THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. LXVII. Copyright, 1900, by the AMERICAN ARCHITECT AND BUILDING NEWS COMPANY, Boston, Mass. No. 1263.

Entered at the Post-Office at Boston as second-class matter.

MARCH 10, 1900.

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THE full board of the Supreme Court of Massachusetts has rendered an interesting decision, upholding the authority of the Board of Appeal to which the final decision of matters under the building laws is committed by statute. The owner of a lot of land in Boston wished to improve it by erecting a tenement-house on it. The laws of Massachusetts regulating the construction of tenement-houses require them to be fireproof, and, as the plans did not show fireproof construction, the Building Commissioner refused to approve them, or to issue a permit for carrying them out. The question was then referred to the Board of Appeal, which held a hearing, and gave its decision, confirming the Commissioner's action, and directing him to withhold his permit. A petition was then carried to the Supreme Court asking for a mandamus to compel the Building Commissioner, notwithstanding the decision of the Board of Appeal, to issue the permit. The Court, however, held that, under the statute, the Commissioner had no power to issue a permit after having been directed to withhold it by the Board of Appeal, and that the petitioner could not, on the petition, have the decision of the Board of Appeal revised. Whether the Court would revise them on a different petition was left uncertain; and, of course, it may be supposed that a petitition alleging fraud would be entertained; but, in the absence of any allegation of wrongdoing on the part of the Board of Appeal, it may be assumed that its decisions are now final in Massachusetts.

THE city of Detroit is to celebrate the two-hundredth anniversary of its foundation by the erection of a monument on the lower end of the island of Belle Isle, in the Detroit River. This portion of the island is to be made into a park, in the middle of which is to stand a lofty column, surrounded by groups of sculpture, and supporting a tripod, which is to be illuminated at night. The column is to be surrounded by a basin, with flights of steps, and a Doric peristyle, in which will be placed a statue of "Cadillac," to be followed, perhaps, later, by statues of other distinguished persons. Messrs. Stanford White, Augustus St. Gaudens, Frederick MacMonnies, D. W. Tryon and Thomas W. Dewing were the committee selected to study the question of a memorial, and the design, the idea of which will strike architects as very interesting and effective, is the work of Mr. White. The cost of the work is estimated at about a million dollars, and Detroit could hardly celebrate its two-hundredth birthday more judiciously than by carrying it out.

THE last appropriation bill passed by Congress contained a demand for a special report upon the forestry work of the Department of Agriculture, to "show its utility," thereby, in the indirect way familiar to politicians, raising, in the mind of careless people, a doubt as to whether it is of any utility at all. The French "correctional police" have a way, when any crime has been committed, of looking first for the woman, who, according to their experience, must have really suggested the crime; and, in seeking the explanation of political movements, it is well to begin by considering the persons whose pockets will profit by them. In this case, the rich and powerful ring which, until within a few years, profited enormously by the simple process of stealing the public timber from Government lands, and selling it, may easily be imagined to have interest enough in the matter to try to abolish the Forestry Bureau, which has exposed and checked their depredations; and their efforts would be seconded by another ring, politically powerful, which finds advantage in raising, on the public lands, immense herds of half-wild sheep, which nibble and destroy vast numbers of young trees; so that the citizens who do not belong to any rings, and who share their interest in the public lands with so many others that each one's portion is small, must make an effort which may seem disproportionate to the occasion in order to resist the direct influence of the rings, applied under the instructions of skilful lobbyists.

IN point of fact, it would hardly be too much to say that the Forestry Bureau has been for the past ten years, and seems likely to be for a hundred years to come, the most useful branch of the Government. Every variety of waste of the public money is well represented at Washington, and it is in the Department of Agriculture, and in the Bureau of Forestry in particular, that we find almost the sole example of the public authority, and the public resources, applied to the preservation and increase of the natural wealth of the country, the wealth which is to feed, clothe and educate future generations, even more than our own. Ruskin used to say, as a brief summary of his system of political economy, that "Food can only be got out of the ground, and happiness only out of honesty"; and in this country, not only food, but fuel, shelter and clothing can, for the vast majority of the population, be obtained only from the soil of their own country. We often hear it said that England is prosperous without forests, but England is a small country, with hundreds of seaports, to which swarms of ships bring food and timber from the densely-wooded countries a day's sail away, while the immense territory of the United States is dependent on a very small number of seaports, and the other agricultural countries of the world are from three to ten thousand miles away, even from our coast. Our grandchildren in the Mississippi Valley, who must pay the bills, will not look with so much complacency as certain American economists of the present day on the necessity of importing timber for their houses from Norway; yet, if the warnings of the Forestry Bureau are not heeded, they will certainly be obliged to do so, and, to pay the cost, they must sacrifice a large part of the modest comfort which is so dear to the American heart. Moreover, it is not alone to save the timber wealth of the country that the Forestry Bureau has worked so energetically. Every one knows now that the fertility of open and cultivated soil depends upon the neighboring forests, which moderate the extreme temperature of both winter and summer, keep the ground moist by checking evaporation, induce frequent moderate rains, instead of alternations of violent storms and parching dryness, and maintain, by the water which collects in their cool soil, the steady flow of brooks and rivers. The farmers of Western Kansas and Nebraska have good reason to know the difference between a moist, equable climate and one exposed to alternations of drought and flood, and those of other States, once fertile, are beginning to learn the same lesson; but even they do not yet sufficiently realize the fact that their crops of grain, their beets, the pasturage of their cattle, their business success, and the comfort of their families, have been stolen from them by greedy speculators, who have either entered and laid waste the public forests, or, with legal authority, have destroyed the woodlands in which, as the conservators of rainfall and springs, the farmers, the fertility of whose holdings is dependent upon them, have a very important and definite interest. We are inclined to think that, with our present knowledge of the influence of forests on climate, this interest would be recognized by the courts, and interference with it made a ground for damages, just as damages can be recovered from the owner of land on a brook or river who diverts a portion of the water needed to drive a mill farther down the stream; but this question has yet to be settled. In any case, however, it is the Forestry Bureau which has opened the eyes of the American public to the gravity of the dangers to

which it is exposed; which has brought about, through its energetic and intelligent efforts, the establishment of several important schools of forestry, and has awakened many private owners of woodland to an appreciation of the advantages of a rational treatment of their property.

THE Council of the Royal Institute of British Architects has nominated Professor Rodolfo Lanciani, of Rome, as the next recipient of their Royal Gold Medal. No one could object to Professor Lanciani, who is as well known in this country as in England for his zeal and discretion as Government Director of archæological exploration in Rome, and for the charming books which give an account of his work, as a recipient of any honors that an artistic and intellectual body can confer upon him; but it seems a little strange that a person outside of the profession should be chosen. In this country at least, archæology and architecture are two very different things, and, while learning of any sort is commendable in a professional man, we do not see lawyers made eminent by medical societies, or physicians elected to office among engineers. That Professor Lanciani's work is of great interest to architects is undoubted, and, as all architects look upon ancient Rome as the mother of the architecture of the present day, this is natural; but it would be hard to say in what way that work has advanced architecture.

PROFESSOR MELANI writes to *La Construction Moderne* that the project for building a new façade to the Cathedral of Milan, which has been on the point of execution for nearly fourteen years, and which the Chapter of the Cathedral now feels itself ready to carry out, is meeting with strong and organized opposition in the city, and it is not impossible that it may be abandoned. Architects will remember the great international competition of 1886, invited as a consequence of a bequest made by a citizen of Milan to the Chapter for the purpose of rebuilding the façade. The first place in the competition was awarded to Joseph Brentano, a young Milanese architect, who, however, died shortly afterwards. The bequest was not sufficient to pay the whole cost of the work, and a condition was attached to it, providing that unless the reconstruction should be begun within a certain period, the money should revert to the great Hospital of Milan. The limit of time has now nearly expired, and the Cathedral authorities, finding that they must act, or lose their bequest, have announced their decision to begin the execution of Brentano's design. The prospect of a new façade to their Cathedral has, however, awakened the thoughtful inhabitants of Milan to the merits of the old one. It is true that the old façade is mainly in a Renaissance style, quite out of harmony with the Gothic of the remainder; but, considered as a Renaissance design, it is very far from being without merit. Moreover, this part of the building possesses the historical interest of having been carried out by the great and good Cardinal Frederic Borromeo, who took from the family of the distinguished artist Pellegrini the designs which he had made for the work many years before, and had them executed. After the death of the good Cardinal, a new taste came in, and the upper portion of the façade, which was not yet finished, was continued in a Gothic style. The work was still unfinished when Napoleon was elected King of Italy, and it was he who provided for its completion, still in the Gothic style, from the plans of Amati. It is evident that the persons who would care most for the complete harmony of all portions of the Cathedral are, to a great degree, those who would also regret most to lose the recollections of Frederic Borromeo and Napoleon with which the present façade is associated, and it is not surprising that the sense of impending historical loss, as the time for it approaches, begins to prevail over the anticipations of artistic gain. Whether it will, in the end, prove strong enough to cause the abandonment of the project remains to be seen, but the decline of local pride, which has been very rapid of late years in Italy, with the increasing and obvious necessity for charitable endowment in Milan, will have much influence in reconciling the mind of the public to the transfer of the bequeathed fund to the Hospital.

IN nothing, perhaps, has the progress of science been more remarkable, to say the least, than in the investigation of sewer air. Possibly some of our readers have at this time on their desks, presented by a polite manufacturer of traps, a blotter inscribed with the legend "Sewer-gas is Death"; and even the younger men in the profession have been carefully instructed in the idea, supported by countless examples, that the inhalation of the air of sewers produced vertigo, nausea and other unpleasant immediate symptoms, developing later diphtheria, scarlet-fever, croup and meningitis, if not typhoid fever. Now, we are informed by people who ought to know that, far from reeking with fatal effluvia, the atmosphere of sewers is purer than that outside. According to some of the latest observers, "the air of sewers is remarkably free from micro-organisms," and we are told that only half as many organisms are found in a given quantity of sewer air as in an equal amount of ordinary outdoor air. At this rate, we should expect to see, before long, sanitaria for consumptives fitted up alongside the sewers, each apartment, perhaps, with a little cesspool for inhalation purposes; but it seems that, although the air of sewers is so salubrious, the water in them is not, and by splashing, evaporation of sediment, and in other ways, it may impart to the beneficent atmosphere over it a proportion of "mycelium spores," whatever those may be, and other objectionable substances. It seems to the practical man, then, that however delightful the sewer air may be by itself, the probability that it may have "mycelium spores" floating in it makes it just as desirable to keep it out of houses as if it really deserved its former evil reputation. It does not make much difference whether a person gets a sore throat from sewer air or from spores, so long as they are likely to be found together; and, as the devices for excluding sewer air from houses also keep out the spores, we shall not yet be obliged to change our plumbing systems to suit the new ideas. The investigations which have been made into the character of sewer air have, however, shown that the air in house-drains and soil-pipes is far more offensive than that in sewers, and architects, most of whom are aware of this fact already, may feel themselves supported by the most modern science in putting traps close to the outlets of fixtures, and in avoiding so far as possible long runs of waste or overflow pipes, unventilated and inaccessible.

IT is with a certain envy that Americans, who are occasionally reminded, by the sight of their grass-grown wharves, of foreign commerce as something which employs and enriches Englishmen, Germans, Frenchmen, Norwegians, Dutchmen, Italians and Japanese, read of the extraordinary prosperity of the principal seaports in Europe. The changes in railway routes, due to the opening of tunnels, or other great engineering works, have diverted traffic in new directions, as, for example, to Genoa, rather than Marseilles, and to Hamburg, in place of Rotterdam and Antwerp; but the old ports have declined little, if at all, from their ancient condition, while the more favored ones have grown with astonishing rapidity. It is only about fifteen years since the Duke of Galliera, who had made an immense fortune in building new railways, bequeathed to his native city of Genoa some four million dollars, to be used in the construction of docks, which he believed, through his knowledge of the tendencies of transportation on the Mediterranean coast, would soon be used if they were provided. We well remember visiting, soon afterwards, the Terrazzo di Marmo, or marble terrace, which formed at that time a pleasant promenade along the shore of the harbor, and seeing it torn in pieces to carry out the Duke of Galliera's plan. The new docks were hardly finished before they were crowded with steamships, which took there freight brought from Northern Europe by the Saint-Gothard and Mont Cenis tunnels, to transport it to South America, Africa, Egypt, and, by the Suez Canal, to Asia and Australia. New docks were added, and again were found inadequate, and even now the harbor is constantly crowded. Meanwhile, however, the railway accommodation, which, a decade ago, was far in excess of the needs of the traffic, has become inadequate to the demand. For the lines from the Mont Cenis alone two tunnels have been cut, just outside the city, at Ronco and at Giovi, one five miles long, and the other a little shorter, and these have become so crowded with trains that the longest, that of Ronco, has just been enlarged. At the same time, an extensive system of new tracks is in process of construction in the neighborhood of the docks; a freight-car station has been formed at Rivarolo, which will accommodate two thousand cars, and new works of other kinds have been undertaken, to a total value of something like ten million dollars; yet, even before their completion, they are acknowledged to be inadequate, and, with the opening of the Simplon tunnel, which will soon take place, a great increase of accommodation, both for railways and steamships, will be absolutely necessary.

AXIOMS AND PRINCIPLES OF MODERN HOSPITAL CONSTRUCTION.[1]

Leaded Glass-panel in the Chateau de la Hulpe, Belgium.

GENTLEMEN,— It has been said that hospitals are the measure of the civilization of a people. San Francisco intends to enhance its reputation by the erection of a new hospital, replacing one which reflects rather unfavorably on the standard of this community. It may, therefore, be of some timely interest to discuss hospital construction, and I propose to do it at the hand of the plans submitted in the competition for the City and County Hospital.

