?

Why, simply this—it is the only gaseous illuminant that has no one, and among carbon-light it has the spectrum nearest to that of the sun, the arc light alone excepted, and this excepted only under special circumstances not usually obtained in practice.

Acetylene is the only hydrocarbon which is commercially obtainable unmixed with other hydrocarbons. Consequently it is the only one which will burn to the ultimate elements of hydrocarbon combustion, carbon-dioxide and water, when burning with a luminous flame freely in the air. Therefore, it is the only one which will burn with a luminous flame without smoke. In proportion to the amount of light given, it does not vitiate the air to anything like the extent of ordinary gas.

An ordinary burner burns five feet of gas every hour, and the acetylene burner burns only one half foot, or one-tenth as much, therefore, every gas-burner ruins for our breathing power not less than one hundred and twenty times as much air as does an acetylene burner, and does not give as much light by a half. The real proportions are, gas-burners, five feet of gas, and sixteen standard candles, and acetylene one-half foot, and twenty-five standard candles. The proof of the value of the two lights for those at a distance from a laboratory must rest on expert evidence; for those who have access to one, it is simply a matter of experience and needs no discussion.

In practical life the best way to determine the usefulness is direct comparison, and the testimony of hundreds of people who have compared the colors of identically the same pieces of ribbon illuminated by daylight and acetylene is that between them there is no difference perceptible even to the artist's trained eye. This practical test should suffice for any one. Unfortunately those at a distance must depend on the evidence of others, and the only exhaust to such work can only say, every one who has seen colors thus illuminated and compared has expressed his satisfaction; and one well-known painter in New York City has voluntarily stated that "color schemes originated by the acetylene light show no perceptible error by daylight." No more difficult test than this is imaginable, and the conclusive proof should satisfy the most incredulous.

The gas interests have had a bogey in the closest for the acetylene user from the first, and this bogey has been run down so many times that it seems almost useless to do it again. Fortunately, a new bogey is harder to find in October, 1897, than it was in January, 1895.

Of the first two bogies, one was explosion by internal change, "isomeric union of molecules," which never had any vogue outside the newspapers belonging to the gas trust, and suffocations by "inflammable volumes" of the gas escaped into the air was the other.

The first bogey is so utterly ridiculous as to need no refutation, and men have succeeded in committing falso de se with water and illuminating gas, both intentionally and by accident. But no murders or suicides by acetylene have been reported except the suffocation of a few guinea-pigs for the sake of gratifying a scientific curiosity. It is true a man in Connecticut had the poor taste to melt the fastening of a drum of condensed acetylene with a blowpipe and thus blow his head off. Another drum of acetylene exploded in Paris, from similar causes, and killed two men, and the same week one of compressed air, on a locomotive, exploded and killed two in this city, but no one has suggested that the air-brakes on the railroad trains should be discontinued on this account.

Sobery speaking, since acetylene became known to man there has not happened one mishap due to the acetylene as distinguished from some accessory act on the part of the victim. Those generators have been approved by the United States Post-Office Department, and numbers of them are being installed in the sub-stations at Philadelphia and elsewhere.

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"Scott's Extra Coated" Highest Quality Roofing Tin has been upon the market for many years; originally made in Wales, according to definite specifications, it has been manufactured exclusively in Pittsburg since the beginning of the Tinkle plant industry in this country. Its lasting qualities have always been guaranteed. It is made from strictly...
selected materials by the most approved manufacturers; dipped by hand; each sheet passes through two palm-oil, and three metal, pots; carries."
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Cathedral of St. John the Divine.

New York, N. Y.

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VAN BRUNT & HOWE " KANSAS CITY, MO.

In all, fifty-seven plates [loose], 14 x 20 inches, printed on plate-paper.

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The Globe Ventilator is well and favorably known to many architects and builders throughout the country. It is strongly constructed, symmetrical in appearance, effective in operation, absolutely storm-proof, and does successfully the work required of it at all seasons of the year. It is manufactured in brass and copper as well as in galvanized-iron, and with glass tops where a combined ventilator and skylight is desired, and is extensively used for perfectly ventilating schools, churches, hospitals, theatres, buildings of every character. The "Globe" is also very efficient in removing the excessive heat that is generated in attics by the sun in shining on the roof, thus rendering the upper floors of the house so supplied comfortable and habitable, and it is also effective in exhausting sewer-gas from residences, and making them healthful. Few people realize the danger from disease arising from the closeness of their bath-rooms, which should have direct connection with the outer air, so that the impurities cannot leak out and contaminate the home, and destroy its inmates. What a simple and inexpensive precaution to take to guard the lives and preserve the health of the family! yet how often it is entirely neglected!

Globe Ventilator just completed and ready for shipment which exhibits its graceful lines and pleasing appearance. There is also given an illustration of how a chimney having two flues should be capped. The mistake of attempting to cover both with one ventilator is often made by those not having had much experience, and always with unpleasant results, as the smoke and gas have a way of rising in one flue and syphoning down the other.

GLOBE VENTILATOR CO.,
203 RIVER ST., TROY, N. Y.

THE CUTLER PATENT MAILING SYSTEM U. S. MAIL-CHUTE.

The following brief explanation should be read by those writing for estimates on that most useful adjunct of apartment-houses and office-buildings, the Cutler "mail-chute":—

(A.) The standard mail-box, furnished as part of the apparatus, is made of cold rolled-steel, with door, mouldings, etc., in electro-bronze, slightly oxidized. Its size varies with the size and importance of the building, and it is the cheapest box we furnish.

Boxes of special design in cast and sheet bronze, cast-iron electro-bronzed, etc., are also furnished, usually from our own designs and details, subject to the architect's approval.
When such work is desired, we are glad to submit sketches and estimates, in which case it is only necessary for us to have information as to the general style of the building, or, preferably, a print or rough sketch showing the immediate surroundings, so that we may draw our work as it will appear when in place.

(B) The work of preparing the building to receive the apparatus consists in providing a flat, vertical casing or back, about 12" wide, suitably moulded and finished, extending in a vertical line from the top of the mail-box to a point 4' 6" above the floor in the top story, and leaving or cutting openings in the floors directly in front of and centred upon this casing. Floors are neatly and easily finished by setting in them thimbles of iron, which we furnish and deliver as part of our contract. The casing is usually of oak or other wood to match the trim of the corridors, but where more elaborate finish is desired marble is sometimes used.

When the Mail-Chute is located in front of an elevator-screen the casing should be so constructed as to be sufficiently rigid to stand free of the screen and without support, except at each floor and ceiling. In this position, the casing, if wood, has side pieces and is in section like an "I" beam; or, preferably, it is constructed of iron angles.

Preparatory work can be included in the general building contracts and specifications, but in the vicinity of New York and Chicago, in which centres we have resident superintendents of construction, it is best to include it in the Mail-Chute contract, as this obviously secures the best results. Full details and specifications for this work will, however, be furnished on application, and special drawings to suit peculiar conditions will be prepared when desired.

(C) The Mail-Chute is constructed of cold rolled, pickled steel, japanned black and fired, with trimmings (mouldings holding the glass front in place, bases, caps, etc.), of bronze, plated to make the color uniform, and slightly oxidized.

The material and construction cannot be varied, but in special cases, where boxes of special design are furnished, we vary the finish of the Chute by japanning the steel body in any selected color, and finishing the bronze work as desired. As an example of this, our work just completed in the "Astoria Hotel," New York, consists of two special Mail-Chutes. It is cast in brass, with all exposed surfaces chased by hand, and plated with pure gold, the bronze work of the Mail-Chutes being plated throughout to match, and the steel body japanned a light ivory tint.

This statement is prepared for the convenience of those architects who prefer to transact business by correspondence, or who, for any reason, cannot be reached by our representatives. We are, however, always glad to send a representative, when practicable, to call upon an architect who prefers to arrange such details in a personal interview.

Having installed the apparatus in over twelve hundred buildings, we have gained valuable experience, which we place at the service of those interested, particularly in cases where the conditions present special difficulties in the arrangement and location of the apparatus.

WASHINGTON, D. C., February 16, 1893.

Ordered: That this Department, having heretofore authorized the use of the Cutler Patent Mailing System, consisting of a specially constructed Chute extending from the upper stories of public buildings and hotels to and connected with special receiving boxes for matter for the mail located in the ground-floor corridors of such buildings, for the better protection of the public using the same, and in accordance with the Act of Congress approved January 25, 1889, it is declared that in all such mailing apparatus heretofore established under the regulations of this Department, or which may be hereafter so established, the Chute is a part of said receiving boxes and under the exclusive care and custody of the Post-office Department.

Signed by the Postmaster-General.

Estimate blank when desired can always be had on application to

THE CUTLER MFG. CO.,
ROCHESTER, N. Y.

A NEW OVERHEAD WINDOW-PULLEY.

This subject of this article (with illustrations) is the "Queen" overhead pulley, this being an improvement in "such-cord guides," for which a patent was granted on September 21st last to the manager of the Queen Sash Balance Company, 150 Nassau Street, New York. In all overhead pulleys heretofore placed on the market so much head-room was required in many cases, although the

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Or the materials used in the construction of safes, vaults, etc., none so effectually resists the efforts of the ingenious burglar as chrome steel.

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THE "VULCAN" LOCKS
A NEW PRODUCT OF THE YALE & TOWNE MFG. COMPANY.

The age of iron is passing and the age of steel is fully born. America has long excelled in small products of cast-iron, but is discarding them for better ones of wrought steel. Both were formerly hand products; cast work so remains, but wrought work, in quantity, is now produced from the wrought sheet or rod by machine processes, which supersede hand labor.

This new material, and these processes, have already been utilized in creating modern fire-arms, the sewing machine, the American watch and the bicycle; they are now availed of to create a new American product, namely, a door lock formed wholly from wrought materials, machine made throughout and interchangeable in all its parts.

The Case and Cap. Each flanged on the outer edge and ribbed in transverse lines, thus obtaining greater rigidity and far greater strength than that of a cast lock of twice the weight.

The dimensions and weights of all the parts are those suitable to give proper strength. All the parts being of wrought metal, the total weight is somewhat less, and the strength of each part much greater, than if cast metal were used.

The Front. As shown by Fig. 2, this consists of a wrought steel base, attached to the case by two cheeks, over which is drawn a steep cover of wrought bronze, clinched over the tapered edges of the base, thus firmly uniting the two and producing a front of great stiffness having true edges, beveled to fit snugly into the wood, and a surface admitting of the highest polish.

The Bolts. The Latch-bolt and the Dead-bolt each consists of a solid head of wrought bronze or steel, and a wrought steel tail-piece, forced into the head and secured thereto by riveting and by setting down the metal of the head over interlocking projections on the tail-piece, as shown by the illustration of latch-bolt in Fig. 4. The tail pieces are ribbed or corrugated to give added stiffness.

The Key. The key of the Vulcan Lock, shown by Fig. 5, is of solid steel and is cold-forged from open-hearth metal. It is machine finished, nickel-plated and finely polished. Its bow is of the well-known Trefoil design, so long identified with the Yale Lock, and bears on one side the Trefoil trade-mark of the makers. The form of the key is peculiarly graceful, and its oval cross-section gives great strength.

The bit is tapered, being thickest at the outer edge, thus giving a better wearing surface, and a smoother action on the thumblers and bolt, than keys having thin bits.
The Completed Lock. The external and internal appearance of the several parts when completed and assembled is shown by Fig. 6 on opposite page.

The Cycloid Knob Action. In this is embo
died a new prin
ciple and a great advance in lock
mechanism. It
discards the slid
ing action used heretofore and
substitutes pivota
l motions and
inter-gearcd le
vers, every piece
being machine
made from wrought metal. Fig. 7 shows the mechanism
in its normal position. The hub, by which the rotary
action of the knob is transmitted, has a single arm or
cam projecting diagonally downwards. Bearing against
each side of this cam are two pivoted levers, geared to
tgether at their other ends, so that motion of the cam in
either direction produces the same effect upon the levers,
causing the lower
one to move back-
ward, carrying
with it the third
lever, to which is
pivoted the end
of the latch-bolt.
Fig. 8 shows the
parts in the
position they oc
cupy when the
latch-bolt is
forced back, as
in closing the
door. One of the
inter-gearcd levers has a heavy spring, giving the desired
resistance to the knobs. The third lever is independent
and has its own lighter spring, acting both on the knob
and the latch-bolt. This spring alone opposes resistanceto the retraction of the
latch-bolt, while both
springs oppose rota
tion of the knobs.
The most perfect
"easy-spring" action is thus obtained. The
latch-bolt is reversed
by removing cap of
lock. Fig. 9 shows
the latch-bolt retract
ed by rotation of the
knob in either direc
tion, and shows al
so the construction
of the hub or cam
from two pieces of
wrought metal,
machine made
throughout. As
seen in Fig. 6, the
holes or trunnions
in the lock case are
flanged inwards to
provide a broad
bearing for the ends
of the hub, these bearings
being accurately fitted by
machine processes. The
bearings for the key are
formed in like manner.

