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IT is, perhaps, not quite proper for us to say anything now, before matters are decided, in regard to the inquiry which has recently been made into the Boston Department of Buildings, but there can be no harm in repeating the observation which the members of the investigating committee themselves insist upon, that neither the inquiry itself nor the results of it involve any reflection on the character of any person employed in the Department. Probably all architects of experience in Boston would agree that the Department has been carried on for many years with the most commendable courtesy, honesty and zeal for the public welfare, and there are few of them who have not, at times, been glad to receive practical suggestions in matters of construction from its officials, or, perhaps, to have their attention called by the vigilant and painstaking supervisor of plans to oversights in their own drawings. In our opinion, the disappointments which architects and owners have occasionally suffered in their dealings with the Department have been chargeable almost entirely to the law, rather than to the officers whose duty it is to enforce it. To frame a statute to cover judiciously all the points in the complex science of building is practically impossible. Some architects of great experience think that all legislation of this sort does more harm than good, by the restrictions which it puts upon architects and builders who would like to adopt new and improved methods of construction, but find themselves tied down by law to old and inferior ones, and many architects, particularly since the adoption of the new building-code for Boston, have felt, with something like resentment, the weight of the fetters which it puts upon professional ingenuity and skill. For these annoyances the officials of the Department, although it is their duty to call attention to the limitations of the statute, are in no way responsible. On the contrary, wherever the law allows any discretion to the Building Commissioner, that discretion has been considerably and wisely used, and we think that architects and builders will unite in the belief that the Commissioner's discretion might, with advantage, have been made much more extensive.

THE main point made by those who urge a change in the system of inspection of buildings in Boston is that it is desirable to bring more theoretical knowledge into it, and that the head of the Department of Buildings should be a trained architect, or, as some say, an engineer. In regard to this last suggestion, we may as well take occasion now to offer the protest of the many architects who, we are sure, will support our opinion. It would, perhaps, be too much to say that we never knew an engineer to have anything to do with a building without spoiling it, but every architect can recall instances of the blunders made by engineers who have meddled with building-work, even of the simplest character, and, until

architects put themselves forward as candidates for the supervision of engineering work, the claims of engineers to supervise the work of architects may be with advantage disregarded. It is true that, in some points, as in the construction of steel-frame buildings, engineers are often called in to study the design of the metallic skeleton, and, even where the architect designs this himself, a bridge-engineer can judge better of his scheme than an ordinary official could, but in the Boston Department of Buildings all work of the sort has been referred to the assistant City Engineer, a man of exceptional skill in such matters, and no architect, we imagine, has had reason to complain of the result of this simple method of disposing of the matter. In regard to the other suggestion, that the Building Commissioner should be a professional architect, it may be remarked that there is a great difference in the attainments of architects in connection with the practical matters which form the subject of the Commissioner's duties. Under the London system, which we have long believed to be, on the whole, the most satisfactory, all plans must be approved by a District Surveyor, who is, we think, invariably an architect, and is generally one in active practice, who examines the plans presented to him in his leisure moments. As an architect, accustomed to reading plans, familiar with the most improved methods of construction, and with the conditions of soil, or other circumstances, existing in his own district, the District Surveyor is a better adviser for other architects, probably, than an official of more extended powers would be, and he is not obliged to look after the execution of the work, which is supervised by the regular inspectors. According to the Boston system, under which one man combines the control of planning and execution of buildings over a large and varied territory, almost superhuman wisdom would be necessary to give the same amount of good advice that is available in London and carry out all the other duties of the office besides, and it remains to be seen whether Boston possesses an architect of the talent and experience required.

THE officers of the Brooklyn Institute of Arts and Sciences are, according to the *Tribune*, much interested in a suggestion made by that journal that the Institute should undertake a work similar to that carried on by the South Kensington Museum, in collecting examples of the best work in the industrial arts, for the benefit of artisans, designers and persons who now practise such arts. It seems that Professor Hooper, the Director of the Institute, has a broader view of its development, thinking that its collections should illustrate history and science, as well as art; but he is quite disposed to take up the different branches separately, if they cannot be brought forward together. It is fortunate that, as no assistance is to be expected from the public treasury, the Brooklyn Institute is likely to grow in the direction which Professor Hooper desires, and, in that way, to be much more useful to the people of Brooklyn than a second South Kensington would be. Without agreeing with all that has been said about the paralyzing influence of South Kensington upon British art, it is certainly remarkable that since its vast collections were opened to the public, the arts of all kinds have descended in Great Britain to the lowest point they have ever reached. In color, it is true, Oriental examples have done something to mitigate the horrors of the British taste; but color, by itself, is mere sensuousness, and the Oriental influence cannot be said to have inspired a single thought or feeling of the kind which it is the province of art to suggest. As to the rest of the beautiful things which South Kensington has to show, their effect upon the public, or, at least, upon the artists who are most in public notice, seems to be to induce in them a conceit of learning which is all the more repulsive for being, apparently, sufficient, in their opinion, to make up for the absence of thought or feeling of their own in their works. Not very long ago, we went to the British room at the National Gallery, to take a last look at the Hogarth and Reynolds collections, and it seemed to us, not for the first time, that, notwithstanding all that has been done, as is popularly supposed, for art in England within the past half-century, and all the millions that have been spent with this intention, we would not exchange Hogarth's portrait of his sister, or any one of half a dozen Reynolds pictures, for all the works of painting and sculpture that have been produced in Great Britain in the last forty years, put together; and yet, neither Hogarth nor

Reynolds knew anything of South Kensington, nor could either of them have described the Assyrian Tree of Life, or designed a Byzantine decoration for a dinner-plate. More than that, neither Reynolds nor Hogarth considered himself a great artist, and Reynolds speaks, in his *Discourses*, of the way in which what little conceit he had was taken out of him by the sight of the pictures in Italy; and no one can compare his writings and his works with the productions of British artists of the modern school, who talk patronizingly of Botticelli and gesso-duro, and the Swastika and symbolism, but are incapable of drawing a human figure with reasonable accuracy, or of imitating anything in Botticelli's works but the red hair of his personages, without questioning seriously whether South Kensingtonism is of much advantage to art.

IT seems as if good might be done, in the way of exciting interest in one of the oldest and most beautiful of the smaller arts, by holding small loan-exhibitions of needlework, perhaps in private houses, in every place of sufficient size to furnish a few good specimens. There would be no need to charge an entrance-fee in most cases, and hundreds of women who are expert with their needles, or would like to be, but are reluctant to spend the price of a yard of new ribbon on a half-hour's mild pleasure, would gladly come to such an exhibition if they did not have to pay. In fact, the people who would be most interested, and would derive the greatest benefit from seeing such work are those who would hesitate to pay anything for the purpose. The rich, who idle for hours in museums, at home and abroad, and imagine themselves to be familiar with Persian embroideries and rose-point lace, neither know nor care how such things are made, while women of moderate means who feel a little innocent pride in their skill with feminine tools have hardly any opportunity to gain suggestions and encouragement from work done outside their own circle. If the attempt were once made, we believe that those who took the trouble to arrange for such an exhibition would be surprised at the amount of valuable material which could be collected, even in very small towns. Hundreds of people who go to Mexico or California bring back with them pieces of Mexican drawn-work, which they do not care much for, but which would be almost a revelation to the young seamstresses from the tenement-houses; and splendid specimens of Oriental embroideries are owned, particularly in the coast towns, by persons who have, perhaps, inherited them from some seafaring ancestor, but who do not look at them once in a year. Laces, also, have been handed down in many families, from the time when machine-made lace was unknown, and every poor girl had her lace-pillow and bobbins, with which to provide herself, at leisure moments, with decoration for the various articles of her trousseau. Some of these old laces are now very valuable, and all are interesting, and local exhibitions of them would do much to revive an art which has so far ceased to exist in this country that it is doubtful whether a cushion and set of bobbins could be bought, even in New York, unless search were made for it among the effects of some immigrant family. Even tapestries, the most important, perhaps, of the works of the needle, are not rare here. In the larger cities they could probably be borrowed by hundreds for a loan-exhibition under responsible management, and many of them exist in private hands in small towns. Among the modern works, the "Dixwell" embroideries should not be forgotten, and it would probably not be difficult to borrow an occasional example of these, the most original and inspiring of all works with the needle. Of the same kind, but feebler in execution, although more ambitious in intention, are the Spanish sacred embroideries, of which a considerable number are owned in this country. These curious works are said to have been originally set as panels, in priests' robes, and represent saints and angels, or, occasionally, simple groups, well executed in colored silks, with aureoles of gold thread. If we add to these various kinds of needlework the splendid examples from the South Kensington school, of which many are owned here, and the modern Turkish, Chinese and Japanese embroideries, which are articles of current commerce, and could undoubtedly be obtained from dealers for sale on commission, it ought not to be difficult to get together almost anywhere the material required for a most instructive and interesting exhibition.

A WASHINGTON correspondent writes to the newspapers what is intended to be an encouraging letter in regard to the future of the white-pine crop in the United States, quoting Mr. Gifford Pinchot, the Chief of the Forestry

Division, to the effect that there will be more white-pine grown in the United States fifty years hence than there is now. This is undoubtedly true, for the public-spirited efforts of Mr. Vanderbilt, the officers of the Forestry Division, and many others, have been directed for several years to the object of preserving and increasing our remaining white-pine forests; but it must be remembered that the production of pine is now very trifling, and that, while it may be larger fifty years hence, it will, even then, be immeasurably short of what it was fifty years ago. Then it was the common timber for framing as well as for finish, while now it is far too expensive for framing, and almost too much so for finishing. For the latter purpose, whitewood has almost completely replaced it, except for doors, and even for these whitewood, although inferior, is much used; and for framing it is practically unknown. The great danger, however, does not lie so much in the scanty production of pine as in that of spruce. A ton of the latter wood is probably now used in building for every pound of the former, and, if the spruce supply is cut off, as is now threatened, the small supply of pine will be attacked, and soon swept away.

AN interesting story is reported from Greece, to the effect that a number of Swiss capitalists have secured possession of nearly all the ancient marble quarries which have been rediscovered by the expert mineralogists sent out for the purpose. About three hundred quarries have been purchased, and Pentelic marble is already in the market, and many other sorts, known chiefly from the fragments found in Roman ruins, will soon be for sale. It is said that the quarries, instead of being exhausted, as people have been too ready to believe, are in condition to furnish plenty of stone for many years to come. With this discovery and that of the deposit of "giallo antico" in Tunis, most of the materials of which the Romans made such splendid use are now again available, and our architects should make themselves acquainted with the resources which, in this country, many of their clients are able and willing to employ in building. In fact, we have here some materials of our own, which might, it would seem, be used with great success as novelties. Somewhere in New York State, we believe, there is a river, the banks and bed of which are strewn with boulders of Labradorite, so large and so numerous that the stream has long borne the name of Opalescent River. It would be difficult to imagine anything more precious and splendid than a row of columns of polished Labrador spar, but, according to this story, they are by no means unattainable. Another stone which is found here, perhaps in masses large enough for cutting into columns, is amethyst, both purple and pink. Two or three amethyst columns have been found in the Roman ruins, and, next to the Labradorite, perhaps nothing would be more magnificent.

A CURIOUS ferry has been established in Algiers, following the general plan devised by two Spanish engineers, MM. Palacio and Arnodin, for meeting similar conditions at Bilbao, in Spain. The town of Bizerta lies on the shore of the Mediterranean, on the high road to Tunis. Near the city are two large and deep lakes, formerly connected with the sea by a natural channel. This channel has now been excavated, so that ships can pass through it and anchor in the lakes. The new canal, which is some three hundred feet wide, intersects the Tunis road, which is very much frequented, and it has been necessary to keep ferry-boats in operation to convey passengers across. Of late years the traffic has increased so much that the ferry-boats are inadequate for the purpose; and the problem presented itself of providing for the rapid transportation of passengers without interfering with navigation. A drawbridge was not to be thought of, the passage of vessels being very frequent, and the problem was finally solved by spanning the canal with a narrow girder bridge, a hundred and forty-five feet above the water, and suspending from it a platform, at the level of the roadway, which could be drawn in either direction by ropes attached to winding machinery placed halfway up one of the supporting towers. In large stone-yards, and factories where heavy goods are handled, a similar system has long been used for transporting freight, and the application of it to carrying passengers was not found difficult. The ferry platform is large enough to accommodate three or four wagons and about a hundred people on foot, and makes the trip in something like a minute.

SANTA MARIA DEI MIRACOLI AND THE LOMBARDI.—II.



Tomb of the Doge Tommaso Mocenigo in SS. Giovanni e Paolo, Venice.

WITH the early influence of the Pisan school we shall have nothing to do at present. These remoter impingements of a higher culture upon the robust northern fancy will be the subject of later studies. It is with the immediate contact of Florentine artists and their effect upon the development of this belated Renaissance of the North that we need alone concern ourselves here. Long delayed indeed was the full reawakening of classicism in Venice, where the genius of Bartolomeo Buon, of Marco di Giampietra da Vicenza, and of Antonio da Venezia could give halt to the triumphal march of Florentine ideas, and prolong in a period of autumnal magnificence the life of the dying Gothic.

These masters were the exponents of a transition style of well-defined development, of which the Porta della Carta and the tomb of the doge Foscari may be taken as the ripest fruit.

This period was of considerable duration in Venice, although it was but vaguely defined elsewhere in the north,—in fact, the absolute substitution of Renaissance for Gothic elements was only firmly established here toward the end of the Quattrocento. The conditions were not so favorable as elsewhere, the chances for an artist to rise to personal supremacy and impose an advanced taste upon the community certainly were not so brilliant as in Florence, where the favor of the powerful encouraged talent and where the rôle of Mæcenas was much in vogue. The system we have described was against it; perhaps the character of the government, the laws, and the commercial spirit of the place not less; coöperative conservatism was a strong factor to reckon with, and the new gospel took longer to impose itself.

After the dalle Masegne, in whom Tuscan leanings were marked, came the career of Bartolomeo Buon, beginning in the first half of the Quattrocento and running on into the sixties of that century, when Venetian Gothic bloomed in its fullest luxuriance. Meanwhile Florentine influence was at work, of which we have evidence in the tomb of the Doge Tommaso Mocenigo (†1423), in the church of SS. Giovanni e Paolo, by Piero di Nicolò da Firenze and Giovanni di Martino da Fiesole, who were active in Venice at this time. Perkins remarks that the history of sculpture might almost be written in its tombs. In fact these mortuary monuments of the doges furnish an excellent record of the battle of the styles.

Far less grandiose than the princely monuments of the Scaligeri at Verona, or those of the Visconti at Milan, the ducal graves, at first of a simplicity better befitting the at least ostensibly democratic elective princes of Venice, gradually changed character with the growth of Renaissance luxury, and the original purpose of the tomb was forgotten in the desire to create an historical memorial. The religious and Christian ideal, eloquently lamented of Mr. Ruskin, was lost, toward the end of the century, in temporal splendor; piety no longer, but fame, was the motive expressed.

This evolution of the memorial tomb is studied in detail by Alfred Gotthold Meyer, of Berlin, in his monograph, "*Das Venezianische Grabdenkmal der Frührenaissance*," a work which adds largely to historical and critical knowledge on this subject. The present writer gratefully acknowledges his indebtedness to the results of Dr. Meyer's research upon many points concerning Pietro Lombardo's splendid achievements in this branch of sculptural art.

The tombs of the doges were generally erected at the expense of the relicts of the deceased; occasionally, however, they were commissioned by the State, though not with the lavish generosity displayed at Florence. The power of Mother Church was paraded in granting admission to and assigning space along the walls of the sacred edifice for the proposed monuments. The magnificence of Church and State was displayed in the pomp of obsequies, conducted in this period with great splendor. The body, arrayed in its richest robes of office, lay in state upon a catafalque draped in rare stuffs, and hung with the insignia and with shields blazoned with the arms of the dead. Warriors in harness, and pages and clerks in the gala dress of high ceremonial, stood at guard. The sermon, following the mode of the day, concerned itself less and less with the spiritual than with the temporal greatness of the departed.

This imposing scene furnished the inspiration of the artist chosen to create the memorial tomb. The last view of the great one before he passed away from the eyes of men into the eternal silence of the grave became the theme of his sculptured elegy. The Bible scenes of the pre-Renaissance reliefs gave way to deeds of war and triumphs of statecraft. The life-sized portrait-statue which remained the central feature of the monument was, indeed, already in the thirteenth century a part of important tombs, but the "Virtues" were replaced by grim men-at-arms in full panoply and pages in the graceful dress of the time; the winged angels had given way to the eagles of victory, and the Christ-child was become a mischievous pagan "putto." The crowning sculpture of the Redeemer still held its place, but even this last trace of religious significance sometimes yielded to the figure of the prince, standing with his retinue about him, as in Pietro Lombardo's tomb of Jacopo Marcello at the Frari, or even mounted upon his war-horse among his soldiery.

Nowhere had the world of art dared declare itself so frankly pagan as in Italy of the Early Renaissance.

The Venetian Quattrocento tombs are of much architectural interest. They were nearly invariably raised against the walls of the churches, always, of course, in the interior, their backgrounds being formed by beautiful screens of surface-decoration, fine studies of wall-architecture.

The isolated tomb of the Trecento, a type which was of Italian invention according to Eugène Müntz ("*Histoire de l'Art, I., Italie, les Primitifs*,")—a statement evidently debatable,—the type of the famous Verona and Milan mortuary monuments, and in general of Lombard tombs of that early period, was little used in Venice.

In the tomb of Doge Michele Morosini (†1382), on the choir-wall in SS. Giovanni e Paolo, we see, though it merits Mr. Ruskin's condemnation of being overwrought, still the old religious feeling of the solemnity of death.

From the time of the Doge Tommaso Mocenigo (†1423), and his immediate successors, on to the end of the century, is reckoned the flood of Venetian prosperity. The period was distinguished by an activity very favorable to the artists. The works in the Ducal Palace and Saint Mark's alone occupied a great number of sculptors and stone-workers. The great halls of the charitable brotherhoods were begun, churches were building in the various *sestieri*, the palaces were increasing in richness of adornment. The arts and crafts were flourishing, metal-workers and the wood-carvers of Murano were in full swing, Marco di Giampietra, of Vicenza, was at work on his famous choir-stalls of the Frari. The spread of general culture was remarkable; the impulse of the Medicean revival in art and letters was widely felt.