I have looked over these plans rather carefully. It is my present business to criticize other architects' work. A gentleman recently said to me when I first met him, "I did not know that there is such a personage as architectural critic." The gentleman is in some way right. Architectural criticism is in its very infancy. Few indeed are the architectural critics who possess in an adequate degree those four indispensable qualities — knowledge, honesty, courage and sympathy. As an editor of an architectural publication, I must necessarily be an architectural critic. I must be able to discriminate what is appropriate, characteristic, original and practical. Such knowledge can only be acquired by having seen much, by a careful study of the axioms, principles and tendencies of architecture in general, and of the pending architectural task in particular. Criticism should not be based on personal opinions and sentiments, but on experiences, facts, principles.

The principles of architectural composition are essentially those of common sense, logical reason, and are, therefore, intelligible to all. They are not absolute and binding laws, but they also can not be overthrown. If originality is sought by revolution of axioms, only singularity can result.

Before we can enter into a criticism of these plans we must ascertain what are the axioms and principles of modern hospital construction. On what facts are they based and how were they developed? The principles now accepted are thoroughly modern, and constitute a new system which has nothing more to do with the old. But there is much interest and profit in studying the history of the hospital, for it teaches us through what processes the present ideas were evolved.

I will therefore start by giving a short history of hospital construction in Europe and America.

All hospitals in the Middle Ages were under the control of the monks. They were unusually large and many-storied. The sick were aggregated in them in a most unhealthy way. The best example of these mediæval hospitals is the famous Ospedale Maggiore, the great hospital in Milan, accommodating two thousand patients.

In the last century the foundation was laid for a better state of things. The importance of air and sunshine as curative agents began to be properly understood. For example, the Royal Infirmary of Edinburgh, established 1734, had wings only two stories high containing wards with large opposite windows and a smaller number of beds. In 1764 a small naval hospital was opened at Plymouth, Eng., having wards in separate pavilions with only twenty beds to the ward. That was the first pavilion hospital. To France is generally accorded the honor of having originated the pavilion system and formally laid down its principles in the famous report of the Academy of Science in 1788. But the story goes that the committee preparing this report visited previously the little pavilion hospital at Plymouth and from it took the leading ideas of their report. Yet it cannot be denied that it was a Frenchman, Ténon, who treated the subject scientifically. His report presented to the Academy forms the foundation of the present system. It advocated the one-story pavilion.

It was not until the middle of this century that the first pavilion hospital of any importance, the Lariboisière, in Paris, was completed. Against the dicta of Ténon, it was three-storied. It marks, however, the beginning of the present era. It reflected back upon England where the Crimean War caused the erection of the Herbert Hospital, the first important example of the detached pavilion plan.

Hospitals are indeed the result of wars. The American Civil War produced the temporary barrack-hospital, and the Austro-Prussian War had its effect in Germany in the first hospital built according to the new American plan — the civic hospital in Leipsic with fourteen one-storied pavilions.

The Franco-German War has given another impetus to hospital reform, and Germany took the lead in Europe in carrying out the new principles. An interesting example of this influence is seen in the Berlin civil hospital, accommodating six hundred patients. It was wisely decided to erect it outside the city in a beautiful park. It consists of ten large pavilions, and two smaller ones reserved for contagious cases. This is one of the most perfectly organized hospitals. Fault, however, is found with it because the buildings have projections which interfere with the circulation of the outside air, and because they have two stories. Another noteworthy hospital was built at the same time in Berlin,— the Military Hospital at Moabit, for five hundred and ten sick and wounded. This is also located outside the city. The system of detached buildings has been applied here in the most thorough fashion. The principal wards have but sixteen beds, the others six, three or two.

The new civil hospital in Hamburg is the most noted and the largest in Germany. It accommodates fifteen hundred patients, and is spread over an area of nearly forty-five acres, situated about three miles north of the city. It comprises eighty-three detached buildings, of which fifty-five are destined for the accommodation of patients. All are built in brick, and are placed parallel to each other. They have at each end projections, which, however, do not facilitate the circulation of the outside air. The pavilions as well as the service buildings are connected by covered ways. The wards consist of only one floor above the underground basement. The buildings form three series. The first series is intended for thirty-three patients, the second for fifteen, and the third for six patients only. The most important improvement introduced into this hospital consists in the method of heating, effected by the circulation of steam through pipes placed beneath the mosaic floors, which are thus raised to a temperature of 70° F. It is in fact an experiment on a large scale of the system of heating by floor or indirect radiation, which is the most effectual of all, though not the cheapest. Notwithstanding its great cost, this system should be considered for all new hospitals.

In Belgium the hospital question has received great attention. The new hospital at Ghent is especially noteworthy. The buildings have smooth walls, destitute of all projections, and are one-storied.

In Holland we find one of the most curious hospitals, the Antwerp [*sic*] civic hospital. The chief feature is the adoption of the circular ward form. Great interest and controversy have been excited by this new form of construction. It was not without difficulty that the architect of this hospital succeeded in having it adopted.

There is nothing of note in regard to Austrian, Swiss, Italian and Spanish hospitals, all being built according to old-fashioned ideas.

Hungary possesses two interesting examples in Budapest. The St. Stephen's Hospital comprises eight large detached buildings, accommodating six hundred and fifty patients. A feature of this hospital is that it was the first allotting wards to special diseases.

The St. Elizabeth Hospital, in Budapest, occupies an elevated position on the right bank of the Danube, and is built on the detached system. The various buildings have only one floor above the basement. The buildings are not connected by passages.

In the northern part of Europe we find good hospitals in Denmark, Sweden and Russia. The Copenhagen hospital is built after the one-story pavilion system. The various buildings have no connecting passages.

Moscow, in Russia, possesses a military hospital which is unique of its kind, because of the open-air treatment of the patients in summer-time. The city of St. Petersburg has started on the road of progress by putting into practice a principle which ought to be adopted by every great city — that is, no more hospitals within the city limits, but only emergency stations. The patients are removed to large establishments in the country. This is an excellent system for the patients, but of some inconvenience for the doctors. The means of rapid locomotion, however, overcomes this inconvenience more and more, and I understand that Berlin and Paris will soon follow the example of St. Petersburg.

The modern English hospitals do not show any special features. They are carefully constructed, and every contrivance is utilized to facilitate the service. The finest is the St. Thomas Hospital, in London, on the right bank of the Thames. It presents to the river a long line of large buildings. The wards are superposed. This is the weak feature of all the hospitals in the heart of populous districts where the space is limited.

The system of superposed wards has also been followed in the erection of the hospitals of the city of Paris. It is curious that the city where the new principles found their first expression more than one hundred years ago has the worst types now in existence. The Salpêtrière Hospital is the largest hospital in the world. It has space for six thousand beds, which represents a fearful aggregation of sickness in the centre of a great city. The new Hôtel Dieu in Paris is generally acknowledged to be one of the worst examples in modern times. Its construction was carried on under great opposition of medical authorities. The plan does not differ much from the plan adopted for the Ospedale Maggiore, in Milan, four hundred years ago. Hygienists did not fail to criticize this system severely for two reasons — the excessively large number of patients and the unsatisfactory arrangement of superposed wards. Partial satisfaction was given to the wishes of medical men — the height of the building was limited to two stories. Important improvements were made in the interior. The ceilings of the wards were given the form of an arch, the corners were rounded, the walls oil-painted and polished. Frequent cleaning was thus rendered easy. A large amount of money

[1] Paper read by Herr Max Junghaendel, Architect, before the Technical Society of the Pacific Coast in the Academy of Science, San Francisco, Cal.

was expended, and yet, after all, the degree of perfection aimed at was by no means attained, and a high rate of mortality prevails.

The costly experiment made in Paris gave rise to a reform of hospital construction in France which comes near to a revolution. It found its best expression in the system named after the French engineer, Tollet. The essential features of the Tollet system are that it provides for the division of the sick into small numbers, and of their placing in one-story buildings raised high above the ground. There are quite a number of hospitals built after the Tollet system. I mention here only the military hospital at Bourges, and the civil and military hospital in Montpellier. In recent years the Tollet system has been utilized for new hospitals in Paris, Havre, Epernay; for a new hospital in Madrid, Spain, and also for one in America — the Army and Navy Hospital in Hot Springs, Ark.

The first great hospital founded in America was the Pennsylvania Hospital, in Philadelphia. It was Benjamin Franklin who aided in securing its charter, as far back as 1751.

The general hospitals of a permanent character built before the middle of the present century — the Pennsylvania Hospital, the New York Hospital, Massachusetts General Hospital — were upon the block, or corridor, plan. The Philadelphia Episcopal Hospital and the Boston City Hospital were the first permanent ones in America having detached pavilions connected by corridors.

Soon after the beginning of the Civil War extensive hospital accommodations became necessary. The necessity of frequent changes of location developed a remarkable system of temporary structures. The essential feature of this system was the barrack plan of long wards in one-story wooden pavilions. The results with these hospitals were exceedingly favorable. The doctors became fond of them, and it became one of the dicta of hospital construction that all new hospitals should be pavilions of a temporary character.

A modification of these views, however, is now generally accepted. It is at present regarded as more practical to construct permanent buildings, these being in the long run more satisfactory, economical, and much more comfortable. The results of these experiences gave a great impetus to the progress of hospital reform. Several permanent pavilion hospitals have been built in the last decades.

The most notable of modern hospitals in this country and which we can fully consider as model institutes, not surpassed by any European, are the Johns Hopkins Hospital, in Baltimore, the Boston City Hospital and the Cleveland City Hospital.

The very latest and, I dare say, the least satisfying great hospital is the St. Luke's Hospital in New York, a six-story structure. It is now two years in use, fitted up with the latest improvements in sanitation, ventilation and heating, yet the complaints of medical authorities are numerous, and the rate of mortality among its inmates is high. Its construction is entirely in opposition to the laws and principles laid down by modern sanitary science.

The arrangement of a modern hospital cannot be properly understood without having a clear conception of the principles of sanitary science. I will therefore sketch them as briefly and clearly as possible.

Ailment is decomposition. The highest degree of decomposition is death. There must be agents which start and accelerate this decomposition, but also agents which can diminish and stop it, restore and preserve health. Sanitary science has to do with these evil and good agents alike. It is the aim of this science to study these agents and to find means to prevent the developing and spreading of the evil, and to enhance the action and effect of the good ones.

It is indeed to the credit of the last decades that we fully understand the nature of those agents which are the generators of disease, and which are differently named — germs, bacteria, bacilli, miasma, etc. We are on the verge of great advances in the knowledge of the essence of these invisible atoms, which are man's worst enemies, and to the attack of which it is our fate finally to succumb. Of course you all have heard the names of Billroth, Pasteur, Lister, Koch and others who have taught us to recognize these microbic beings. We know to-day that they are omnipresent and have a great septic and spreading power in places filled with decomposition and foul air, and, on the other hand, that they, as all evil-doers, cannot stand pure air and strong light, those best health-restoring and preserving factors. Hospitals have ever been the preferred resorts of these contagious germs of diseases. The old-fashioned hospital cultivated them, and, indeed, the question raised by an English authority about thirty years ago, whether hospitals have not destroyed more lives than they have saved, seems in many respects to be justified.

The tendencies to weaken the strength of these evil influences, eject and kill the germs, have resulted in the modern hospital, which is as opposite to the old type as day is to night.

Bacteriology teaches that there is a specific form of germ for the different manifestations of ailment. Patients suffering from different ailments are therefore segregated and treated in different buildings. These buildings are separated from one another as completely as possible. In order to prevent spreading of germs from one story to the other, the stories are also completely separated. In cases where it is feasible, superposition of stories, even of two, is avoided. Sanitary science considers the one-story pavilion the ideal one, not only because it prevents the spreading of germs, but also because it allows an unobstructed circulation of air and a greater access of sunshine.

Air to the healthy and sick man is as necessary as food, even more so. In order to remain or become healthy, man requires a certain quantity of air. This quantity must be provided either by natural, or if the circumstances do not allow this, by artificial ventilation — that is, either by opening the windows or by a system which purifies, dries, cools or warms the air, and at certain intervals and in given proportions regenerates the air, which, by passing through the lungs of man, has become degenerate and foul. One product of respiration is carbonic acid. Its percentage fixes the measure of impurity and odor. Its normal ratio is three to four parts per ten thousand. If there are six to seven parts of carbonic acid per ten thousand parts of air, a faint odor is perceptible. Good ventilation is the securing of a change of air, so that the latter may be diluted to its standard ratio. We must supply so much air that an occupied ward is free from any perceptible odor to a person entering from outside.

It has been calculated by the best authorities that to attain this there must be a supply of at least 4,000 cubic feet per bed and per hour. To change the air more than three times in an hour gives draught and discomfort to the patient. If we change three times, then the constant minimum air-space required per bed is one-third of 4,000, that is, 1,333 cubic feet. This is one of the fundamental numbers in the calculation of the modern hospital system.

Experiments have been made in exceptionally high wards. The chemical examination of the air taken from different heights has shown that above twelve feet there is little or no mixture or movement in the air. The space above twelve feet is therefore of little value as ventilation space. Additional height, of no value, adds only to the cost of construction, makes cleansing and warming more difficult. Why, therefore, make the ward much higher than twelve feet?

Empirically, I may say sentimentally, we have found long, long ago that a twelve to thirteen-foot story is the most practical and comfortable one, and now the doctors prove experimentally that we are right. The average English, American and German rule for the height of a ward has ever been thirteen feet, and I suggest that we stand to it. The French system demands twenty-five feet. That is undoubtedly unjustifiable, excessive and impractical. It reflects on the megalomania characteristic of Latin races since the existence of the Roman Empire. If we accept an air-space of 1,333 cubic feet and a height of 13 feet, we get a floor-space of nearly 103 square feet. If we reckon 7 feet a good average wall-space per bed, we get the half-breadth of the ward with 13 feet. We thus see that the number thirteen, usually unlucky, plays quite a part in the modern hospital system. If we compare these measures with those of the existing hospitals, we indeed find that they represent the good average, and precisely those adopted in model institutes.

I resume: The germ theory is responsible for the general arrangement of the modern hospital, and the air fixes the dimensions of its principal buildings, the wards. What influence has the other important agent, the sun?