In other wrought metal
locks these bearings are
merely holes punched in the metal, and their tin edges
tend to cut into the metal of the hub or key, the result
being rapid wear, which, in the case of the hub, produces
looseness and rattle, and, in the case of the key, disturbs
its relations with the tumblers so that it soon works
badly and ultimately
may fail to operate
the lock. The broad
bearings in the Vul
lock obviate all of
these difficulties.

The Dead-bolt Action. The method of constructing and
guiding the dead-bolt is shown by Fig. 10. Its
bottom edge is flanged
to give stiffness, its
rear end is thickened
by a reinforce to give
a broad bearing for the
key in the "talon," and
its motion is guided
and checked by a stud attached to the case and fitting
within a guide slot in the bolt-tail.

The Tumblers, of which in some locks there are
two and in others three, are of the double-acting lever
type, as also shown in Fig. 10. The "fence" or post on
tail of bolt fits within the segmental openings of the
tumblers and must pass the narrow gating between them
to permit the bolt to move.
To accomplish this the key
must accurately
raise each tum
bler to the exact
position, neither
too high nor too
low, to permit the
fence to en
ter and pass
through the gating, thus securing ample protection against
picking and against the unintentional interchange of keys.
Fig. 11 shows the key in place ready to operate the
tumblers and retract the bolt.

The Triplex Spindle. This Spindle already in use
with the Yale Locks, will be used also with the Vulcan
Locks. It consists of three trian
gular rods which,
when united, form a square
spindle, to one end of
which one knob is perma
nently pinned. The other
knob carries a set screw,
which bears on the spindle,
as shown in Fig. 12. The
tightening of this screw
expands the spindle and
forces it into frictional en
gagement with the knob
shank, thus holding the
knob securely at any point,
affording perfect adjust
ment without resort to
washers, and eliminating all looseness or rattle of the
knobs.

The Compensating Hub. Heretofore lockmakers
have ignored the fact that all wood shrinks and swells
with changes in the humidity of the atmosphere. Hence
has arisen the dilemma that knobs must be loosely fitted
or else will bind. This is due to the conditions illus
trated by Fig. 13. As there shown the lock is attached by
its front to the edge of the door, while the escutcheon plate (which carries the knobs) is attached by its screws to the surface of the door at the distance "X" from its edge. Any shrinkage or swelling of the wood causes this distance "X" to vary and thus tends to cause the knobs, if well fitted, to bind. The Compensating Hub, as shown by Fig. 13, has a rectangular opening which fits the spindle vertically, but which is considerably elongated horizontally. Changes in the dimension "X" may thus occur without causing the knobs to bind, and yet rotation of the knobs will cause the spindle to actuate the hub, by contact of the upper and lower sides of the spindle with the opposing faces of the opening in hub, as perfectly as if all four faces of the spindle and hub-opening were in contact, as heretofore. This simple device makes possible the use of perfectly fitted knobs by eliminating the disturbance arising from shrinkage, which heretofore has been so common a cause of trouble.

The Bracket Bearing. A lock spindle is practically a short piece of shafting, with a wheel or pulley (the knob) on each end. Obviously the bearings of such a shaft should be as far apart and as near to its ends as possible. In common locks, on the contrary, they are at the surface of the door and therefore near together. This has long been remedied in the case of the Yale Lock by the use of the “Bracket Bearing,” which will also be used with the Vulcan Locks. It consists of a construction of the knob shank, and its supporting thimble, such as to bring the bearings or points of support as close to the knobs, and therefore as far apart, as possible. The mechanical difference between these methods will be apparent from Fig. 14, which shows the old and the new constructions. The dotted lines show the play or “wobble” of the common knob, with its clumsy adjustment by means of a row of screw holes in the spindle, supplemented by thin washers in the loosely fitting thimble or bearing close to the surface of the door.

In marked contrast to this is the easy and perfect adjustment of the knob by means of the Triplex Spindle; supporting of the thimble close to each knob; the well-fitted Bracket Bearings in which the knob rotates, as shown in the above picture.

The Mechanical Combination. The Triplex Spindle, admitting of perfect longitudinal adjustment of the knobs, the Compensating Hub, which eliminates disturbance from shrinkage and swelling of the wood, and the Bracket Bearing, which supports and guides the two ends of the spindle close to the knobs, combine to produce a perfect mechanical assemblage, easy to apply, eliminating all causes of future disturbance, pleasing, because inherently right in appearance, and, as already proved, certain to give permanent satisfaction.

The Trim. Fig. 6 shows one of the plain, wrought metal trims used with the Vulcan Locks, but, in addition to plain trim, in bronze, brass or Bower-Barfied steel, they are furnished with ornamental trim in great variety, an example of which is shown in Fig. 15. These ornaments, and also the extensive line of Vulcan Locks, are described and illustrated in a separate catalogue.

The Result. The many and important improvements herein briefly referred to are the outcome of the work of several years, aided by unrivaled facilities and by the experience of the makers of the Yale Lock acquired during the past twenty-five years. The final result is the creation of a new mechanical product, as far in advance of all predecessors as is the Yale Lock in the field where it has so long held a position of undisputed leadership.

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The American Architect and Building News, xi

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(Reported for The American Architect and Building News.)

Building Intelligence.

(Reported for The American Architect and Building News.)

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)
BUFFALO, N. Y.—Jas. R. Kimball has drawn plans for a $7,500 frame church for the St. Paul's Roman Catholic Church Society at Kenmore.

BRIGHTON, N. J.—The City Council has appointed a committee to consider the matter of purchasing a site for a new school-building and also a site for a new school-building in the 2d Ward.

BRADDOCK, PA.—The First Presbyterian Congregation has decided to erect a new church. Estimated cost $50,000. The work of building will begin as soon as preliminary arrangements can be completed.

BRADDOCK, PA.—The First Presbyterian Congregation has decided to erect a new church. Estimated cost $50,000. The work of building will begin as soon as preliminary arrangements can be completed.

GRAVITY, PARIS

Kilograms per metre x .672 = Pounds per square foot.

Joule x .7373 = Foot-pounds.

Watts ~ 746 = Horse-power.

Kilo-watts x 1.34 = Horse-power.

Grammes (water) + 29.57 = Fluid ounces.

Kilogrammetres < 7.233 = Foot-pounds.

Grammes per cu. cent. + 27.7 = Pounds per cu. in.

Kilograms per cubic metre x .062 = Pounds per cu. ft.

Grammes x 981 = Dynes.

Kilograms x 35.3 = Ounces Avoirdupois.

Kilograms x 2.2046 = Pounds.

Hectoliters x .151 = Cubic feet.

Liters x .2642 = Gallons (231 cu. ins).

Cubic metres x 1.308 = Gallons (231 cu. ins).

Hectoliters — 26.42 = Cubic metres.

Liters x .6102 = Hectoliters.

Cubic centimetres — 3.69 = Fluid drachms (U.S. P.).

Square centimetres + 6.451 = Square inches.

Square millimetres + 645.1 = Square inches.

Hectares x 2.471 = Acres.

Square metres x 10.764 = Square feet.

Kilometres x .621 = Miles.

Millimetres ~ 25.4 = Inches.

Metres x 3.281 = Feet.

Metres X 39.37 = Ins. (Act of Congress.)

Millimetres ~ 25.4 = Inches.

Metres x 3.281 = Feet.

Metres X 39.37 = Ins. (Act of Congress.)

Kilometres x 1.609 = Miles.

Kilometres x 0.3048 = Miles.

Kilometres x 3280.7 = Feet.

Square kilometres x 100 = Square miles.

Kilometres x 0.621 = Miles.

Kilometres x 3280.7 = Feet.

Square kilometres x 0.3861 = Square miles.

Kilometres x 3280.7 = Feet.

Square kilometres x 100 = Square miles.

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Square kilometres x 100 = Square miles.

Kilometres x 0.621 = Miles.

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Square kilometres x 100 = Square miles.
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Public Library, Nahant, Mass.
Blackstone Memorial Library, Branford, Conn.

Western Female Seminary, Oxford, Ohio.
State Normal School, Terre Haute, Ind.
Pletcher Library, Westford, Mass.
Y. M. C. A. Library, New York City.
Converse Memorial Library, Maiden, Mass.
Bowdoin College, Brunswick, Maine.
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[For pagination, see Alphabetical Index on Cover 3.]

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CHICAGO

BUILDING INTELLIGENCE.

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Roses, they being all in excess of the proposed cost, $25,000. The architect will prepare new plans.

LIKEN, N. D. — The erection of a $20,000 court- house is being agitated.

Little Rock, Ark. — The First M. E. Society (South) has decided to build a new church, the site of which is on the corner of new church, Rev. C. E. Pattilla, pastor.

Mankato, Minn. — The center of the new school- house for Ward 3 to be built on the Pratt & Gallagher lots, at an estimated cost of $2,000, is to be built.

Medina, Ohio — Plans and sketches for the new $1,000 Catholic Cathedral which, as reported in previous issues, will be erected here, must be submitted on or before October 9. A meeting of the Building Committee will then be held to select the architect.

New London, Conn. — Dudley Donnelly has prepared plans for additions and alterations to the Pequot House to cost about $10,000. There is to be a larger dining-room, a library, and an addition to the bathing room.

New York, N. Y. — The competition among New York architects for the commission for the new National Academy of Design, on Morrisania Heights, will close October 31, when all designs must be submitted. In this limited paid competition the following architects will enter to compete: E. J. F. Dewing, CHARLES S. Platt, W. T. Winton, W. M. Read, H. S. Cook & Willard, Carreira & Hastings, Edward F. Cuny and Ernest Flagg. Each competitor will receive $50 and the author of the design chosen is to receive the nomination. The jury will be composed of four members: Jas. M. Eustis, Frank, Decoration, E. H. Boardman and J. C. Moffett, John G. Howard and Robert S. Peabody.

Minneapolis, Minn. — The Chicago, Milwaukee & St. Paul Steel Co. has decided to erect a large new warehouse and offices at 220 North Main, and an open competition will be held on the subject.

Muncie, Ind. — The Grace Episcopal Society intend building a new church.

Memphis, Tenn. — The Board of Education on September 15 decided to reject all bids presented for the proposed Peabody St. High School, they being all in excess of the appropriation, $40,000. Mr. W. T. Winton and Mr. A. K. Webb and Architect Shaw was asked to revise the plans.

New Albany, Ind. — Plans are being drawn for a new depot, to be built in this city by the Air Line.

New York, N. Y. — Contractor Chas. McCaul is taking estimates for a two-story and attic Ward for Consumptives, that is to be built for the Presbyterian Hospital at Devon. The building will be constructed entirely of Port Dredged Sand & Sugar, expert to have the work completed before the next season.

New York, N. Y. — The competition among New York architects for the commission for the new National Academy of Design, on Morrisania Heights, will close October 31, when all designs must be submitted. In this limited paid competition the following architects will enter to compete: E. J. F. Dewing, CHARLES S. Platt, W. T. Winton, W. M. Read, H. S. Cook & Willard, Carreira & Hastings, Edward F. Cuny and Ernest Flagg. Each competitor will receive $50 and the author of the design chosen is to receive the nomination. The jury will be composed of four members: Jas. M. Eustis, Frank, Decoration, E. H. Boardman and J. C. Moffett, John G. Howard and Robert S. Peabody.

Not so much whether you are going to screen the house, as it is what screen you will use.

Old Lyme, Conn. — Charles H. Luddington, of New London, has offered to donate $10,000 to the town for a Public Library, the only condition being that he be allowed to name the architect. The offer has been accepted.

Omaha, Neb. — The Burlington & Missouri River Railroad has taken out a permit for the erection of a passenger-station to cost $300,000.

The Burlington Railroad Company will erect a new depot in the fall, to be named the "Empire State Depot," to be erected by the management of the Interstate for the road. It is expected that our wing of the Administration Building, which will cost $200,000, may be completed immediately. The design is for a building designed on the Lines of English work, which is to be constructed of red brick, with some tim- ber work.

Philadelphia, Pa. — The contract for erecting the new school building at this place is stated to have been awarded to Ambrose Paine & Son, of Ogden, at $11,537.

Pittsburgh, Pa. — A modern hotel will be built by H. C. Van Winke near the B. & O. depot.

Questa, N. Y. — It is stated that the directors of the Baptist & Pekin Union Railway Co. have voted to build a new depot in Pekin.

Petersburg, I11. — Wm. C. Smoot has secured plans and specifications from Bullard & Bullard, of Springtield, for an $18,000 hotel, to be erected this fall on Second and Market Sts. Three stories, brick, stone and terra-cotta.


Philadelphia, Pa. — Edw. F. Durang is preparing plans for buildings to be erected on the lot belonging to the parish of the old hospital, 920 Chestnut St. The design is for a hospital, dormitories, kitchens, and 300 feet, in all, of Port Deposit stone with Indiana dressings. Rev. Walter P. Gough has charge of the matter.

Pomona, N. Y. — The contract for erecting the new school building at this place is stated to have been awarded to Ambrose Paine & Son, of Ogden, at $11,537.