Vasari, whom more than one authority dubs "the unreliable," maintains that the Florentine Renaissance came to Venice with Michelozzo Michelozzi. Müntz and Paoletti agree with this opinion. Michelozzo came to share the exile of his friend and patron Cosimo dei Medici, and they passed the year 1433-34 at Venice, courted and fêted on all sides. Paoletti relates, on the authority of Vasari presumably,—the writer unfortunately finds no copy of the "*Vite*" presently at hand,—that Michelozzo executed many works in public and private buildings for the friends of the Medici, and it is certain that he designed a library,—most regrettably since destroyed by fire,—built at Cosimo's expense for the convent of San Giorgio Maggiore. Though none of these productions are in existence,—they were mostly, doubtless, bits of decorative metal-work, and though he took in hand no work of the first importance during his stay,—it was probably only with the interior of the library that he was engaged,—it is only reasonable to suppose that a man of Michelozzo's rare talent and attainments must have exercised a great influence upon the artists and people of intelligence with whom he came in contact. Paoletti, however, thinks that the shortness of his stay precludes the idea of any lasting impression on Venetian art. However that may be, the prime favorite of that Florentine Mæcenas, the patron of Brunellesco and Masaccio, and the founder of the Platonists, was a shining light in the world of art, and would surely have won a strong following in his year of Venetian life.

Ghiberti and Donatello had been his masters. Müntz says that Michelozzo came entirely under the influence of Brunellesco at the

¹ Continued from No. 1226, page 101.

age of fifty, and gave the last years of his life to architecture. He would have attained that age in 1446, the years of Brunellesco's death. Three years before that date he had finished the convent of San Marco in Florence for his patron Cosimo, and some time in the thirties he had begun the Medici palace for which his design was preferred to that of Brunellesco.

In Ghiberti's *atelier* he was at work on the famous north doors of the Baptistery. He assisted Donatello on the tomb of Pope John XXIII, the Brancacci tomb at Naples in 1427, and the Aragazzi monument at Montepulciano in 1429.

With Michelozzo, then, as the first link we find from this time an unbroken chain of communication between the art groups of Florence and Venice.

Engaged upon the church of San Pantaleone, in 1435, we have Tommaso da Jacobe, of Florence, worker in stone, and at San Stefano, in 1436, Giovanni di Domenico, sculptor, both probably engaged upon sculptural ornament. Gothic was dying hard: its exquisite ornament had survived long after figure-sculpture had returned to classic models. In the end of this decade the great work of the Buoni, Giovanni and Bartolomeo the Elder, the Porta della Carta, was but begun.

Sculpture, in the North of Italy, received a tremendous impetus from the arrival of Donatello at Padua, in 1444, or thereabouts, and with him the Renaissance, retarded by the long survival of Gothic in the north, asserted itself with irresistible force. Müntz fixes the

periment. Probably, with his well-known indifference to money, Donatello never inquired.

This splendid altar by Donatello consists of an assemblage of nearly thirty pieces of bronze, bas-reliefs, statuettes and candelabra. The marble setting had gone to pieces in the course of the centuries, and the bronzes were distributed about the chapels and sacristy of the basilica, when Professore Camillo Boito was employed, some few years ago, to reassemble the scattered parts, and they are now restored to the reconstructed altar. They are richly illustrated in a work on this subject by Boito, which contains an exhaustive study of the bronzes and their history.

Donatello's preference for working in bronze at this time has been noted. He had now completed three-score, and Müntz, than whom no one has studied Donatello with more thoroughness, finds in his work the evidence of diminishing power, and notes certain points of movement and dramatic expression rather too strongly accentuated. Gauricus, the young "humanist" of Padua, in writing his "*de Sculptura*," about 1503, refers to "Donatello of Cion, a pupil of Ghiberti, much extolled for his works in bronze, wood and marble, more of the works of whose hand are extant than of all the others from his time to ours."

This fact, of course, greatly aided the spread of his enormous influence on the art of his time. Particularly was sculpture in bronze brought to great perfection. His Paduan pupils were Bartolomeo Bellano, or Vellano, and Andrea Briosco.

Of the former, Gauricus writes: "Bellano, though rather an inapt artist, will have a name." Bellano's pupil, Andrea Rizzo, or Riccio, as he is variously called, was also famous in bronze. Several examples of his skill in handling that medium are to be seen in Padua, and the work of both master and pupil may be examined in some small bronze bas-reliefs at the Louvre. "My friend, Andreas Crispus, a disciple of Bellano, as people will have it, whom we have already mentioned among the plastic artists, became, thanks to his gout (*podagra*) from a goldsmith a sculptor." The somewhat obscure connection between gout and the chisel is unfortunately only thus cursorily mentioned by Gauricus.

Rizzo (Latin, Crispus), so called because of his closely-curved hair, was of Verona. He was a contemporary of the Lombardi, and, according to Gauricus, Pietro's rival in Venice. He thus becomes the final link connecting Donatello's influence with the Early Renaissance art of that city.

It is not to be denied, however, that Donatello himself drew some inspiration from Northern art. Müntz finds analogies between the horse of Gattamelata and the bronze Quadriga over the door of St Mark's, — though these were Greek indeed, — and sees in his great equestrian group "a last echo of the great tombs of the Scaligeri" at Verona. In his treatment of sculptured ornament, however, there remained that love of the antique which had taken such firm hold of him during his studies with Brunellesco in Rome. Vegetable forms, as used in the decorative details of Northern work, play a small part in his designs, where the classicism of masks, bucrania and children is rendered with a realism all his own.

As a draughtsman Donatello was incomparable, and the individuality of his creations is always unmistakable.

His attainments as an architect, of which art he imbibed the true principles during his travels and long intimacy with Brunellesco, are evidenced in his treatment of the wall-surfaces and structural parts of monuments, niches, tombs, altars, etc. The beautiful niche in the outer wall of the Or San Michele, in Florence, which contains Verrocchio's great bronze of Christ and the doubting Thomas, might be cited as a well-known example.

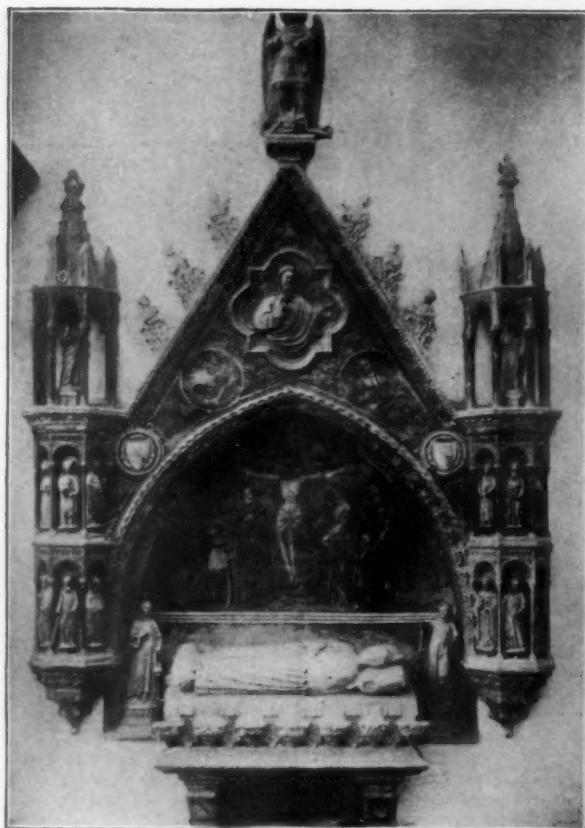
Venice in 1470 was enjoying her greatest prosperity, and the period saw great activity in the arts. The ensuing fifty years, corresponding in the Tuscan chronology to the half century which began with Leonardo and ended with Raphael, saw the flowering of the Early Renaissance at Venice.

Learning and the general culture advocated by the Humanists were becoming, in the course of this period, very widespread. The study of the Antique, at the heart of the great revival, was imposing itself in art and letters upon the whole of Italy. The literary activity of Venice was unequalled elsewhere. In Molmenti's "*La Storia di Venezia nella vita privata*" are some interesting records of her printing, in which it is seen that in the last nine years of the century there were published at Venice three times as many books as in the same time at Rome, say fifteen hundred at Venice to five hundred at Rome, with a much greater excess over other cities. This was largely owing to the initiative of Aldus, a Florentine by birth and education, whose book-making made an era in this art, and might be said also to have seen the beginning of book-illustration.

There seemed to be no limit to artistic and literary culture in all branches. Harmony and proportion, elegance of form, richness and refinement of color, were everywhere studied. The increasing luxury of the great gave generous encouragement to the growth of taste and skill in the crafts.

This time saw the genius of Bellini, of Carpaccio, of Cima, of Sebastiano del Piombo and Giorgione; it saw Titian's youth, Mantegna's prime, and the full greatness of Rizzo, Leopardi, and the Lombardi. In religion, not less than in the lay world, it saw a great widening of the horizon, an almost untrammelled liberty of opinion, and the clergy in the forefront of the van.

There was a monk of the Franciscan Order, Fra Giocondo, of Verona, who might well stand as the embodiment of the spirit of the



Tomb of the Doge Michele Morosini in SS. Giovanni e Paolo, Venice.

period of his activity in Padua at nine years, Perkins at twelve, and, as he was certainly in Venice in 1456, when he executed the wooden statue of Saint John the Baptist in the Chapel of the Florentines, at Santa Maria dei Frari, the latter estimate is doubtless correct. Meyer dates the Saint John from 1451, and terminates Donatello's Paduan stay in 1453.

The great Florentine was scarcely established in Padua when he began to be overwhelmed with commissions. In 1444 he undertook the bronze statue of Borso d'Este, Duke of Ferrara, and at about the same time began arranging for his great equestrian statue of the Condottiere Erasmo da Narni, called Gattamelata, the Captain of the Venetian army in 1438-'41. Great difficulties with the casting of this, the first large work in bronze in that region, were overcome before it was finally set upon its pedestal before the church of San Antonio.

Donatello was occupied five or six years with his work on the high altar of San Antonio, which was finally completed in 1450. Francesco del Vagliente da Firenze and Antonio Cellini da Pisa, workers in the metals, Giovanni da Pisa and Urbano da Cortona, sculptors, and other artists and apprentices, were in the *atelier* he set up for this work, where, as Gauricus relates, the money-box was hung from a beam wherefrom each might take what and when he would — "a great and noble deed of Donatello's," adds Gauricus. It would be curious to know how the Master fared in this curious coöperative ex-

day for universality of attainment. This monk once fortified Treviso against the Emperor Maximilian; he built the bridge of Notre Dame, and some canals, for the King of France; helped Raphael and Sangallo carry on St. Peter's; made a lot of designs for churches; discovered the letters of Pliny the Younger at Paris; annotated Vitruvius, edited Cæsar's Commentaries, and brought out a number of other works; collaborated with Aldus at Venice; designed the exquisite Loggia del Consiglio at Verona, and died in 1515, an octogenarian, a great engineer, an architect of knowledge and taste, a traveller, man of letters, savant, in short a perfected humanist.

It was indeed a wonderful time. Bramante, the first of the painter-architects, was beginning to inspire the art of Lombardy. In Florence, Sangallo was following in the steps of his great predecessors with all their severity and formalism. In Venice, Rizzo was creating his masterpiece, the Stair of the Giants; the Lombardi were executing sculptures pronounced the most perfect of Venetian achievements in that art, and planning, constructing, and ornamenting buildings of enduring beauty.

We have now endeavored to trace the ancestry of this remarkable family of artists, to follow the movement which was to dislodge the Gothic art of Venice and set up in its stead that of the Renaissance, to glance at the influences which must have borne upon the growth of their style, and to gain some idea of the state of society in which they lived and of the degree of culture and refinement which distinguished Venice at the end of the Quattrocento. A. B. BIBB.

[To be continued.]

SEWAGE SLUDGE DISPOSAL BY NATURAL AGENCIES.¹

IN this matter of sewage sludge disposal is practically involved the *crux* of the sewage question, as from recent investigations and experiments it has been proved that it is a comparatively easy matter to bring about the disintegration of organic matter held in solution, especially if the solution be sufficiently dilute. The proportion of sewage matter held in suspension to that in solution is comparatively small, but, owing to the fact that it is solid, there has been a difficulty in dealing with it, unless it could be removed from the sewage by sedimentation, precipitation and screening, and buried, when the organisms of the "living" soil very rapidly bring about its breaking up. It has, of course, to be borne in mind that sewage sludge consists almost entirely of organic matter, and that if any large amount of inorganic matter finds its way into sewage, that it is from road surfaces or from yards, or is washed from the surface of loose soil. Such inorganic matter can only be got rid of by sedimentation; and unless it is got rid of we can never hope to deal successfully with the sludge, as no means of disintegration at present known will deal with quartz or clay; and the presence of these substances, especially the latter, must necessarily interfere greatly with any process of bacterial disintegration that has hitherto been devised.

With organic solid matter it is, however, I believe, perfectly possible to obtain good results. In Nature, organic matter is dealt with not only in the soil, but on the surface of the soil. If any organic matter be left exposed, on a gravel surface say, it will be observed that, although there may be a hard outer film formed in dry weather, as in the case of a mass of cow-dung, the centre at first moist, in time becomes exceedingly soft, and gradually diminishes in quantity: so that when rain comes such a mass of cow-dung, though hard on the outer surface, is very rapidly washed away. In showery weather, the process goes on with even greater rapidity.

What takes place under these conditions? First of all we have in the moist mass an enormous development of anaërobic organisms which, utilizing some of the material as food, produce a series of substances which have the power of digesting or dissolving a considerable portion of the organic matter. In this process we have also produced gaseous and liquid substances, the former of which escape into the atmosphere, often giving rise to foul smells; the latter soak into the soil, there being attacked by other organisms. In wet weather, or when the mass remains moist, we have in addition the action of a series of aerobic organisms brought into play; these assist in the oxidation of the products formed by the organisms in the substance of the mass. Under these conditions, there is a more free escape of the gaseous products, and a washing away of those products which interfere with the activity of the micro-organisms. In fact, all the soluble matter is washed away, and the mass of dung disappears, comparatively rapidly. If this mass of faeces be buried in the soil, the process may go on still more rapidly; and it will be found that the vile-smelling gases are so rapidly oxidized by the aerobic organisms that grow near the surface of a porous soil that not a trace of odor is met with.

All the methods of treating the solid matter of sewage that hitherto have achieved any success are those in which those processes of Nature have been applied under controlled conditions, which, of course, must to a certain extent be artificial. But the nearer these can be brought to the conditions observed in Nature, the more successful will they be in getting rid of or of disintegrating solid organic matter. In a cesspool, which, as we know, seldom requires to be cleared out, the solid substance of sewage is gradually but surely disintegrated; but the great disadvantage of the cesspool is that the enormous amount of gas formed must find its way out somewhere;

while, as the substances become liquid, we have leakages into the soil in all directions, so that a large quantity of imperfectly oxidized material accumulates in the neighborhood of the tank, the sodden ground allowing of no aëration.

In the disintegration-tank of Scott-Moncrieff and in the Exeter septic-tank, the main part of the work done is this disintegration of solid material by anaërobic bacterial agencies. The solid material remains sufficiently long in contact with micro-organisms to be broken down—in fact, it remains there until it is broken down. There is this additional advantage, that there is constantly flowing over the surface of the breaking-down sludge a fluid in which the gases are dissolved as they arise from the decomposing organic matter, and which carries away a large proportion of the products of the life-activity of these micro-organisms; the organisms are thus left free, rid as they are of the effete products to which they give rise, to go on with their work energetically; indeed, this flow of water acts, to a certain extent, as does a shower of rain, except that the sewage does not contain oxygen, while the rain does. It is, of course, impossible for oxidation to go on at this stage in a septic-tank, say; and therefore, without special arrangements, offensive smells may be developed. As soon, however, as oxidation commences—as it must wherever aerobic organisms are able to live—we have a rapid transformation of these offensive gases into non-smelling gases, very frequently of much simpler composition, but always containing a considerable proportion of oxygen.

I maintain that the question of the disposal of solid organic matter, or sewage sludge, must go on in these artificial tanks as nearly as possible under the conditions met with in Nature, if the process is to be successful. We must bring about rapid disintegration by anaërobic organisms, wash away all soluble and gaseous matter as soon as formed, and submit these to aëration, oxidation, and the action of aerobic organisms. Only thus can we best deal with the solid matter of sewage. By sedimentation in catch-chambers, separate out, as far as possible, all inorganic material. In the case of clay, it is very difficult to do this, and the better plan, therefore, is to prevent, as far as possible, unsedimented surface-water from getting into the sewage. It does not matter how concentrated the material to be acted upon may be, but it is very important that the supernatant fluid should not contain too large a proportion of organic matter on the one hand, and that, on the other, it should not contain too large a quantity of effete products—ammonias, methylamines, and the like, which interfere with the action of the anaërobic organisms, no organisms being able to do their work in the presence of too large quantities of their own effete products.

How far the rapidity of oxidation may be increased by the use of oxidizing substances is a very important question, but one into which it is impossible to enter in a brief note of this kind.

DISCUSSION.

Dr. Sims Woodhead, at the conclusion of his paper, remarked that he was very anxious to obtain particulars of experiments made on a large scale by engineers. Some of these must, in the nature of things, be unsuccessful, and scientists were specially desirous of investigating such cases. Some combination of anaërobic and aerobic treatment would, he thought, prove the most satisfactory way of treating sewage, and was the course adopted by Nature. Nature was, however, very difficult to imitate, but the more closely this was done the better the results were likely to be.

The discussion was opened by Mr. Lemon, who considered the paper an admirable one. Bacterial beds were now attracting a great deal of attention. It was interesting to note that the method first used for purifying sewage was filtration, then came irrigation, which was expected to prove most profitable, and this was followed by the chemical methods, in which there was a difficulty in disposing of the sludge. Still later the chemical method was combined with intermittent filtration, and they had finally come to the bacteriological system. Dr. Sims Woodhead had declared that the *crux* of the matter was the satisfactory disposal of the sludge, and had further stated that to treat this successfully it was necessary to have a total absence of inorganic matter. If this was so, he feared that there was a risk of expecting too much from the method. Some people appeared to think that the sole essential of success was a sufficient area of suitable land, but it was absolutely necessary to get rid of the solids, or the filters would be choked. At the outset people started with very large ideas as to the possibilities of the method. One figure suggested was 500 gallons of sewage per square yard, or about two-and-one-half million gallons per acre per day. Even Mr. Dibdin did not now go so far as this, and generally more liberal ideas as to the area needed were now held. The Local Government regulations required that all rain-water should be passed through the beds until it became equal to three times the normal flow. When this ratio was exceeded recourse might be had in the first instance to special beds, and only when the rain-water exceeded six times the normal flow was it allowed to pass away direct as storm-water. Hence the area needed was large. He rather thought that Dr. Sims Woodhead was, in his paper, confounding the old cesspool with the new; the former was leaky, whilst the sanitary regulations of all towns now required that the cesspools should be watertight, and as a consequence, they had to be pumped out about once a month. The septic-tank was only a cesspool on a large scale. At Exeter there was a good deal of gas generated. Of course, it would be said

¹ Paper by Dr. Sims Woodhead read June 8, 1899, before the Engineering Conference of the Institution of Civil Engineers. Section VI.—Water Works, Sewerage, and Gas Works.

that this was inoffensive, but this seemed rather a reversion, as they used to be taught that they should dispose of the matter before these gases were generated. He quite thought that the bacteria beds would be a success, but the inorganic matter must be got rid of, and this done, splendid results would be obtained. Some five or six years ago he had laid out such beds, onto which was passed the effluent from chemically treated sewage, and the results had been satisfactory in the highest degree. If the beds were not overworked good results would be obtained.