It is also to the credit of the last decades that the great restorative and germ-destroying power of light has been fully recognized. We always knew that old Sol is the greatest competitor of the doctors. We have an old saying in German, "Where the sun is not, the doctor ever is." But to employ the sun rationally and scientifically that is the result of the very last years. You may have heard of the hospitals recently established in southern countries which make a speciality of sunlight baths and cures for all kinds of ailments. The latest developments are the light cures, effected by the agency of electric-light. It is modern tendency and now an axiom to make the greatest possible use of the sunlight in hospitals. For this reason the direction of the oblong ward is to-day invariably from north to south. All accessories and accommodation rooms belonging to a ward are arranged at the northern end, the eastern and western sides are unobstructed and provided with as many windows as possible. The south side is occupied by a sun-room of either square, octagonal or circular shape, affording the full benefit of the morning sun as well as of the noon and afternoon sun.

In order to get more sun directly for the patients, the wards themselves have been given square, octagonal and circular forms. Other advantages are claimed for these forms; greater exposure to air-currents, better ventilation, facilities in the service, etc. The sun, therefore, determines the direction and form of the ward.

I resume: Sanitary science has laid down as principles and axioms: —

First. — To separate the hospital buildings as much as possible from one another.

Second. — To make them as low as possible.

Third. — To make them as simple as possible.

This is done in order to prevent the spreading of germs and other septic influences, to allow the free circulation of air in, around, below and above the wards and the greatest access of sunlight.

It is the duty of architects to do justice to these principles by an appropriate arrangement, construction and decoration of the hospital. The adaptation of these principles is naturally local.

We have come now to the kernel of our subject: How to build a good, modern hospital in San Francisco?

I took a lively interest in this question as editor of a forthcoming publication on modern American architecture, because I am convinced that the general, climatic and topographic conditions favor here, perhaps more than anywhere else, the erection of a modern hospital. San Francisco is a rich community, willing to spend millions on grand boulevards and other embellishments, and no doubt she should consider it a paramount duty to build first of all a hospital which can compare favorably with other institutions in existence. Am I not right? And are the prospects bright? San Francisco further

enjoys for the greater part of the year a climate which is unsurpassed. Natural ventilation can be used here extensively. The sun, never oppressive, will play here a greater part than in any other locality, and sites should be found here which comply with every requirement. No doubt a hospital should be erected here that should be a feature in my publication.

The site is naturally the first question of importance. It undoubtedly should be outside of the city, beyond the congested districts, yet not too far from the centre. The ground should be open and yet sheltered from strong winds and heavy fogs. It should be perfectly level in order to secure the most economical and perfect hospital construction and service. Does the proposed site for the new hospital on the Almshouse tract answer these requirements? I hope you will, afterwards, freely indulge in a discussion in regard to this. The proposed site is rather far from the centre and is to be approached by a steep road. The actual building site is excessively sloping and fully exposed to the ocean winds and fogs, and with a mountainous background cutting off the morning sun and obstructing the currents of the winds and favoring condensation of fogs.

After having satisfactorily settled the site question, it is of interest next to ascertain the size of the hospital and the number of patients in proportion to the population and to the site.

English authorities assert that there should be four beds to every 1,000 inhabitants. In America it is estimated that 2 per 1,000 should be ample for strictly general hospitals for the poor. According to this rule San Francisco having to-day 350,000 inhabitants, in ten years perhaps 450,000, should provide hospital accommodation for at least 700-800. It is modern tendency not to crowd too many sick on one spot and to segregate different classes of patients in special hospitals. Hospitals of 400 patients constitute for administrative and sanitary reasons to-day the maximum of congregation of human suffering on one spot. I would, therefore, suggest that San Francisco should build hospitals of that size, one of 400 for the present, and the other when urgently required. A similar proposition has been made by, I believe, Dr. Ellinwood, who acted on the jury.

There are no reliable data for determining the correct proportion of the number of patients to a given site. In German hospitals we find 50 to 80 patients to the acre. In the English hospitals 100 to the acre, and in modern French hospitals, after the Tollet system, 40 patients to the acre.

Having definitely settled this question, we can start the planning of the hospital proper. The broad purpose of the City and County Hospital is, first, to give relief to the sick poor, and second to advance medical science by giving the students of all medical colleges ample opportunity for practice and research. Therefore, are required:

1. Buildings for the care of the sick: the wards.
2. Buildings for medical practice and research: operation-rooms, surgical amphitheatre, pathological laboratory, morgue, etc.
3. Buildings for administration.
4. Buildings for service: drug-store, kitchen, power-house, laundry, etc.
5. Buildings for housing the staff and help.

All these buildings have different functions, but they must be brought into due proportion and relation to each other. They must form an organic *ensemble*, with the administration building and the wards as the principal features. The other buildings are accessories and must be properly located in strict regard to their purpose. All buildings must be connected with the administration center by open corridors and subways.

The administration building has been usually given undue prominence in regard to dimensions. It has been the practice to arrange in it not only the offices for the external and internal management and the housing of the superintendent, but also that of the extensive staff. This is certainly wrong. This building should be exclusively reserved for business and, perhaps, the habitation of the superintendent. It should be as contracted as possible, so that it may not become an obstruction in the way of light and air, as it usually is.

In its near neighborhood and under easy control of the superintendent should be located, yet distinctly separated from one another, the homes of the extensive male and female staff, provided with all the comfort and privacy to which these public servants are certainly entitled.

Of paramount importance is the appropriate arrangement of the wards. Whatever plan may be adopted, there can be no departure from the now general arrangement of placing the wards north and south and parallel to each other in two wings surrounding a central garden. The distance between the single wards should be at least three times the height of the elevation. Each ward should be a small and yet complete hospital in itself, and independent from the others. The staff and patients of different wards should not come in personal contact nor be compelled to pass through other wards. The wards are to be divided into medical, surgical and contagious wards for both sexes, and maternity and children's wards. Each class of these wards has its specific inner arrangement. The medical authorities have therefore to determine beforehand, by statistics on hand, how many wards are to be devoted to each class of ailment. That decided, the wards should be appropriately placed. The surgical wards should be in easy connection with the operating-rooms and amphithetre. This building requires a northern aspect and direct access from the outside, independent from the hospital proper. These requirements determine its location on the north side of the ground, and necessarily also that of the surgical wards.

The maternity ward, one of the most important in a hospital, should be given great attention. It should enjoy the utmost isolation, privacy and quietness, and be located near the homes of the staff. The same is demanded for the children's ward. The contagious wards must be entirely separated from the hospital proper, and to the windward of the site, where also should be located the morgue, the power-house, the laundry, the stable, etc.

The kitchen department should be as central as possible for perfect service, with due regard to the removal of the inevitable odors produced. The same is required in regard to the ventilation and heating plant. Ideal as the climate of San Francisco is for the greater part of the year, yet there are months when the air is filled with an excess of moisture. For these periods a good ventilation and heating system must be provided. The air should be supplied from beyond the plant toward the windward by a draught and duct system, and removed by aspirating air-shaft with forced draught, electrical fans, etc. Although the hot-water system is the best, it would not do for such an extensive hospital, which is heated in the most effectual and economical way by the agency of steam, easily transmitted over great areas. The method of heating by indirect or floor radiation, adopted in Hamburg and having great virtue, should be earnestly considered.

If there is reason for any building more than any other to be constructed of fireproof material, it certainly should be the hospital, the home of helpless people. Tinder-boxes of combustible material, dangerous to life and limb at best, should ever be frowned upon when suggested for such purpose. A hospital should be, in fact, absolutely fireproof. The improvements of late in this line render this comparatively easy. Fireproof floors, fireproof partitions and ceilings, metal door and window finish have now entirely replaced wood. Brick, plaster, steel and stone only should be used. The best building material is well-burned brick for the interior, and glazed brick for the exterior, walls. The fire-hose can then make short work of all the microbes that may have taken lodgings there. Any diminution in the death-rate would be a full reward for the extra outlay.

In regard to the artistic treatment, I desire to say: The modern hospital cannot possess a monumental character, at least not an imposing one. Extreme simplicity, which need not and should not be inartistic and monotonous, is essential. Any projecting parts, bays and cornices in the exterior which may prevent the free circulation of air and full access of sunshine, and any decoration in the interior which may allow accumulation of dust and the hanging on of germs, should be avoided.

A hospital is usually the last chance a sick man likes to take. The dread of entering a hospital is the result of tradition regarding the dangerous state of the old hospitals, which were nothing short of death-traps, and gruesome as a prison. The modern hospital should be in every respect the opposite. It should be bright and cheerful, in all its simplicity attractive and charming. Architectural relief and ornamentation being practically precluded, we must fall back on coloration. With glazed, enamelled bricks, nothing is easier than to produce coloration of a light and varied character. In designing a model hospital we are not fettered by prototypes. It is an entirely new architectural problem, and essentially modern, because it calls for the expression of a great and useful modern idea in the most simple and straightforward form. The opportunity is given to produce a piece of modern architecture, I mean of *that* architecture which is the logical and practical fulfillment of modern requirements and its beautiful expression in characteristic forms. We are tired of old patterns, with their meaningless decoration, which may be imposing, yet are also impractical and uncomfortable. We long for something modern, rational and substantial.

It is my business to look for such kinds of architectural creations, and it is more or less my duty to take an interest in competitions which may produce designs for such creations. I regret to say that this competition has not been conducted in the interests of the architectural profession and of the community. Concise and equitable conditions to guide the competitors were lacking. The time allowed for preparation of the plans was inadequate. The jury was incomplete and therefore unsatisfactory. The architects declining to serve on the jury did more harm to the profession and the community than good, for the new City and County Hospital, as the first structure to be commenced under the new charter, should strongly reflect its great power for good and the betterment of municipal affairs.

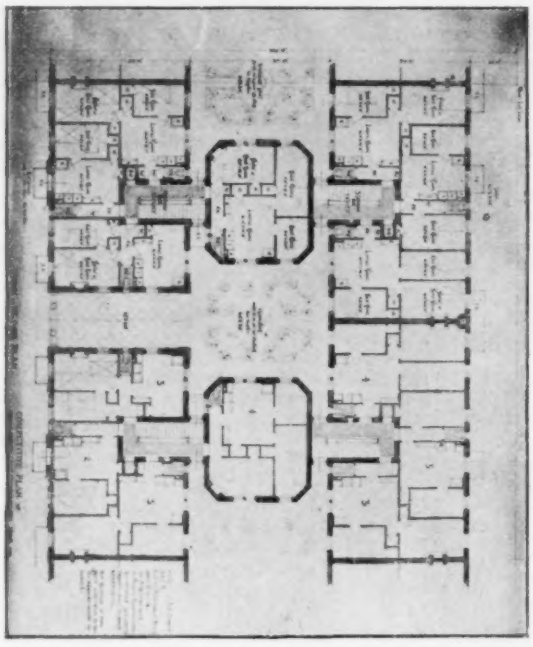
THE CHARITY ORGANIZATION SOCIETY'S TENEMENT-HOUSE COMPETITION.

I ENCLOSE herewith the announcement of the award of prizes in the competition for model tenements authorized by the Tenement-house Committee of the Charity Organization Society. These plans are now on exhibition at 404 Fifth Avenue, forming a part of the Tenement-house Exhibition which has attracted so much attention and which is now being viewed by many persons.

The Jury of Award, consisting of Mr. I. N. Phelps Stokes, Chairman; Dr. E. R. L. Gould, President of the City and Suburban Homes Company; Mr. W. Bayard Cutting, President of the Improved Dwellings Association; Mrs. Roland C. Lincoln, of Boston, who has for many years managed improved tenements; Mr. W. R. Mead, of the firm of Messrs. McKim, Mead & White, Architects, and Miss Lillian D. Wald, of the Nurses' Settlement, finally, after

much deliberation, have made their decision as set forth in the following communication: —

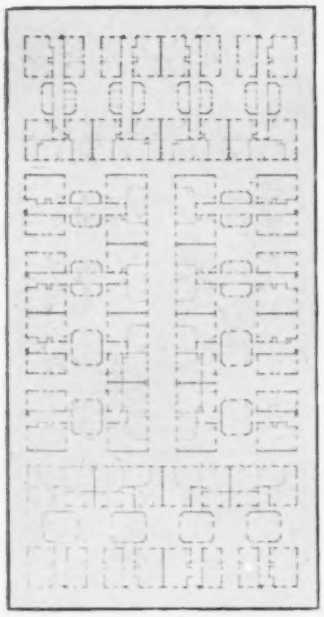
The Jury appointed by the Tenement-house Committee to adjudge the plans submitted by architects in the competition organized by your



First Prize: R. Thomas Short. — Typical Floor Plan: Third Class: Light and air space, 30½%; clear rentable area, about 60%; 14 apartments: 10 front apartments; 44 rooms; 36 closets; private hall to each apartment. 50′ section of this plan conforms to all the requirements of Class 1.

Committee beg leave to report that they have been most highly gratified at the large number of excellent plans submitted. In their opinion no previous competition has ever presented so many varied and valuable suggestions for structural improvement and comfortable living in tenement-houses. The results of such careful and intelligent study by so many architects cannot fail to be helpful in the solution of the whole tenement-problem, which is one of fundamental importance in great and growing cities.

With so many excellent plans before them the Jury have had a really embarrassing task.

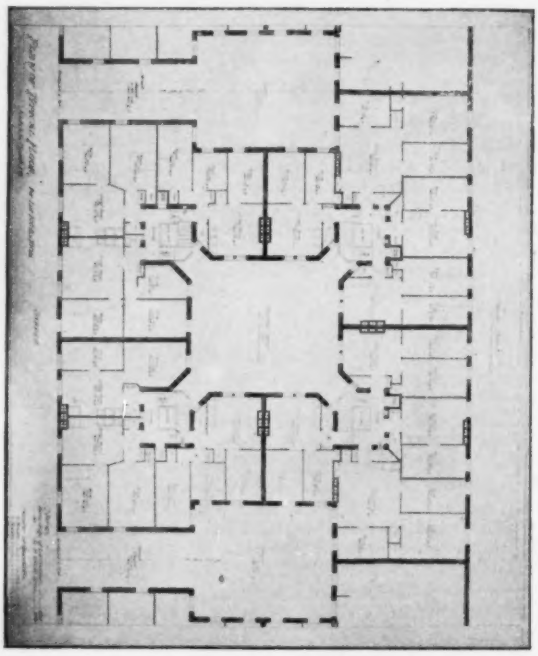


First Prize: R. Thomas Short. — Plan of city block, 200′ x 400′, showing unit repeated: The top half of the block plan shows all entrances direct from the streets and provides baby-carriage and bath rooms. The bottom half of the plan shows entrances direct from the streets to front compartments and through courts to rear compartments, maintaining the unpierced fire-wall between front and rear compartments. The unit of this plan is a 100′ x 100′ building, but may be subdivided into two 50′ x 100′ buildings, still conforming to all the requirements of the competition. The unit is planned for inside lots. The author has repeated this unit throughout, as per requirements of competition, but suggests that a modification might be better for corner buildings.