Princeton, N. J. — S. G. Garretson has been appointed superintendent of the public school building, $300,000, to be built in Princeton, to be let on June 19th.

The exterior facing stone will be Port Deposit stone, and the interior facing stone will be Port Deposit stone and Excelsior limestone. The exterior facing stone will be Port Deposit stone, and the interior facing stone will be Port Deposit stone and Excelsior limestone. The exterior facing stone will be Port Deposit stone, and the interior facing stone will be Port Deposit stone and Excelsior limestone. The exterior facing stone will be Port Deposit stone, and the interior facing stone will be Port Deposit stone and Excelsior limestone.
Imperial Porcelain Roll-Rim Bath, the "Granada," 4 ft. 6 in. long, Embossed Decoration, "Empire," with all Nickel-plated Supply Fittings, Unique Waste, Cauldon China Handles and Pipes to floor.

Do. Do. 5 ft. 0 in. long.

Renaissance, Empire, Rococo, etc., to harmonize

October 2, 1897.]

The American Architect and Building News. xvii

BUILDING INTELLIGENCE.

Imperial Porcelain Roll-Rim Baths: The "Granada."


Do. Do. 5 ft. 0 in. long.

The Embossed Decoration is thoroughly artistic in design and execution. The Baths can be had in any of the prevailing styles—Renaissance, Empire, Rococo, etc., to harmonize with the room.

CIRCULARS MAY BE HAD ON APPLICATION.


Do. Do. 5 ft. 0 in. long.

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- **"PROGRESS CLUB-HOUSE," New York, N. Y.** Alfred Zucker, Architect. 11 views
- **"EXCHANGE CLUB-HOUSE," Boston, Mass.** Ball & Dahney, Architects. 12 views
- **"CENTURY CLUB-HOUSE," New York, N. Y.** McKim, Mead & White, Architects. 7 views
- **"DUQUESNE CLUB-HOUSE," Pittsburgh, Pa.** Longfellow, Alden & Harlow, Arctics. 6 views
- **"MONTAUK CLUB-HOUSE," Brooklyn, N. Y.** F. H. Kimball, Architect. 5 views
- **"THE PLAYERS' CLUB-HOUSE," New York, N. Y.** McKim, Mead & White, Architects. 3 views
- **"BALTIMORE CLUB-HOUSE," Baltimore, Md.** J. A. & W. T. Wilson, Architects. 3 views
- **"COLUMBIA CLUB-HOUSE," St. Louis, Mo.** Alfred F. Rosenheim, Architect. 13 views
- **"MARYLAND CLUB-HOUSE," Baltimore, Md.** Baldwin & Pennington, Architects. 8 views
- **"GROSLIER CLUB-HOUSE," New York, N. Y.** Romlyn & Stoever, Architects. 5 views

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**STONE.** (Cubic foot, rough.)

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<td>750 @ 55</td>
<td>800 @ 50</td>
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<td>Granite</td>
<td>2500 @ 200</td>
<td>2500 @ 200</td>
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**Length:**
- Microns = 1 x 10^-6 Meter
- Millimeters = 1 x 10^-3 Meter
- Centimeters = 1 x 10^-2 Meter
- Decimeters = 1 x 10^-1 Meter
- Decameters = 1 x 10^1 Meter
- Hectometers = 1 x 10^2 Meter
- Kilometers = 1 x 10^3 Meter

**Area:**
- Square Microns = 1 x 10^-12 Square Meter
- Square Millimeters = 1 x 10^-6 Square Meter
- Square Centimeters = 1 x 10^-4 Square Meter
- Square Decimeters = 1 x 10^-2 Square Meter
- Square Decameters = 1 x 10^2 Square Meter
- Square Hectometers = 1 x 10^4 Square Meter
- Square Kilometers = 1 x 10^6 Square Meter

**Volume:**
- Cubic Microns = 1 x 10^-18 Cubic Meter
- Cubic Millimeters = 1 x 10^-6 Cubic Meter
- Cubic Centimeters = 1 x 10^-4 Cubic Meter
- Cubic Decimeters = 1 x 10^-2 Cubic Meter
- Cubic Decameters = 1 x 10^2 Cubic Meter
- Cubic Hectometers = 1 x 10^4 Cubic Meter
- Cubic Kilometers = 1 x 10^6 Cubic Meter

**Mass:**
- Grams = 1 x 10^-3 Kilograms
- Milligrams = 1 x 10^-6 Kilograms
- Micrograms = 1 x 10^-9 Kilograms

**Temperature:**
- Celsius x 9/5 — Fahrenheit
- Degrees Fahrenheit — Celsius x 1.8 + 32

**Energy:**
- Joules = 0.7373 Foot-pounds
- Foot-pounds = 1.3558 Joules

**Pressure:**
- Kilograms per square centimeter = 14.2248 Pounds per square inch
- Pounds per square inch = 0.0703 Kilograms per square centimeter

**Time:**
- Seconds = 1 x 10^-6 Hours
- Hours = 1 x 10^6 Seconds

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very imposing stone structure, and will be located at 58 and Baltimore Ave.

Fieldteed, Mass. — George H. Barber has had plans completed for a $25,000 stable to be erected near North St. The structure will be three stories, 60 by 60, and have 15 box stalls. It will have all the latest improvements and be ready for occupancy January 1st. It will accommodate 30 horses.

The Pontoosuc Woolen Co. will soon erect new brick building to increase the capacity of their mill. It will be 100 x 50 and have brick annex.

San Jose, Cal. — A press report states that a new theatre will be erected on 1st and Market Sts. Mayor Phelan, of San Francisco, is said to be interested.

The contract for erecting two new school-buildings at this place is stated to have been awarded to E. W. Hooper, at $31,600.

Owen, N. Y. — It is reported that Gen. Crocker, the California millionaire, is to build a large residence at the corner of 5th Ave. and 64th St.

Architects Mullgardt is completing a set of plans for the new Field Club, which will probably be built at Summer's Point.

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391,358. WOOD MANTEL.—John Parker, Birmingham, Eng.


391,360. BOILER FOR STEAM OR HOT-WATER HEATING.—W. M. Mackay, Newark, N. J.


BUILDING INTELLIGENCE.

[Although a large portion of the building intelligence is here provided by our regular correspondents, the attention of architects and contractors is particularly directed to the reports of special correspondents, especially from the smaller and outlying towns.]

ADVANCE RUMORS.

Atlantic, Va.—Local papers state that a new two-sty office building will shortly be erected on Alabama and Westminster Sts., by James Lynch, of Decatur, Ala.

Auburn, N. Y.—Report states that the Philadelphia and Southern First Region Church intends erecting a new church, after Arthur Ewen, pastor.

Boston, N. Y.—The Economie Life Insurance Co. has had plans prepared by Elliott D. Robbins, architect, for a new building to be erected near Kent Ave., and 34th St., by the American Ewing Electric Light Co., on Wall St., New York City, for the purpose of erecting two large buildings, by means of cast iron construction, with tile or brick, and roof, $20,000.

Buffalo, N. Y.—The plans prepared by architects Meager & Greenfield for the new Buffalo Gotham Institute building have been accepted and the contract for the work will be let soon. The building will be of brick and terra-cotta, and will cost about $75,000.

New York, N. Y.—Architect W. E. Aker has prepared plans for a two-sty residence for Joseph Zent, of granite, buff brick and frame, cost, $40,000.

Metzger & Greenfield have prepared plans for 2 $6,000 residences of nearly similar design, one for William Heiser and the other for Herb Bros. The former will be located on Northampton St., and the latter on Norwood Ave.

August Brosseau, 55 Board of Trade Building, is having plans prepared for an eight-sty fireproof apartment-house, to be erected at the corner of Goethe and Stone Sts. It will cost $125,000.

Architect W. H. Archer has prepared plans for a two-sty residence for Joseph Zent, of granite, buff brick and frame, cost, $40,000.

Metzger & Greenfield have prepared plans for 2 $6,000 residences of nearly similar design, one for William Heiser and the other for Herb Bros. The former will be located on Northampton St., and the latter on Norwood Ave.

Chicago, Ill.—W. J. Bulger has purchased from 0. M. Carson the vacant lot at the corner of Pine Grove and Irving Park Boulevard, 91' x 136', for $20,000. A residence to cost $25,000 will be built on this site.

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— August G. Edmund and Hannah Edmund, Seattle, Wash.

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590,962. HEATER.—John A. Breen, Utica, N. Y.

590,953. DEVICE FOR ATTACHING FURRING WALLS.—Wm. H. Barnes, Rochester, N. Y.


591,358. WOOD MANTEL.—John Parker, Birmingham, Eng.


591,360. BOILER FOR STEAM OR HOT-WATER HEATING.—W. M. Mackay, Newark, N. J.
METRIC CONVERSION TABLE.

Two following metric conversion tables have been compiled by G. W. Hoot, M. A., Sec. M. E., Franklin Institute. The W. H. Conant Company, of New York City, and is most convenient in dealing with weights and measures:

Millimetre = 0.03937
Meter = 39.37
Centimetre = 0.3937
Inch = 123.97
Millimetre = 203.7
Centimetre = 1043
Inch = 1000

Building Intelligence.

[...] The Board of Trustees of the Protestant Hospital contemplate erecting a new hospital, to cost about $25,000.

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REDUCTION IN PRICES OF HOT-AIR PUMPING MACHINES.

The Rider-English Engine Co. begs to announce that, having bought the business formerly conducted by Rider Engine Company and Delacater Iron Works, it has been possible to offer terms to INSTRUCTION ENG.

All bids received for erecting School No. 27 have been rejected and new bids will be called for; estimated cost, $28,000.

Detroit, Mich.—Architect F. J. Grenier, 130 Buhl Block, has made plans for an apartment-house, 63 x 171', three stories high, built of brick, stone front, to cost about $39,000.

(Centigrade x 1.8) + 32 = Degrees Fahrenheit.

Faribault, Minn.—It is proposed to erect a new building in place of the 7th St. School, to cost $15,000.

Denver, Col.—The Colorado Fuel and Iron Co. will shortly build an addition to their plant at Pueblo. It will be built for the purpose of manufacturing structural, sheet and bar steel, and will cost about $500,000.

Dawson City, Alaska.—A large piece of ground has been given for a proposed mammoth hotel to be erected here. The enterprise is backed by Joseph Wolfe and a number of Chicago business men.

Creedmoor, L. I., N. Y.—Boring & Titon, No. 57 Broadway, New York City, will furnish the plans and superintend the construction of the new school-building to be erected at this place.

Calories x 3.968 = B. T. U.

Gravity, Paris = 980.94 cent. per second.

Kilograms per cheval vapeur x 2.235 = Lbs. per h. p.

Kilo-watts x 1.34 = Horse-power.

Kilograms per metre x .672 = Pounds per square foot.

Watts — 746 = Horse-power.

Joules x .7373 = Foot-pounds.

Grammes x 15.432 = Grains.

Kilograms per sq. cent. x 14.223 = Pounds per sq. in.

Kilograms x 35.3 = Ounces Avoirdupois.

Kilograms x 2.2016 = Pounds.

Hectoliters x .131 = Cubic yards.

Hectoliters x 2.84 = Bushels (2,150.42 cu. ins).

Cubic metres x 35.315 = Cubic feet.

Cubic metres x 264.2 = Gallons (231 cu. ins).

Liters x 61.022 = Cu. ins. (Act Congress.)

Cubic centimetres — 29.57 — Fluid ounce. (U. S. P.)

Cubic centimetres — 16.383 = Cubic inches.

Hectares x 2.471 = Acres.

Square metres x 10.764 = Square feet.

Kilometres — 1.6093 = Miles.

Kilometres x .621 = Miles.

Miles x .621 = Kilometres.

Millimetres x .03937 = Inches.

METRIC CONVERSION TABLE.

[...] The plans for the alteration to John Wanamaker's country residence near Ogontz have been prepared by Edward Lee Young, 1 Madison Ave., New York City.

[...] A committee of ten has been appointed to look up site, etc., for a 12-room school-building, to cost, approximately, $50,000, and report to the next town meeting, March, 198, A. E. French, Chairman Committee.


The American Architect and Building News.

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Durand, Mich.—It is stated that plans have been prepared for a new morgue to be erected here, to cost about $25,000.

Farago, D. — The Nicholas & Shepard Co., of Balston Creek, Mich., will erect a warehouse here in the spring, at a cost of $60,000.

Farnham, Minn.—It is proposed to erect a new school-building of the above place of the M. School, to cost about $25,000.

Great City, Minn.—Orf. & Gullfett, Minneapolis, have been appointed agent to act for the Steam Powered Planing Machine Company, of Chicago, Ill., in this State.

Great City, Minn.—It is stated that plans have been prepared for a new school to be erected here, to cost about $25,000.

Greer, D. — The objects of the Seth Company, of Balston Creek, Mich., will erect a warehouse here in the spring, at a cost of $60,000.

Jennings, Minn.—A committee has been appointed to look up site, etc., for a new school building in this winter.