Mr. Strachan stated that he had been commissioned by Mr. Mansergh to collect particulars of these biological methods of treatment on behalf of the City of Baltimore. In that matter Dr. Sims Woodhead had been his guide, but, nevertheless, he meant to criticise portions of the paper. Engineers had a right to point out that it was necessary in practical work to be content with results somewhat short of perfection. He could say that if the success of the bacterial method was dependent on the removal at the outset of the inorganic matter, then they had still a long way to travel. In short, this was a mere council of perfection, and to get rid of it entirely was out of the question. He thought that the aerobic bacteria were equally capable of disposing of the sludge as the anaerobic. At Exeter about half the total work was done in the septic-tank, the effluent from which was not fit for discharge into the waterways, but was passed on to Dibold filters, which did a great deal of work. At Hendon the Duckett filter was fully charged with air, yet apparently the sludge was totally destroyed. The Locock filter, also, was aerated the whole of the time. The filter was worked intermittently in twelve-hour shifts, air being blown into it constantly and yet it did consume sludge. At Exeter he was struck by the complete honesty of those connected with the tank, and he fully believed Mr. Cameron's statements. The tank here did not entirely consume its sludge, there being an accumulation of about 35 inches in two-and-a-half years. At Yeovil, on the other hand, for some reason the sludge was practically completely consumed, the deposit in two years being only 1 inch to 1½ inches thick. The sewage here differed from that at Exeter, being of a very mixed nature, while at Exeter it was mainly residential sewage. The difference in the working of the tanks was difficult to explain. It might arise from the organisms at work being different in the two cases, but he would suggest also another reason. At Exeter the flow varied greatly, the maximum being five or six times the minimum. At Yeovil, on the other hand, the rate of flow was nearly constant, and hence it might happen that at Exeter the bacteria were alternately starved and surfeited. As to the area required for bacteria beds, Mr. Dibold had suggested that an acre was needed for 1,000,000 gallons per day, but he considered this an understatement — three or four times the area being requisite; but, nevertheless, he was now satisfied that the process was a very efficient one.

Another member stated that he had been experimenting with three different methods for a couple of years past. He had a tank on the Exeter principle, and there was a thick fluid about eighteen inches deep at the bottom of it, but this thickness showed no signs of increasing. It was hardly sludge, but rather very thick water. Samples taken from the tank gave off a considerable quantity of gas, causing the bursting of bottles in which they were stored. The cost, which had been estimated at £75 per annum, had proved to be only £15, and the effluent from the works which treated the sewage of 1,300 persons was very satisfactory. In fact, it was discharged into a stream from which the population below derived their drinking-water, and during a long drought this stream was quite dry above the works, so that the whole flow below was the purified sewage. The tank effluent was passed through a small area of clay land before entering the stream. He had not found filters to choke up or become foul. He had dug one out after being in use for fourteen months, and found the material below the immediate surface to be as good as when laid.

Colonel Jones wished to point out that Dr. Sims Woodhead, in referring to the rapid destruction of organic matter when buried, had not made any distinction between shallow and deep burial, the action being much slower in the latter case.

Mr. Scott-Moncrieff had been much struck by the contrast between the views expressed by Dr. Sims Woodhead and those of Sir E. Franklin, as given years ago in the report of the Rivers Pollution Commission. In that report Sir E. Franklin stated that the real difficulty was to deal with the liquid portion of the sewage, the solids being easily disposed of, whereas now Dr. Sims Woodhead stated that the whole *crux* of the sewage question was the disposal of the sludge, it being easy to arrange for the fluids. This reversal of views was very curious. Recent experience proved that even a strong sewage, say, one containing eighteen parts of chlorine in 100,000, could be almost completely liquefied by the action of anaerobic organisms, the matter left over being small. The matter was simple if the separate system was adopted. Settling-tanks should be provided to allow of sedimentation before the sewage was treated. Storm-water caused trouble, both on account of its flushing-out the sewers and on account of its volume. The latter was not serious, but as regards the former it was desirable that the first flush should be dealt with to prevent the stuff being thrown on to the

bacteria beds. So far as he knew, no automatic arrangement had yet been introduced to secure this. In laying-out works for the biological treatment of sewage, it should be borne in mind first that the process of purification was not instantaneous. Second, that the process should be divided into a convenient number of stages, each providing a different food-supply to the organisms. Third, that no one organism flourished equally well in all stages of the purification. Each stage should, therefore, occur in a regular sequence if the best results were desired. It should further be remembered that these natural processes could not go on without leaving some residuum, and all one could hope for was a practical elimination of the organic detritus. The fact that two-and-a-half years' accumulation at Exeter only amounted to 35 inches showed that this end was practically secured.

Dr. Sims Woodhead, in reply, remarked that the discussion had rather wandered over the whole field of sewage biolysis. He thought that the best method of treatment was to make use of anaerobic organisms in the first stage, though the whole work could, doubtless, be done entirely by aerobic bacteria. When organic substances were actually in solution, the aerobic organisms easily consumed them, but when suspended in masses in place of being dissolved, the mass had to be surrounded by digestive fluids in order to break it down, and this was best done by the anaerobic type. He admitted that the separation of inorganic matter from the sludge must be accomplished within practical limits, and only wished to point out that each such particle tended to check the work. Much of the work in the so-called aerobic beds was actually accomplished by anaerobic organisms. The operations of the two types often overlapped in these beds. As to the difference in the results obtained with the septic-tanks at Exeter and Yeovil, he would point out that the residential population at Exeter were responsible for the presence of much salacious and vegetable matter in the sewage, which was sufficient to account for the differences noted by Mr. Strong. The gases generated in a septic-tank differed at all different stages of the process. At the outset they were much more readily oxidizable than those generated at a later stage. The discussion showed that a great advance had been made during the last two or three years, and engineers and scientists, such as himself, had drawn more closely together. They were sometimes told that sewage-farms failed, but this always arose from a departure from natural conditions. Nevertheless, bacteria beds were better, as they needed a smaller area, and were more easily controlled. They were thus cheaper and more efficient than sewage-farms.

BOOKS AND PAPERS

IN a previous issue of this journal mention was made of the first two volumes of the elaborate work on "*Modern Opera-houses and Theatres*."¹ The third volume, which has been before us for some time, is in certain respects the most valuable of the three. In a review of a work of this sort it is not always easy to distinguish between what the author has done in the way of collation, arrangement and analysis, and the intrinsic value and worth of the buildings which he has studied and described. For the personal work of the author on these volumes we have nothing but the highest praise to offer. The study, investigations and comparisons of a lifetime are embodied in these folios, and the author states that the entire publication took up his leisure hours during eight years. The third volume is really a treatise on theatre-planning, including considerations of stage construction, theatre-safety and legislative enactments. The work takes up in succession the general arrangement of the auditorium, the means of communication, the construction, the equipment and provisions for safety of life, and the illustrations are numerous and very valuable for purposes of reference and comparison, including about every theatre in England and on the Continent which has any merit in plan, design or construction. The typography of the volume is all that could be desired, and, barring the large size which makes it clumsy for ready reference, but which permits of large-size reproductions, there is little to complain of in the make-up of the work. We know of no other publication which in any way approaches this work, and the most casual glance through this third volume will convince one that the subject is a large one, demanding a great deal of study, and one which varies indefinitely with the locality and the conditions. There is no such thing as an ideal theatre plan, if we may take Mr. Sachs's word therefor. There is no standard, no average requirement, no general specification applicable to all theatres. The circumstances of their erection, their constitution, their objects, are too different to allow this. It is no mere question of variation in size applied to any one purpose, or difference of purpose applied to any particular size. The diversity in every respect is too great. At least that is the statement the author makes, and it certainly seems to be substantiated by wide variations in the different theatres which he presents.

But when we have said all that is good of the publication itself, of the author's part therein, of the excellent illustrations which are scattered so profusely through it, showing in detail every portion of

¹ "*Modern Opera-houses and Theatres*." By Edwin O. Sachs, Architect, Vol. III. Published by B. T. Batsford, High Holborn, London. 1898.

the theatre from the foundation to the gridiron roof, we feel impelled to differ very radically from many of his conclusions, and we must take issue with some of his fundamental statements. Mr. Sachs is a specialist, and the difficulties, the peculiar demands of theatre-planning impress him to an extent which is quite natural, although it hardly seems warranted by either facts or results. We see no evidence that theatre-planning is in any sense an exact science, and though this volume would seem to place more emphasis upon the practical requirements of a theatre than upon its artistic qualities, a study of the illustrations which are presented in support thereof would seem to point to an entirely different conclusion. To our mind theatre-planning is purely a matter of architecture. There are a great many intricate problems, but no more than are involved in the construction of many large modern buildings. There are special devices peculiar to theatres, but almost without exception these have been crystallized into improved forms which are easily ascertained by him who wills. And though there are in various parts of the architectural world a few who claim, and with good reason, to be specialists in this particular construction, when an architect of marked ability approaches the subject the results are apt to be quite as satisfactory as when the theatre is to be planned by one who makes theatre-building his constant occupation. In fact, we believe that for an architect to confine himself to any one type or class of buildings will tend in the long run to shorten his vision, to blind him to possibilities, and to restrict seriously the quality of his work; while if one approaches the subject with an unbiased mind, simply willing to avail himself of what has been done by others and to produce an architectural monument, the product is apt to be something away from the ruts and rough places of the path which in the past has been so strewn with failures. We repeat that theatre construction is purely a matter of architecture, with, however, a large admixture of common-sense. On the Continent of Europe they often have the architecture without the common-sense. In England they have the common-sense, but seldom do they succeed in mingling with it the architecture; for while the English theatres may be better arranged for site and for convenience of the public there are very few of them that can have any claim to architectural excellence. Mr. Sachs admits this condition by offering an explanation therefor which comes to us as a very considerable surprise. Apparently the conditions which bring about the construction of the theatre are no more ideal in England than they are with us. With but few exceptions, it is stated, "the architect is the prime mover in the construction of a modern London playhouse. He discovers the site, obtains, either alone or with a few friends, an option on the ground, prepares plans for the theatre, and then sets about to find a syndicate to buy the option and plans and carry out the work. The idea of the theatre originates with him, and the talents and facilities of a smart, competent promoter with sufficient backing of speculators to carry the enterprise are of far more value to him in the transaction than any reputation for architectural design. It follows quite naturally that financial complications are the main cause of the unsatisfactory playhouses in London." We were not aware that conditions there were so uncongenial. We fancied somehow that our London cousins had a better opportunity to construct rightly and architecturally and that there did not exist on the other side of the Atlantic conditions of this sort.

Again, we must take issue with Mr. Sachs in his estimate of the French theatres and opera-houses. He states that so far as France, Italy and Spain are concerned there is little to learn in modern theatre design, and that in France and Spain he is unable even to point to the work of any individual theatre-architect, satisfactory or unsatisfactory, and characterize it as typical of what has been done. That, as regards the Paris Opera-house, the general plan offers little to learn except in a negative sense, and that to compare Garnier to the Fellners and Helmers of Vienna, the Matchams or Phippses of England, would be as ridiculous as to call Garnier's work typical. When we remember the inefficient ventilating arrangements of the Grand Opéra at Paris, the abominable sight-lines, nay, even the utter indifference to whether the poor sitters in the gallery can see the stage or not, we can quite agree with Mr. Sachs; but to deny the tremendous influence which Garnier's work has had upon all modern theatrical construction is to close one's eyes pretty tightly against the growth of the last half century. The Grand Opera-house is not perfect, but it is entirely fair to say that no other one building erected during this century has had so powerful an effect upon other buildings of its class, nor is there any one building which has come so near setting the type. Had Charles Garnier been a specialist he would never have lifted himself out of the conventional theatrical arrangement. And though his balconies follow the absurd horseshoe form with its impossible sight-lines, and though the stage and the foyer dominate everything, the Grand Opera-house was the first of modern playhouses to be treated in an intelligent manner, and in spite of all its failures it remains one of the successes of the age.

Mr. Sachs naïvely remarks, apropos of the English theatre, that "in most of our playhouses there is a demand for an uninterrupted view of the stage from every seat of the auditorium," but he says it in a deprecating way as if after all a little thing of that sort should not be considered, when it conflicts with some of the established lines of theatre construction. The fact is that foreign theatres have taken their style very largely from the houses which have been built for and supported by the Government, where the first consideration seems to be the accommodation of the artists and the few in the

audience who can afford to rent boxes. And even in England, where one would expect the democratic idea to be catered to and the seats throughout to have proper arrangement, proper view, and proper ventilation, these considerations are almost neglected. Mr. Sachs further states that "incredible as it may seem, we have not a single instance of a playhouse in this country ventilated in full accordance with any one of the scientific methods at our disposal, good, bad or indifferent." After reading this, after noting the emphasis he places upon the excellent arrangement in Irving's Safety Theatre, and in D'Oyly Carte's New Opera-house, both of which houses are American in scheme, the conviction grows in one's mind that in this country, notwithstanding Mr. Sachs has totally ignored it in his volume, we have a system of theatre construction which is better suited for the needs of the audience, while equally well adapted for the necessities of the drama or the spectacle, than is found in the best, to say nothing of the average, theatre abroad. We long ago gave up the inclined stage, which apparently every theatre in Europe adheres to. We likewise have abandoned the complicated stage-machinery which awakens such bewildered awe in the minds of the visitors behind the curtain of any European theatre. We also have frankly admitted that a continuous row of boxes along a level balcony is neither comfortable, architecturally desirable, nor possible of proper arrangement. Our theatres are by no means perfect, for their construction has been mostly in the hands of a few specialists who have acquired the knowledge of practical requirements and the ability to formulate them and have them carried out in tangible shape, without, however, we regret to say, clothing them with architectural forms which would entitle them to any recognition as examples of architecture. Most of our theatres are simply houses of amusement and not in any sense architectural successes. We can count almost on the fingers of one hand the amusement houses which have been built by well-known architects. We believe, however, that the condition of affairs is changing in this country, and that the time is coming when a good architect will be looked to to prepare the plans for a good theatre, and on the whole, judging from what Mr. Sachs says, we should say the chances were far better here than anywhere else.

So, in conclusion, while differing from Mr. Sachs in many of his fundamental principles and while not admitting all of his conclusions, it is very easy to appreciate the great value of the work which he has put before the public. We draw our best ideas of theatre architecture from abroad. We have in this country our peculiar arrangements of stage and sittings, but in all matters of architecture we take off our hats to France and Germany and occasionally to England as well. This book, with its careful analyses of what has been done and its thorough presentation of nearly all that is good abroad, is simply without a rival and it must of necessity find its place in the library of every architect who aspires to solve that most fascinating of modern problems, the designing of a successful playhouse.



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

NOTE.—The authorship of the design for St. Paul's Church, West End Ave., New York, N. Y., illustrated in our issue for last week, should have been credited to Mr. R. H. Robertson, of New York. Librarians, at least, should append the architect's name to the illustrations in question.

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

RESPONSIBILITY FOR A FIRE LOSS.

MONTREAL, June 20, 1899.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—At a country house a painting contractor is doing some painting and decorating, and his are the only workmen in the house, which is not occupied. The house is burnt and completely destroyed, from some unknown cause, and the painting contractor renders his account for all the material used and for material on the ground necessary to complete his work, including scaffolding, tools and everything else that he had in the house. As this contractor had charge of the work, please state whether you consider he is responsible in any way for the fire; whether he should be paid for the work and materials rendered, also for the tools and other material that had not been used.

Yours truly, E. M.

[The answer to this question, as usual, depends upon the contract. If this document says, as it generally does now in this country, that the owner is to keep the building insured, and that the policy is to insure the contractor's risk as well as his own, the owner must, if he has neglected to insure the contractor's interest, pay his loss out of his own pocket. Even if the painter was only a sub-contractor under the general contractor, the insurance clause, as ordinarily written, would cover his interest, and make the owner liable for the consequences of neglect to carry out his agreement. The fact that the contractor had charge of the work makes no difference, as this does not make him any less the beneficiary of the express clause in the contract, and there is no law in this country to make a man responsible for the consequences of fires originating in buildings under his charge, unless negligence or intention on his part can be shown.]

Whether the materials not yet used, with scaffolding and tools, should have been insured by the owner, so that he is liable for damages for neglecting to do so, depends, again, on the contract. It is usual to include them specifically among the property of the contractor which the owner is to insure, and a general mention of the "contractor's interest" would cover them, but an exception is occasionally made, excluding materials not incorporated with the building.]

If the contract does not mention insurance of the contractor's interest by the owner, the latter is not bound to insure it, as no obligation to insure the builder's risk can be inferred from a simple agreement for the erection of a building. In that case, the contractor must insure his own risk, or bear the loss if he neglects to do so. — EDS. AMERICAN ARCHITECT.]



THE CATACOMBS OF ST. MARY'S, LONDON.—How many people in London are aware of the catacombs of St. Mary's? Despite the bustle and roar incidental to the biggest railway station in England—Liverpool-street station is on the opposite side of the road—the visitor to St. Mary's can by a little stretch of the imagination picture himself in one of those strange burial-places of the early Christians which may be found on either side of the historic Appian Way. Here lie the bodies of hundreds of the "faithful departed," the coffins hermetically sealed in a fashion which would satisfy the prejudices of even the most scrupulous of sanitary inspectors. The place is not open to public view, but, thanks to the courtesy of Father Fleming, our representative was allowed to thread his way, with the assistance of a lighted taper, amid the crumbling remains of former parishioners of St. Mary's. No inscriptions are visible, but each coffin is duly noted in the register of the church. Some illustrious personages are buried immediately beneath the high altar—Bishops Poynter, Bramstone and Gradwell, for example. There is ample space for several more, but modern authorities are not partial to burials in the heart of the city. Close by the bishops, in a number of coffins piled in regular tiers, are the remains of upward of thirty priests who served the church well in their life and now find a congenial resting-place beneath the very altar where they celebrated the mysteries of their ancient faith. It was the dearest wish of Cardinal Wiseman to have his body interred within the sanctuary of St. Mary's, but the law intervened, and a white marble slab with a modest epitaph composed by himself when in the full vigor of health now indicates the place where he would have gladly rested. Strolling about this strange cemetery, situated in one of the most densely populated quarters of London, it was a somewhat weird experience to hear street cries, and, peering above the coffins through ventilation holes, to see continuous lines of 'buses and cabs in the adjoining thoroughfare. Among the notabilities in the catacombs we find "Honest Jack Law-

less," a doughty follower of O'Connor the Liberator, and many other personages who held a large share of public attention in their day. Weber, the celebrated composer, who, strangely enough, was made a Count "after his death," was buried here, but some years later his remains were removed to Dresden. In the small strip of ground adjoining the church, as well as in the vaults, no less than 5,600 Catholics were buried prior to the year 1853. When the church is demolished it is probable that every body will have to be removed, although where so huge a collection of dead humanity will ultimately rest does not yet appear to be decided. There is an instance on record in the city where similar removals were undertaken at £10 per head. It is obvious that so costly an outlay would be impossible in the present case. Though dead, many of the persons buried at St. Mary's, Moorfields, are not forgotten, and the prospect of an approaching removal of remains will result, it is anticipated, in a deluge of correspondence from relatives. — London Telegraph.