They have, however, with almost entire unanimity, agreed to *commend* the following plans in the different classes: —

Class 1, 50 feet frontage: —

No. 15 — S. P. Ogden, 954 Lexington Avenue.
No. 17 — Walter P. Banks, Bridgeport, Conn.
No. 44 — O. L. Spannhake, 315 Madison Avenue.
No. 80 — Robert S. Farrington, 382 Mott Avenue.
No. 146 — A. A. Schuster, 37 Kingston Avenue, Brooklyn.
No. 158 — George Pallister, 32 Park Place.
No. 176 — Frank L. Baker, 16 East 23d Street.



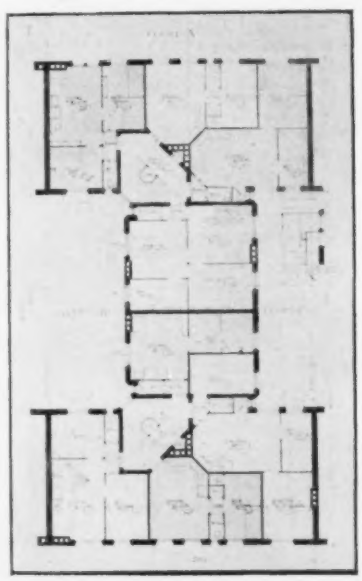
Third Prize: Covell & Smith. — Lot 100 feet square. Plan of Typical Floor: Percentage of lot covered, 69.1; percentage of rentable area, 53.5; 4 four-room apartments, 5 three-room apartments and 2 two-room apartments, making 11 apartments in all.

Class 2, 75 feet frontage: —

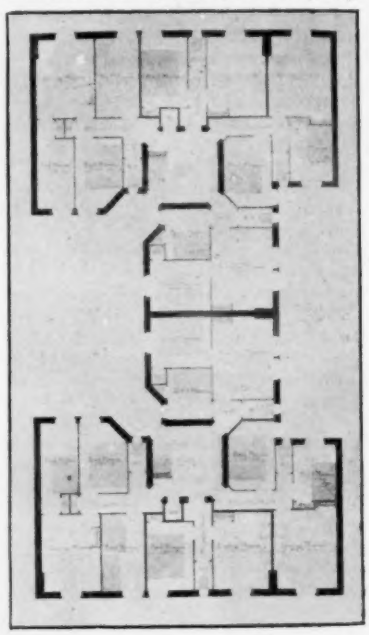
No. 57 — Elmer C. Jensen, Chicago, Ill.
No. 75 — A. B. LeBoutillier, Franklin H. Hutchins, Albert A. Pollard, Boston.
No. 97 — F. R. Comstock, 124 West 45th Street.
No. 130 — Ward & Davis, 203 Broadway.

Class 3, 100 feet frontage: —

No. 96 — F. R. Comstock, 124 West 45th Street.
No. 129 — Israels & Harder, 194 Broadway.
No. 160 — Creighton Withers, 22 Bellevue Avenue, Newport, and Francis E. Ward, 4 Warren Street, City.



Third Prize: Israels & Harder. — Plan of Typical Floor: Class First, fifty-foot unit: Rentable area, 2,734.94 sq. ft. = 54.70% of lot; free air-space (courts) 1,500.25 sq. ft. = 30.01% of lot; walls, partitions and public space, 764.81 sq. ft. = 15.29% of lot; 3 two-room apartments, 3 three-room apartments, 2 four-room apartments: 8 apartments making a total of 23 rooms.



Third Prize: Joseph Wolf. — Rentable area, 2,741.1 sq. ft.; percentage, 54.8; 8 apartments: 2 two-room, 4 three-room, 2 four-room, or a total of 24 rooms.

The Jury beg leave to *highly commend* the following plans: —

Class 1, 50 feet frontage: —

No. 10 — George S. Drew, Jr., 304 East 123d Street.
No. 11 — John Bagley Day, 19 West 24th Street.
No. 56 — Adamo Boari, 17 Van Buren Street, Chicago.
No. 125 — Joseph Wolf, 1125 Broadway.
No. 128 — Israels & Harder, 194 Broadway.

Class 2, 75 feet frontage: —

No. 126 — Israels & Harder, 194 Broadway.
No. 144 — George M. Lawton and Robert B. Field, 95 Lenox Road, Brooklyn.

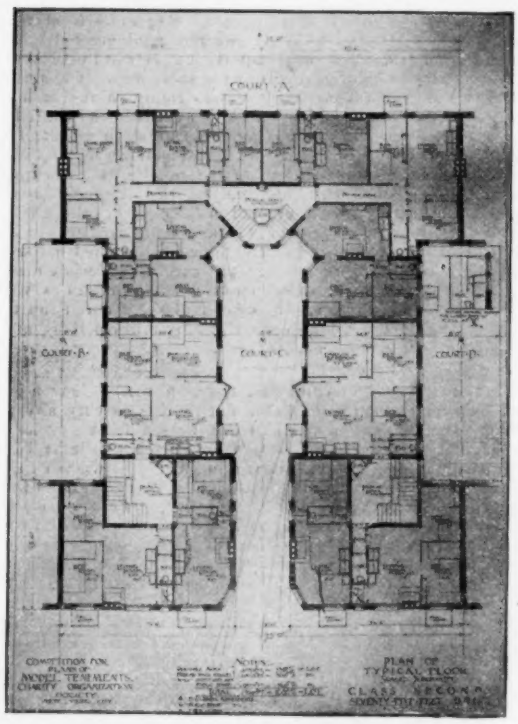
Class 3, 100 feet frontage: —

No. 27 — Stevenson & Greene, Temple Court.
No. 99 — R. Thomas Short, 3 West 29th Street.
No. 107 — Covell & Smith, 152 Broadway.
No. 110 — Frederick P. Kelly and Arthur E. Wells, 124 East 24th Street.
No. 115 — Quinby & Broome, 99 Nassau Street.

From amongst the highly-commended plans the Jury have, with almost entire unanimity and after the most careful, prolonged and painstaking study, finally agreed upon the award of prizes as follows: —

First Prize. — No. 99 — R. Thomas Short, 3 West 29th Street.
Second Prize. — No. 126 — Israels & Harder, 194 Broadway.
Third Prize. — No. 107 — Covell & Smith, 152 Broadway: No. 125 — Joseph Wolf, 1125 Broadway No. 128 — Israels & Harder, 194 Broadway.

In awarding the third prize the Jury felt that three plans presented such equal merits that they were unable to do otherwise than to recognize all of them. One of the members of the Jury has, therefore, generously agreed to donate $100, and the Jury recommend that the Committee add $25, making a total of $225, to be divided equally



Second Prize: Israels & Harder. — Class Second, seventy-five foot unit: Rentable area, 4,039.8 sq. ft. = 53.87% of lot; free air space (courts) 2,250.16 sq. ft. = 30% of lot; walls, partitions and public space, 1,210 04 sq. ft. = 16.13% of lot: total, 7,500 sq. ft., covering 100% of lot; 4 two-room apartments, 6 three-room apartments, 2 four-room apartments: 12 apartments = total 34 rooms.

amongst the three architects whose plans have been bracketed for third prize.

It is a matter of great regret that the Jury were deprived of the valuable assistance of Mr. John D. Crimmins, one of the members originally appointed. Mr. Crimmins was prevented from serving by illness which necessitated several weeks' absence in the South.

The Tenement-house Committee is much gratified by the very excellent results that have been obtained by this competition, and feel sure that it will lead to a decided improvement in the type of tenement-house erected in this city. It hopes that all builders, architects and tenement-house investors will take advantage of this opportunity to carefully study the plans now on view at the Tenement-house Exhibition, which will be open every day and evening until February 24. Admission is free and the public are cordially invited. Yours sincerely, LAWRENCE VEILLER, *Secretary.*

SANTA MARIA DELLA PACE TO BE USED AS A MUSIC-HALL. — A Perosi stock company with a capital of $50,000 has been formed in Milan for the performance of church music. The company has bought the Church of Santa Maria della Pace for $19,000, and will turn it into a music-hall. In the spring Perosi's "The Slaughter of the Innocents" and "The Entry of Christ Into Jerusalem" will be performed. — *Exchange.*

SOCIETIES

THE NEW YORK ARCHITECTURAL ALUMNI ASSOCIATION OF THE UNIVERSITY OF PENNSYLVANIA.

THE first annual banquet of the New York Architectural Alumni Association of the University of Pennsylvania was held, February 22, at the Hotel Hungaria, New York City. There were present, besides Professors Laird and Perkins, of the Pennsylvania School of Architecture, thirty-one members, mostly graduates of the last five years. Before the dinner a business meeting was held, at which a proposition to form a general Alumni Association of all graduates of Pennsylvania School of Architecture was favorably considered and also one to publish a periodical, giving news of the various members, illustrations of their work, etc., and also the current work of the School. The greatest enthusiasm prevailed through the evening. Professor Laird made an earnest and appealing speech, and short addresses were made by Messrs. Klemann, Miles, Edmunds, Willauer, Wittenburg, Gaisser and Siegel. The toast-master had his sparring clothes on and kept the ball a-rolling. The following New York firms were represented among the members present: George B. Post, Henry F. Kilburn, Heins & LaFarge, Babb, Cook & Willard, Cass Gilbert, Howard & Cauldwell, and the *Architectural Record.* PERCY C. STUART.

ILLUSTRATIONS

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

PUBLIC LIBRARY, BANGOR, ME. MR. FRANK A. BOURNE, ARCHITECT, BOSTON, MASS. MESSRS. SHEPLEY, RUTAN & COOLIDGE, CONSULTING ARCHITECTS.

PLANS AND SECTION OF THE SAME.

"BRANDON": HOUSE FOR MRS. MARY M. ROPES, LINCOLN, MASS. MR. T. M. CLARK, ARCHITECT, BOSTON, MASS.

THIS house is to be built near the top of a hill which forms a portion of a large estate near the village of Lincoln. The estate is mostly unimproved woodland and stony pasture, and the house is to be partly of the local stone, and partly of rough-cast.

DETAILS OF DOORS AND BALCONIES: CASA AYUNTAMIENTO, SEVILLE, SPAIN.

THIS plate is copied from "*Monumentos arquitectonicos de España.*"

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

ATLANTIC CHAMBERS, HIGH STREET, GLASGOW, SCOTLAND. MESSRS. J. BURNET & SON, ARCHITECTS.

THIS plate is copied from the *Building News.*

[Additional Illustrations in the International Edition.]

NORTHWEST VIEW OF THE TROY ORPHAN ASYLUM, TROY, N. Y. MR. H. LANGFORD WARREN, ARCHITECT, BOSTON, MASS.

[Gelatine Print.]

NORTHEAST VIEW OF THE SAME.

[Gelatine Print.]

MAIN PORCH AND A FENESTRATED CHIMNEY OF THE SAME.

REAR TERRACE AND NORTHWEST TURRET OF THE SAME.

ST. JOHN'S CHAPEL, MATLOCK, DERBYSHIRE, ENG. MR. E. GUY DAWBER, ARCHITECT.

REVERSE VIEW OF THE SAME.

HAMMERS LANE BLOCK: LINEN AND WOOLLEN DRAPERS' INSTITUTION COTTAGE HOMES, MILL HILL, MIDDLESEX, ENG. MR. GEORGE HORNBLOWER, ARCHITECT.

ADMINISTRATIVE BLOCK OF THE SAME.

NOTES AND CLIPPINGS

What is the Cause of Thunder. — A correspondent writes to the *Electrical Review* as to "What is the cause of thunder, meaning the cause of the noise?" We do not know, he says. The thunder, we know, is a result of the phenomenon we call "lightning," but just what it is has not been as yet adequately determined. The electric discharge produces a variety of effects, physiological, luminous, calorific, magnetic, mechanical and chemical, whose characteristics are more or less well recognized. It is fair to presume that we must hunt for the cause of the noise in the calorific, mechanical or chemical attributes. Most of the authorities in definition say thunder is the noise immediately following a flash of lightning, and is due to the disturbances of the air caused along its path by the discharge, and they let it go at that. It may be that the real explanation will be found partly in each of the calorific, mechanical and chemical actions. A mere disturbance of the air is hardly an adequate reason. We have too little evidence to go upon. The heating effects, so-called, may have some bearing. We know the spark will inflame ether, alcohol and some of the hydrocarbon gases; yet it does not ignite gunpowder except by the help of a wet string which becomes heated. A Leyden jar charged and discharged several times in rapid succession becomes heated. All solid conductors become heated by it. But does air? Mechanical effects are numerous and usually disastrous to any solid body not a good conductor. We are shown by Kinnersley's thermometer that some effect is produced on a body of water, but it is asserted not to be due to any increase of temperature in the air. The chemical effects are most varied. Priestly found a reduction of volume in moist air by passage of the spark (which may be significant), and that the air became acid. Cavendish found this was due to the formation of nitric acid by the chemical action of the discharge. Compound gases are readily decomposed, but air is not a compound gas; it is merely a mixture of oxygen and nitrogen, and neither of its constituents is combustible. One assists combustion of other bodies, while the other is inert in that sense. But we may get some light on the subject yet from the indefatigable army of electrical investigators. Possibly the researches in the liquefaction of gases may help out. In a recent paper on the subject, it is stated that ozone liquefies at atmospheric pressure at a temperature of 135.4 degrees Fahr., and that it is easily exploded. Now, it is well known that the electric discharge produces this so-called allotropic oxygen in great abundance. According to Priestly, the electric discharge effects a reduction of volume in moist air, which would indicate ordinarily a fall of temperature. Moist air is the usual atmospheric condition during lightning flashes. Possibly the stream of innumerable sparks in a stroke of lightning produces a cumulative or intensive effect, first lowering the temperature, then forming ozone, then causing its liquefaction and finally its explosion, or perhaps detonation, which expresses more accurately the terrifying crash following or accompanying a lightning stroke near at hand. This is mere speculation, and the writer gives it for what it is worth.