Milwaukee, Wis.—The Waterman Co. will erect a new school-building of the above place to cost $20,000 for Water and Mankato Sts. The building will be 100 x 300 feet, of brick, stone front, and will contain three stories of floor space, and it will be 100 x 300 feet, of brick, stone front, and will contain three stories of floor space, and it will
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BUILDING INTELLIGENCE.

[Advertisement continued.]

WILLIAMSBURG, Mass. — The British Baptist Society will build a new church next year.

WISCONSIN, Wis. — The Waterhouse, of Milwaukee, has been chosen to erect a new building for the Union Bank.

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Brooklyn, N. Y. — Park Ave., bet. 44th & 45th Sts., three-storied, stone & brick tenements; $18,000; o. & a., L. C. Stillman, 113 Lafayette St.

Springfield, Mass. — Mountain St., near Federal St., two-storied, stone tenements; $8,000; o., Mrs. W. H. Murdock; a., J. F. Mullan, 111 Main St.

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"— Rockaway, N. Y.—Two-st'y fr. dwell., 357 x 50'; $6,000; J. Harrington; ¢., George Pierce. an of first snore af building ond frems oivtea nol

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(Continued on page xvii.) Ernest E. Fewks, Centre St. York City; a Harley B. Jeffery, Syracuse.

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591,408. HEAT-INSULATING ARTICLE.—John Lumley, San Francisco, Cal.
591,490. BACKGROUND.—James M. Graham, Chicago, III.
591,511. BUILDER.—Eli Zimerman, Watertown, N. Y.
591,543. WATER HEATER AND PIPER.—W. L. Shepard and Ernest W. Whitlock, Elmwood, Conn.
591,560. BRIDGE-BOR.—Eli Zimerman, Watertown, N. Y.
591,586. GATE-LATCH.—Oras Bower, Brafton, Ky.
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Kilogrammes = 1102.3 = Tons (2,000 pounds).

Grammes per cu. cent. + 27.7 = Pounds per cu. in.

Grammes (water) = 29.57 = Fluid ounces.

Kilogrammes x 2.2046 = Pounds.

Litres x 61.022 = Cu. ins. (Act Congress.)

Cubic metres x 35.315 = Cubic feet.

Hectolitres x 2.84 = Bushels (2,150.42 cu. ins).

Litres x 33.84 = Fluid ounces. (U. S. P.)

Cubic metres x 264.2 = Gallons (231 cu. ins).

Cubic metres x 1.308 = Cubic yards.

Litres x .2642 = Gallons (231 cu. ins).

Litres = 3.78 = Gallons (231 cu. ins).

Cubic centimetres = 16.383 = Cubic inches.

Square centimetres = 6.451 = Square inches.

Hectares x 2.471 = Acres.

Kilometres x 3280.7 = Feet.

Kilometres = 1.6093 = Miles.

Millimètres x .03937 = Inches.

Centimètres = 25.4 = Inches.

Kilometres x .621 = Miles.

Kilograms — 1102.3 = Tons (2,000 pounds).

Litres x .2642 = Gallons (231 cu. ins).

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Kilograms per metre x .672 = Pounds per square foot.

Kilometres x 1.6093 = Miles.

Kilogrammes — 1102.3 = Tons (2,000 pounds).

Kilogrammes per métre x .672 = Pounds per square foot.

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Haverhill, Mass.—The Board of Aldermen have authorized the Committee on Public Instruction to procure plans for a $40,000, eight-room school-house to be erected in Ward 6.

Eau Claire, Wis.—The Masonic Temple Building Association has over $27,000 pledged toward the erection of the proposed new building. Arrangements for carrying on the work are now being con- sidered.

Fargo, N. D.—The City Council has granted permission to the Northern Pacific Railroad Company to erect a temporary frame depot for the winter. In the spring the company will erect a stone depot to cost $25,000.

Hyde Park, Mass.—Fredk. Hall, cor. Hyde Park Ave. and River St. is preparing plans for a four-st'y $15,000 brick business block, also plans for a one-st'y brick bank building, 27' x 60', to cost $6,000.

Houston, Tex.—Plans for the Orphans' Home at Corsicana, drawn by Glover & Allen, of this city, have been accepted.

Houghton, Mich.—W. T. Pryor, architect, has prepared plans for the foundation walls for the proposed Finnish Theological Seminary. The building will be 88' x 60', three-st'y, with furnace, laundry, gymnasium, etc. The foundation walls will be of Portage Entry redstone.

Helena, Ark.—Contract has been let to build new St. John's Episcopal Church to cost $26,000. Patk. Powers, of Little Rock, contractor.

Knoxville, Tenn.—Plans by Architect F. K. Thompson have been accepted by the Knoxvile College for the erection of a new building.

Lenox, Mass.—The New York, New Haven & Hartford Railroad Company has decided to build a fine new passenger depot at the north end of the campus. The approach to the station will be made a winding road, bounded by shrubbery, in such a manner as to hide the tracks.

Lincoln, Neb.—The contract for erecting the new Mechanic Arts Building on the University grounds is stated to have been awarded to Grace & Kelley, at $25,648.

Memphis, Tenn.—The City School Board will build school-houses on Poplar St. to cost $36,000.

Menasha, Wis.—Plans by H. J. Van Eyk, architect, of Milwaukee, were selected for the new public library. It will be 60' x 120', two-st'y, of cut stone; cost, $15,000.

Milwaukee, Wis.—Crane & Barkhausen, architects, are preparing plans for a Catholic school-house, to be erected at 12th and Cedar Sts. The building will be 60' x 80', two stories high, built of solid brick, and will cost about $10,000.

Minneapolis, Minn.—The Board of Education will build a new $20,000 brick high-school building on a site on 5th St., East, between 13th and 14th Ave. and 8th and 9th St. Plans were prepared by G. H. Hoff- man, architect, of that city.

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Newport, R. I.—At the election in November the citizens will be asked to vote on the proposition to appropriate $40,000 to purchase a site and erect a new school-building in the northern part of the city.

Norristown, Pa.—The Grand Jury for the October

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BUILDING INTELLIGENCE.

(Advance Notices Continued.)

Boston, Tex., have been accepted for new opera-

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Newport, R. I.—At the election in November the citizens will be asked to vote on the proposition to appropriate $40,000 to purchase a site and erect a new school-building in the northern part of the city.

New York, N. Y.—Mr. Cohen, 202 Broadway, has completed plans for 62 three-story b. dwellings, of various dimensions to be erected on Daily Ave., by Messrs. Glasheen & Marsh. 112 Naaman St. Esti-

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mated cost, $200,000.

The Colored First Baptist Church will erect new church.

Sparksburg, S. C.—The Trustees of Converse College have had plans drawn for an extension.

St. Louis, Mo.—A three-story school of five arts will be erected on 10th St., by Letort and St. Charles Ave., at a cost of $50,000. R. C. Tree, director.

The Board of Education awarded the contract for creating a school-building on 19th Ave. and 22nd St., between 31 and M Ave., to J. P. Wald, 506 Fifth Ave., at $39,000.

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Philadelphia, Pa.—Joe. H. Butter has been appointed to superintend the construction of the new building to be erected at the northeast corner of Broad and Market Sts. As yet the details of the work have not been thoroughly planned, but it is thought that the structure will be of iron, thoroughly fireproof, with a stone and terra-cotta front. The present Butter has plans in preparation for an addition to the Harrisburg State Hospital. The proposed building will consist of a number of buildings, to be of brick, and will be of brick trimmed with stone. Another plan of architects are engaged on plans for a new hospital to be erected on the present site of the home for the insane, on High and Chestnut Sts. The present home, built in 1851, is in a dangerous condition. A Mutual Building, made for a heavy structure of the stone and brick, with terra-cotta trimmings.

Pittsburgh, Pa.—Alum & Harrow, architect, Van- genau, builder, have prepared plans for a depart-

ment store for G. H. Rowe & Co., East End, and will be 50' by 150', five stories, built of pressed brick, with stone foundation, and will cost about $30,000.

Fort Worth, Va.—A plan for erecting a public school building to cost $20,000, by Mr. Ives, has been drawn by Mr. C. W. Turner, manager. Cost of build-

ing will be 100' by 150', ten stories on the stone and brick, with the plan having no chimneys.

Sturgis, Mich.—At the special election held Octo-

ber 4th, sufficient votes were cast to authorize the building of a city hall and Courthouse.

Terre Haute, Ind.—The Board of Education, superintendent of the Valparaiso, has purchased a lot on 6th St. and will build a new building on that lot. The building will be 150' by 100', ten stories on the stone and brick, with the plan having no chimneys.

Wabash, Ind.—The County Commissioners awarded

Building Intelligence.

(Advance Notices Continued.)

Quarter Sessions on October 8 recommended the erection of an addition to the Courthouse. It is estimated that the improvement will cost about $150,000.

Architect Isaac S. Taylor has finished the plans for a $50,000 factory building on O'Fallon St., bet. 22d and 23d Sts. The building will consist of two floors and will be of brick, and will be equipped with a full sprinkling plant, protected elevator shafts, disconnected stairways, etc. The power used will be electricity.

St. Paul, Minn.—The A. Booth Packing Co. has bought the lot on W. 3d and St. Peter Sts., and will erect a packing plant, costing about $30,000, by C. W. Turner, manager. Cost of building and equipments, $60,000.

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Elmwood Ave., Brooklyn Heights, Ward 25, 10 x 30°; $1,500. o. & b., Charles A. Maddox, 16 Pleasant View Ave.

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W. Fifth St., No. 2, Ward 13, 15 x 40°, pitch roof, stoves; $15,000; o., J. P. Monks Estate, 35 Congress St.; b., N. Goodwin, 874 Broadway.

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

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

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** SECTION 10. ** It is unprofessional for a Member to 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 11. ** No Member should compete in amount of commission, or offer to work for less than another, in order to secure the work.  

** 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.  

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(Advance Notices Continued.)

shortly ask architects to submit plans for the pro- posed Stevenson Science Hall with an electric plant in connection. Work will not be commenced until spring.

Amato, Ill.—Plans have been completed for a new Masonic Hall. It will be a four-story structure, 100' x 100'.

Haynsees, N. J.—The Board of Education contem- plates erecting a new brick school-building. The cost is estimated at $50,000.

Bellefontaine, O.—At the coming election the citizens will be asked to vote on the question of issuing bonds to the amount of $30,000 to build a new City-hall.

Bayonne, N. J.—The Board of Education contemplates erecting a new brick school-building. The cost is estimated at $30,000.

Binghamton, N. Y.—The West Presbyterian Church Society contemplates erecting a new church to cost about $30,000, according to reports.

Boston, Mass.—Morris Clifton has purchased about 5,000 square feet of land on Huntington Ave., near Parker St. 321 A. E., on which he will build a business block on the corner of Kenmore and Parker Sts.

Blighstown, N. Y.—The West Presbyterian Church Society contemplates erecting a new church to cost about $30,000, according to reports.
The following metric conversion table has been compiled by Mr. W. H. Wood, A. I. A., Soc. M. E., New York, W. H. Nash Company, and is the most convenient in dealing with weights, measures, etc., in the following.

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Fall River, Mass.— Everett St., four-st'y bk. flats, 50' x 60', comp. roof, steam; $10,000; o., Frederick Hoy; b., S. F. Stewart.

New York, N. Y.— One Hundred and Forty-ninth St., No. 503, five-st'y bk. flats, 25' x 82'; $18,000; o., John J. Mahoney, premises; a., Arthur De Saldern, 115 Broadway.


Hoboken, N. J.— First St., s e cor. Willow Ave., five-st'y bk. flats, 25' x 52' and extension; $24,000; o., Theophilus Butts; a., Charles Reekie.

Ninety-sixth St., nr. Amsterdam Ave., 4 five-st'y bk. flats, 25' x 96'; $80,000; o., Morrisey & Co.; a., Lawrence & Ringrose, 150th St. & 3d Ave.

One Hundred and Thirty-third St., nr. Amsterdam Ave., 2 five-st'y bk. & st. flats, 25' x 87'; $36,000; o., Thos. J. McGuire, 1454 Amsterdam Ave.; a., Harry T. Howell, 748 E. 138th St.

Ernscliffe Pl., bet. Cortlandt Ave. & St. George Pl., 2 five-st'y st. flats, 29' x 50' & 25" x 50' respectively; $40,000; o., Mrs. Isabella Arendt; a., S. D. Cohen, 203 Broadway.

Seventh Ave., cor. 112th St., 4 five-st'y bk., st. & terra-cotta flats, various dimensions; $190,000; o. & b., Picken & Lilly, 1441 Third Ave.; a., John Hauser.


Bosworth Ave., No. 850, three-st'y & base, st. flat, 22' x 92', comp. roof, steam; $10,000; o., A. J. Alund, 852 Bosworth Ave.; a., Louis Ostling.

Walnut St., Nos. 1105-07, four-st'y bk. stores & flats, 417'; x 100', asphalt roof, steam; $12,000; o., Michael Damer; a., Jos. G. Steinkamp.