MISSISSIPPI'S GREAT WALL.—Mr. Andrews Wilkinson writes to *Harper's Weekly* from Fort Gibson, Mississippi, about the great wall in Claiborne County. Mr. Dabney, chief engineer of the Yazoo-Mississippi-Delta Levee District, wrote to the *Weekly* from Clarksdale, Miss., to say that he had never heard of the wall, and that the theory that it was built as a causeway by which people could escape from floods was untenable because of the lay of the land. Mr. Wilkinson does not favor this causeway theory either, but he says there is a wall, and that he has seen it. Fifteen years ago he visited it, and wrote an account of it to the *New Orleans Times-Democrat*, which is precise and remarkable. His party saw 60 feet of huge sandstone blocks which had been uncovered, and which varied in (estimated) weight from 400 to 5,000 pounds. The stonework was two tiers high, or about five feet. The wall was 20 feet wide, and the top, where Mr. Wilkinson saw it, had been 3 feet underground. The wall is overgrown by the trees of the primeval forest, and runs into hills, and perhaps through them. Mr. Wilkinson saw it on O'Quinn's plantation. He speaks of an outcropping section 15 miles distant from there, and of another 5 miles farther on. Mr. Wilkinson has seen mastodon bones dug up in that part of the Mississippi, and within a few miles of the old wall. He argues that the lay of the land has not changed since the mastodons were planted in it; that the wall is later than the mastodons, and that therefore it was not used as a means of escape from floods. He thinks it more likely that it was a work of defence, or a grand viaduct leading up to an elevated place of public worship. He tells of another relic of antiquity in that region of which he had lately heard—the remains of a stone dam or fallen bridge across the Big Black River, three miles below Allen Station in Warren County. The stones which form this dam are visible at dead low water for a distance of 100 feet. The quarry they were dug from is half a mile away, and overgrown with forest.

SAVINGS OF KANSAS WORKINGMEN.—The report of the State Society of Labor on wages, rent, and savings of workingmen makes some interesting revelations which will be surprising to many readers. Home-owners, it appears, not only make higher wages than renters, but save more money each year, the percentage of savings being in some instances astonishing. The average family of workers owning homes is larger than that of renters. Including sixteen different trades and industries, the average wages of the home-owners reporting was \$729.86, or a fraction over \$80 a month. The average expenses and outgo of all kinds were \$533.75, or a fraction over \$44 a month, leaving a saving of \$196.11 a month, or nearly \$200 a year. Nearly 30 per cent of their wages were saved. We venture to say that few merchants, clerks, or professional men are able to make anything like as favorable a report as this of their careful management and thrift. These wage-earners supported an average family of four and one-half persons. As to the renters, 173 reported average annual wages of \$554.05, a very great decline from the wages of home-owners, amounting to nearly \$200 a year or the sum saved by the latter class. The living expenses of the renters, however, notwithstanding the payment of rent for homes, were but \$482.47, or about \$40 a month, as against \$44 by the other class. The renters reporting saved out of their total income of \$46 a month, nearly \$6 a month, or \$70 a year. Their families were slightly smaller than those owning homes. A man earning \$46 a month and yet saving \$70 a year is a hero and an example worthy of all praise and respect. Such a man will eventually become a home-owner as certainly as life is spared to him. — *The Topeka (Kan.) Capital*.

HYGIENIC VALUE OF PAINTS.—Regarding the effect of various paints upon bacteria, Dr. Heimes has recently delivered a notable lecture before the Greifswald Medical Society. It does not appear to be an unimportant matter for the sanitary conditions in a building with what kind of paint the walls are covered. Heimes conducted the following experiments: He took equally large pieces of oak, poplar and pine wood, and of iron and cement plates, and covered each piece with oil-paint, size-paint, lime-paint or enamel-paint, as well as with a few proprietary compositions. After the paint had dried perfectly, the plates were coated with cultures of various disease-inciting bacteria. In this condition the plates were laid in an incubator, in which an ordinary room temperature was maintained. From time to time a little was scraped off from the surface of the plates in order to examine them as to the amount of live bacteria present. The result was that upon oil-paint coatings the bacteria were found to die off quicker than on articles coated with other pigments. On enamel-paint the bacteria die more slowly, and still slower on lime and size paint. This heterogeneous behavior is probably not due to the chemical properties of the paints, but to the different physical qualities, especially to the fact that the liquids containing bacteria dry more slowly or quickly upon the various paints. Professor Loeffler, who attended the lecture, attached considerable practical importance to the result, and recommended the use only of oil-paint in hospitals, schools, barracks and other buildings. — *Farben Zeitung*.

THE AMERICAN ARCHITECT AND BUILDING NEWS

ADVERTISERS' TRADE SUPPLEMENT.

No. 206.

SATURDAY, JULY 1, 1899.

VOLUME LXV.
No. 127

HIGH-GRADE ROOFING-PLATES.

MANY years ago, when the Welsh devised a method of making Roofing-plates by coating black sheets with an alloy of lead and tin, the process may have been a good one — but progress is one of the laws of life, and what may have been considered good half a century ago is to-day old-fashioned, imperfect and crude. Contrasted with the best American practice of to-day it is like a tallow-dip to the electric light.

The value of Roofing-plate lies in the length of time it will last. The length of time a Plate will last depends entirely upon the method by which it is coated, and upon the evenness and uniform thickness of its coating.

A moment's thought will expose the crudeness of the Welsh Old-style manner of dipping a sheet of iron or steel in molten metal and taking it out again. The coating in its melted state naturally runs down from the top part of the sheet to the bottom, leaving the upper part very bare and thinly coated; and covering the lower part with a pronounced excess of metal, whereas the coating should be evenly and equally distributed over the entire sheet. You might as well buy in the first place a thinly-coated, cheap plate, equal in coating to the thinly-coated upper portion of the plates coated as above described. Why go to the extra expense of paying a higher price for a value you do not get? The strength of a plate — that is to say, its longest lasting quality — is at that point where its coating is the thinnest.

The process — our method — which coats plates evenly, is the cheapest in the end and the best. No intelligent man would buy an unsatisfactory article but once, if he knew how to avoid doing so. We can tell you what is the best plate — prove it to you — and if you have not already paid for your experience, we can save you an expensive lesson.

The Merchant Method coats plates in the very best way, by the use of Palm Oil only as a flux, and with the coating evenly and exactly distributed over both sides of the entire sheet. It is the most modern method and the best, and we ask no more money for a plate with the coating evenly distributed than you will be asked for a plate having the same total weight of coating to the box, but very thin on one part and heavy on another. Merchant's High-grade Roofing-plates last longer than any others, therefore they are the cheapest.

Our High-grade Roofing-plates are not made by any cheap Machine Process such as ordinary plates are, but we use the most modern and improved methods, requiring the most skilled and highest-paid labor, insuring the

absolute uniformity of coating which makes them the best plates obtainable.

We make five different brands of High-grade Plates, the only practical difference between them being the difference in the thickness of the coating. We believe the most thinly-coated plate of our five brands is better than any plate made by the Welsh Process, often offered in competition, because every part of our thinnest-coated sheet is more heavily-coated than the upper-half of plates so offered as "Equals."

Ever since we have been manufacturing our High-grade Plates, we have been able to prove that no plates made by any other process are equal to ours in any respect, whether in Wales or this country.

In these days the architect and property owner are apt to look upon such statements as being in the spirit of competition, but they should remember that there are houses in every branch of business who will not put forth false statements in advertisements for the purpose of selling goods. We can, and will be glad to, prove true any statements made over our signature. Let any one desiring to verify the above make the simple test. "Take any 'Old Style' plate and divide it exactly in half, through the middle, parallel with the beaded edge — the drip edge. Weigh these two halves with care and note the difference in weight, which will be due to the excess coating on the lower half as compared with the upper half." Test one of our plates in identically the same way, and the two halves will weigh practically the same. Is not our argument proven? The following should silence any doubt as to the superiority of our High-grade Roofing-plates. They are made better to-day than ever. They are the best.

On September 23, 1895, the United States Government broadly distributed specifications for Roofing-tin to be placed on the new Government printing-offices as follows: —

"The United States desires only the best of dipped roofing-plates, and samples showing imperfections, or irregularities in size, weight, or shape, will be rejected. Comparative tests will be made for weight, ductility, uniformity of plates, and thickness and quality of coating, all of which as well as prices will be considered in awarding the contract.

"All bids must be accompanied by a full sample-box, and must state the brand and average net weight per box of the roofing-plates offered. No quantity less than a full box will be received as a sample, and unsuccessful bidders can remove their samples as soon as the contract is awarded."

Under these rigid specifications, examina-

tions and tests were made by a committee, who awarded the contract to

MERCHANT & CO.,
(Incorporated.)
PHILADELPHIA, PA.

ALL of the concerns associated in the manufacture of Expanded Metal find that trade is very brisk this summer, so much so that in certain lines of goods they are unable to fill orders promptly. This is so, notwithstanding material advances in the cost of steel.

THE Rome Brass & Copper Co., Rome, N. Y., have placed an order for the steel buildings for a large brass plant with the Berlin Iron Bridge Co., of East Berlin, Conn. The contract comprises a boiler-house and engine-house 40 feet wide and 120 feet long; a casting-shop 50 feet wide and 90 feet long; and a tube mill 120 feet wide and 200 feet long. The framework of all these buildings is of steel. The roofs have a flat pitch covered with tar and gravel, and the sides are arranged with a quantity of glass supported on steel framework. The building is modern in arrangement and construction, and absolutely fireproof.

WHAT GRAPHITE PAINT WILL DO.

DIXON'S Silica-graphite Paint has now been in the market for nearly forty years, and probably it is no more curious than it is with many other old-time things how few people, comparatively speaking, fully recognize the virtues of this wonderful paint, though tons and tons of it are sold to large corporations, such as railroad companies, gas companies, bridge companies, etc., and large quantities are sent abroad to foreign countries. Take for instance the structures belonging to the Morgan Iron Works, foot of East Ninth Street, New York City. The boiler-house and stack are constructed of iron or steel plates, which were painted about twenty-eight years ago with Dixon's Silica-graphite Paint and have not been repainted since. Most of the paint is in perfect condition and looks as if but recently applied. On one side of the boiler-house the paint is worn away by the ashes and coal which have been piled against it, but no portion shows any sign of rust.

The steel hoisting-derrick was first painted about 1876 and repainted about sixteen years ago and is now in good condition.

Dixon's Silica-graphite Paint is the most economical paint for the very excellent reason that it is the paint which has put off the necessity for repainting the longest time. All users of paint should bear in mind that the

"The Georgian Period."

"This work, three numbers of which have been issued by the *American Architect and Building News* Company, Boston, is of extraordinary importance to the architect whose ambition rises above the building of simple cottages."
— *Boston Transcript*.

cost of labor in painting and repainting is several times the cost of the material. Therefore, in the nature of things the best and most economical paint must be the paint that will last the longest.

Dixon's Silica-graphite Paint will cover two to four times more surface than any of the lead paints, and it lasts four to five times longer than any other paint that we know of. It is easier to apply than any other paint; it wears brushes less than any other paint; it has no bad odor and will not taint water. It contains absolutely nothing that is poisonous and therefore it is the best paint for roofs that shed water for cooking or drinking purposes.

Silica-graphite is as pure, sweet and healthful as charcoal. It covers more surface than any other paint because it has twice the bulk of mineral paints and three to four times the

bulk of any of the lead paints; it therefore covers just so much more surface. It is applied the same as any other linseed-oil paint. In fact, it is a pure linseed-oil paint, as they use only fire-boiled linseed-oil of the best quality obtainable. Graphite-paint never fades and it is equally useful for wood or metal. For durability, for economy and for beauty of finish, Dixon's Silica-graphite Paint stands without a rival.

The spring and fall are exceptionally good times for painting or repainting, as the oil has a good chance to thoroughly dry and form into the semi-solid condition so necessary for durability.

NEW UNION DEPOT AND FERRY-HOUSE, SAN FRANCISCO, CAL.

This building, situated at the entrance to the city of San Francisco, and on the water-

front, erected by the State of California, is one of the finest depots in the United States. In this building, what is known as the blanket-arch system has been used, our No. 3 system, spans of 7 feet 6 inches, and about 130,000 feet of floors were placed in this building. Before the State Board of Harbor Commissioners accepted this form of construction, they had experimental sections put in and subjected to several tests. The reports on these experiments made to the Board by its Engineering Department are on file in the office of the commissioners. These reports show that the accepted maximum of weight imposed by persons on a floor or other structure, upon which they can crowd as many as possible, is seventy-five pounds to the square foot, with a reserve factor of safety of four. No gathering of human beings in a building can ever

Atlas PORTLAND CEMENT

Guaranteed to be Superior to any Imported or Domestic Cement.

Used Exclusively in the Following New York Buildings:

HAVEMEYER BUILDING
ST. PAUL BUILDING
AMERICAN SURETY BLDG.
BANK OF COMMERCE

SINGER BLDG.
UNIVERSITY CLUB
N. Y. LIFE INS. BLDG.
STANDARD OIL BLDG.

JOHNSTON and PRESBYTERIAN BLDGS.

Atlas Cement
Company

143 LIBERTY STREET
NEW YORK

cause a greater strain on the floors than seventy-five pounds to the square foot.

The following is the report of the engineer's tests:

SAN FRANCISCO, May 24, 1897.
WESTERN EXPANDED METAL AND FIRE-PROOFING CO., SAN FRANCISCO, CAL.

Gentlemen, — As regards your inquiry as to what I think of your blanket-system, constructing concrete arches with Expanded Metal, I would say that I have made the following tests at the New Union Depot and Ferry House:

On October 16, 1896, three panels of the floor system of the second story, 6 feet in width, were covered with your Expanded Metal and 4 inches of concrete, the distance between centres of "I" beams, which were 20 inches in depth, was 7 feet 1½ inches; the haunches of the arches were 8½ inches on either side of the "I" beams at soffit of arch and the width of the flange at bottom. The concrete was composed of one part Alsen's Cement, yellow label, 1½ part beach sand, and 4 parts broken rock (the rock was broken so as not to exceed ¾ inches in dimensions). On November 28, 1896, the central arch was loaded with pig iron to the extent of 744.8 pounds per square foot, and showed not the slightest deflection.

Anticipating the use of this method of constructing arches for pier purposes, I made a test on February 2, 1897, to ascertain what effect a loaded truck, having the load concentrated on one wheel, would have on this arch; to do this, I placed on the centre of the central arch a block of 4"x4" pine; on top of this block and evenly balanced was placed on its flat a 20" steel beam; on this was loaded 17,257 pounds, and the arch showed not the slightest deflection. I should have carried the same to destruction had the "I" beam been capable of standing the load without bending, but before I could change my method of testing, the arch, through some mistake, was removed by the contractor to make place for a new work.

It is my opinion that your system of construction is superior to anything that I have seen, and I intend in the near future to recommend the same for the superstructure of a steel pier, designed to take the place of the wharf occupied by the Pacific Steamship Company.

Yours very respectfully,
HOWARD C. HOLMES (Chief Engineer).

These tests were witnessed by a large number of engineers and architects of San Francisco. The architect of this building is Edward R. Swain, who succeeded A. Page Brown, deceased. The Chief Engineer of the State Board of Harbor Commissioners is Howard C. Holmes, who has made an exhaustive study of all systems of construction. The length of this building is 654 feet and the width 150 feet. Height to the top of the parapet 54 feet and to the top of flagstaff 275 feet.

EXPANDED METAL CO.

THE Council of Rangitikei County, New Zealand, have placed an order with The Berlin Iron Bridge Co., of East Berlin, Conn., for a highway bridge, consisting of a single span of 204 feet, designed to carry a distributed load of 1500 pounds per lineal foot, or a road-

THE WINSLOW BROS. COMPANY, + CHICAGO, + Ornamental Iron and Bronze.



BRONZE BAS-RELIEF PANEL—SIZE 6'-0" X 4'-10".

THE UNION TRUST COMPANY BANK, PITTSBURGH, PA

D. H. BURNHAM & CO., ARCHITECTS.

BEIL & MAUCH, SCULPTORS.

EXECUTED BY THE WINSLOW BROS. COMPANY.

engine weighing forty tons. In transmitting this order the chairman of the council says, "As far as I know, this is the first order of the kind sent to the United States, and the experiment is being watched by other local boards." The bridge will be a pin-connected structure, on account of the ease and facility with which this class of construction can be erected in the field.

FOLSOM PATENT ROOF SNOW-GUARDS.

It is conceded by every unprejudiced person that the Folsom Method of preventing snow-slides from roofs of buildings is scientifically correct.

To displace the guard-rail by so radical a departure from old methods means that the Folsom Snow-guards do not now and have never damaged or strained the slates.

The Folsom Method is so simple and effective that it has many imitators, and guards claiming to be better, stronger and cheaper

than the Folsom are on the market. It is a poor year that does not bring forth one or more of them.

Cheapness is a suspicious factor. It means inferiority and future expense.

Good things are not given away; cheap things are not good; and cheap snow-guards are costly, a constant expense and annoyance.

The Folsom Snow-guards insure your roof against damage by yielding under excessive pressure without straining and damaging the slates, and we consider this feature of the snow-guards the most valuable, for braced-guards lift the upper and puncture the lower slates; a process that goes on year by year, causing a continued expense that is as needless as it is exasperating.

A roof may be protected by the Folsom method at a smaller cost than by the old-fashioned rail, more effectively and without injury to the softest slates.

Bear in mind the Folsom Snow-guards do not strain the slates.

FOLSOM SNOW-GUARD COMPANY,
BOSTON, MASS.

ALSEN'S PORTLAND CEMENT

Highest Quality, Most Reliable, Best Color, Most Enduring Surface, Greatest Bulk to the Barrel.

NOTABLE INSTANCES WHERE ALSEN'S CEMENT HAS BEEN USED BECAUSE OF ITS SUPERIOR QUALITY.