English Trade-union Statistics. — Some curious and interesting facts in connection with English trade unions are contained in a report of the Board of Trade which has just been issued. It appears that in 1898 there was a decrease of forty in the total number of trade-unions, due to amalgamations as well as to dissolutions. On the other hand, there was an increase by several hundreds in the number of branch unions. The growth in the membership of trade-unions fell from 8 per cent in 1897 to 2 per cent in 1898 — a phenomenon which is attributed to a decline in the membership of the railway group of unions. Unregistered societies include more than three-quarters of the total members — and more than two-thirds belong to the building, mining, shipbuilding, metal, engineering, and textile trades. A considerable number of unions, chiefly relating to the textile trades, admit female members, and some, but very few, are wholly feminine. During 1898 there was a decrease alike in the income and in the expenditure of the principal unions, as compared with the figures for the previous year. This was due, apparently, to the effect of the great engineering strike. The report gives some noteworthy figures in regard to outlay. It shows that in seven years, out of a sum of nearly eleven million pounds, about 60 per cent was expended on friendly and benevolent purposes, 23 per cent on disputed pay, and the remainder on working expenses. The total amount of the funds held by the principal unions appears to be increasing. At the end of 1892 it was about thirty-five shillings a member; in 1897 it had reached the sum of two guineas, in 1898 it was a little over fifty shillings. — *N. Y. Evening Post.*

Motive-power from Blast-furnace Gases. — In a recent number of *La Revue Universelle des Mines et de la Métallurgie*, Mr. H. Savage, engineer to the Cockerill Company, treats of the work so far accomplished in the running of gas-engines with the waste gases from blast-furnaces. At the outset it was feared that the solid matter suspended in these gases would score cylinders and valve-seats so severely as to entail a considerable expense in renewals; but by the adoption of separators this supposed difficulty has disappeared, although the gases now used carry with them into the engine some 60 lb. to 80 lb. weight of dust per day. This, however, is in such a fine state of division that, as already stated, it has not proved directly injurious to the working surfaces of the engine, but indirectly it still causes trouble, as it appears that its presence leads to a partial decomposition and decarbonization of the lubricating oils. The Cockerill Company have, however, had a 200-horse-power engine at work for over 18 months, and have supplied several sets of 500-horse-power engines to certain blast-furnaces in Germany. German engineers, however, have deemed it prudent to erect plant for thoroughly washing the gases to be used. Some of the engines made by the Cockerill Company are of very large dimensions, such as the 600-horse-power blowing-engine illustrated in *Engineering* of January 10 last. This has a cylinder 1.30 metres (51.2 in.) in diameter and 1.40 metres (55.1 in.) stroke. The fly-wheel alone weighs 35 tons, and the engines are expected to develop 550 effective horse-power, which will be applied to driving blowing-engines. The blowing-cylinder will be 1 70 metres (66.9 in.) in diameter, and the inlet-valves are of such dimensions that the speed of the air through them does not exceed 10 metres (32.8 ft.) per second. In other cases similar engines are used for dynamo driving. An objection to these motors is their high initial cost compared with steam-plants of equivalent power.— *Engineering.*

Fort Amsterdam, New York. — The block to be torn down for the new Custom-house is bounded by State, Whitehall, and Bridge Streets, and Bowling Green. These are the exact limits of Fort Amsterdam, built by the Dutch in 1626, within which was erected, as a tablet on the door of No. 4 Bowling Green announces, "the first substantial church edifice on the Island of Manhattan." Shortly after Washington's election to the presidency, while New York was still the seat of the national Government, an elaborate presidential residence was planned at public expense on the site of the old fort. A magnificent colonial mansion was begun with Ionic colonnaded front, to be occupied by General Washington and all his successors in the presidential office. Unfortunately, however, before the house was finished, the capital was moved to Philadelphia. Governor Clinton and Governor Jay afterwards occupied the house successively. It was afterward torn down to make room for the block until recently known as "steamship row." — *Exchange.*

Polychromy in English Gothic Work. — Originally, the western façade of Exeter Cathedral was painted and gilt, and this probably preserved the stonework and proved a protection from the effects of the sea air (the English Channel is, as the sea-gull flies, only nine miles away, due south-east), and the variations of climate in even this the most favored portion in that respect in all England. It may be remembered that the famous old Civic Cross at Bristol, erected A. D. 1373, at the intersection of the four most important streets in the old city, was originally treated with color in precisely the same way. The soft oolite (Dundry stone) of which it was built was so richly painted and gilded that it is recorded so late as A. D. 1697 — "No Cross in the United Kingdom exceeded it for beauty." This cross, to the deep regret of every right-feeling person, and to the eternal disgrace of all who had a hand in the transaction, was taken down in the middle of the eighteenth century, and afterwards acquired by the Hoares of Stourton, near Gillingham, and soon afterwards re-erected in their park, falling in recent days into a dangerous state through mistake by the repairers in 1766 in using iron ties that, by oxidizing, burst the coarse-grained oolite at all points. About five years ago, under the careful superintendence of Mr. C. E. Ponting, F. S. A., an accomplished antiquarian as well as a skilful architect of Marlborough, this splendid specimen of fourteenth-century work was, I hope, for ever effectually renovated by my sons and self. — *Harry Hems in Building News.*

How the Kansas City Auditorium was built. — Convention-hall is owned by pretty much everybody, and in Kansas City any person who is not a shareholder in the hall can be set down as "nobody." Bootblacks, newsboys, telegraph-messengers, cash-boys, clerks, laborers, motormen, conductors, cow-punchers, and men and women in every walk of life own one or more shares in the hall, "full paid and for ever non-assessable." It is the pride of Kansas City, and every man, woman and child in the community has the incentive of ownership to keep their personal interest alive. The idea of a great hall suitable to hold all sorts of gatherings came about through the annual ball of the Priests of Pallas, which, in 1897, had far outgrown its quarters. It came to the point of giving up this enjoyable event or finding a place large enough to hold it, and with this idea in mind the Commercial Club took the matter up. It was decided that 250,000 shares should be sold or subscribed at the rate of $1 a share. After the first rush of subscribers the expected lull occurred, and some genius suggested a button scheme that not only advertised the hall project, but actually made the movement a success. Each button represented a share of stock, and it eventually came to pass that he who was without a hall-button was socially, politically and commercially dead. Restaurants induced their sale by setting aside a day when the wearers of buttons would be dined free; barbers took turns one week shaving free any man wearing the emblem of his stock in Convention-hall. Even newsboys shined these persons' boots free on one day, so that aside from its ultimate purpose the button more than returned its cost. Business-men had placards printed and fastened them above their desks: "You Can't Talk to Me Unless You Wear a Button." Travelling-salesmen who made the town found it necessary to wear a button in order to do any business. The saleswomen in large establishments were provided with buttons, and every customer who did not were a button was reminded that one was necessary to make purchases. The streets soon glistened with the white celluloid, and the bearer of the dinner-pail and the occupant of the brougham were equal in this, they owned stock in convention-hall and wore buttons to prove it. The button craze died out before the $250,000 required was raised, and a new scheme was introduced. Each business-house was called upon to contribute some of their wares to a general prize-fund. Each prize-ticket represented a share of stock in the hall and sold for $1. The merchants and dealers entered into the spirit of the plan and contributed liberally. K. B. Armour headed the prize list with Armour Rose, a fine Hereford cow, valued then at $1,000, and recently sold for $2,250. Houses and lots, pianos, a Numidian lion, numerous cattle, horses, and buggies, furniture, groceries, fuel, thousands of pounds of flour, packages of starch — every conceivable thing was on the list, and various periodicals and newspapers offered hundreds of yearly subscriptions to their publications. The prizes were valued at thousands of dollars, and many thousands of chances were sold. Before the roof was on, all the money was on hand, and inside the bare, unfurnished building the great prize-drawing was held. — *Correspondence Chicago Record.*

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

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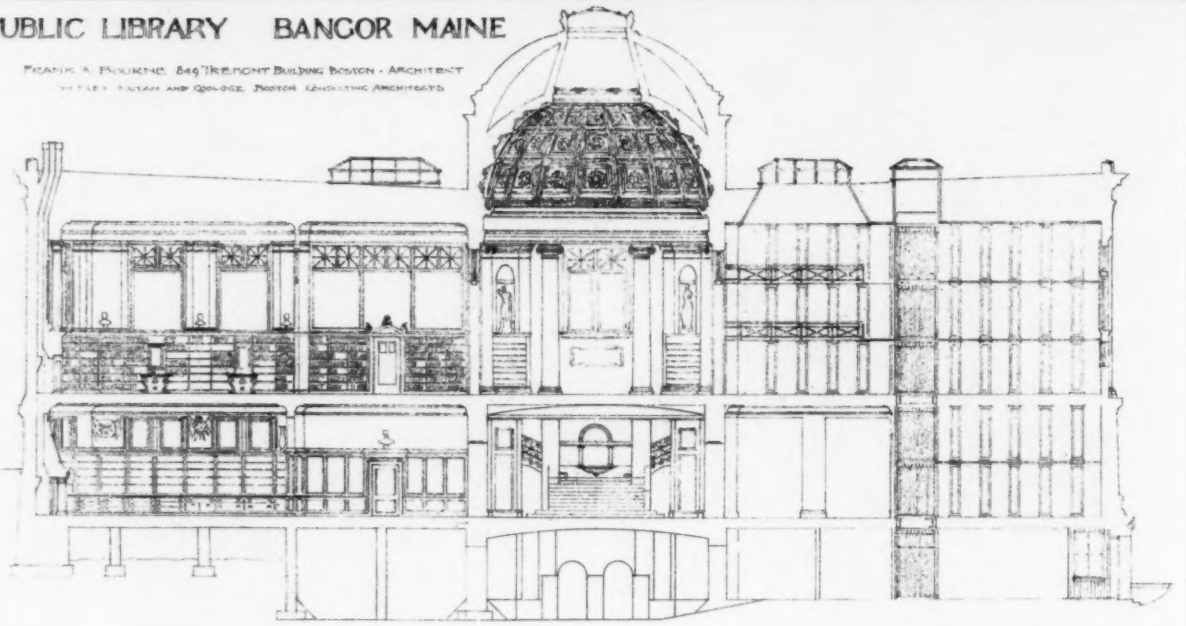
WESLEY PUTNAM AND COOLIDGE, BOSTON CONSULTING ARCHITECTS