One Hundred and Sixth St., bet. West End Ave. & Boulevard, seven-st'y bk. flats, 50' x 103'; $50,000; o., Lotis F. Weissman, 9 Bible House; a., J. A. Hamilton, 39 Broadway.

Wellington Ave., No. 1447, three-st'y & base. st. & bk. flats, 28' x 68', slate & gravel roof, steam; $10,000; o., R. M. Jaffray, 324 Dearborn St.; a., Church & Jobson, 1233 Marquette Building.

Chicago, Ill. — Third Avenue, two-st'y bk. factory, addition, 3' x 119', comp. roof, steam; $9,000; o., John- son Arms & Clark; a., Daniel Gavriloff, 1761 Fourth Ave.

Providence, R. I.— Brown St., 3 three-st'y fr. flats, 38' x 57', comp. roof; $4,500; o., Thos. Murphy; a. & b., Brady Bros.

Independence, Kan. — Two-st'y & base. st. & bk. school., 96' x 120', steel shingle roof, steam; $23,000; o., — of Education; a., H. M. Hadley, Topeka; not let.

Berlin, N. H.— Two-st'y, 6-room fr. school., 60' x 76', shingle roof, steam; $8,500; o., Town of Berlin; a., W. P. Regan, Lawrence, Mass.; not let.

Owatuma, Minn. — Two-st'y bk. & st. school., 54' x 71', shingle roof, steam; $15,000; o., Board of Edu- cation; a., Orff & Guilbert, 17 Lumber Exchange, Minneapolis.

Milwaukee, Wis. — Jefferson St., No. 658, four-st'y bk. hotel, 44' x 90', flat roof, steam; $20,000; o., Timothy Dail, on premises; a., Chas. Fitzgerald.

Minonk, Ill. — Two-st'y bk. hotel, 60' x 60', hot water; $6,000; o., S. E. King, Ottawa, Ill.; a., Kes- ton White.

Petersburg, Ill.— Four-st'y bk. & st. hotel, 64' x 88', tin roof, steam; $15,000; o., W. C. Smoot; c., A. S. White; a., S. A. Bullard, Springfield.

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Providence, R. I.— Brown St., 3 three-st'y fr. flats, 38' x 57', comp. roof; $4,500; o., Thos. Murphy; a. & b., Brady Bros.

Independence, Kan. — Two-st'y & base. st. & bk. school., 96' x 120 ', steel shingle roof, steam; $23,000; o., — of Education; a., H. M. Hadley, Topeka; not let.

Berlin, N. Y.— Six-st'y fr. school., 60' x 76', steel roof, steam; $60,000; o., Geo. Washington; a., A. H. Davenport, Boston.

Independence, Kan. — Two-st'y bk. & school., 64' x 88', steel shingle roof, steam; $15,000; o., Board of Education, Topeka; a., H. M. Hadley, Topeka; not let.

New York, N. Y. — Fifty-sixth St., s. x 36', x 100', bk. & st. building; $1,600,000; o., E. W. Bage, Wm. E. M. Hender- son & William, Brooklyn; a., Friedlander & Dillon, 6 West 25th St.

Boston, Mass.— South St., 6th-st' floor hospital, 24' x 22', steel roof, steam; $10,000; o., A. H. Davenport, Boston.


Chicago, Ill. — Third Avenue, two-st'y bk. factory, addition, 3' x 119', comp. roof, steam; $9,000; o., John- son Arms & Clark; a., Daniel Gavriloff, 1761 Fourth Ave.

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[At Macon, Mass.]

Proposals will be received until December 23, 1897, for the erection of a jail, of stone, masonry and iron, to cost about $150,000. W. C. VAUGHT, Clerk. 1142

SCHOOL-House.

[At Malden, Mass.]

It is reported that bids are to be taken December 12th for the erection of a school-house, cost about $40,000. W. H. HAYLE, Clerk of the Committee. 1142

PROPOSALS.

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BUILDING INTELLIGENCE.
Spokane, Wash. — Plans will shortly be prepared for a new 16-room school building to be constructed here.

Seattle, Wash. — John Noyes, of Butte, Mont., will erect an addition to the Rainier Grand Hotel, to cost $100,000.

Ripon, Wis. — A Science Hall, to cost $30,000, will be added to the buildings of Ripon College.

Washington, D.C. — Geo. P. Newton will erect 4 two-sty brick and stone dwellings, 17' x 65', to cost $20,000, on Massachusetts Ave., between Ist and 2d Sts., architect, N. T. Haller, 1216 F St., N. W.

Wheeling, W. Va. — Contract for the construction of the building for the Girls' Industrial School at Salem, was awarded to Wood Bros. Company. The building, when completed, will cost in the neighborhood of $18,000.

Washington, D. C. — Monument to be erected at 59th-St. entrance to Central Park.

The City Property Committee will call for competitive plans from local architects in about a week for a sixteen-room brick grammar school building, to be built in the Forest Park section. The building will cost over $50,000.

New York, N. Y. — Forty-sty addition to box, 20' x 30', for ches, dressing room, fireplace & hot-water heating; $20,000; o., Louis Perelstein & M. Bernau, 49 Monroe St.; a., Horenburger & Straub, 122 Bowery.
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- Portland Public Library, Portland, Maine.
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(Business Continued.)

Brooklyn, N. Y.—First St., n. 200 w 7th Ave., 3 three-st'y bk. dwell., 27' x 60'; total cost $12,000; o., Geo. Ormes; b., A. H. Wyckoff, 226 La Salle St.

Erie Ave., n. 200 w 7th Ave., 2 two-st'y bk. & st. dwell., 24' x 40'; $8,000; o., Henry Wyckoff, 226 La Salle St.

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Fifty-third St. and Lexington Ave., three-st'y bk. & st. dwell., 38' x 72', slate roof, hot water; two-st'y bk. barn, 31' x 60'; total cost, $25,000; o., E. S. Hunter; b., Fowler & Wright, 226 La Salle St.

Fourth Ave., w 8, 109 n 77th St., two-st'y fr. dwell., 28' x 38'; $5,000; o., Wm. Princeham, premises; b., H. L. Spicer, 204 Montague St.

Ocean Ave., @ 8, 400° s Avenue G, two-st'y fr. dwell., 31' x 32'; $6,000; o., T. J. Henderson, 276 Hooper St.; b., J. J. Petit, 186 Remsen St.

Thirty-seventh St., n 8, 225' e Third Ave., three-st'y bk. dwell., 27' x 61'; $5,500; o., T'. Seigfried, 59 Thirty-seventh St.; b., W. Rexer.

Twelfth Ave., 8 w cor. 85th St., two-st'y fr. dwell., 28' x 40'; $6,000; o., W. L. Johnson, 11th Ave. & 82d St.; b., A. KE. Parfitt.

Voorhies Ave., n 8, 86 w Ocean Ave., two-st'y fr. dwell., 25' x 39'; $6,550; o., M. Teets, premises; b., F. C. Wessels.


Hartford, Conn.—Main and Capen Sts., 2 two-st'y fr. dwell., 35' x 60', 13 rooms, pitch roof, furnace; $9,000; o., Chas. King; b., Isaac Bragaw; b., Willis E. Becker.

Milford, Mass.—Pine St., 24-st'y fr. dwell., 25' x 59', shingle roof, steam, electric lighting: $4,500; o., W. A. Pond; b., R. A. Cook; all modern improvements.

Hartford, Conn.—Park Ave., two-st'y fr. dwell., 100' w 7th Ave., 4 four-st'y bk. dwell., 27' x 64'; total cost $38,000; o., Kelty Bros., 186 Garfield Pl.; b., George W. Bush.

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Hastings Lane, 2 two-st'y fr. dwell.; $8,000; o., W. A. Kolbe; b., L. H. Lovering; a., Lyman Sise, Boston.

Newton, Mass.—Brant Rock Road, South Road, 20' x 20', shingle roof, furnace, two open.

BUILDING INTELLIGENCE.
(Continued on page xix.)

PROPOSALS.

CONSERVATORY. [At Buffalo, N. Y.]
Proposals will be received for the construction of a new conservatory in South Park. G. H. SELKIRK, Secretary, and Board of Park Commissioners.

SCHOOL. [At Potsky, Mich.]
Bids are wanted November 30 for erecting a new school building in Greenwood District No. 5. J. PRIVATT, Chmn, Bldg. Com.

Proposals will be received at this office until 3 o'clock p. m. on the 30th day of November, 1897, and opened immediately thereafter for all the labor and materials required for the completion of the interior finish of the United States Post-Office and Customs House, and will be considered with the drawings and specifications, copies of which

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Worcester, Mass.— Millbury St., two-st'y fr. dwell., 27' x 52'; $3,509; o., P. Doherty; a., George & J. P. Kingston; c., F. G. Yates.

New Rochelle, N. Y.— Mahistadt Ave., 2½-st'y fr. dwell., 34' x 48'; $5,000; o., J. A. Mahlstadt; a., Chas. A. Lupprian, Main St.

Pittsfield, Mass.— Oak Hill, three-st'y fr. dwell., 30' x 60'; shingle roof, steam; $15,000; o., Mrs. Louis Chauvenet; a., Rathburn & Harding; not let.

Philadelphia, Pa.— 4th Ave. granite dwell., limestone trimmings, 40' 6" x 76', hip roof, steam heat; $25,000; o., John P. Mathieu; c., Wm. R. Dougherty; a., Hales & Ballinger, 102 S. 12th St.

Pelham Manor, N. Y. — 2½-st'y fr. dwell., 28' x 41; $5,000; o. & a., Harry Woodhouse.

New York, N. Y.— One Hundred and Thirteenth St., nr. 3 Ave., three-st'y bk. dwell. & store, 42' x 23' 6/7; $6,000; o., Mrs. Anna J. Randall; a., Lawrence & Rimrose, 150th St. & 3d Ave.

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Palisade Ave., 2½-st'y fr. dwell.; $6,500; o. & b., Henry C. Pelton, Madison Ave., New York City.

North Yonkers, N. Y.— Mrs. J. L. dwell., 32' x 32'; $6,000; o., Mrs. H. Mahoney; a., A. J. Van Smedtale.

Pallisades, 2½-st'y fr. dwell.; $8,000; o. & b., Henry C. Pelton, Madison Ave., New York City.

Newark, N. J. — M. W. 3½-st'y dwell., 30' x 20'; $5,000; o., A. D. Van Smedtale.

Fobsboro, N. J. — 2½-st'y fr. dwell.; $9,000; o., Charles L. Noble.

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Brooklyn, N. Y. — Plans and specifications are wanted until December 4, for Erasmus Hall High School, to be located on Flatbush Ave., 29th Ward. John McNamee, Chairman Committee on School-houses, Board of Education.

Baltimore, Md. — Proposals are now being received for the construction of a twelve-sty office-building, to be 60" x 90', at a price of $200,000. The building will be constructed of pressed brick, stone trimmings, four stories, 110' x 200'. The plans for the building were prepared by Winslow & Wetherell, architects, of Boston, Mass.

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Springfield, O. — Z. Main St., No. 7, business-block; $10,000; o., J. L. Zimmerman; a., Robert Gotwald.

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Louisville, Ky.—Broadway, two-st'y bk. stable; $1,000; a., J. H. Johnson.

New York, N. Y.—Eleventh Ave., nr. 62d St., three-st'y bk. stable & store, 75' x 95'; $25,000; o. Frederick Egler, Jr., 398 St. Nicholas Ave.; a., J. Boekell & Son, 54 Bond St.

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(Continued on page x.)

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Brooklyn, N. Y.—A new brick and stone church will be erected by the German Reformed Church, this city. Competitive plans ... W. Boetcker, 507 Chestnut St., can be addressed for further information. Work will not be started before about May, 1898.

Buffalo, N. Y.—The City of Buffalo has given notice of intention to erect a public school building and have notified the Board of Public Works to prepare plans and advertise for bids for same.

Brockton, Mass.—The plans for the new high school have been submitted to the School Com- mittee by Supt. Mitchell. It is ... at once, will cost $40,000 approximately, and the whole structure, when completed will cost in the vicinity of $100,000.

Bayonne, N. J. —Architect Hugh Roberts, of Jersey City, will prepare the plans for the new high school to be erected at this place. It will cost $60,000.

593,547. FIREPROOF FLOOR AND CEILING.—Chas. A. Balph, Pittsburgh, Pa.

593.492. HEATING - FURNACE.— Francis Peteler, Minneapolis, Minn.

593.472. HINGE.— Vespasian V. Hedges, Coffeyville, Kan.

593,303. CHIMNEY.— Adolph Lemke, Minneapolis, Minn.

593,434. DEVICE FOR OPENING ELEVATOR-DOORS. —Joseph Rice, Chicago, Ill.


593,225. PiRpk-CLEANING APPARATUS. — Athol B. Macklin, New York, N. Y.

(Reported for The American Architect and Building News.)

The Board of Education has awarded the con- tract for the construction of the building for Public School No. 118, on 4th Ave., corner of 59th St., to William H. Port, 643 Lorimer St., his figure being $72,995.
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Pottstown, Pa.—The Pottstown Brewery is to be enlarged by the erection of a four-st'y addition. New machinery will be introduced.