CATHEDRAL OF ST. JOHN THE DIVINE, N.Y.
WASHINGTON LIFE INSURANCE CO.'S BUILDING, N.Y.
MANHATTAN LIFE INSURANCE CO.'S BUILDING, N.Y.
AMERICAN SURETY CO.'S BUILDING, N.Y.

ELECTRIC R.R. SUBWAY, BOSTON.
METROPOLITAN SEWERAGE WORKS, BOSTON.
SEA WALL, LAKE FRONT, CHICAGO.
BRIDGES OVER HARLEM RIVER, N.Y.

THE U. S. NAVAL OBSERVATORY, WASHINGTON, D. C.

Alsen's Portland Cement Works, New York Office, 143 Liberty Street.

AGENTS AT BOSTON: WALDO BROS., 102 Milk Street.

PROOF POSITIVE:

If you see a building on which at the end of five years

1. The paint shows no sign of chalking —
2. On which the original gloss still remains —
3. On which the whites are still pure and fresh —
4. On which the colors remain bright and clear —
5. Which looks as if the painter knew his business and meant his patron to profit by his knowledge —

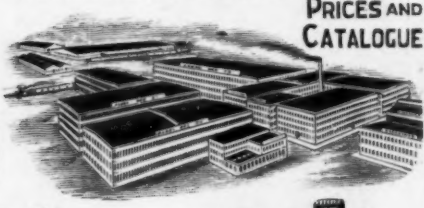
You may be sure that ZINC WHITE was a component of the paint used; for such results are impossible without it. Wise painters use ZINC WHITE or combination paints based upon it.

An interesting treatise,
"Paints in Architecture,"
Free to any address.

THE NEW JERSEY ZINC CO.,
71 Broadway, New York.

LARGEST AND MOST COMPLETE BUGGY FACTORY ON EARTH

WRITE FOR
PRICES AND
CATALOGUE



OUR GOODS ARE THE BEST
OUR PRICE THE LOWEST

PARRY MFG. CO. Indianapolis, Ind.



LUDLOW SAYLOR WIRE CO. N. E. Cor. Fourth & Elm St., ST. LOUIS, MO.



Elevator Enclosures and Cabs,
Metal Work in Brass,
Wire and Wrought-Iron,
Office and Bank Railings,
Wire and Iron Fences, etc. &c.

BENT GLASS FOR MODERN STORE FRONTS, Etc.
ORIEL GLASS CO.,
St. Louis, Mo., U. S. A.

THE Berlin Iron Bridge Co., of East Berlin, Conn., have received contract for a warehouse building, 40 feet wide, 120 feet long and 20 feet high, to be erected in Dutch Guiana.

GLOBE VENTILATED RIDGING.

WE desire to call attention to our "Globe Ventilating Ridging," which combines an ornamental cresting and an efficient and absolutely stormproof ventilator. The device does away with the necessity of breaking the sky line. It has been through three winters, and under severe tests, shown its merits. The following letters give the testimony of those who have used it:—

FIRST NATIONAL BANK BUILDING,
BENNINGTON, Vt., November 30, 1898.

GLOBE VENTILATOR CO., TROY, N. Y.:—
Dear Sirs,—In reply to your favor of the

29th inst., I will say that the Globe Ventilating Ridging I have used is entirely satisfactory, not only being a positive means for ventilating attics but also providing a durable finish for roofs and I am specifying its use where your other type of ventilators would not make an attractive appearance.

Very truly yours,
WILLIAM C. BULL, Architect.

NEW ENGLAND BUILDING, CLEVELAND, O.,
December 3, 1898.

GLOBE VENTILATOR CO., TROY, N. Y.:—
Gentlemen,—It gives me pleasure to say that your Ventilating Ridging used on my house has proved very satisfactory.

It is a good ventilator, without any objection on the score of appearance, as a separate ventilator has for residences, and it has proven perfectly secure against both rain and snow in driving storms. Yours truly,

F. S. BARNUM & Co., Architects.

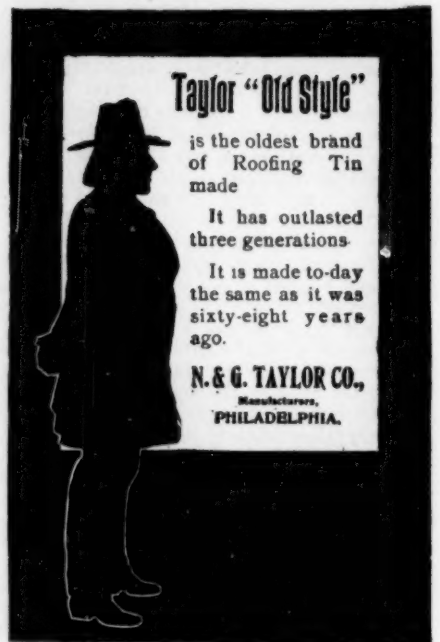
Taylor "Old Style"

is the oldest brand of Roofing Tin made

It has outlasted three generations.

It is made to-day the same as it was sixty-eight years ago.

N. & G. TAYLOR CO.,
Manufacturers,
PHILADELPHIA.



THE Wheeler & Wilson Manufacturing Co. are making extensive improvements in their plant, and have placed the contract with The Berlin Iron Bridge Co., of East Berlin, Conn., for a new foundry building and also for a one-story building covering a portion of their present yard.

THE KENNEY FLUSHOMETER.

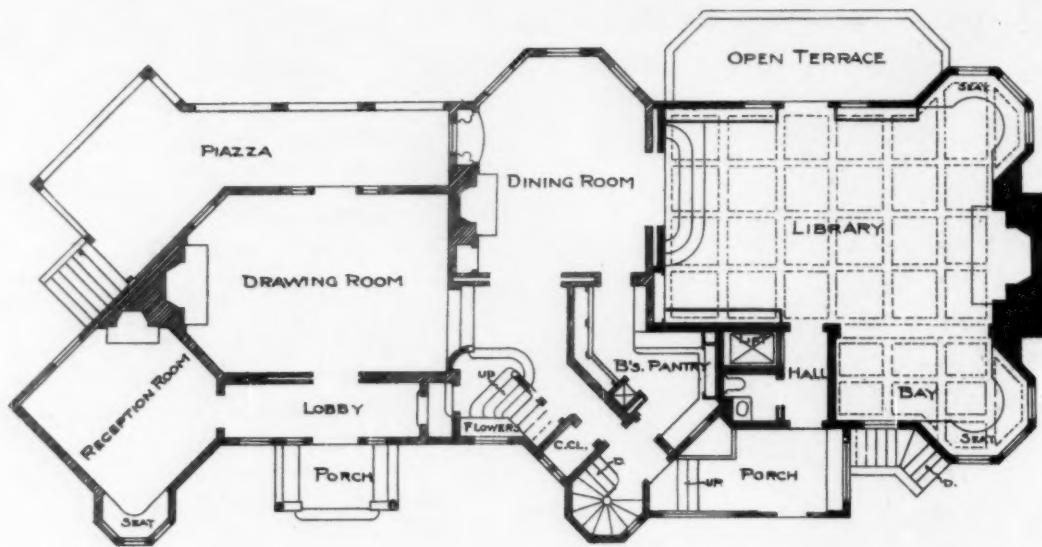
THAT the advantages of the Kenney Flushometer are fast being generally understood is evidenced in the steadily broadening adoption of the device where the flushing of water-closets and urinals is desired in the most efficient and sanitary manner.

Referring in a recent number to the new passenger-steamer "Pennsylvania" ready for service between Erie and Buffalo, the *Marine Review* says:—

"In this vessel are embodied improvements in plumbing and ventilating appliances that will make her the peer of any ship afloat from a sanitary standpoint. The entire system of plumbing is the best ever put into a vessel on the Great Lakes. Kenney Flushometers are used throughout the closets. The adoption of this device is in itself a very marked advance in ship-plumbing, etc."

The Kenney Company have a permanent exhibition at their principal office, 72-74 Trinity Place, New York City, showing the various applications of the Kenney Flushometer, and will send illustrated catalogue to any of our readers upon application.

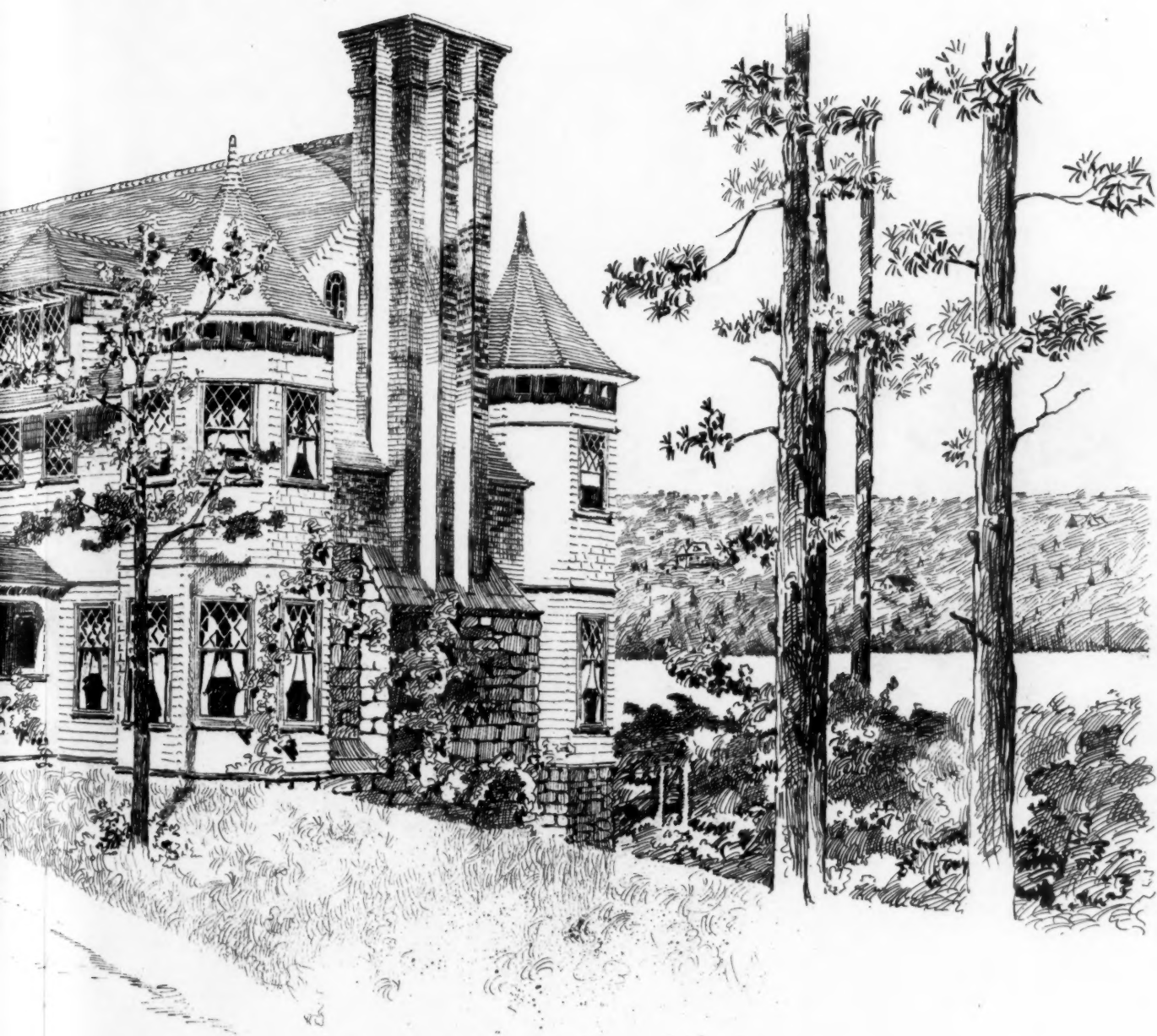
THE KENNEY CO.,
NEW YORK, N. Y.



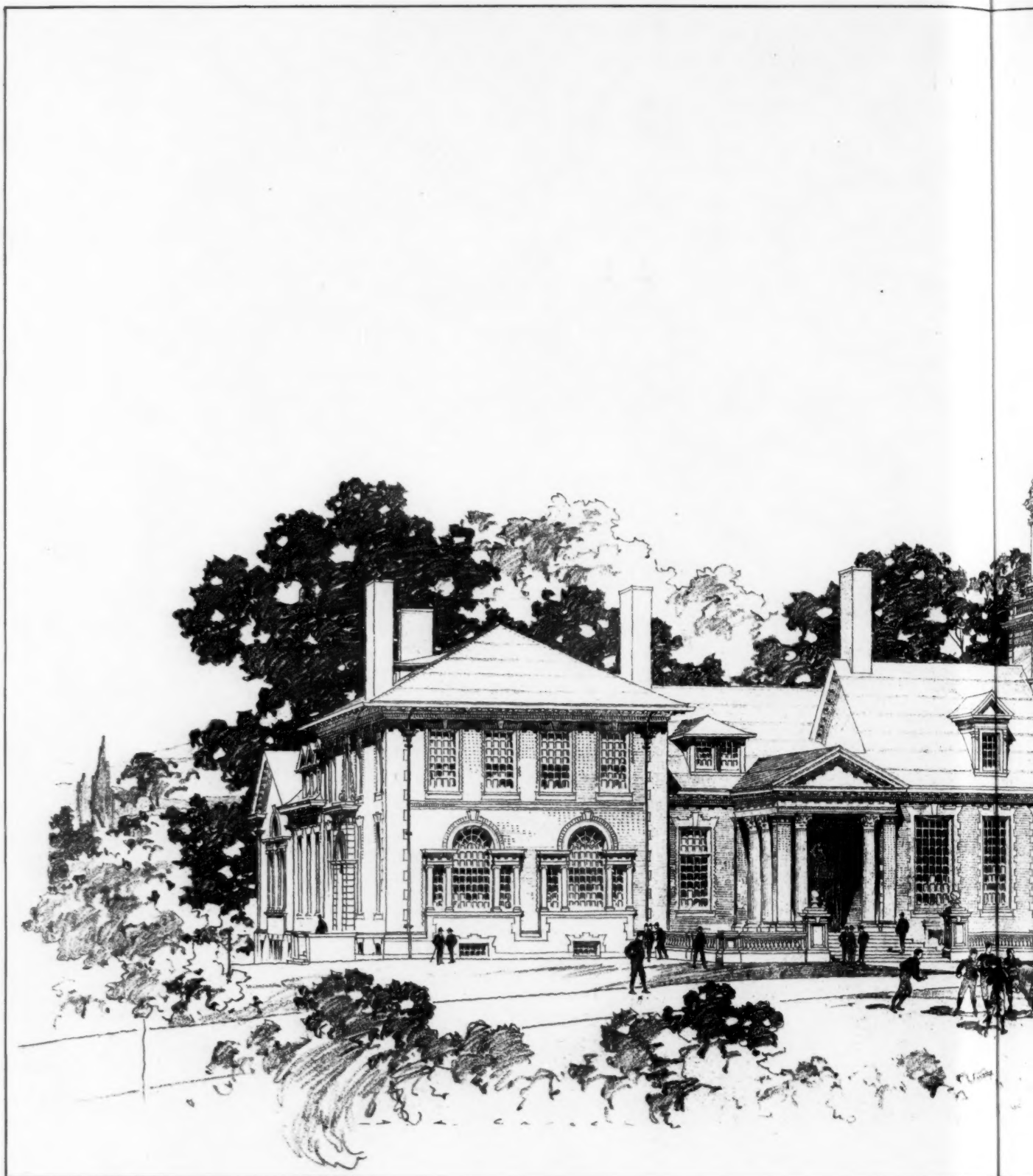
FIRST FLOOR PLAN
SCALE FEET



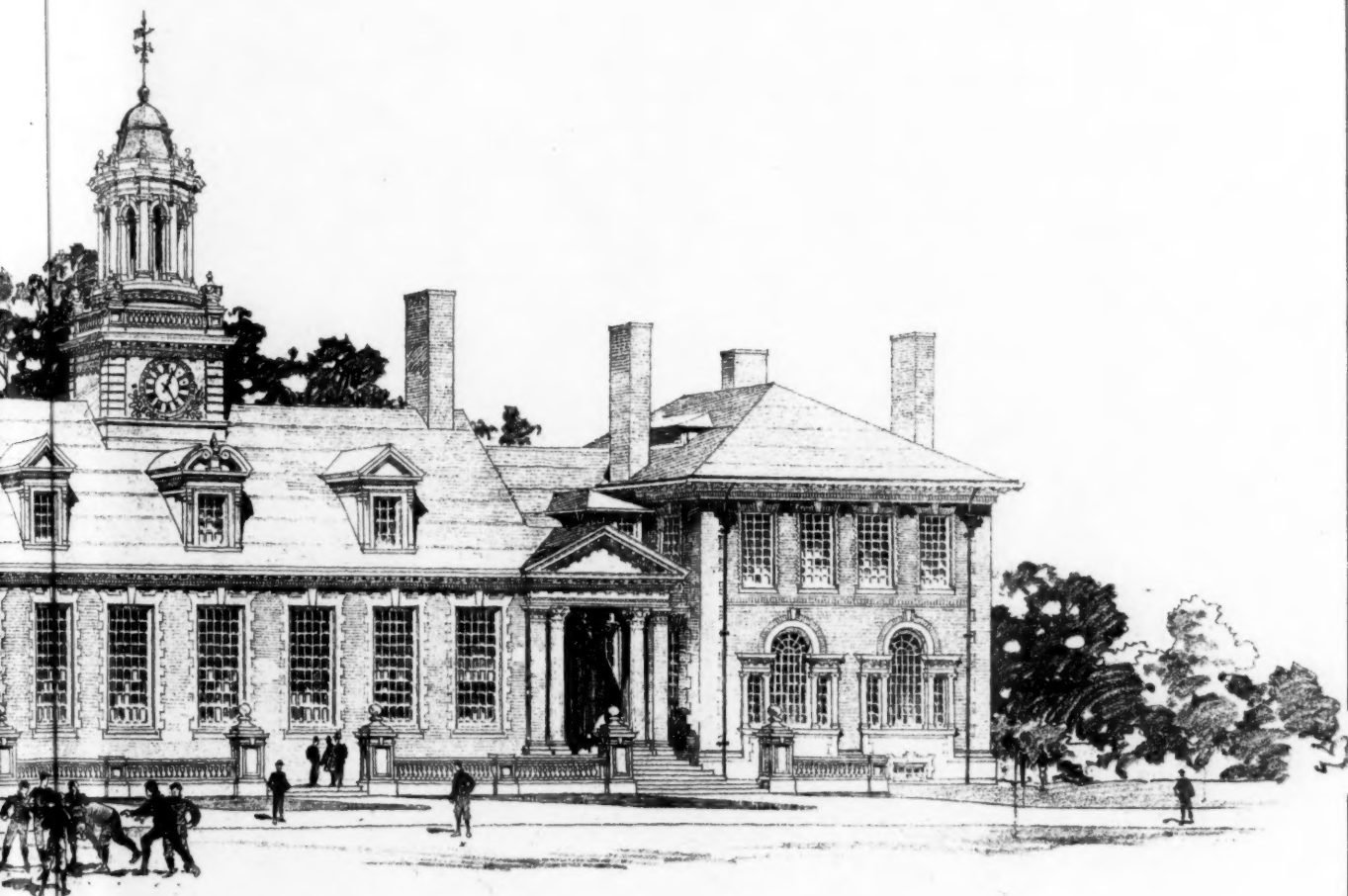
• RESIDENCE OF H. CASIMIR D.
• TUXEDO PARK.
• WILLIAM A. BATES.