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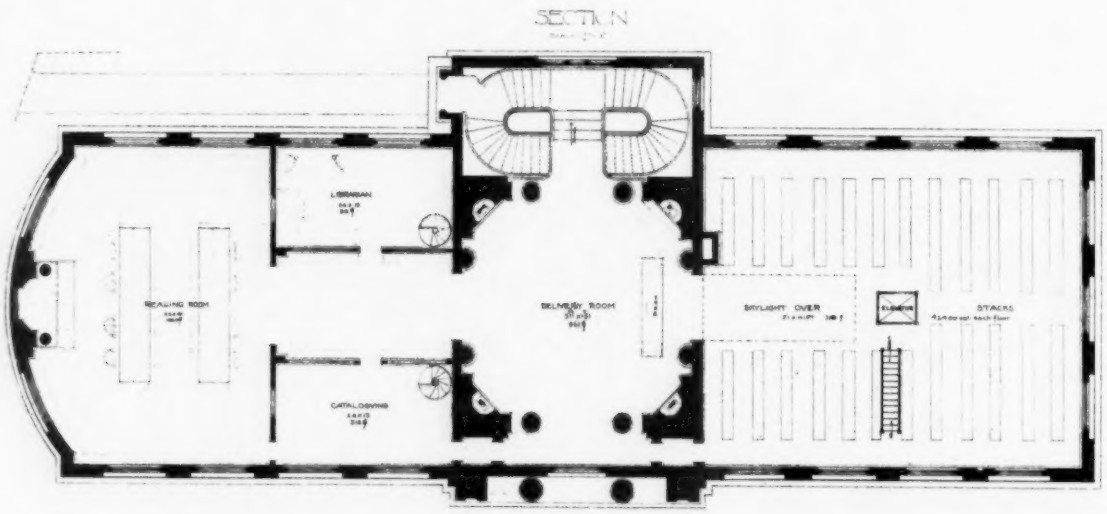
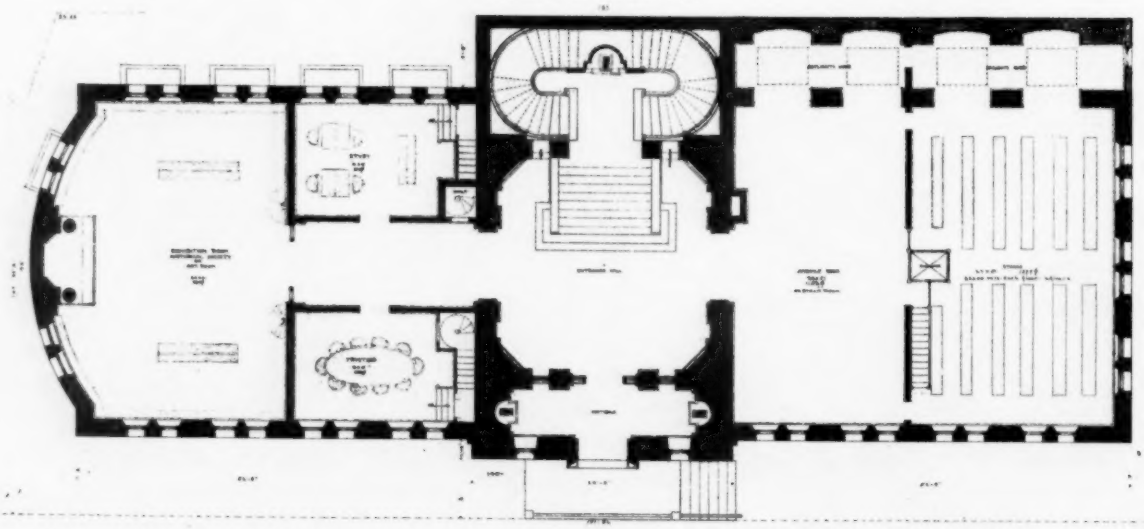
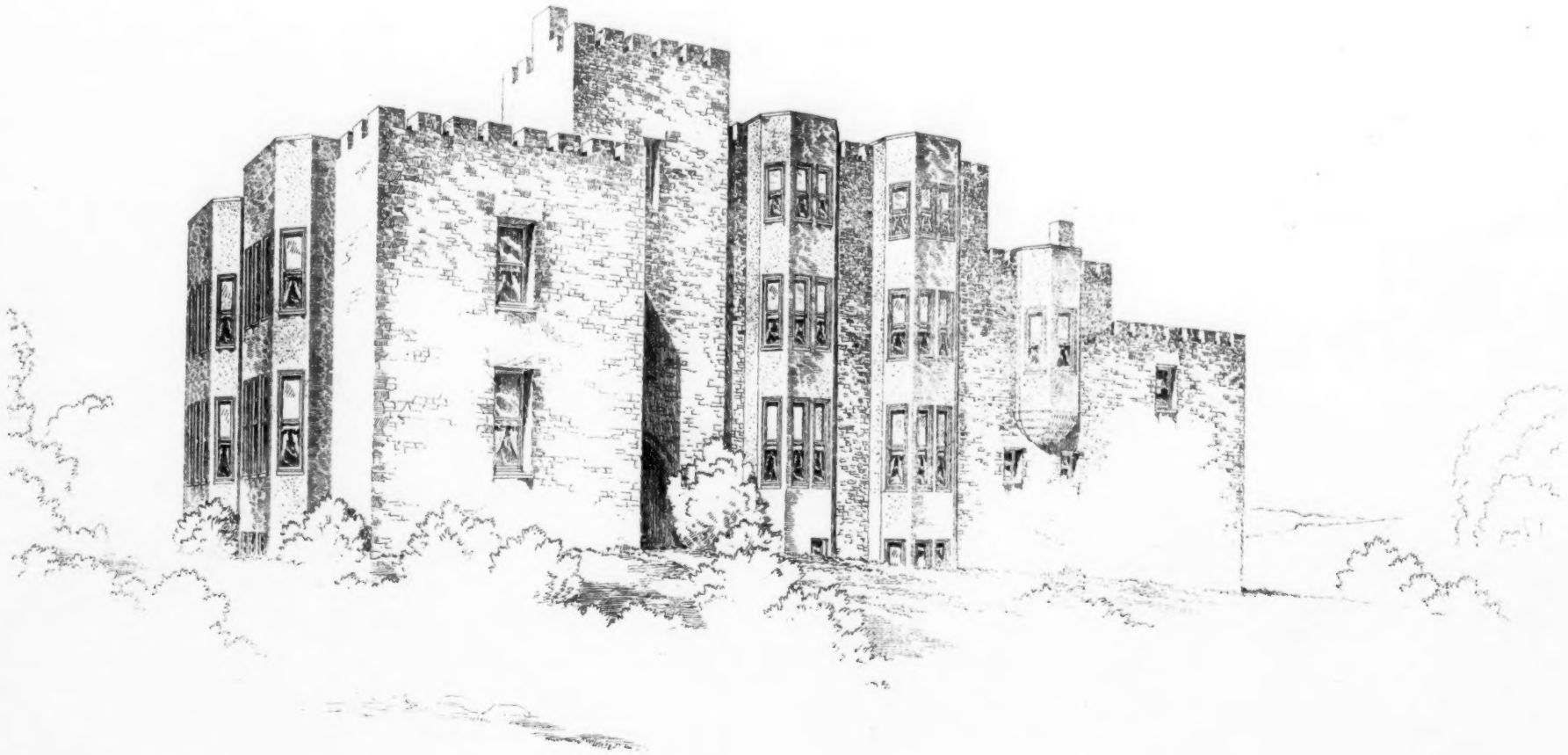


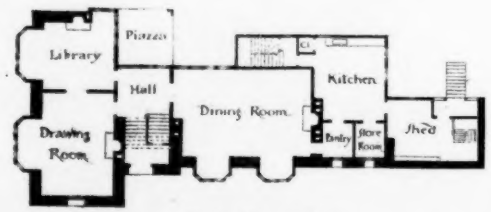
MAIN FLOOR PLAN



GROVND FLOOR PLAN

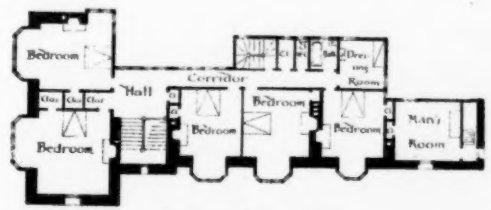
BILLOTTE PRINTING CO., BOSTON





First Story Plan.

"BRANDON"
HOUSE FOR MRS. MARY M. ROPES, LINCOLN, MASS.
T. M. CLARK, ARCHITECT.



Second Story Plan.

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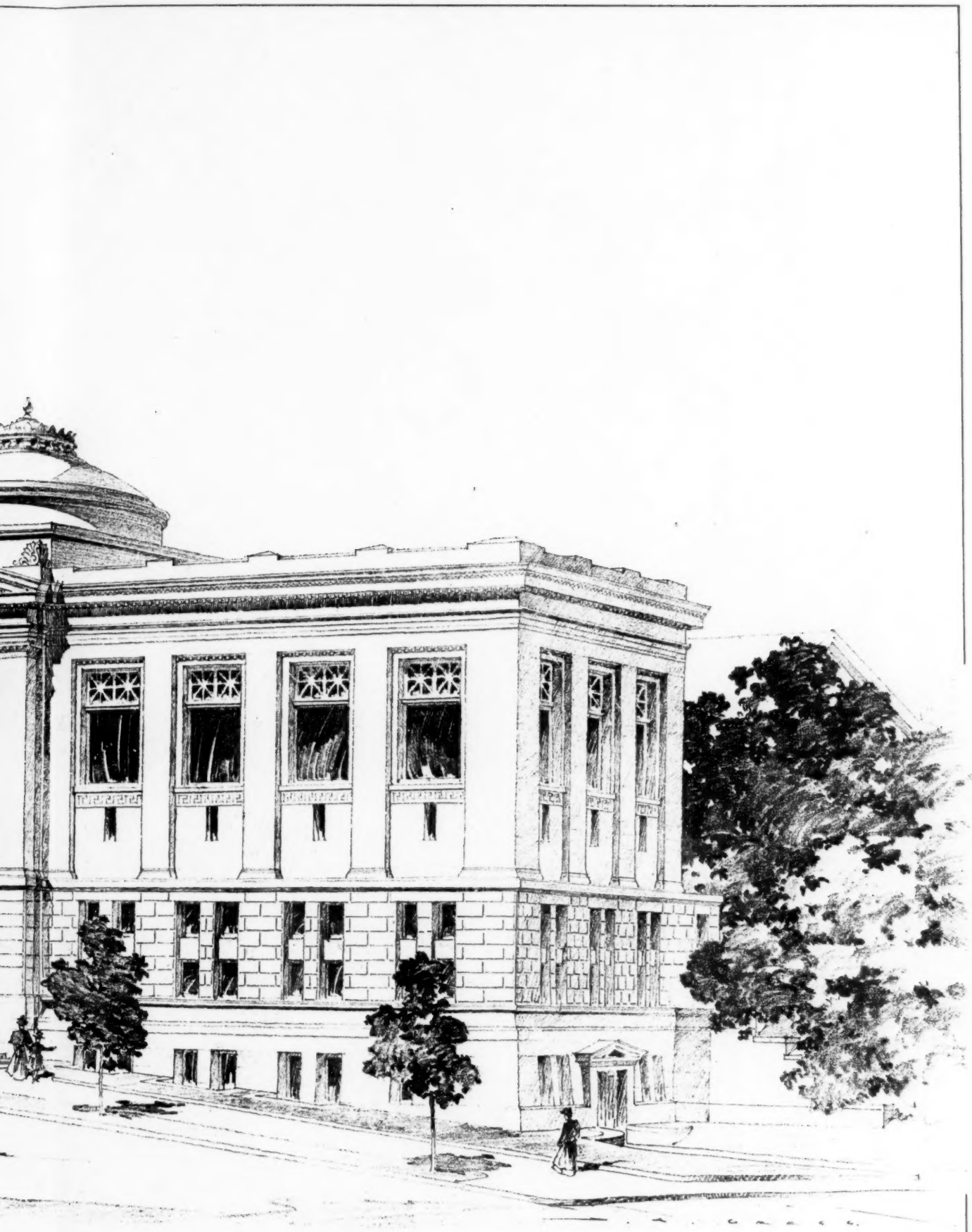

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The American Architect and Building News

A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART.

VOL. LXVII. — No. 1263.] SATURDAY, MARCH 10, 1900. PRICE, { INTERNATIONAL ISSUE, 50 CTS. / REGULAR " , 15 "

BUILDING MATERIALS.

Reported for the American Architect and Building News.

BUILDING MATERIALS	New York. (*Wholesale Prices.*)	Boston. (*Prices to Builders and Contractors.*)	Philadelphia.
STONE. (℔ *cubic foot, rough.*)			
Foundation:			
Dimension	@	5 00 ℔ ton.	@ 5 00
Block	@	4 60 ℔ perch.	Conshohocken
Rubble	@	1 25 @ 1 50	1 45 @ 2 50
Sandstone:			
Longmeadow	@ 80	80 @ 90	
Kibbe	@ 90	90 @ 1 10	95 @ 1 05
Brown (Connecticut)	1 00 @	1 00 @ 1 30	1 05 @ 1 25
Amherst Ohio	90 @ 95	90 @ 1 00	85 @ 95
Berea "	75 @ 1 00	85 @ 90	55 @ 75
Berlin "	75 @ 1 00	80 @ 90	85 @ 95
Belleville	80 @ 1 25	25 @ 1 35	1 00 @ 1 10
New Brunswick (Dorchester)	@ 1 00	75 @ 90	1 05 @ 1 15
Potsdam Red	@ 1 30	@ 1 40	@ 1 40
Caen	@	@ 2 00	1 25 @ 1 35
Carlisle, English	@ 1 05	@ 1 05	95 @ 1 05
Corse Hill (Scotch)	@ 1 05	@ 1 05	95 @ 1 05
Granite: (*Maine*)		@ 60	55 @ 65
Limestone:			
Bedford	45 @ 1 25	95 @ 1 00	75 @ 85
Joliet	1 00		Richmond
Lemont			℔ 75 @ 1 50
Serpentine		10 50 per ton.	Perch 4 50 @ 5 50
Bluestone: (℔ *sq. ft.*)			1 in. th. 10 @ 25
Sidewalk	30 @ 5 00	40 @ 1 75	37 @ 50
Planed	50 @ 6 00	@ 75	
Marble: (℔ *cu. ft.*)			
Lee, Mass	@	1 75 @ 2 50	2 00 @ 2 50
Rutland, white and blue	@	@ 3 00	2 00 @ 3 00
Sutherland Falls	1 25 @ 1 75	@ 2 00	1 70 @ 3 00
Slate: Roofing (℔ *square*)			
Green	5 00 @ 6 00	4 75 @ 5 25	2 90 @ 3 80
" unfading	5 00 @ 6 00	5 50 @ 6 50	4 25 @ 5 00
Purple	5 00 @ 6 00	5 50 @ 6 50	4 50 @ 5 50
Red	@ 10 00	10 00 @ 11 00	11 50 @ 13 00
Black, Lehigh	4 25 @ 4 75	@	4 00 @ 4 35
" Chapmans	@	@	4 50 @ 5 00
Genuine Bangor	4 35 @ 5 50	4 75 @ 5 90	4 35 @ 5 50
Unfading black	6 00 @ 8 50	6 00 @ 8 50	6 50 @ 9 00
" "	5 50 @ 8 00	5 50 @ 8 00	6 50 @ 9 00
Tiles, Am. ℔ M	@	@	@ 28 00
N. Peach Bottom, war. unfading	@	@	5 76 @ 6 25
Fire Clay Roof Tile on cars at fac.	8 00 @	8 00 @	8 00 @
LUMBER. — ℔ M.			
Boards: (*Ordinary dimensions.*)			
Pine, 1st quality, clear	65 00 @ 75 00	70 00 @ 80 00	47 50 @ 60 00
" 2d quality	55 00 @ 60 00	65 00 @ 70 00	38 00 @ 48 50
" 3d quality	18 00 @ 22 00	55 00 @ 60 00	27 50 @ 36 50
California Redwood	@	50 00 @ 65 00	@
Spruce	@ 25 00	19 00 @ 25 00	15 00 @ 21 50
Hemlock	on 13½ @ 14	15 00 @ 19 00	11 50 @ 13 75
Yellow pine	20 @ 40	24 00 @ 35 00	14 00 @ 29 00
Cypress	@	35 00 @ 55 00	30 00 @ 38 00
Clapboards:			
Pine	@	35 00 @ 55 00	14 00 @ 25 00
California Redwood	@	50 00 @ 55 00	@
Spruce	@	30 00 @ 38 00	*Not sold.*
Framing Timber:			
Pine	14 00 @ 16 00	20 00 @ 23 00	25 00 @ 37 30
Spruce	12 00 @ 16 00	15 00 @ 18 00	15 00 @ 21 50
Hemlock	18 00 @ 21 00	30 00 @ 55 00	14 00 @ 20 00
Yellow pine	@		22 50 @ 30 00
Laths:	@	2 25 @ 2 50	2 75 @ 3 00
Pine ..... Round Wood	3 50 @ 3 60	3 25 @ 3 75	2 30 @ 2 35
Spruce ..... Slab			
Shingles:			
Pine, shaved ℔ M	5 00 @ 6 00	@	
Pine, sawed "	4 00 @ 5 00	@ 450	
Spruce, sawed "	1 50 @ 2 00	1 50 @ 2 00	
Redwood ℔ 125.	1 40 @ 1 60	3 75 @ 4 25	{30" $35 @ 40
Cedar split ℔ M		@ 6 00	{24" 8 @ 21
Cedar sawed "	@	3 00 @ 4 00	{20" 35 @ 14
Cypress, Split 7 x 24 "	18 00 @ 20 00	5 00 @ 6 50	11 00 @

Topographical Index of Advertisers.