Reading, Pa.—The Boss Knitting Machine and Textile Co., of this city, contemplate erecting an additional four-st'y and basement brick and iron, slate and slag roof building to their works. It will cost about $50,000.

Portland, Ind.—Plans prepared by W. R. Brown, architect, 222 W. 4th St., Cincinnati, O., for a new church to be erected by the Methodist Episcopal Society have been accepted. The new edifice will cost about $50,000.

St. Louis, Mo.—Isaac S. Taylor has prepared plans for a ten-st'y steel, stone and terra-cotta fireproof Court-house ... The structure will contain 12 elevators, electric-light and steam-heating plants, and is estimated to cost $1,500,000.

St. Paul, Minn.—W. B. Brewster is having plans prepared for a store and flat-building to be erected on Rice and Iglehart Sts. It will be 80' x 120', four stories and basement, of pressed-brick, with cut-stone trimmings.

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Chicago, Ill.—Ornamental Iron Work. The weather will permit. The total improvements at West Superior by the company will cost $100,000. The new building will be put in connection with the old building, and the plans are being submitted for the work. The contract will be awarded to the company.

St. Louis, Mo.—Chestnut St., bet. 5th & 6th Sts., interior alterations to Laclede Hotel; $9,000; o., J. L. Griswold; c., Barnes & Hill.

Hoboken, N. J.—River St., No. 122, five-st'y bk. & st. office & flats, 27' x 115'; $20,000; o., William Utz, c., J. R. Henne, a., W. A. Holbrook.

Bankston, Ia. — Bk. & st. church, 54' x 154', slate roof, steam; $13,000; o., St. Clement's Roman Catholic Church, Rev. W. A. Banfield, pastor; c., Byrne & Saur, Dubuque; a., Guido Beck, Dubuque.

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(Continued.)

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Chicago, Ill. — Prairie Ave., nr. 47th St., 4 three-sty bk. & st. dwells., 20' x 56'; $30,000; o., Hi Lyons, on premises; a., J. G. Corneal, 5 Court St.

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For the Lincoln School, Rochester, N. Y., plans and specifications will be received at the office of the Secretary of the Board, 100 Broadway, Rochester.

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No. 131 Livingston St., until 12 M., December 4. From the plans submitted three will be selected by the Board, and for these the following awards will be paid: $600 for first choice, $400 for the second, and $200 for the third.


Treasury Department, Office Supervising Architect, Washington, D. C., November 4, 1897. Notice is hereby given that the bids for the completion of the interior finish of the United States Post-ofﬁ ce building at Washington, D. C., will be opened at this office on the 26th day of November, 1897, and immediately thereafter, for all the labor and materials required to place in position complete a tower clock for the United States Post-Ofﬁ ce building at Washington, D. C., in accordance with directions contained in Circular No. 84, issued by the Engineer General of the United States Government, and for which the following speciﬁ cations have been prepared:


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1. At Magnolia, Miss., the proposal will be received until December 4 for remodelling the Pikes County Jail. W. C. VAUGHN, Architect.

2. At New York City, the proposals will be received at this office until 5 o'clock P. M. on the 26th day of November, 1897, and opened immediately thereafter, for all the labor and materials required to place in position complete a tower clock for the United States Post-Office building at Washington, D. C., in accordance with directions contained in Circular No. 84, issued by the Engineer General of the United States Government, and for which the following specifications have been prepared:

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store & loft building, 23' x 203'; $12,500; o., Paul Leavitt, 190 Washington St.; c., William Mc-

Graw, 787 Second Ave.

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Chestage, Ill. — Z. Indiana St., No. 79, six-sty & base. bk.

warehouse; $10,000; o. & b., George B. Carpenter.

New York, N. Y. — Fulton St., No. 64, nine-sty bk.

& steel store & loft building, 3,000,000 cu. ft. $57,000; o. & b., 2 Buck, 109 W. 4th St.

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New Bedford, Mass. — S. Second St., three-sty fr. store & tenement, 42' x 60', flat roof, steam; $10,000; o., Bridget L. Hickey; c., Sam. C. Hunt.

Haverhill, Mass. — Bridge St., five-sty bk. store & warehouse, 50' x 105', flat roof; $15,000; o., D. D. & A. W. Chase; c., J. M. Littlefield, 69 Merrimack St.

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(Advance Rumors Continued.)

BROOKLYN, N. Y. — The contract for erecting the new school on 59th St. and 4th Ave. is stated to have been awarded to Wm. H. Port, at $72,995.

IPSWICH, Mass. — Reports state that Dr. Chas. W. Townsend, of Boston, will build a large summer residence on land lately purchased from John A. Burnham.

KIRKSVILLE, Mo. — The contract for building the new Courthouse has been awarded by the County Court to Charles Anderson, at $50,000.

Lewistown, Pa. — The City Council have passed an ordinance providing for the issuance of $50,000 in bonds for constructing new school-building and enlarging others.

LEBANON, Mass. — Report states that Dr. Chas. W. Townsend, of Boston, will build a large summer residence on land lately purchased from John A. Burnham.

Rahway, N. J. — The Church of the Holy Comforter at this place, which was burned about two years ago, will be rebuilt. A committee has been appointed to have plans prepared.

READING, Pa. — Charles W. Bolton, architect, 1510 Chestnut St., Philadelphia, has prepared plans for a new edifice to be erected by St. Stephen's German Episcopal Church.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

DEPUE, N. Y. — The Wagnin Plan of No. 84 E. 44th St., New York, will probably build a Cathedral of St. John the Divine, with the interior designed by the E 14th Ave.

Ottowa, Ill. — The plans for the High School Buildings have been accepted, to cost about $2,500,000, to be erected by the Trustees of the City.

WEchselberger & Hewitt have been selected as architects to prepare plans for the new Irving School.

The buildings and gymnastic rooms of the city will be completed in time for the fall term.

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Rochester, Minn. — A new building will be erected by the Masonic Temple Association.

Roaring Springs, Pa.—The Methodist Episcopal Congregation have accepted the plans for a new stone church to cost $10,000. Work to commence in the spring. Chas. M. Robinson, of Altoona, is the architect.

Spokane, Wash.—Spokane, Wash., has voted to issue $50,000 school-building bonds.

Washington, D. C.—It is reported that steps will be taken to raise $250,000 for the erection of the College. Mrs. Ellen A. Richardson, of Boston, is a leading contributor.

The United States Electric Light Co. will erect a brick power-house at the southeast corner of 14th and B Sts. The plans . . . and slag roof, steam heat. A tower 62' high will also be erected. The cost of the structure will be about $62,000.

Windham, Ill. — The First Presbyterian Church will erect at once a new structure. It will cost $15,000. Rev. Theodore H. Allen, pastor.

Weston, Mass.—Report states that Albert Thorsen, 24 Congress St., Boston, will build a $10,000 residence and stable here from plans by George F. Newton, Boston.

Whitinsville, Mass.—Plans prepared by Architects Shepley, Rutan & Coolidge, of Boston, have been accepted for a new edifice for the Congregational Church to be erected here, to cost about $75,000.

Washington, Pa.—It is reported that plans have been prepared by W. M. Ely, architect, for a new Y. M. C. A. building to be erected here, to cost about $40,000.

Wausau, Wis.—A new High School Building is desired by the Board of Education and efforts are being made to induce the citizens to have one erected.

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THE BEDFORD QUARRIES COMPANY OF BEDFORD, INDIANA, are producers of Buff and Blue Oolitic Limestone from the celebrated HOOSIER and BUFF-RIDGE Quarries, which are prepared to supply either in blocks or sawn as required. THE MUTUAL RESERVE FUND, CONSTABLE, HOTEL MAJESTIC, PRESBYTERIAN, MANHATTAN HOTEL and other notable buildings in New York are built of stone from these Quarries, which have a capacity many times larger than any others in the Oolitic district.

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CHICAGO OFFICE: 185 Dearborn Street.
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THE "VULCAN" LOCKS
A NEW PRODUCT OF THE YALE & TOWNE MFG. COMPANY.

The age of iron is passing and the age of steel is fully born. America has long excelled in small products of cast-iron, but is discarding them for better ones of wrought steel. Both were formerly hand products; cast work so remains, but wrought work, in quantity, is now produced from the wrought sheet or rod by machine processes, which supersede hand labor.

This new material, and these processes, have already been utilized in creating modern fire-arms, the sewing machine, the American watch and the bicycle; they are now availed of to create a new American product, namely, a door lock formed wholly from wrought materials, machine made throughout and interchangeable in all its parts.

CONSTRUCTIVE FEATURES

The Case and Cap. These are of cold-rolled steel, each flanged on the outer edge and ribbed in transverse lines, thus obtaining greater rigidity and far greater strength than that of a cast lock of twice the weight.

The dimensions and weights of all the parts are those suitable to give proper strength. All the parts being of wrought metal the total weight is somewhat less, and the strength of each part much greater, than if cast metal were used.

The Front. As shown by Fig. 2, this consists of a wrought steel base, attached to the case by two cheeks, over which is drawn a skelp or cover of wrought bronze, clinched over the tapered edges of the base, thus firmly uniting the two and producing a front of great stiffness having true edges, beveled to fit snugly into the wood, and a surface admitting of the highest polish.

The Bolts. The Latch-bolt and the Dead-bolt each consists of a solid head of wrought bronze or steel, and a wrought steel tail-piece, forced into the head and secured thereto by riveting and by setting down the metal of the head over interlocking projections on the tail-piece, as shown by the illustration of latch-bolt in Fig. 4. The tail pieces are ribbed or corrugated to give added stiffness.

The Key. The key of the Vulcan Lock, shown by Fig. 5, is of solid steel and is cold-forged from open-hearth metal. It is machine finished, nickel-plated and finely polished. Its bow is of the well-known Trefoil design, so long identified with the Yale Lock, and bears on one side the Trefoil trade mark of the makers. The form of the key is peculiarly graceful, and its oval cross-section gives great strength.

The substitution of machine processes for hand labor, has not only produced a more perfect article, but has also effected economies which enable the Vulcan Locks to be sold at prices so low as to make them available for every purpose.

New and improved mechanisms, made possible by new and better materials and processes, combine to make the resulting product the most important advance in the art of lock making since Linus Yale Jr., one of the founders of The Yale & Towne Manufacturing Company, a few years before his death, in 1868, invented the lock which will forever be associated with his name and which has completely revolutionized American practice in lock making.
The Completed Lock. The external and internal appearance of the several parts when completed and assembled is shown by Fig. 6 on opposite page.

The Cycloidal Knob Action. In this is embodied a new principle and a great advance in lock mechanism. It discards the sliding action used hitherto and substitutes pivotal motions and inter-gearing of levers, every piece being machine made from wrought metal. Fig. 7 shows the mechanism in its normal position. The hub, by which the rotary action of the knob is transmitted, has a single arm or cam projecting diagonally downwards. Bearing against each side of this cam are two pivoted levers, geared together at their other ends, so that motion of the cam in either direction produces the same effect upon the levers, causing the lower one to move backward, carrying with it the third lever, to which is pivoted the end of the latch-bolt.

Fig. 8 shows the parts in the position they occupy when the latch-bolt is forced back, as in closing the door. One of the inter-gearing levers has a heavy spring, giving the desired resistance to the knobs. The third lever is independent and has its own lighter spring, acting both on the knob and the latch-bolt. This spring alone opposes resistance to the retraction of the latch-bolt, while both springs oppose rotation of the knobs. The most perfect “easy-spring” action is thus obtained. The latch-bolt is reversed by removing cap of lock. Fig. 9 shows the latch-bolt retracted by rotation of the knob in either direction, and shows also the construction of the hub or cam from two pieces of wrought metal, machine made throughout. As seen in Fig. 6, the holes or trunnions in the lock case are flanged inwards to provide a broad bearing for the ends of the hub, these bearings being accurately fitted by machine processes. The bearings for the key are formed in like manner.

In other wrought metal locks these bearings are merely holes punched in the metal, and their tin edges tend to cut into the metal of the hub or key, the result being rapid wear, which, in the case of the hub, produces looseness and rattle; and, in the case of the key, disturbs its relations with the thumbers so that it works badly and ultimately may fail to operate the lock. The broad bearings in the Vul-Lock obviate all of these difficulties.

The Dead-bolt Action. The method of constructing and guiding the Dead-bolt is shown by Fig. 10. Its bottom edge is flanged to give stiffness, its rear end is thickened by a reinforce to give a broad bearing for the key in the “talon,” and its motion is guided and checked by a stud attached to the case and fitting within a guide slot in the bolt-tail.

The Tumblers, of which in some locks there are two and in others three, are of the double-acting lever type, as also shown in Fig. 10. The “fence” or post on tail of bolt fits within the segmental openings of the tumblers and must pass the narrow gating between them to permit the bolt to move. To accomplish this the key must accurately raise each tumbler to the exact position, neither too high nor too low, to permit the fence to enter and pass through the gating, thus securing ample protection against picking and against the unintentional interchange of keys. Fig. 11 shows the key in place ready to operate the tumblers and retract the bolt.