AIR • D • RHAM • ESQ •
PARK •
• ARCHITECT •



"THE SCHOOL" FOR GROTON SCHOOL
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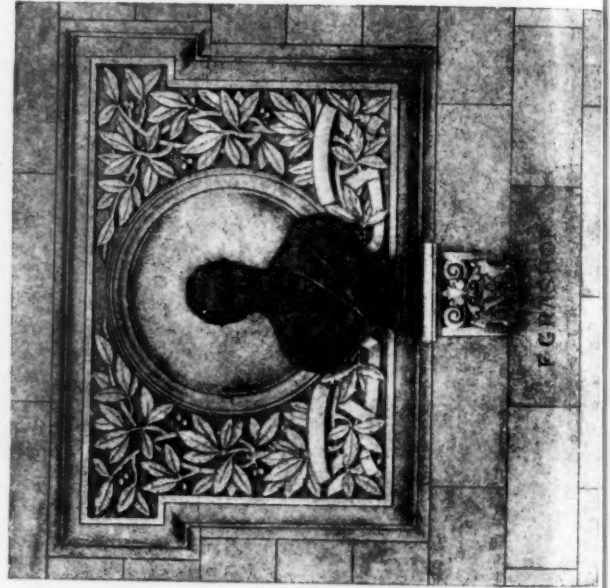
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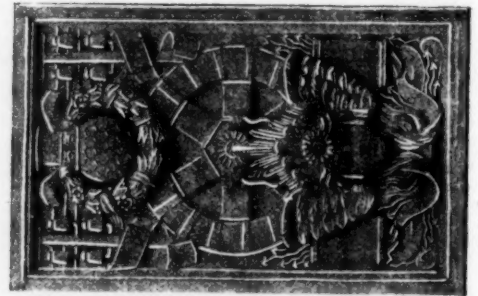
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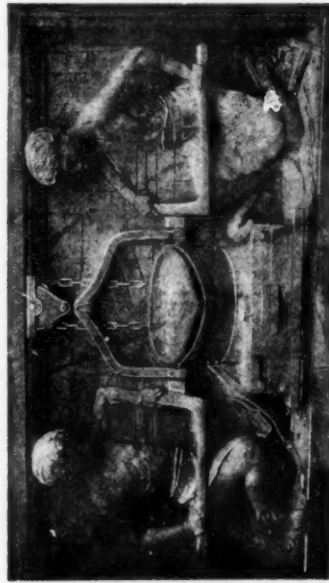
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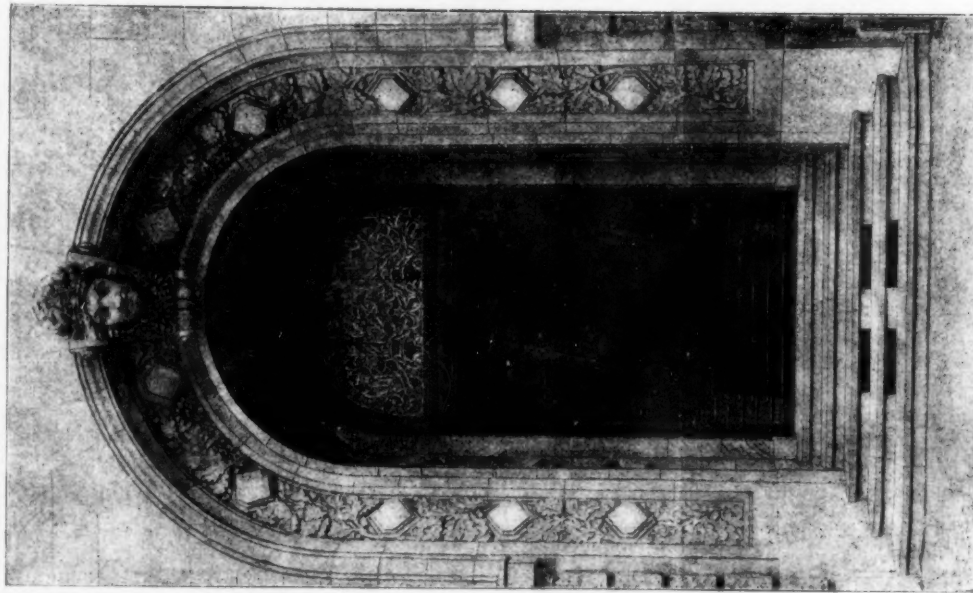
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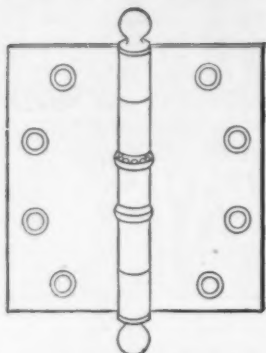
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Planed.....	50 @ 6 00	@ 75
Marble: (P cu. ft.)		
Lee, Mass.....	@	1 75 @ 2 50
Rutland, white and blue.....	@	@ 3 00
Sutherland Falls.....	1 25 @ 1 75	@ 2 00
Glens Falls, black.....	@	@
Italian, blue-veined.....	@	@
" Sienna.....	@	@
Tennessee, red.....	@	@
" Knoxville.....	@	@
Pennsylvania, blue.....	@	@
Vermont, white.....	@	@
Slate: Roofing (P square).		
Green.....	5 00 @ 6 00	4 75 @ 5 25
" unfading.....	5 00 @ 6 00	5 50 @ 6 50
Purple.....	5 00 @ 6 00	5 50 @ 6 50
Red.....	@ 10 00	10 00 @ 11 00
Black, Lehigh.....	4 25 @ 4 75	@
" Chapmans.....	@	@
Genuine Bangor.....	4 35 @ 5 50	4 75 @ 5 90
Unfading black.....	6 00 @ 8 50	6 00 @ 8 50
".....	5 50 @ 8 00	5 50 @ 8 00
Tiles, Am..... P M.....	@	@
N. Peach Bottom, war. unfading	@	@
Fire Clay Roof Tile on cars at fac.	8 00 @	8 00 @
LUMBER. — P M.		
Boards: (Ordinary dimensions.)		
Pine, 1st quality, clear.....	65 00 @ 75 00	55 00 @ 70 00
" 2d quality.....	55 00 @ 60 00	42 00 @ 50 00
" 3d quality.....	18 00 @ 22 00	20 00 @ 40 00
Spruce.....	@ 25 00	14 00 @ 20 00
Hemlock.....	ea 13 @ 14	12 50 @ 15 00
Yellow pine.....	20 @ 40	19 00 @ 35 00
Cypress.....	@	26 00 @ 45 00
Clapboards:		
Pine.....	@	35 00 @ 55 00
Spruce.....	@	24 00 @ 35 00
Framing Timber:		
Pine.....	14 00 @ 16 00	14 00 @ 16 00
Spruce.....	12 00 @ 16 00	12 50 @ 16 00
Hemlock.....	18 00 @ 21 00	20 00 @ 28 00
Yellow pine.....	@	@
Laths:		
Pine..... Round Wood	@	2 00 @ 2 50
Spruce..... Slab.....	@ 2 20	2 00 @ 2 25
Shingles:		
Pine, shaved..... P M.....	5 00 @ 6 00	@
Pine, sawed.....	4 00 @ 5 00	@ 4 50
Spruce, sawed.....	1 80 @ 2 00	1 50 @ 1 75
Redwood..... P 125.....	1 40 @ 1 60	3 00 @ 3 75
Cedar split..... P M.....	@	@ 6 00
Cedar sawed.....	@	2 50 @ 3 50
Cypress, split..... 7 x 2 1/2 ..	18 00 @ 20 00	5 00 @ 6 00
Chicago:		
20 @ foot		
10 00 @ cord		
9 00 @ "		
1 50 P cub. ft.		
45 @ 55		
45 @ 55		
45 @ 55		
Not sold.		
@ 1 25		
@ 1 55		
80 @ 1 50		
20 @ 40		
@		
@		
Not sold.		
3 50 @ 6 00		
3 50 @ 6 00		
Not sold.		
@ 4 40		
Not sold.		
@ 4 40		
@ 4 40		
Not sold.		
3 50 @ 6 00		
Philadelphia:		
Conschooken		
1 45 @ 2 50		
95 @ 1 05		
1 05 @ 1 25		
85 @ 95		
55 @ 75		
85 @ 95		
1 00 @ 1 10		
1 05 @ 1 15		
@ 1 40		
1 25 @ 1 35		
95 @ 1 05		
95 @ 1 05		
55 @ 65		
75 @ 85		
Richmond		
Pereh 4 50 @ 5 50		
1 in. th. 10 @ 25		
37 @ 50		
2 00 @ 2 50		
2 00 @ 3 00		
1 70 @ 3 00		
4 00 @ 4 50		
2 50 @ 2 75		
@ 5 00		
4 00 @ 6 00		
3 00 @ 4 00		
2 00 @ 3 00		
2 25 @ 3 00		
2 80 @ 3 80		
4 25 @ 5 00		
4 50 @ 5 50		
4 50 @ 5 50		
11 50 @ 13 00		
4 00 @ 4 35		
4 00 @ 5 00		
4 35 @ 5 50		
6 50 @ 9 00		
6 50 @ 9 00		
@ 28 00		
5 76 @ 6 25		
8 60 @		
47 50 @ 60 00		
38 00 @ 45 50		
27 50 @ 36 50		
15 00 @ 21 50		
11 50 @ 13 75		
14 00 @ 29 00		
30 00 @ 38 00		
14 00 @ 25 00		
Not sold.		
25 00 @ 37 30		
15 00 @ 21 50		
14 00 @ 20 00		
22 50 @ 30 00		
2 75 @ 3 00		
2 30 @ 2 35		
Not sold.		
2 60 @ 2 75		
Not sold.		
4 60 @ 6 00		
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3 50 @ 2 90		
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24" 8 @ 21		
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11 00 @ 14		

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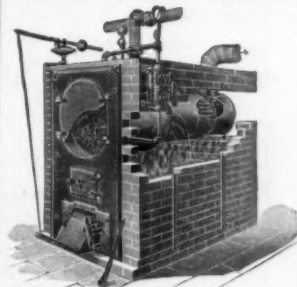
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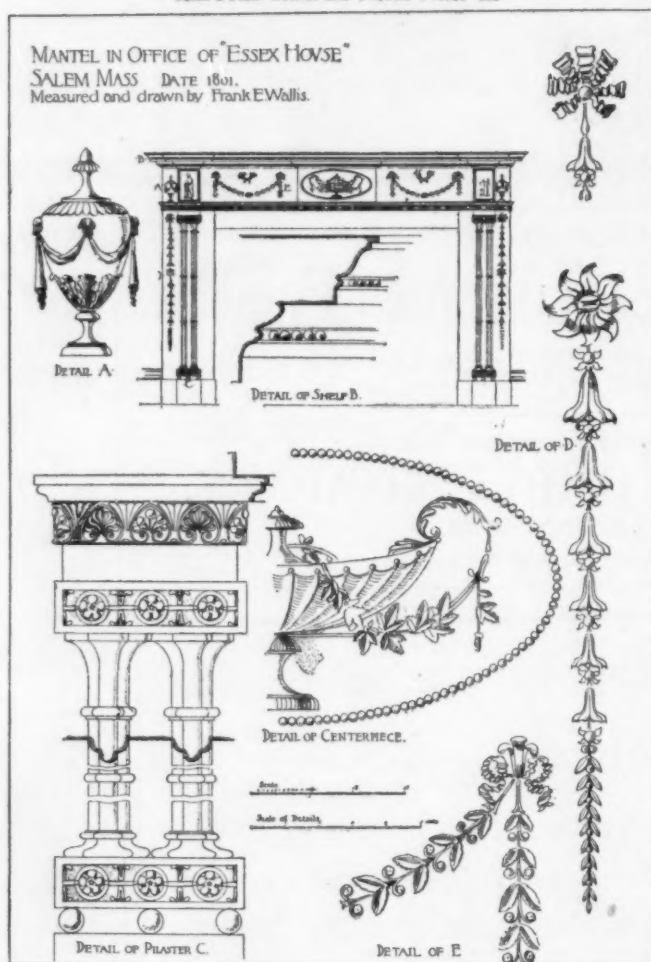
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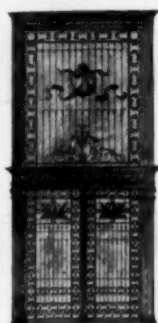


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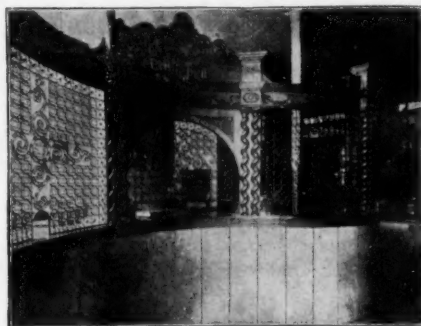
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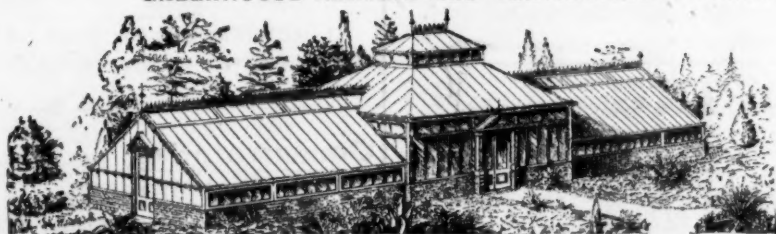
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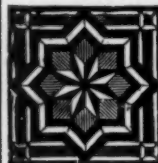
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SPROUL & MCGURRIN (Grand Rapids, Mich.), Grease Traps. Page xiii.

See last or next issue for the following advertisements:—

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BUILDING PATENTS.

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

- 627,092-094. PROCESS OF AND APPARATUS FOR MANUFACTURING GLASS PIPE.—James W. Bonta, Wayne, Pa.
 627,096. SASH-FASTENER.—William H. Bradley, Bridgeport, Conn.
 627,126. SASH-CORD HOLDER.—Lewis Kuhn, St. Louis, Mo.
 627,143. SMOKE-CONSUMING FURNACE.—Anders B. Reek, Copenhagen, Denmark.
 627,157. FILTERING-CISTERNE.—Franklin A. Tulloh and William H. Archer, Lockport, N. Y.
 627,164-165. REVERSIBLE WINDOW.—William T. Waterstraet, Chicago, Ill.
 627,168. GLAZING-FRAME.—Oswald E. Winger, Joliet, Ill.
 627,174. COMBINED SINK AND BATH-TUB.—Fred'k H. Bertschy, Allentown, Wis.
 627,213. DOOR-LATCH.—Henry W. Sterge, Knittell, Ia.
 627,216. ADJUSTABLE WINDOW-SHADE SUPPORTER.—William G. Templeton, Colorado Springs, Col.
 627,238. KEYHOLE-GUARD.—Gust K. Peterson, Holcomb, Ill.
 627,257. ELEVATOR-CAGE ESCAPE.—Byron W. Haines and William D. Creighton, San Francisco, Cal.
 627,264. WEATHER-STRIP.—Ernest Le May, Fall River, Mass.
 627,293. METAL SOIL OR OTHER PIPE.—Douglas G. Brighton, London, Eng.
 627,307. MOSAIC.—Theophil Pfister, Chicago, Ill.
 627,327. TILE.—George W. Crowe, Anderson, Ind.
 627,357. AUTOMATIC FLUSH-VALVE.—Frank E. Smith, New Orleans, La.
 627,373. HEATER.—Charles T. Wise, Sr., New Bridge, Ore.
 627,378. TILE.—Charles C. Alexander, Bayonne, N. J.
 627,432. CUPBOARD-CATCH.—Frank B. Mallory, Flemington, N. J.
 627,433. ROOF-COLLAR AND VENT-PIPE CONNECTION.—James B. Manchester, Providence, R. I.
 627,448. VALVE.—George J. Thomas, Newton, Mass.
 627,463. KEYHOLE-GUARD.—Wilhelm Reinhard, Berlin, Ger.

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

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

ADVANCE RUMORS.

Americus, Ga.—Bruce & Morgan, of Atlanta, have

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

prepared plans for a brick and stone passenger depot for the Central of Georgia Ry. Co.

Anderson, Ind.—Press reports state that the Sisters of the Holy Cross will establish a chain of 18 hospitals through Indiana. They already have three such institutions, one being in this city.

Atchison, Kan.—Plans and specifications have been prepared for the erection of a \$25,000 recitation hall for Midland College.

Baker City, Ore.—A \$30,000 school-building will be erected.

Boston, Mass.—The lot of land on the corner of Massachusetts Ave. and St. Germain St. has been sold to Rhodes Bros., who will erect at once a seven-story fireproof building of brick and stone, having a frontage of 80' on the avenue. It will be first-class in every respect, containing stores on the first floor, to be occupied by the owners, and apartments above.

Work will begin at once on the new infirmary for Harvard University. This building will be known as Stillman Hall, and was made possible through a gift of \$50,000 from James Stillman, of New York.

Brockton, Mass.—A \$10,000 addition is to be built to the Howard School on N. Main St. A. E. Woodward, Supt. Public Property.

Brooklyn, N. Y.—A plot at the corner of 6th St. and 7th Ave. has been sold to the Greenwood Baptist Church for \$30,000, and that society is soon to erect a new church.

Buffalo, N. Y.—It is stated that Esenwein & Johnson, Ellicott Sq., have drawn plans for the new wing for the State Homoeopathic Hospital; cost, about \$80,000.

W. G. Warner, 19 Court St., is said to be preparing plans for School No. 2. It will be a 17-room building and will cost about \$50,000.

Plans have been filed at the Bureau of Buildings for the new Stephenson Building, which is to be erected at 392-394 Main St. The cost will be about \$132,000.

It is stated that William M. Luther & Co. have prepared plans for a three-story brick store and tenement at the corner of Niagara and Virginia Sts. The cost will be \$75,000.

It is stated that A. A. Post has drawn plans for an addition to St. Michael's College, Toronto, three stories high, with basement, and an additional story for main building; cost, about \$25,000.