[*For pagination, see Alphabetical Index on Cover* 2.]

CONNECTICUT.

East Berlin.
Berlin Iron Bridge Co.....[*Steel Structures.*]

New Britain.
The Stanley Works.....[*Wrought-Steel Butts.*]

New Haven.
Fitch Co., The W. & E. T.....[*Sash Lock.*]

Stamford.
Yale & Towne Mfg. Co.....[*Locks.*]

Waterbury.
Benedict & Burnham Mfg. Co.....[*Seamless Nickel-Silver Tubing.*]

ILLINOIS.

Chicago.
Flanagan & Bredenweg Co....[*Stained-Glass.*]
Northwestern Terra-Cotta Co....[*Terra-Cotta.*]
Pioneer Fireproof Construction Co.....[*Fireproofing.*]
Taylor, J. W.....[*Photographs.*]
Winslow Bros. Co., The.....[*Ornamental Iron and Bronze.*]

MASSACHUSETTS.

Boston.
Amer. Mason Safety Tread Co..[*Stair Tread.*]
Bartlett Lumber Co.....[*Redwood Lumber.*]
Butcher Polish Co.....[*Floor Polish.*]
Cabot, S.....[*Shingle-Stains.*]
Campbell, Walter M.....[*Perspectives.*]
Carter Ink Co.....[*Ink.*]
Folsom Snow Guard Co.....[*Snow Guards.*]
Gurney Heater Mfg. Co.....[*Hot water, etc.*]
Haberstroh & Son, L.....[*Decorators.*]
Heliotype Printing Co.....[*Art Printing.*]
Lombard & Co.....[*Architectural Ornamentation.*]
New England Felt Roofing Works...[*Roofing.*]
Samson Cordage Works.....[*Sash Cord.*]
Spaulding Print Paper Co.....[*Blue Prints.*]
Whitlier Machine Co.....[*Elevators.*]

Cambridge.
Lawrence Scientific School.....[*School.*]

Clinton.
Clinton Wire Cloth Co.....[*Metallic Lathing.*]

Palmer.
Flynt Building & Construction Co...[*Building Contractors.*]

MARYLAND.

Baltimore.
Valle & Young.....[*Skylights.*]

MICHIGAN.

Detroit.
Barnum, E. T.....[*Art Metal Works.*]
Dwight Lumber Co....[*Hardwood Flooring.*]
Ideal Mfg. Co.....[*Sanitary Specialties.*]

Grand Rapids.
Aldine Mfg. Co.....[*Wood Mantels.*]
Grand Rapids Carved Moulding Co.....[*Mouldings.*]
Sproul & McGurrin.....[*Grease Traps.*]

St. Joseph.
The Compound Door Co.....[*Veneers.*]

MISSOURI.

St. Louis.
Ludlow Saylor Wire Co.....[*Art Metal-Work.*]
Seifert, Frank A.....[*Plaster Ornaments.*]

NEW JERSEY.

Jersey City.
Dixon Crucible Co. Jos.....[*Graphite.*]

Paterson.
Passaic Rolling Mill Co.....[*Structural Iron.*]

Perth Amboy.
Perth Amboy Terra-Cotta Co... [*Terra-Cotta.*]

Trenton.
N. J. Steel & Iron Co.....[*Iron.*]

NEW YORK.

Brooklyn.
Moore, Benjamin.....[*Muresco.*]

Buffalo.
Bradford Window Opener Co., The..[*Window Opener.*]

Geneva.
Vance Boiler Works.....[*Heating Boilers.*]

Irvington-on-Hudson.
Lord & Burnham Co.....[*Conservatories.*]

Jamestown.
Art Metal Construction Co.....[*Art Metal Work.*]

N. Y. City.
Alsen's Cement Works.....[*Cements.*]
Atlas Cement Co.....[*Cement.*]

NEW YORK.

N. Y. City.
Bicklehoupt, G.....[*Skylights.*]
Bostedo Package and Cash Carrier Co.....[*Pneumatic Tubes.*]
Deane, E. Eldon.....[*Colorist.*]
Fisher & Co., Robert C.....[*Marble.*]
Flexible Door & Shutter Co.....[*Rolling-Shutters.*]
Frink, I. P.....[*Reflectors.*]
Gorton & Lidgerwood Co.....[*Boilers.*]
Hayes, George.....[*Metallic Lathing.*]
Hitchings & Co.....[*Greenhouses.*]
Holophane Glass Co.....[*Holophane Glass.*]
Jackson & Co., Wm. H.....[*Grates.*]
Jackson Architectural Iron Works.[*Iron Work.*]
Jenkins Bros.....[*Valves.*]
Johns Mfg. Co., H. W.....[*Asbestos.*]
Jones, T. W.....[*Vanes.*]
Kenney Co., The.....[*Flushometer.*]
Keuffel & Esser Co.....[*Drawing Materials.*]
Laughlin-Hough Co.....[*Drawing Tables.*]
Mott Iron Works, The.....[*Iron Work.*]
National Wood Mfg. Co.....[*Inlaid Floors.*]
Neuchatel Asphalte Co.....[*Asphalt.*]
New Jersey Zinc Co.....[*Zinc White.*]
New York Belting and Packing Co., Ltd., ...[*Interlocking Rubber Tiling.*]
New York Mastic Works.....[*Asphalt.*]
N. Y. Metal Ceiling Co.....[*Metal Ceilings.*]
Okonite Co. (Ltd.).....[*Insulated Wire.*]
Pitt, W. R.....[*Folding-Gates.*]
Raritan Hollow & Porous Brick Co..[*Fireproofing.*]
Roebling Construction Co.....[*Fireproof Building.*]
Sargent & Co.....[*Builders' Hardware.*]
Smith Co., H. B.....[*Steam Heat.*]
Smith & Co., Edward.....[*Varnishes.*]
Thiele, E.....[*Portland Cement.*]
United Correspondence Schools....[*Education by Mail.*]
U. S. Mineral Wool Co.....[*Mineral Wool.*]
Warren Chemical & Mfg. Co.[*Asphalt Roofing.*]
Williams, John.....[*Wrought Metal.*]

Rochester.
Caldwell Mfg. Co.....[*Door Holder.*]
Cutler Mfg. Co.....[*Mail Chutes.*]

Syracuse.
Dunning, W. D.....[*Mixer.*]

Troy.
Globe Ventilator Co.....[*Ventilators.*]
Troy Laundry Machinery Co...[*Washing Machines.*]

OHIO.

Canton.
Berger Mfg. Co., The.....[*Metal Ceilings.*]

Cincinnati.
Barron, Boyle & Co.[*Old English Floor Wax.*]

Cleveland.
Brooks, T. H. & Co.....[*Sidewalk Lights.*]
Ohio Brass and Iron Mfg. Co. .....[*Traps.*]
Osborn, J. M. & L. A.....[*Roofing Tin.*]

Columbus.
Kinnear & Gager Co., The.....[*Steel Ceilings.*]
Kinnear Mfg. Co.....[*Steel Rolling-Doors.*]
Nelson Co., The C. T....[*Capitals (Carved).*]

Crestline.
Hartman Sliding Blind Co..[*Sliding Blinds.*]

Dayton.
Dayton Automatic Elevator Gate Co.....[*Elevator Gates.*]

Miles.
Bostwick Steel Lath Co.....[*Metal Lathing.*]

Toledo.
Buckeye Paint Co.....[*Paint.*]

PENNSYLVANIA.

Ambler.
Keasbey & Mattison Co..[*Magnesia Covering.*]

Philadelphia.
Electric Storage Battery Co.....[*Chloride Accumulator.*]
French & Co., Samuel H.....[*Mortar Colors.*]
Gara, McGinley & Co.....[*Steel Corner.*]
Harrison Brothers & Co... [*Protective Paint.*]
Loomis Filters Improved System.....[*Filters.*]
Maxwell & Co., J.....[*Gypsum Water Paint.*]
Merchant & Co.....[*Tin Roofing.*]
Morse, Williams & Co.....[*Elevators.*]
Taylor Co., N. & G.....[*Tin.*]
Thorn, J. S. Co.....[*Sheet Metal.*]

Pittsburgh.
Apollo Iron and Steel Co...[*Galvanized Iron.*]
Monarch Water Heater Co.....[*Heaters.*]
Scaife, Wm. B. & Sons.....[*Filters.*]

Scranton.
International Correspondence Schools, The [*Architecture.*].....

VERMONT.

Rutland.
Columbian Marble Quarrying Co....[*Marble.*]

From *The Building News.*

Atlantic Chambers, High Street, Glasgow, Scotland.
J. Burnet & Son, Architects.

The American Architect and Building News

IS PUBLISHED EVERY SATURDAY BY

The American Architect and Building News Co.,

211 Tremont St., Boston, Mass.

Advance Subscription Rates:

Regular Edition, $6.00 per year; six months, $ 3.50
International Edition, per year in advance, 16.00
" quarterly " 18.00

[Foreign Postage, $2.00 Extra.]

☞ Payment should be made to American Architect and Building News Co. direct, either by draft or post-office order.

Address all business correspondence to the publishers direct.

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Advertising Rates: For "wants" and "proposals," 15 cents per line [8 words to the line], each insertion. 50 cents the least charge. Other rates on application.

ARCHITECTS' REMOVALS, Etc.

MR. A. W. FULLER, Albany, N. Y., has formed an association with Mr. W. B. Pitcher, and the practice of architecture will be continued at 95 State St., under the names of A. W. Fuller, W. B. Pitcher, architects. 1264

WANTED.

WANTED. — To lease for a number of years, brick-yard of moderate capacity, adapted for Hollow Bricks, in Eastern Massachusetts, clay to be comparatively free from lime and sulphur. Full particulars to be addressed to Harry Self, care of Young's Hotel, Boston, Mass. 1263

WANTED.

High-Class Designer and Colorist

WANTS steady position with principal architectural or decorating concern. Strictly reliable man, thorough schooling abroad, 12 years' practical experience in the United States, well versed in design (exteriors and interiors), full-size ornamental detail, perspectives and water-colors. Salary $2,500 per year (weekly installments $50; including two weeks paid vacation). One month trial on a. m. terms, with subsequent contract per year. Prominent New York reference. Original sketches and photos of executed work. Address "E. S. T.," *American Architect.* 1264

WANTED.

POSITION. — General building superintendent, brisk New York methods, will engage out of town. Address D. G. Sweeney, 902 Trinity Ave., New York, N. Y. 1263

WANTED.

DRAUGHTSMAN. — Wanted an efficient and capable young man especially versed in English Gothic, but also good in other lines of architectural design. Must be quick and correct in his work. To the right man an interesting and profitable engagement can be assured. Address "Cuyahoga," care *American Architect.* 1263

WANTED.

POSITION as specification writer, chief of building superintendents, or office manager, by one of experience. Address "H. S. K." 1263

WANTED.

DRAUGHTSMAN. — Wanted, architectural draughtsman for general work; state experience and salary expected. Position permanent if party is satisfactory. C. M. Robinson, 1910 W. Chestnut Ave., Altoona, Pa. 1263

WANTED.

POSITION. — Architectural draughtsman desires position; six years' office experience; just returned from three years spent in travel and study in Europe. Address "Rome," 606 Temple Court, New York City. 1264

WANTED.

POSITION. — Young man, graduate of Special Course in Architecture, Mass. Institute of Technology, with several years' experience in best Boston offices, and having studied and travelled in Europe, with also a large business and social acquaintance in Boston and other cities, would like position with architect, in Boston preferred, as assistant-draughtsman, at small salary; or with young architect ambitious of extending his business through my influence. References. "Ambitious," care *American Architect.* t.f.

TO RENT.

TO RENT. — Any party desiring fine small offices, with large private entrance rotunda, telephone, etc., at small rental. Apply Room 1517, German American Building, 35 Nassau St., N. Y. 1263

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.]

643,856. Manufacture of Cement. — William A. O. Wuth, Pittsburg, Pa.

643,889. Screen-Door or Window Frame. — Charles C. Wheeler, Holland, Mich.

BUILDING PATENTS.

643,906. Supply-Valve. — Elon A. Marsh, Detroit, Mich.

643,910. Shutter-Bolt. — John Sabold, Boyertown, Pa.

643,946. Steam-Boiler. — Maurice A. Cooke, Nashville, Tenn.

643,957-958. Lock. — Alan R. Fergusson, New York, N. Y.

643,969. Scaffold or Portable Trestle. — Thomas Milne, Sandon, Can.

643,989. Manufacture of Cement. — Franz Sehr, Blankenhayn, Ger.

644,030. Sectional Water-Heater. — Fred'k S. Henning, Toronto, Can.

644,047. Rain-Water Filter and Settling-Tank. — Theodore Almquist, Cokato, Minn.

644,065. Water-Heater. — Arthur W. Dowler, Chicago, Ill.

644,078. Hinge. — Charles F. W. Horn, New York, N. Y.

644,083. Sash Holder and Lock. — Fred C. Leavitt, Grantham, N. H.

644,084. Window-Pulley. — Alfred A. Libby, Portland, Me.

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.

Aberdeen, S. D. — Charles Gottschalk will erect an opera-house here after plans by Architect Harry W. Carter, of Minneapolis, Minn. It will be of brick construction, 60′ x 116′, and have tin or gravel roof; cost, $25,000.

Anniston, Ala. — The Anniston Yarn Mill Co. has been organized, with capital stock of $100,000, to build a yarn factory. J. T. Gardner, secretary, treasurer and manager.