The Triplex Spindle. This Spindle already in use with the Yale Locks, will be used also with the Vulcan Locks. It consists of three triangular rods which, when united, form a square spindle, to one end of which one knob is permanently pinned. The other knob carries a set screw, which bears on the spindle, as shown in Fig. 12. The tightening of this screw expands the spindle and forces it into frictional engagement with the knob shank, thus holding the knob securely at any point, affording perfect adjustment without resort to washers, and eliminating all looseness or rattle of the knobs.

The Compensating Hub. Heretofore lockmakers have ignored the fact that all wood shrinks and swells with changes in the humidity of the atmosphere. Hence has arisen the dilemma that knobs must be loosely fitted or else will bind. This is due to the conditions illustrated by Fig. 13. As there shown the lock is attached by

its front to the edge of the door, while the escutcheon plate (which carries the knobs) is attached by its screws to the surface of the door at the distance \( X \) from its edge. Any shrinkage or swelling of the wood causes this distance \( X \) to vary and thus tends to cause the knobs, if well fitted, to bind. The Compensating Hub, as shown by Fig. 13, has a rectangular opening which fits the spindle vertically, but which is considerably elongated horizontally. Changes in the dimension \( X \) may thus occur without causing the knobs to bind, and yet rotation of the knobs will cause the spindle to actuate the hub, by contact of the upper and lower sides of the spindle with the opposing faces of the opening in hub, as perfectly as if all four faces of the spindle and hub-opening were in contact, as heretofore. This simple device makes possible the use of perfectly fitted knobs by eliminating the disturbance arising from shrinkage, which heretofore has been so common a cause of trouble.

The Bracket Bearing. A lock spindle is practically a short piece of shafting, with a wheel or pulley (the knob) on each end. Obviously the bearings of such a shaft should be as far apart and as near to its ends as possible. In common locks, on the contrary, they are at the surface of the door and therefore near together. This has long been remedied in the case of the Yale Lock by the use of the "Bracket Bearing," which will also be used with the Vulcan Locks. It consists of a construction of the knob shank, and its supporting thimble, such as to bring the bearings or points of support as close to the knobs, and therefore as far apart, as possible. The mechanical difference between these methods will be apparent from Fig. 14, which shows the old and the new constructions. The dotted lines show the play or "wabble" of the common knob, with its clumsy adjustment by means of a row of screw holes in the spindle, supplemented by tin washers in the loosely fitting thimble or bearing close to the surface of the door.

In marked contrast to this is the easy and perfect adjustment of the knob by means of the Triplex Spindle; supporting of the thimble close to each knob; the well-fitted Bracket Bearings in which the knob rotates, as shown in the above picture.

The Mechanical Combination. The Triplex Spindle, admitting of perfect longitudinal adjustment of the knobs, the Compensating Hub, which eliminates disturbance from shrinkage and swelling of the wood, and the Bracket Bearing, which supports and guides the two ends of the spindle close to the knobs, combine to produce a perfect mechanical assemblage, easy to apply, eliminating all causes of future disturbance, pleasing, because inherently right in appearance, and, as already proved, certain to give permanent satisfaction.

The Trim. Fig. 6 shows one of the plain, wrought metal trims used with the Vulcan Locks, but, in addition to plain trim, in bronze, brass or Bower-Barffed steel they are furnished with ornamental trim in great variety, an example of which is shown in Fig. 15. These ornamentations, and also the extensive line of Vulcan Locks, are described and illustrated in a separate catalogue.

The Yale & Towne Manufacturing Company has issued a most artistic brochure fully explaining the construction and operation of these locks, and also a catalogue of 40 pages, mentioned above, illustrating and describing each lock in detail and showing it associated with a carefully chosen line of plain and ornamental trims. These may be had on application to the Company's General Offices, 84-86 Chambers Street, New York, or from any branch office of the Company. These are located in Chicago, Philadelphia, Boston, Pittsburgh and San Francisco. The works are at Branford and Stamford, Conn.
Making and carrying Steam, Hot Air or Hot Water—Much heat-force lost by radiation.

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BUILDING INTELLIGENCE.
(Letters, a large portion of the building intelligence is provided by their regular correspondents, the editors publish information, especially from the smaller and outlying towns.)

ADVANCE REMARKS
Albany, N. Y. - The Albany Free Library Association has purchased a site on South Pearl St., and will erect a library, at a cost of $75,000, on the building.

American, N. Y. - The Masonic fraternity of America will erect a new temple. The building will be of the same height as the old one.

Ann Arbor, Mich. - The building committee has purchased a site on the corner of Washington and Main Sts., and plans have been made for the erection of a new university building.

Atlanta, Ga. - The Board of Education has decided to erect a new public school, and has authorized its agents to secure a site for the proposed building.

Baton Rouge, La. - The Board of Education has decided to erect a new public school, and has authorized its agents to secure a site for the proposed building.

Berlin, Germany - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

Cleveland, O. - The Board of Education has decided to erect a new public school, and has authorized its agents to secure a site for the proposed building.

Cincinnati, O. - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

Columbia, S. C. - The Board of Education has decided to erect a new public school, and has authorized its agents to secure a site for the proposed building.

Denver, Col. - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

Des Moines, Ia. - The city council has decided to erect a new public school, and has authorized its agents to secure a site for the proposed building.

El Paso, Tex. - The city council has decided to erect a new public school, and has authorized its agents to secure a site for the proposed building.

Erie, Pa. - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

Fort Dodge, Ia. - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

Great Barrington, Mass. - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

Glen Cove, L. I., N. Y. - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

Glenolden, Pa. - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

Houston, Tex. - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

Fort Dodge, Ia. - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

Freeport, L. I., N. Y. - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

El Paso, Tex. - The building committee of the Central Board of Directors of the National German Deaconesses’ Home of the Lutheran Church has decided to erect a new hospital, and has authorized its agents to secure a site for the proposed building.

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DECEMBER 4, 1897.]

The American Architect and Building News. 

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BUILDING INTELLIGENCE.

(Apartment House Continued.)

North Newton, Ill. — J. J. — Archibald Lannister & Rodgers are preparing plans for a three-story brick building.

Guada, N. Y. — The Board of Education is heard to be planning the erection of a new school. The new building will be three stories high, 60' x 100', and cost about $125,000.

Peoria, Ill. — The city council has passed a resolution authorizing the financing Corporation to borrow $50,000 for the erection of an Assembly Hall on the present city hall site. Preliminary plans are now being submitted to the city council, and an addition to the city hall, which is now under construction, will be made.

Philadelphia, Pa. — Several plans have been submitted to the City Hall, for the erection of a new public library building for the trustees of the Institute for the Blind. The plans are all the same, and will be submitted to a committee to be chosen for the purpose.

Pittsburg, Mich. — Plans have been prepared for a new building for the trustees of the Institute for the Blind. The plans are all the same, and will be submitted to a committee to be chosen for the purpose.

Washington, D. C. — The Daley Chal gripe Hospital is now in course of erection, under the direction of Dr. W. T. Burns. The hospital will be two stories high, and will cost about $15,000.

Worcester, Mass. — The new building for the Institute for the Blind is now in course of erection, under the direction of Dr. W. T. Burns. The hospital will be two stories high, and will cost about $15,000.

Boston, Mass. — Cherokee St., nr. Pontiac St., Ward 19, two-sty fr. dwell., 23x 45', pitch roof, stoves; $6,000; o. & b., John M. Kelley, Roslindale; a., Samuel Rantin & Son.

Denny St., nr. Savin Hill Ave., Ward 20, two-sty fr. dwell., 23' x 26' x 45', pitch roof, furnace; $5,000; o., L. Le Blane, 100 Savin Hill Ave.

Brackett St., nr. Washington St., Ward 25, three-sty fr. dwells., 26' x 48', pitch roofs, furnaces; $12,000; o. & b., Ecklund & Emmons, 209 Washington St.

Beach St., nr. Centre St., Ward 23, two-sty fr. dwell., 26' x 45', pitch roof, furnace; $4,000; o., Mrs. M. J. McCarver, 9 Russell Park, Dorchester; b., F. J. Farquhar, Branch Ave., Dorchester.

Spaulding St., nr. South St., Ward 23, three-sty fr. dwell., 24' x 52', flat roof, stoves; $4,500; o. & b., Benj. J. French, 40 Hall St., Jamaica Plain.

Commonwealth Ave., No. 508, Ward 11, four-sty bk. & st. dwell., 25' x 64', flat roof, furnace; $20,000; o., Dr. Alonzo Boothby; b., Whidden & Co.; a., E. W. Kingsbury, 13 Exchange St.

Thatcher Road, No. 38-40, Ward 20, two-sty fr. dwells., 18' x 26' x 38', pitch roofs, furnaces; $8,000; o., Wm. A. Spooner, 4 Trull St.

P St., nr. 4th St., Ward 14, two-sty fr. dwells., 25' 55, pitch roofs, stoves; $10,000; o. & b., H. S. & E. A. Grove St., nr. Blue Hill Ave., Ward 16, three-sty fr. dwells., flat roofs, steam; $22,000; o. & b., Leifsky & Finn.

Thacher Road, Nos. 38-40, Ward 20, two-sty fr. dwells., 18' x 26' x 38', pitch roofs, furnaces; $8,000; o., New England Sheet-Metal Co., 173 Washington St.

Fall River, Mass. — The new building for the Institute for the Blind is now in course of erection, under the direction of Dr. W. T. Burns. The hospital will be two stories high, and will cost about $15,000.

Templeton and Edwin Sts., three-sty fr. dwells., 30' x 40', pitch roof, stoves; $20,000; o. & b., John M. Kelley, Roslindale; a., Samuel Rantin & Son.

Commonwealth Ave., No. 508, Ward 11, four-sty bk. & st. dwell., 25' x 64', flat roof, furnace; $20,000; o., Dr. Alonzo Boothby; b., Whidden & Co.; a., E. W. Kingsbury, 13 Exchange St.

Passaic Rolling Mill Co., Paterson, N. J., 20-in. steel beams, 20 ft. long, to cost $1,000 each.

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BUILDING INTELLIGENCE.

HOUSES.

Boston, Mass. — Charles J. Harwood, 501 South St., 30', three-sty fr. dwell., 30' x 40', pitch roof, stoves; $15,000; o. & b., John M. Kelley, Roslindale; a., Samuel Rantin & Son.


Tampa, Fla. — N. J. Clayton & Co., Galveston, Tex., have made plans for a granite and marble church, 60' x 160', to cost $125,000, for the Roman Catholic Church, of which Rev. W. Tyrrell, S. J., is pastor. Contracts not let.

Stockbridge, Mass. — Stephenson & Greene, of 5 Beekman St., New York City, are preparing plans for a 2-story frame Colonial residence, about 45' x 115', to be erected at a cost of about $20,000.

Hopedale, Mass. — The St. Mary's Catholic Society will let the contract soon for a $10,000 church, 50' x 70'. Work to commence in the spring, Rev. John McCann, Oregon, Ill., pastor.
Elevator Screen in Cast and Wrought Iron, finished in Electro-Bronze for
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BUILDING INTELLIGENCE.

WASHINGTON, D. C.—The U. S. Patent Offic is building for the Department of the Interior, Ward 5, 3 stories, 150' x 90', brick and stone, 338 Kent St., $450,000; 0., A. L. Whitmore; b., S. G. B. C. Company; a., J. R. Judson, Boston, Mass. — Ruggles St., No. 89, two-st'y brick dwell., 24' x 40', pitch roof, furnace; $5,000; o., Geo. C. Bliss; b., Joseph Libby; a., George H. Rice.

BROOKLYN, N. Y. — 218 F. St., 2-story brick dwell., 25' x 45', pitch roof; $5,000; o., Frederick Henry, 339 Water St.; b., Henry W. Bixby; a., A. H. Vinal, Boston.

CAMBRIDGE, Mass. — Union St., No. 35, four-st'y bk. dwell., 25' x 45', pitch roof; $6,000; o., Geo. C. Bliss; b., J. B. Rice; a., A. H. Vinal, Boston.

BOSTON, Mass. — 80-90 Beacon St., two-sty. brick dwell., 25' x 45', pitch roof; $5,000; o., Geo. C. Bliss; b., H. C. Giling; a., A. H. Vinal, Boston.

JUDEA, Mass. — 100 Harvard Ave., two-sty. brick dwell., 25' x 45', pitch roof; $2,000; o., Geo. C. Bliss; b., H. C. Giling; a., A. H. Vinal, Boston.

BEACON HILL, Mass. — 40-50 Tremont St., two-sty. brick dwell., 25' x 45', pitch roof; $5,000; o., Geo. C. Bliss; b., H. C. Giling; a., A. H. Vinal, Boston.

RICHMOND, Va. — 120 1/2 Broad St., three-sty. brick dwells., 24' x 40', pitch roof; $3,000; o., Geo. C. Bliss; b., H. C. Giling; a., A. H. Vinal, Boston.

To Contractors.