Henry Schaefer's Sons have received the contract for the Manufacturers & Traders' Bank Building, at \$106,123.

Colorado Springs, Col.—The Colorado Springs Hotel Co. have had plans prepared by Varian & Sterner, Tabor Block, Denver, for a six-story fireproof hotel; cost, \$300,000.

Danbury, Conn.—A new court-house, costing \$75,000, is to be erected at this place.

Detroit, Mich.—Plans have been prepared by Nettleton & Kahn, for a brick and wood dwelling, 63 Boston Boulevard; cost, \$10,000; also brick dwelling, 115 Boston Boulevard; cost, \$10,000.

G. D. Mason has prepared plans for Presbyterian Church for the Wyandotte body of that name, to cost, \$13,000.

Melvin B. Moore will build an apartment-house on Davenport St. from designs by F. J. Grenier; cost, about \$10,000.

N. Wardrop has prepared plans for a three-story combination stone and frame dwelling for Geo. E. Currie, Cadillac Ave.; cost, \$8,000.

The Board of Police Commissioners have accepted the plans of Joy & Barcroft for the new station to be built at the corner of Michigan and Trumbull Aves. The appropriation for the building is \$16,000.

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(Advance Rumors Continued.)

Mrs. W. H. Stephens will build a three-story office and store building on the southeast corner of Grand River and Washington Aves. from designs by Donaldson & Meier.

Louis Kemper has prepared plans for a five-story brick warehouse to be erected on Woodbridge St. for H. Scherer & Co., 282-284 Jefferson Ave.

Zach Rice has completed plans for a two-story brick warehouse for the Michigan Telephone Co., Washington Ave.

The Peninsula Store Co. will build a brick foundry, 120' x 130', on W. Fort St.; cost, \$10,000.

Duluth, Minn.—The State Normal School Directors have decided that working plans for a building to cost less than \$80,000 be prepared for the Duluth Normal School, and that they be reported at the September meeting of the directors.

St. Luke's Hospital is to erect a new building to accommodate 100 patients; cost, \$30,000.

Glendale, O.—The plans of Brown, Burton & Davis, of Cincinnati, have been accepted for the new school-building; cost, \$25,000.

Hastings, Minn.—E. J. Daley, of St. Paul, has been awarded the contract for a school at \$26,415.

Homestead, Pa.—The Pittsburgh Bridge Co., Pittsburgh, has received the contract for the construction of a steel building, 150' x 1,000', for the Howard Axle Co.

Holyoke, Mass.—At the annual meeting of the Farr Alpacca Co. it was voted to subscribe \$5,000 for the new library building.

Houghton, Mich.—A five-story hotel will be erected by the Douglas House Hotel Co., after plans by H. L. Ottenheimer; cost, \$75,000.

Lawrence, Mass.—W. P. Reagan has been employed to prepare plans for a public school estimated to cost about \$50,000.

Leavenworth, Kan.—It is proposed to erect a \$25,000 theatre for the National Home D. V. Soldiers.

Lexington, Va.—Plans have been prepared by W. G. McDowell for a \$20,000 building for the Virginia Military Institute.

Lynchburg, Va.—E. G. Fry is preparing plans for a \$25,000 addition to the R. M. Woman's College. W. H. Smith, pres.

Lynn, Mass.—The corner-stone of St. Jean Baptiste Catholic School was laid Monday, June 26th.

Macon, Ga.—Alex Blair, 673 Cherry St., has prepared plans for a \$16,000 dwelling to be erected on 2d and Cherry Sts.

Manistee, Mich.—William G. Robinson, 62 New Houseman Building, Grand Rapids, has prepared plans for the Polish Hall to be built in this city. It will be 80' x 131', and will cost about \$30,000.

Manton, R. I.—A new school-house is in process of erection at this place. The contract for the construction of the building was awarded to J. D. Baldwin at \$6,250. Plans by D. Howard Thornton.

Milwaukee, Wis.—It is stated that John Kern will erect a modern residence on Park Ave., of stone and brick, to cost \$20,000.

Minneapolis, Minn.—Case Gilbert has completed plans for an office-building to be erected on 2d Ave. and 4th St., by the Realty Care & Improvement Co. It will be fireproof and first-class in every particular; cost, \$100,000.

Plans have been drawn by Architect Charles S. Sedgwick for a five story brick and stone business building to be erected on 1st Ave.; cost, \$50,000.

Missoula, Mont.—Work has been started on the new Sacred Heart Academy; cost, \$45,000.

New Bedford, Mass.—Plans have been prepared by Nat. C. Smith for the 31 District Court-house. Geo. T. Durfee, Chmn. Bristol Co. Commrs.

Newport News, Va.—A. C. Houston, of Richmond, has awarded the contract for an opera-house to be erected at a cost of \$75,000. Capt. M. J. Dimmock, of Richmond, architect.

New York, N. Y.—It is stated that John E. Kerby has prepared plans for the music hall to be built for George M. Janser on 42d St. It will be three stories high, and will cost about \$200,000.

The plans of Arnold W. Brunner, 36 Union Sq., were accepted for the new building for the Mount Sinai Hospital, to be built on 5th Ave., near 100th St., at a cost of \$800,000.

Schickel & Dittmars, Constable Building, have drawn plans for the new buildings for the Roman Catholic Orphan Asylum Association; estimated cost, \$500,000.

North Adams, Mass.—The School Board will petition the Council for an appropriation of \$48,000 for a school in Ward 3.

Oyster Bay, L. I., N. Y.—The citizens have decided to erect a \$25,000 school.

Paris, Tex.—It is reported that the Sisters of Mercy will erect a \$30,000 college this season.

Perth Amboy, N. J.—The Raritan Copper Co. will build a new furnace building at this place, and



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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

have placed the contract with the Berlin Iron Bridge Co., of East Berlin, Conn. The building is 90' wide, 130' long, and 22' high, constructed entirely of steel with travelling cranes, runways, etc.

Philadelphia, Pa.—It is stated that Huston & Miller, Witherspoon Building, have designed a new building for the Medico-Chirurgical Hospital, at 17th and Cherry Sts.; cost, about \$100,000.

William J. Grubler will build a \$12,000 three-story residence, 59' x 75', on W. Walnut Lane, Germantown, for Dr. Charles Currie.

Thos. Halton's Sons are to build a modern textile factory at the corner of C St. and Allegheny Ave., on a lot 112' x 250'.

Port Chester, N. Y.—The Berlin Iron Bridge Co., East Berlin, Conn., have the contract for an extension to the factory building for the Port Chester Bolt & Nut Co. The extension is 52' wide, and 125' long. The construction is to be similar to the building erected for these parties by the Berlin Iron Bridge Co. a short time ago. The supporting trusses and columns are of steel; the roof is of wave shed form, having a glass exposure on the North, which insures a large amount of light coming from the proper directions.

Providence, R. I.—The Callender, McAuslan & Troup Co. is to erect a five and six-story brick storehouse on W. Exchange St. The contract has been awarded to Hartwell, Richards & Kingston. W. R. Walker & Son, architects.

Pullman, Wash.—A. E. Barrett, of Tacoma, is stated to have received the contract for 2 buildings for the Agricultural College for \$74,000.

Ridge Valley, Pa.—The corner-stone of the new St. John's Lutheran Church has been laid. The building will be of Rockhill granite, and will cost \$8,000.

Rockhall, Md.—Geo. C. Haskell, 58 Central Sav. Bk. Bldg., Baltimore, is preparing plans for a \$50,000 hotel for Calvin Chesnut.

Salem, Mass.—The I. P. Harris Co. is to erect a storage building on Bridge St. It will be three stories high, and 45' x 143' in exterior dimensions.

Sioux Falls, S. D.—It is reported that Chicago capitalists will expend \$100,000 in this city this fall in the erection of flats.

Somerville, Mass.—Frank G. Coburn & Co. have received the contract for an annex to Forster School, for \$24,900.

Spokane, Wash.—Cutter & Malmgren have prepared plans for a \$25,000 brick and stone hotel to be erected by Mr. Heiberg on Main and Bernard Sts.

Springfield, Mass.—\$1,800 has been subscribed for the alterations to be made to Faith Church. The building will be enlarged and the work will be started at once. Others have promised liberal

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

gifts which will raise the amount pledged considerably.

It is stated that work has begun on extensive alterations in the court-house to provide better quarters for the registry of deeds. There will be no court session until fall, and the work can be carried on with very little interference with the use of the building.

St. Louis, Mo.—Drs. S. W. and M. Dodds are to erect a three-story private hospital and residence on Washington Boulevard, near Taylor Ave., after plans by M. P. McArdle.

A new three-story building for the dental department of the Marion Sims Medical College is to be erected at once on the site of its present buildings at the corner of Caroline St. and Grand Ave. It will be of brick and terra-cotta, costing \$10,000, and containing on the first floor three laboratories, offices and janitor's residence, and on the second the lecture hall and infirmary.

Six leading architects of the United States have received invitations from Robert S. Brookings, president of the Board of Trustees of Washington University, to submit plans for three of the new buildings to be erected near Forest Park. They are: Eames & Young, St. Louis; Rutan & Coolidge, St. Louis; Carrere & Hastings, New York City; McKim, Mead & White, New York City; Cope & Stewardson, Philadelphia, and Cass Gilbert, Minneapolis and St. Paul. The competition is open to all St. Louis architects and the designs submitted by those not included in the list will receive the same consideration as those of the others.

Mrs. Victoria Arata, who owns the building, 620 Locust St., is to have it torn down and a five-story building, costing in the neighborhood of \$20,000, erected in its place. Charles E. Halloway, architect and superintendent.

The old building on Washington St., bet. 6th and 7th Sts., owned by Byron Nugent, is to be taken down by him and a business building, modern in every respect, will be erected in its place. Plans have been drawn by Barnett, Haynes & Barnett, and the structure will be six stories in height, suitable for either a wholesale or retail concern. The location is a most desirable one.

The new factory for the Desnoyers Shoe Co., at 21st St. and Lucas Ave., will be a five-story building, 150' x 160', costing \$40,000. It will have all modern equipments, and a capacity of 10,000 pairs of shoes daily. Plans by Isaac S. Taylor.

Trenton, N. J.—Mr. Poole, of Newark, has been selected to prepare plans for the enlargement of the State Capitol. Report states that it is intended to reconstruct the Senate Chamber and office buildings, making the wing about the same size as the present Assembly Chamber. The first floor of the wing will be used for a Senate Chamber and committee rooms, and the upper floor will be devoted to offices. The Supreme Court will have an additional chamber.

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Waverly, Wash.—It is stated that D. C. Corbin, of Spokane, and others, propose to erect a beet-sugar factory to cost \$400,000.

West Superior, Wis.—The Northwestern Grass Twine Co., of Oshkosh, and St. Paul, Minn., have purchased 50 acres of land, and will build thereon a factory; cost, about \$250,000.

Williamsport, Pa.—The property at the corner of 4th and State Sts., consisting of a lot of land, 104' x 208', with a large brownstone house thereon, has been purchased by J. V. Brown with the intention of adding to, and altering the building for a Free Public Library to be presented to the city; estimated cost, \$300,000. The institution will be known as the J. V. Brown Library.

ALTERATIONS AND ADDITIONS.

Philadelphia, Pa.—Two-st'y & base. bk. addition to present residence, 25' x 112', together with interior alterations costing \$18,000 in all; o., Alexis Club; c., Wright & Prentzel.

St. Louis, Mo.—*Caroline St.*, three-st'y bk. addition, 45' x 124', comp. roof, steam; \$50,000; o., Marion Sims, Medical College; a., Rockwell M. Milligan, 1103 Chemical Building.

APARTMENT-HOUSES.

Detroit, Mich.—Myers & Gutow, 12 fr. aparts., 1118-1120 Ellery St.; \$12,000.

New Albany, Ind.—Three-st'y bk. & st. flats, 66' x 120', metal roof, steam; \$30,000; o., John Doerhoeffe, Louisville, Ky.

New York, N. Y.—*Ninety-seventh St.*, nr. 5th Ave., six-st'y & base. bk. & st. apart., 50' x 90'; \$60,000; o., S. A. Harris, 136 E. 95th St.; a., G. F. Pelham, 503 Fifth Ave.

Tenth St., Nos. 442-446, 2 six-st'y bk. flats, 23' 2" x 46' 11" x 66' 7" 10"; \$100,000; a., Michael Fay & Wm. Stacom, 337 Pleasant Ave.; a., Chas. Rentz, 153 Fourth Ave.

Ninety-seventh St., nr. West End Ave., six-st'y bk. & st. flat, 75' x 90' 11"; \$85,000; o., Judson Kilpatrick, 104th St. & Columbus Ave.; a., James & Leo, 2585 Broadway.

Ninety-second St., nr. W. Central Park, six-st'y bk. & st. apart., 50' x 90'; \$90,000; o., Turner & Kiernan, 113 W. 96th St.; a., Neville & Bagge, 217 W. 125th St.

Seventh Ave., cor. 114th St., seven-st'y bk. & st. apart., 95' x 96'; \$250,000; o. & b., Hugo F. Hoefler, 118th St. & St. Nicholas Ave.; a., Wm. H. Lehman, 657 W. 145th St.

Ninety-eighth St., cor. Madison Ave., 2 six-st'y bk. & st. aparts., 50' 11" x 95' & 50' x 90'; \$150,000; o. & a., Thomas Graham, 1238 Madison Ave.

Fifteenth St., nr. 2d Ave., six-st'y & base. bk. & limest. apart., 26' x 90'; \$72,000; o., J. & M. Weinstein, Bowery, cor. Spring St.; a., Geo. F. Pelham, 503 Fifth Ave.

One Hundred and Thirty-second St., nr. Amsterdam Ave., 3 six-st'y bk. flats with stores, 25' x 85' 6"; \$75,000; o., Ernest Wetterer, 212 W. 105th St.; a., F. T. Camp, 15 Park Row.

Lexington Ave., cor. 126th St., seven-st'y bk. flat, 60' x 94' 11"; \$110,000; o., Israel Stone, on premises; a., E. L. Angell, 108 Fulton St.

CHURCHES.

Brooklyn, N. Y.—*Greene Ave.*, nr. Patchen Ave., bk. church, 58' 10" x 92', steam heat; \$35,000; o., Greene Ave. Presbyterian Church, H. R. Mayette, Chairman, 952A Greene Ave.; b., H. J. Brown & Son, 1534 Fulton St.

Urbana, O.—One-st'y & base. st. church, 60' x 125', slate roof; \$20,000; o., First M. E. Church; a., Sam'l Hannaford & Sons.

EDUCATIONAL.

New York, N. Y.—*One Hundred and Forty-first St.*, nr. Edgecombe Ave., two-st'y bk. school, 50' x 60'; \$27,000; o., City of New York; a., C. B. J. Snyder, 585 Broadway.

Sioux City, Ia.—Three-st'y & base. college building, 145' x 150', slate roof, steam; \$50,000; o., Morningstar College, Dr. W. S. Lewis, president; a., W. W. Beach.

FACTORIES.

New York, N. Y.—*Wooster St.*, cor. 3d St., eight-st'y bk. & st. factory, 75' 1" x 71' 5", 71' 8"; \$130,000; o., Potter & Teichman, 527 Fifth Ave.; a., G. F. Pelham, 503 Fifth Ave.

Washington and Bank Sts., ten-st'y fireproof factory, 106' 2" x 143', Section G; \$500,000; o., Western Electric Co.; a., C. L. W. Eldlitz, 1123 Broadway; b., Marc Eldlitz & Sons.

Philadelphia, Pa.—*Cumberland St. and Aramingo Ave.*, two-st'y bk. & steel machine shop, 80' 3" x 247' 6"; \$35,000; o., Williamson Brothers' Co.; b., Shiffer Bridge Co.

Park and Glenwood Aves. and Thirteenth St., five-st'y bk. & st. steel fr. building, irregular shape; \$200,000; o., Nat'l Biscuit Co.; c., Roydhouse, Arey & Co.; a., Hales & Ballinger.

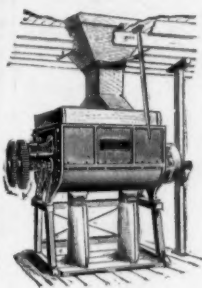
HOUSES.

Boston, Mass.—*Gayland St.*, nr. W. Cottage St., Ward 16, two 2½-st'y fr. dwells, 27' x 40', pitch roofs, furnaces; \$10,000; o., F. E. Blanchard, 84 W. Cottage St.; a., F. A. Norcross.

E St., Nos. 255-263, Ward 15, 6 three-st'y fr. dwells, 23' x 48', flat roofs, stoves; \$25,000; o., J. D. Bates; a. & b., Watson & Waite, 536 First St.

Townsend St., Nos. 214-16, Ward 21, 2 two-st'y bk. dwells, 52' x 55', flat roofs, steam; \$14,000; o., L. D. Burr, 80 Walnut Ave.; a., F. A. Norcross.

Huntington Ave., Nos. 733-55, Ward 19, 2 four-st'y bk. dwells, 21' x 23' x 75', flat roofs, steam; \$13,000; o. & b., Jas. Harmon, 145 Hillside St.



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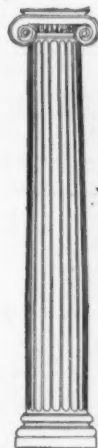
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(Houses Continued.)

Charlotte St., nr. Blue Hill Ave., Ward 20, 2½-st'y fr. dwell., 32' x 37', pitch roof, furnace; \$6,000; o., A. C. C. Hill; b., D. J. McKay, 14 Fowler St., Dorchester.

Centre St., nr. Nixon Ave., Ward 24, 2½-st'y fr. dwell., 22' x 29' x 45', pitch roof, furnace; \$5,000; o., Sarah Eaves; a. & b., Black & De Witt, 24 Norfolk St.

Nottingham St., No. 17, Ward 20, 2½-st'y fr. dwell., 30' x 32' x 36', pitch roof, furnace; \$5,500; o., G. A. Saffa, 229 Berkeley St.; b., Ferguson & Jacques.

Selkirk Road, nr. Englewood Ave., Ward 25, 2½-st'y fr. dwell., 26' x 32' x 50', pitch roof, hot water; \$8,000; o., Nettle Woodman; a., G. D. Mitchell, 170 Summer St., Brighton.

Burrell St., nr. Clifton St., Ward 17, 6 two-st'y bk. dwells, 20' x 52', flat roofs, stoves; \$35,000; o., Jas. Kerrigan; a., J. F. & G. H. Smith; b., H. D. Kelley, 1264 Massachusetts Ave.

Brookline, Mass.—*Homer St.*, cor. Brooke St., three-st'y dwell., furnace; \$10,000; o., Wm. Sundell, 84 Harvard St.; a., H. D. Joil.