Sealed proposals for furnishing the materials and performing the labor required for heating, ventilating and furnishing a supply of steam and other work at the Whitv House by the U. S. Government should be submitted to the following addresses:

Wash. D. C. — 24th St., N. W., Wash. D. C., 3 stories, 90' x 120', brick and stone, $200,000; 0., Geo. C. Bliss; b., H. C. Giling; a., A. H. Vinal, Boston.

NEW YORK, N. Y. — 56-60 West St., two-sty. brick dwell., 25' x 45', pitch roof; $3,000; o., Geo. C. Bliss; b., H. C. Giling; a., A. H. Vinal, Boston.

The proposals must be submitted within three months from the date of this notice. The work will be let to the lowest responsible bidder, subject to the approval of the Secretary of the Treasury. Notice will be given to all bidders the disposition of their proposals. The work will be let in as divided lots as the First National Bank, 171 Water St., New York City.

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for the east building of the Rochester State Hospital, at Rochester, N. Y., may be sent by mail or delivered in person up to 12 noon, December 9, 1887, at the office of Dr. E. H. Howard, Supt., or of G. H. Perry, architect, in the Capitol at Albany, N. Y. Each bid must be enclosed in an envelope, sealed and addressed to HON. FREDERICK COOK, President of the Board of Managers, Rochester State Hospital, Rochester, N. Y., at which time and place the Board of Managers will receive and open all proposals.

Each bid must be enclosed in an envelope, sealed | LING, Clerk of the City.

Drawings and specifications may be consulted and blank forms of proposal obtained at the office of Dr. E. H. Howard, Supt., or at the office of G. H. Perry, architect, in the Capitol at Albany, N. Y.

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RICE & 8000, JACOB STERLING ST., New York, N. Y.

BOIE & HEWITT, 442-500, J. H. STERLING ST., New York, N. Y.

BOSWORTH & Co., C. L., CLARK BLUESTONE CO., OGDEN, N. Y.

COLUMBIA BLUESTONE CO., OGDEN, N. Y.

RAND & CO, F. S.,

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CRICK, J. W.

DIXON GRANITE CO., Westerly, R. I.

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Basking Ridge, N. J. — Plans have been prepared for a new church to be erected here for the Methodist Episcopal congregation. It is to cost $10,000. Work will not be commenced until spring.

Baltimore, Md. — An ordinance has been introduced in the Council appropriating $50,000 to build additions to the Eastern Female High School.

Bala, Pa. — Schermerhorn & Reinhold, Philadelphia, have made plans for a residence for V. A. Holloway. The drawings show a building, 50' x 70', of brick, Colonial architecture, with handsome interior fittings and sanitary appliances.

Bally, Pa. — Joseph E. Phillips, Chicago, Ill., is consulting architectural engineer.


Beaumont, Tex. — The Texarkana & Fort Smith Railroad Company will erect a new station here shortly. B. Gillham, Kansas City, is general manager.

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

to be erected by the Sisters of Notre Dame at Elm Grove, at an estimated cost of $100,000.

New London, Conn. — Dudley Donnelly and James E. Sweeney, the local architects, are preparing competitive plans for the new police-station, of which a choice is to be made and estimate received very soon by the committee, consisting of Aldermen H. J. Booth, E. H. Crocker and Harris Pendleton.

Newport News, Va. — The Board of Education in New York City has adopted the plan of raising funds to build a $20,000 gymnasium next year. The following contributions have been made: From Hyde Applegate, Charles De Garson, W. H. Kline, W. H. Kline, Judge C. H. Hoke, George A. Hoadley, Howard Cooper Johnson, Howard W. Lippe, Wm. O. Sproul and Wm. D. Underwood.

North Adams, Mass. — Report states that J. P. Atte will build a $15,000 residence soon; architect, P. M. Lynch, Holyoke.

Ottumwa, la. — Clinton C. Nourse, architect, Des Moines, has completed plans and been awarded the contract for supervising the construction of a new $30,000 high school building.

Philadelphia, Pa. — Architect Joseph Ambach of the Board of Education, is preparing plans for an addition to the James G. Blaine School, 30th and Norris Sts. It is to be built of gray stone and facing brick, three stories and basement, and will conform with the present structure.

Pittsburgh, Pa. — Plans are being prepared by Chas. Bickel, architect, for a seven-story business building, to be erected for Kaufmann Bros., on Diamond and Smithfield Sts., to cost about $250,000.

Richmond, Va. — Plans for a new church for the All Saints Episcopal Church Society to cost about $50,000 are to be prepared with the intention of starting construction in the spring.

The competitive plans of Barney & Chapman, 1286 Broadway, have been accepted for the All Saints Episcopal Church. The building will cost$50,000.

The alumni of Swarthmore College are engaged in raising funds to build a $15,000 gymnasium next year. The following contributions have been made: From Hyde Applegate, Charles De Garson, W. H. Kline, W. H. Kline, Judge C. H. Hoke, George A. Hoadley, Howard Cooper Johnson, Howard W. Lippe, Wm. O. Sproul and Wm. D. Underwood.

The competitive plans of Barney & Chapman, 1286 Broadway, have been accepted for the All Saints Episcopal Church. The building will cost about $50,000.
Staten Island, N. Y.—A serious controversy over the site for the proposed new school-building at Castleton Corner has arisen and the citizens of Westerleigh may oppose and defeat the effort to build the school-house.

Staunton, Va. — James D. Allen, 1017 Chestnut St., Philadelphia, Pa., has plans for an abattoir plant to be erected here. The building will be started. No contracts have been made and it is thought that the building will not be started until spring.

Tennille, Ga.—It has been decided to build a new school-house to cost $14,000.

Scranton, Pa.—J. A. Duckworth, of this city, has been instructed by the Board of Control to prepare plans for a 12-room brick school-house for Ward 10, to cost about $20,000.

Rome, N. Y.—The taxpayers have voted in favor of bonding the City for $65,000 to build a new high school.

Washington, D. C.—M. A. Kimmel will build six houses on 18th St., Washington Heights. They will be three stories tall, 22' x 20', with concrete and brick foundations, brown brick and limestone town-stone frontage, framed state and the roofs, full bay-windows, stoves, basements, $40,000.

Woodville, Pa.—It has been proposed by directors of the poor, W. H. Gray, Robert Saller and H. W. Ochse, that an Insane Asylum be erected at the Allegheny County Home, and that the county issue about $100,000 worth of bonds to pay for it.

Bayonne, N. J.—2½-st'y fr. dwell., $5,000; a., A. C. Lonyear, 126 Liberty St., New York City.

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PROPOSALS.

Treasury Department, Office-Supervising Architect, Washington, D. C., November 29, 1897. Notice is hereby given that sealed bids will be received at this office until 5 o'clock, p. m., on the 27th day of December, 1897, for the erection and full completion of

[Listing of various construction projects with details and contact information.]
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Henry F. Kilburn, Architect. 10 views

"Progress Club-House," New York, N.Y.
Alfred Zucker, Architect. 11 views

Ball & Dubery, Architects. 12 views

McKim, Mead & White, Architects. 7 views

W. Eyre, Jr., Architect. 3 views

Longfellow, Alden & Harlow, Arcts. 6 views

F. M. Day, Architect. 2 views

"Columbian Club-House," St. Louis, Mo.
Alfred F. Rosenheim, Architect. 13 views

"Maryland Club-House," Baltimore, Md.
Baldwin & Pennington, Architects. 8 views

"Glover Club-House," New York, N.Y.
Romney & Stever, Architects. 5 views

"Montauk Club-House," Brooklyn, N.Y.
F. H. Kimball, Architect. 5 views

McKim, Mead & White, Architects. 3 views

J. A. & W. T. Wilson, Architects. 3 views

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BUILDING INTELLIGENCE.

New York, N. Y.—The Executive Committees of the Board of Trustees of the College of the City of New York have met a committee of eight from the city council to prepare the plans for the new collegiate buildings to be erected in the present buildings at St. Nicholas Terrace and Cun- mant Ave. Ernest W. Wheeler, speaking for the committee, offered the following resolutions expressing the unanimous views of that body: It is the sense of this committee that the plans be submitted for the new collegiate buildings shall be as follows: that the plans shall be one having entrance and complete architectural arrangements upon the same, that the plans be approved for the collegiate buildings shall be 700,000. The plans were drawn by James Brown Lord, The building will be of white marble, three stories in height, and it will have a frontage on Madison Ave. of 50’. Estimates are invited on the work of construction.

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Baltimore, Md.—The Board of Trustees of the University of Maryland have approved the purchase of a tract of land in the vicinity of the old town, on which to erect a new building for the university.

Summer, Va.—The Board of Trustees of the Virginia College have approved the purchase of a tract of land in the vicinity of the old town, on which to erect a new building for the college.

Richmond, Va.—The $10,000 needed to complete the $100,000 with which to erect a new building for the library Institute has been secured and it is probable that something definite will be decided upon shortly.

St. Louis, Mo. — It is stated that a hospital will be erected on Sheridan Ave. and Glasgow P1., to cost about $1,500,000. Richard M. Scruggs, Samuel Copples and Samuel M. Kennard are the promoters of the project.

Sherman, Tex.—The Building Committee of the Chickasaw Legislature have accepted the plans for their new building, located at the southeast corner of Pennsylvania Ave. and Taylor St., to cost $15,000.

Washington, D. C.—Supervising Architect James Knox Taylor is securing data necessary to getting plans for the public building at Camden, N. J. Architects will be selected by Secretary Gage for competitive plans.

The Trustees of the Catholic University are

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Philadelphia, Pa.—Architects Milligan & Webber are preparing plans for a large opera-house to be built at 25th St. and Chestnut P1., to cost $250,000, and which will be completed on W. Center Park, corner High St.

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Washington, D. C.—The Board of Trustees of the Catholic University have approved the purchase of a tract of land in the vicinity of the old town, on which to erect a new building for the university.

St. Louis, Mo.—It is stated that a hospital will be erected on Sheridan Ave. and Glasgow P1., to cost about $1,200,000. Richard M. Scruggs, Samuel Copples and Samuel M. Kennard are the promoters of the project.

Toledo, Ohio—The Presbyterian Society contemplate the erection of a new church, and is about to be erected on S. 5th St.

Tunisia, N. Y.—Architects, Headland & Co., will be the architects for the new building, and will cost about $10,000.

Richmond, Va. — The $10,000 needed to complete the $100,000 with which to erect a new building for the Winter Institute has been secured and it is probable that something definite will be decided upon shortly.

The Queen Sash Balance Co., Philadelphia, Pa., are preparing plans for a large opera-house to be built at 25th St. and Chestnut P1., to cost $250,000, and which will be completed on W. Center Park, corner High St.

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(Advance Notices Continued.)

At the meeting of the committee on high school accommodations, that the City Council buy 32,000 feet of land at Chatham and Oxford Sts., for Aldeworth School. The building was estimated at $110,000. Jamaica Plain.

Brooklyn, N. Y.—Forty-fifth St., cor. 4th Ave., twenty-six apart-houses, 11 stories, 10 x 80', $20,000; o., A. C. Cornell; a., P. E. H. Smith, 13 School St., Boston.

Chicago, III.—Clark Avenue, Nos. 2123-25, three-sty. 30 x 35', granite store, $25,000; o., C. F. Swenson, 1214 Wilson Ave.; a., F. Cowan, 1744 Washington St., Chicago.

Chicago, III.—412-14 S. Wabash Ave., one-sty. 90 x 120', $40,000; o., C. F. Swenson, 1744 Washington St., Chicago.

New York, N. Y.—Clarke and Broadway Ave, one-story apartment-house, 50 x 92', $11,000; a., O. W. Fayer, 86th St., 30 Ave.; a., Thomas Sewell.

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### APARTMENT-HOUSES

<table>
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<th>Location</th>
<th>Description</th>
<th>Cost</th>
<th>Owner</th>
<th>Architect</th>
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</thead>
<tbody>
<tr>
<td>Milwaukee, Wis.</td>
<td>Two-st'y flats, 30' x 80', pitch roof, furnace; $35,000; o., H. C. F. Schultz</td>
<td></td>
<td></td>
<td>C. F. Whelan</td>
</tr>
<tr>
<td>Brooklyn, N. Y.</td>
<td>Three-st'y bk. addition to school, 93' x 130', slate &amp; tile roof, steam; $15,000</td>
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<td></td>
<td>Wm. B. Ittner, Bids</td>
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<tr>
<td>One Hundred Ninth St., bet. 1st &amp; 2nd Aves., five-st'y bk. &amp; st. flats, 25' x 85'; $18,000</td>
<td>F. Lamonte &amp; Bros., 328 E. 109th St.</td>
<td></td>
<td>C. A. Millner, 81 E. 125th St.</td>
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<tr>
<td>One Hundred Twenty-fourth St., nr. 2d Ave., 4 five-st'y brownstone &amp; bk. flats, 30' x 90'; $100,000</td>
<td>George Schreiner, 104 W. 125th St.</td>
<td></td>
<td>John Hauser, 1441 Third Ave.</td>
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