Washington St., 2½-st'y dwell., furnace; \$8,000; o., Dr. R. Brindisi; b., John J. Cranitch, 7 Water St.

Sewall Ave., two-st'y fr. dwell., steam; \$10,000; o., Jas. S. Cox; b., J. M. Boulette & Son, 49 Alder St.

Brooklyn, N. Y.—*Seventeenth Ave.*, nr. Bath Ave., 2 two-st'y & attic fr. dwells, 24' x 32' 4", shingle roof, hot air; \$7,000; o., Roscoe R. Bell, 7th Ave. & Union St.; a., B. Driesler, 1432 Flatbush Ave.

Pennsylvania Ave., nr. Atlantic Ave., two-st'y fr. dwell., 24' x 52'; \$5,500; o., Rev. Thomas Kindie, 2590 Atlantic Ave.; a., C. Infanger, 2590 Atlantic Ave.

Ocean Ave., nr. Church Ave., three-st'y fr. dwell., 29' x 59', hot air; \$8,000; o., Gustav Kehr, 94 Lewis

BUILDING INTELLIGENCE.

(Houses Continued.)

Ave.; a., Palmer & Hornbostel, 63 William St., New York.

Surf Ave., nr. W. 21st St., two-st'y & attic fr. dwell., 22' x 50', shingle roof, steam heat; \$7,000; o., Conrad Stubenbord, Surf Ave., nr. W. 8th St.; a., Anson Squire, Bath Ave. & Bay 19th St.

President St., No. 1410, two-st'y & attic bk. dwell., 34' x 44', hot air; \$14,000; o., J. H. Holst; a., Dehli & Howard, 1193 Broadway, New York.

Canandaigua, N. Y.—Two-st'y fr. dwell., 32' x 60', shingle roof; \$3,500; o., W. D. Crandall; a., W. B. Camp.

Detroit, Mich.—*W. Warren Ave.*, 2½-st'y bk. dwell., 29' x 47', slate roof, furnace; \$5,000; o., Briggs & Fuller, 277 W. Warren Ave.; a., Lew. W. Tuller.

Greenfield, O.—2½-st'y bk. dwell., 31' x 56', slate roof, hot air; \$18,000; o., E. B. Watts; a., Andrew R. James, Apollo Building, Cincinnati; not let.

Lawson Station, N. Y.—2½-st'y fr. dwell., 40' x 68'; \$10,000; o., W. B. Law; a., Rossiter & Wright, 95 Liberty St., New York City.

Milwaukee, Wis.—*Seventh Ave. and Walker St.*, two-st'y fr. dwell., 48' x 68', shingle roof, hot water; \$8,500; o., Mrs. P. A. Hamilton; a., O. C. Uehling, Grove & National Aves.

Mt. Vernon, N. Y.—*Clinton Pl.*, two 2½-st'y fr. dwells, 30' x 40'; \$11,000; o. & a., W. H. A. Horsfall.

Fulton Ave., 2½-st'y fr. dwell., 30' x 40'; \$5,500; o. & a., W. H. A. Horsfall.

New York, N. Y.—*Fifty-fourth St.*, No. 52, five-st'y bk. dwell., 25' x 85'; \$35,000; o., J. D. Wing, 22 William St.; b., S. K. McGuire, 151 W. 28th St.

Riverside Drive, No. 1, five-st'y st. dwell., 34' x 60', mansard roof; \$80,000; o., Lydia S. F. Prentiss,

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(Houses Continued.)

Greenport, L. I.; a., C. P. H. Gilbert, 1123 Broadway.
Philadelphia, Pa.—N. Front St., Nos. 1251-53 three-st'y double dwell., 40' x 56' 6"; \$8,300; o., J. Fellmuth; b., John Kramer's Sons.
Frank St., nr. Greene St., Germantown, 24-st'y st. dwell., 29' x 50' 8"; \$6,000; o., Chas. N. Butler; b., G. D. Liddell.
Quincy St., nr. Carpenter St., Germantown, three-st'y st. dwell., 34' x 51'; \$10,000; o., Chas. L. Betts; b., Thos. M. Seeds, Jr.; a., Hazlehurst & Huckel.
Pittsburgh, Pa.—Penn Ave., East End, three-st'y bk. & st. dwell., 42' x 49', slate roof, warm air; \$10,000; o., Mrs. Ida J. McFarlane; a., C. M. Bartberger.
Sayre, Pa.—Two-st'y fr. dwell., 33' x 45', shingle roof; \$2,500; o., Dennis O'Neill, Geneva, N. Y.; a., W. B. Camp, Geneva, N. Y.
St. Louis, Mo.—Fairmount Ave., nr. Clarendon Ave., 4 two-st'y bk. dwells., 27' x 43', slate roofs, furnaces; \$24,000; o., Kinzie & Son; a., W. M. Abesser, 4181 Olive St.
Washington Ave., nr. Taylor St., three-st'y bk. dwell., 47' x 93', comp. roof, hot water; \$60,000; o., Drs. S. W. & M. Dodds; a., M. P. McArab and W. B. Ittner, Security Building.
Westminster Pl., three-st'y bk. dwell., 45' x 54',

BUILDING INTELLIGENCE.

(Houses Continued.)

slate roof, hot water; \$30,000; o., Mrs. Charles Rogers; a., F. C. Bonsack, Columbia Building
Berlin Ave., bet. Taylor & Euclid Sts., two-st'y dwell.; \$9,500; o., Chas. Lindenschmidt.
Westminster Pl., bet. Newstead & Taylor Aves., two-st'y dwell.; \$12,000; o., B. D. Lee.
Shenandoah Ave., bet. Vandeventer & Lawrence Sts., two-st'y dwell.; \$5,000; o., Isaac Jones.
Kensington Ave., bet. Union & Clarendon Sts., two-st'y dwell.; \$5,000; o., Thomas C. Higgins.
Westchester, N. Y.—24-st'y fr. dwell.; \$10,000; o., Mrs. John Scott; a., Lienau & Nash, 62 Cedar St., New York City.
Yonkers, N. Y.—Park Hill, 24-st'y fr. dwell., 40' x 50'; \$15,000; o., L. G. Fischer; a., F. W. Beall, 58 W. 57th St., New York City.
Youngstown, O.—Two-st'y st. dwell., 48' x 56', shingle roof, hot water; \$25,000; o., M. T. Arms; a., Herman F. Kling.

MERCANTILE BUILDINGS.

Lancaster, Ky.—Two-st'y bk. building, 60' x 100', tin roof; \$10,000; o., Dr. J. B. Owsley, Stanford; gen'l c., Wm. King, Danville; a., J. R. Ryan & Son, Lexington.
Madison, Wis.—University Ave. and Lake St., two-st'y & base. bk. building, 50' x 86', comp. roof,

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(Mercantile Buildings Continued.)

steam; \$12,000; o., Gay Land Co; a., Claude & Stark.

OFFICE-BUILDINGS.

Columbus, O.—E. Broad St., twelve-st'y steel-fr. bk. & terra-cotta office-building, comp. roof, steam; \$200,000; o., Majestic Building Syndicate; a., Louis H. Gibson and Edgar B. Fox.

Forest City, Ia.—Three-st'y bk. & terra-cotta bank & office building, 42' x 120', pitch roof, steam; \$20,000; o., Winnebago County State Bank; a., Clarence H. Johnston, St. Paul, Minn.

Hyde Park, Mass.—Two-st'y bk. & st. bank building, 30' x 60', pitch roof, comb. heat; \$20,000; o., Hyde Park Savings Bank; b., Webb Granite Construction Co., Worcester; a., Arthur F. Gray and J. A. Laue, Boston.

New York, N. Y.—S. William St., Nos. 5-7, two-st'y & base. bk. offices, 41' x 73' & 79'; \$22,000; o., Chutt & Myers, Glen Cove, L. I.; a., Carrère & Hastings, 28 E. 41st St.

PUBLIC BUILDINGS.

Portland, Ind.—Two-st'y bk. & st. jail & sheriff's residence, slate roof, steam; \$25,000; o., Jay County; a., Wing & Mahurin.

STABLES.

Boston, Mass.—Walter St., No. 178, Ward 23, 14-st'y fr. stable, 20' x 24', pitch roof; \$700; o., Syrena L. Luce; b., John A. Havey, Roslindale.
Rutherford Ave., No. 472, Ward 4, two-st'y fr. stable, 50' x 120', flat roof, stoves; \$12,000; o., D. Whiting & Son; a., S. D. Kelley, 209 Washington St.

Brookline, Mass.—Heath St., two-st'y stable, stoves; \$8,000; o., Rob't T. Paine; b., John I. Stewart & Co., Water St.

New York, N. Y.—Ninety-ninth St., No. 149, three-st'y bk. stable, 35' x 70'; \$12,000; o., Wm. F. Weber et al., 151 W. 99th St.; a., Edw. L. Angell, 108 Fulton St.

WAREHOUSES.

Bridgeport, Conn.—One-st'y fireproof storehouse, 40' x 60', corrugated iron roof; o., Armstrong Mfg. Co.; o., Berlin Iron Bridge Co.

St. Louis, Mo.—Washington St., nr. Grand Ave., six-st'y & base. bk. warehouse; \$30,000; a., A. Blair Ridington.

MISCELLANEOUS.

Geneva, N. Y.—Three-st'y bk. block, 20' x 70', tin roof; \$4,000; o., D. E. Dempsey; a., W. B. Camp.

Poughkeepsie, N. Y.—Bk. & st. biological laboratory; \$50,000; o., Vassar College; a., York & Sawyer, 156 Fifth Ave., New York City.

St. Louis, Mo.—Von Versen Ave., bet. Belt & Clara Sts., three-st'y building for Home; \$35,000; o., Girl's Industrial Home.

COMPETITIONS.

COURT-HOUSE.

[At Santa Ana, Cal.]

Plans and specifications are wanted July 31 for a court-house, cost not to exceed \$80,000. W. A. BECKETT, Clk. Bd. Supervisors. 1228

HIGH SCHOOL HOUSE.

[At Seattle, Wash.]

Notice to architects.—You are hereby notified that the Board of Directors of School District No. 1, City of Seattle, Washington, desire and call for competitive plans and descriptive specifications for a brick and stone substantially fireproof High School building.

First.—The building will be located on a block of ground having a frontage of 360 feet and width of 256 feet, will be arranged to accommodate 1,200 pupils, will be a permanent and substantial structure, of modern design, and with construction conforming to the building and sanitary laws of the City of Seattle.

Second.—The plans and designs shall consist of one perspective, showing front and one side drawn

THE KENNEY FLUSHOMETER



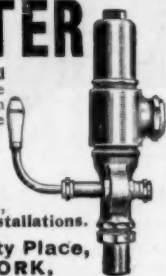
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COMPETITIONS.

to a true line with point of view 250 feet from building; one elevation rear view; one longitudinal section, and one cross section. All plans, elevations and sections must be prepared to a scale of one-eighth (1/8) of one inch to one foot, elevations will be rendered in outline without shading. All plans to have walls drawn in India ink and blacked in; perspective views will be rendered in ink only.

Fourth.—The limit of expenditure in the construction of building not to exceed \$200,000.

Fifth.—All plans should be addressed to Lyman Banks, Esq., Secretary Seattle Schools, Seattle, Wash.; should be signed by a nom de plume or cipher and be accompanied by a sealed letter bearing a like cipher, containing the true name of the architect. The letter will be opened after the adoption of a plan.

Sixth.—The architect whose design may be selected by the Board will be entitled to receive the sum of three thousand dollars. The plans so selected to become the property of the Board.

Bids will be received up to 5 P. M., August 30, 1899, and will be opened at the office of the Board at 8 o'clock P. M., September 7, 1899.

The Board reserves the right to reject any and all plans. Any further information desired may be obtained by addressing the undersigned.

(Signed) **LYMAN BANKS,**
Secretary School District No. 1, Seattle, Wash.

1229

CITY-HALL.

Plans are wanted August 1 for a City-hall. **T. T. TALLEY,** City Treas.

1226

CHANGE OF SCALE.—Society of Beaux-Arts, Class B, Order Programme No. 9, Competition No. 34. The scale of finished plan has been reduced from 1/8" to the foot to 1/16" to the foot. **ERNEST FLAGG,** Chairman.

PROPOSALS.

HEATING.

Bids are wanted July 10 for a hot water heating apparatus in Delta County Hospital. **T. J. TRACY,** Supt.

1227

SCHOOL.

G. A. Nichols, Secretary School Board, will receive bids until July 15, for a school-house.

1228

SCHOOL.

A. F. Cutter, Chairman School Committee, will receive bids until July 14 for a school-house.

1228

RIPRAP STONE.

U. S. Engineer Office, Boston, Mass. Sealed proposals for construction of rubble stone riprap on Long Beach, Plymouth Harbor, Mass., will be received until July 29, 1899. **CHAS. R. SUTER,** Col. Engrs.

1228

Treasury Department, Office Supervising Architect, Washington, D. C., June 24, 1899. Sealed proposals will be received at this office until 2 o'clock P. M. on the 27th day of July, 1899, and then opened, for the superstructure, interior finish, plumbing approaches, etc., for the U. S. Public Building at Cheyenne, Wyoming, in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Cheyenne, Wyoming. **JAMES KNOX TAYLOR,** Supervising Architect.

1228

PROPOSALS.

SEA WALL.

Sealed proposals for building sea wall and grading at Winthrop Beach will be received at the office of the Metropolitan Park Commission, 14 Beacon St., Boston, Mass., until July 10, 1899. **WILLIAM B. DE LAS CASAS,** EDWIN R. HASKELL, EDWIN U. CURTIS, DAVID N. SKILLINGS, ELLERTON P. WHITNEY, Metropolitan Park Commission. **WM. T. PIERCE,** Engineer.

1227

STONE, SAND AND CEMENT.

U. S. Engineer Office, Mobile, Ala. Proposals for furnishing and delivering hydraulic Portland cement, gravel and sand, at McGrews Shoal, Ala., received here until July 20, 1899. **WM. T. ROSSELL** Major, Engineers.

1228

BUILDING.

Department of the Interior, Office of Indian Affairs, Washington, D. C. Sealed proposals will be received at this office until July 18, 1899, for furnishing and delivering the necessary materials and labor required in the erection and completion of 12 buildings at site of the Leech Lake Indian Agency, near Walker, Minn. **W. A. JONES,** commissioner.

1228

STEAM HEATING.

The Board of Education of the Minster School District, Jackson Township, Auglaize County, O., will until July 17, 1899, receive sealed proposals for furnishing a steam-heating apparatus and placing the same in running order in the public school building in Minster, O., before the 1st day of September, 1899. **WM. NIENBERG,** clerk.

1228

HOSPITAL.

Bids are wanted July 17 for a hospital on the grounds of the State School for Feeble Minded. **R. A. MOTT,** Secy. Bd. Dirs.

1228

DORMITORY.

Department of the Interior, Office of Indian Affairs, Washington, D. C. Sealed proposals will be received at the office of Indian Affairs until July 20, 1899, for furnishing the necessary materials and labor required to construct and complete a dormitory and an employe quarters at the Pyramid Lake School, Nevada. **A. C. TONNER,** acting commissioner.

1228

PORTLAND CEMENT.

U. S. Engineer Office, Savannah, Ga. Sealed proposals for Portland cement, delivered at Tybee Island, Ga., will be received here until July 22, 1899. **CASSIUS E. GILLETTE,** Capt. Engrs.

1228

CONSTRUCTION OF SEWER.

Bids will be received at the office of James A. Martin, City Clerk of the City of St. Cloud, Minn., until July 17 for the construction of about three miles of vitrified pipe sewer.

1228

CONSTRUCTION OF SEWER BEDS.

Sealed proposals will be received at the office of the Sewer Commissioners of Southbridge, Mass., until the 8th day of July next, for the construction of the sewer disposal beds, and laying about 200 feet of 14-inch iron pipe. **JOSEPH OULMETTE,** JR., W. C. CALLAHAN, H. C. CADY, Sewer Committee of Southbridge, Mass. **A. C. MOORE,** Engineer, 100 Main St., Southbridge, Mass.

1227

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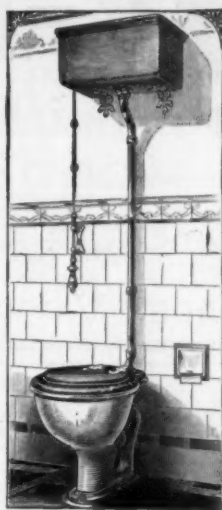
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PROPOSALS.

ADDITION TO QUARTERS.

Sealed proposals will be received here until July 13, 1899, for the construction of an Addition to Quarters No. 27. Address Q. M., U. S. M. A.

1227

HEATING.

Bids are wanted July 10 for furnishing heating apparatus for the Cincinnati Branch Hospital. **JOHN FEHRENBATCH,** Supt.

1227

HEATING.

Sealed proposals for heating court-house and jail in the City of Hallock, Kittson County, Minn., will be received by the County Auditor until the 10th day of July, 1899. **G. A. GUNNARSON,** County Auditor.

1227

COURT-HOUSE.

Bids are wanted by the County Commissioners July 29 for a court-house; estimated cost, \$200,000.

1227

ELECTRIC LIGHTING PLANT.

U. S. Engineer Office, Room 90, Flood Building, San Francisco, Cal. Sealed proposals for furnishing and installing electric lighting plants at Fort Point, Cal., will be received here until July 7, 1899. **CHAS. E. L. B. DAVIS,** Major, Engineers.

1227

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. . . CODE OF ETHICS . . .

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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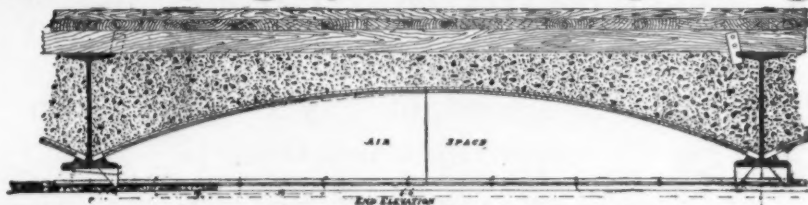
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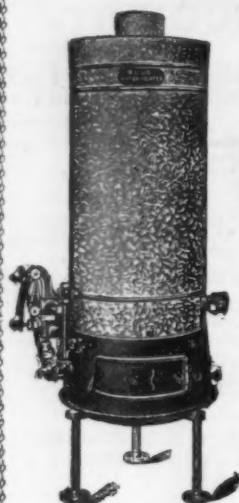
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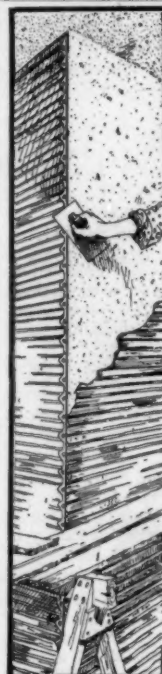
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