Baltimore, Md. — The Second Church of Christ contemplates the erection of a church and parish-house on Mt. Royal Ave., near Charles St., to cost about $50,000.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

The Knights of Columbus will erect a society building, costing $50,000. It will be six stories high, built of brick, stone and iron, and have slate roof. Charles F. Evans, Baltimore and Exeter Sts.

Architect George Archer, Drovers' Bank Building, is preparing plans for remodelling the National Marine Bank Building; cost, $25,000.

Birmingham, Ala. — The German Lutheran congregation contemplates the erection of a $10,000 brick church, at the corner of 21st St. and Avenue F.

P. U. Walters & Co. have prepared plans for surgical ward, students' amphitheatre and a power house, for St. Vincent's Hospital, Sisters of Charity. It will be two stories high, constructed of brick, have boilers, dynamos, laundry outfit, marble and tiling, costing about $25,000.

Brooklyn, N. Y. — A number of prominent citizens are interesting themselves in securing a new armory for Troop C. A delegation recently appeared before the assembly at Albany to urge an appropriation for this purpose.

Clarence W. Seamans, a member of the firm of Wyckhoff, Seamans & Benedict, is preparing to erect in St. Mark's Ave. a private residence. The cost will exceed $200,000. The plans have been drawn by Montrose W. Morris, architect, of 45 Exchange Pl. The structure will be three stories in height, 100′ x 125′, including piazzas of Indiana limestone. Italian Renaissance style will be followed.

Buffalo, N. Y. — Rev. Father Bubenheim, of St. Magdalene's Mission, Fillmore Ave., is having plans prepared by Architect Carl Schmill for a two-story brick residence.

Chicago, Ill. — A $20,000 three-story apartment-building, 36′ x 84′, has been designed by William Krieg, 84 Washington St., to be erected on Jackson Ave., near 64th St.

Cleveland, O. — Reports state that A. E. Sprackling, 204 Superior St., has prepared plans for a five-story brick and terra-cotta hotel, 125′ x 175′, to be built in this city, at a cost of about $200,000.

Connersville, Ind. — Louis H. Gibson, 84 E. Market St., has prepared plans for a $25,000 Odd Fellows' Hall, to be built in this city. The building will be four stories high, and constructed of stone and brick.

Corsicana, Tex. — The trustees of the Odd Fellows Widows' and Orphans' Home contemplate making extensive additions to the present buildings of the institution.

Covington, Tenn. — A company of which W. V. McFadden is president has been organized to build a 5,000 spindle plant; cost will probably be $100,000.

Denver, Col. — F. O. Valle has purchased two lots on Court St. which are now occupied by two small frame buildings. It is reported that these will be torn down and replaced with a three-story hotel.

Duluth, Minn. — A modern theatre building will be erected here at the corner of 3d Ave. and 1st St., costing about $40,000.

East Pittsburgh, Pa. — The Westinghouse Electric & Manufacturing Co., Pittsburgh, are receiving bids for the construction of a crane storage shed, 327′ x 540′, costing about $100,000.

Freeport, L. I., N. Y. — The Catholic Society has purchased a site on Pine St., between Grove and Ocean Aves., whereon they contemplate erecting a church. Rev. Fr. W. B. Farrell is pastor.

Harriman, Tenn. — W. B. Crenkley has purchased a site near here and will soon begin the erection of a cotton-mill, which when complete, will cost about $100,000.

Homestead, Pa. — Architects E. J. Carlisle & Bros., Lewis Block, Pittsburgh, are preparing preliminary sketches for a $100,000 storage and office building for the Pittsburgh Brewing Co., Carnegie Building, Pittsburgh.

Jamaica, L. I., N. Y. — The German Presbyterian Church will soon erect a frame church to cost about $10,000. It will be 45 feet front, 33 feet rear and 76 feet in depth. William A. Finn, of Hollis, is the architect.

Kenosha, Wis. — Cornelius Leenhouts, of Milwaukee, has prepared plans for the new Y. M. C. A. Building to be erected here. It will be three stories high, and will be built of brick and stone on the old site, costing about $20,000.

Keokuk, Ia. — Architect James P. Hubbell, Y. M. C. A. Building, has prepared plans for a three-story and basement pressed brick and terra-cotta residence, with stone foundation, for E. S. Baker. It will have slate roof, hard plaster, steam heat, staff work, etc.; cost, $25,000.

Lebanon, Pa. — Plans are now being prepared by Architect Harry T. Hauer for five additional stories to the People's Bank at 8th and Cumberland Sts. It will be of fireproof construction and cost $50,000.

Lincoln, Mass. — Fehmer & Page, Milk St., Boston, have prepared plans for a $15,000 residence for John Pierce.

Marinetta, Wis. — Ferry & Clas, architects, Milwaukee, are finishing plans for the addition to be built to the Hotel Marinetta; cost, $12,000.

Marquette, Mich. — Charleton, Gilbert & Demar, architects, Milwaukee, Wis., are preparing plans for a dormitory for the normal school; cost, $20,000.

Milan, Mich. — E. C. Van Leyen, Peninsular Savings Bank Building, Detroit, is preparing plans for rebuilding the public school. It will be two stories high, 65′ x 85′, and will cost about $16,000. R. C. Allen, Secretary School Board.

Milwaukee, Wis. — Plans have been prepared by Brielmaier & Sons, 602 Second St., for a $50,000 convent to be erected by the Sisters of the Holy Saviour at 35th and Centre Sts.

Minneapolis, Minn. — Kees & Colburn, architects, are preparing plans for the Nicollet Ave. arcade entrance to S. E. Olson Co.'s store. It will be 44′ x 135′, and five stories in height. The arcade entrance will be 45 feet high, with marble floor; cost, $50,000.

Reports state that Wolff & Ewens, architects, of Milwaukee, Wis., are preparing plans for a building to be erected on Washington and 2d Ave., N., for the Schlitz Brewing Co. The proposed building, it is said, will be 65′ x 160′, three stories, of pressed brick, and that besides the stores, a large hall will occupy a portion of the building; cost, $35,000.

Newark, N. J. — Nathan Myers, 188 Market St., has prepared plans for a $40,000 synagogue to be erected by the Congregation Ansche Russia on W. Kinnery St., near Broome.

New Haven, Conn. — Architect G. C. A. Brown has prepared plans for the erection of a brick store and apartment block on Grand Ave., near Olive St., for D. Cebro. The building will occupy 44′ x 71′ of space.

Plans have been prepared by Brown & Van Beren, architects, for a new school to be erected at the corner of Canner and Livingston Sts., costing about $40,000.

New Rochelle, N. Y. — The city is having plans drawn in competition for a two-and-one-half story brick and stone building for fire headquarters, to cost about $20,000.

New York, N. Y. — M. Bernstein has prepared plans for a one-story brick and terra-cotta synagogue, 45′ x 92′ 11″, to be erected at 118th St., between Lennox and 5th Aves., for the congregation Shaari Zadek, of Harlem.

Rachel Axelrod will erect a seven-story brick and stone apartment-house at the corner of Broadway and 92d St., costing about $200,000.

Elias Kempner will build at the corner of West End Ave. and 100th St., two elevator apartment-houses, to cost $220,000.

It is announced that the Board of Managers of the French Benevolent Society will undertake the building of a much larger hospital than it at present conducts. The sum of $400,000 will be required for the purchase of a site and the erection of the proposed buildings.

It is reported that a movement is on foot for the building in the neighborhood of 5th Ave. and 45th St., of a structure to contain a gymnasium, shooting gallery, bowling alley and billiard-room for the exclusive use of women, and the projectors of the building have also in mind a Summer annex within an easy distance of the city. Mrs. Astor, Mrs. Morton and other prominent women are interested.

Omaha, Neb. — George A. Joslyn has had plans prepared for a stone residence to be erected on the site of his present dwelling. It will be modern in every way; cost, $100,000.

Pittsfield, Mass. — Plans have been prepared for six large mill structures for the Stanley Electric Manufacturing Co. The largest of the buildings is the machine shop, for which the plans provide a two-story brick structure, 90′ x 400′.

Pottsville, Pa. — The Schuylkill Silk Plush Mill Co. have had Architect C. T. Mould prepare plans for a brick and stone boiler and engine house and plush mill. It will have fireproofing, gravel roof, iron and steel work, freight elevator, steam heat, machinery, etc.; cost, $14,000.

Poughkeepsie, N. Y. — A new biological laboratory will be built at Vassar by New England alumnæ. It is proposed to build a two-story and basement brick structure.

Seattle, Wash. — T. S. Lippy will erect a five-story and basement brick block, 50′ x 111′, with stone trimmings, after plans by E. W. Houghton, architect.

Sheyboygan, Wis. — Chas. Hilpertshauser, architect, is making plans for a high-school building. It will be 80′ x 128′, common brick and Indiana limestone, shingle roof; estimated cost, $30,000.

Smithfield, Pa. — Charles Bickel, Penn Ave. and Cecil Alley, Pittsburgh, is preparing plans for remodelling the Central Hotel, owned by Kaufman Bros., 5th Ave. and Smithfield St. The improvement will cost about $30,000.

Springfield, Mass. — The Hahnemann Society will remodel D. B. Wesson's residence on High and Myrtle Sts. into a homœpathic hospital, at a cost of $15,000.

Lewis F. Newman will erect a $9,000 residence at the corner of Long Hill St. and Spruce Hill Ave., after plans by E. M. Ezekiel.

St. Louis, Mo. — Weber & Graves have completed plans for a large warehouse to be erected at the southwest corner of 7th St. and Clark Ave., for Howard Benoist. It will be five stories above the basement, 46′ x 127′, and built of brick with Bedford stone trimming. The building will be equipped with modern conveniences in every particular; cost, $40,000.

Toledo, O. — W. B. Taylor has purchased the property at the corner of Locust and Superior, and will erect three flat buildings, at a cost of $50,000. Work will begin soon.

Architect L. G. Welker, 932 Spitzer Building, is preparing plans for a building to be erected on 13th, near Monroe St., for Murray Bros.; cost, $25,000.

Uniontown, Pa. — Architect Thos. H. Scott, Standard Building, Pittsburgh, has prepared plans for a three-story brick, stone and terra-cotta office building, 80′ x 80′, for Johnson & Ruby; cost, $25,000.

Whiting, Ia. — E. M. Whiting has had plans prepared by Burkhead Keese, architects, of Sioux City, for a three-story frame residence, 36′ x 36′, to cost $10,000.

Winona, Minn. — Kees & Colburn, architects, have begun work on plans for a brick building to be erected here. It will be 51′ x 123′, four stories and basement; cost, $45,000.

Yonkers, N. Y. — Mr. Underhill has introduced in the House a bill to provide for the acquisition of a site and the construction thereon of a public building in this city. The cost of the proposed structure is not to exceed $100,000.

APARTMENT-HOUSES.

Cambridge, Mass. — *Massachusetts Ave.*, cor. Esplanade St., six-st'y bk. aparts., 210′ x 211′, steam; $600,000; o., River Bank Court Trust Co.; b., G. A. Fuller Co.; a., H. B. Ball.

Chicago, Ill. — *West Side*, nr. Douglas Pk., three-st'y & base. Bedford st. aparts., 50′ x 175′, comp. & tile roof, steam; $45,000; a., William F. Gubbins.

Wilcox Ave, nr. 43d Ave., two st'y st. flat building, 25′ x 63′; $6,000; o., Henry Herman; a., Geo. Grussing.

Douglas Boulevard and Turner Ave., three-st'y bk. & st. aparts., 38′ x 141′, comp. roof, steam; $30,000; o., Mrs P. H. Joyce; a., A. G. Morey.

Columbus, O. — *Seventh Ave. and Summit St.*, three st'y bk. & st. aparts., 170′ x 170′, comp. roof; $20 000; o., F. H. Nichol; a., D. Riebel.

Iron-Work.

BUILDING INTELLIGENCE.

HOSPITALS.

Barre, Mass. — Two-st'y & base. fr. orphans' home, 40′ x 150′, pitch roof, steam; $20,000; o., City of Lynn; a., H. W. Rogers, Lynn.

Eau Claire, Wis. — Two-st'y st. & bk. asylum, 117′ x 300′, shingle roof; $6,000; o., Eau Claire County; a., C. L. Brown.

HOTELS.

Brooklyn, N. Y. — *W. Fifteenth St.*, cor. Railroad Ave., three-st'y fr. hotel, 29′ x 62′ 6″, felt & gravel roof; $6,000; o., P. Skelly, 23 Ninth Ave., New York; a., J. A. McDonald, Surf Ave., nr. W. 8th St.

Des Moines, Ia. — *Sixth Ave. and State St.*, four-st'y bk. & st. hotel, 66′ x 100′, comp. roof, steam; $40,000; o., M. Storer; a., Hallett & Rawson.

New York, N. Y. — *W. Forty-fifth St., Nos.* 65-67, nine-st'y bk. & st. hotel, 37′ 6″ x 91′; $75,000; o., W. & F. Rafel, 106 W. 87th St.; a., Rossiter & Wright, 95 Liberty St.

Pekin, Ill. — Three-st'y bk. hotel, 94′ x 97′, tin roof, steam; $20,000; o., Tazewell Hotel Co.; a., Paul O. Moratz.

Philadelphia, Pa. — *Thirteenth and Callowhill Sts.*, four-st'y bk., iron & fr. hotel, 20′ x 67′; $8,427; o., John W. Warwick Estate; b., William F. Ingham.

Toledo, O. — Five-st'y steel & bk. hotel, 160′ x 168′, comp. roof, steam; $400,000; o., Toledo Hotel Co.; a., Yost & Packard, Y. M. C. A. Bldg., Columbus.

HOUSES.

Ann Arbor, Mich. — Two-st'y bk. & fr. dwell. 45′ x 51′, pitch roof, hot water; $8,000; o., C. K. McGee; a., Pond & Pond, Steinway Hall, Chicago, Ill.

Beloit, Wis. — Two-st'y fr. dwell., 37′ x 56′, pitch roof, furnace; $6,000; o., E. C. Helm; a., F. H. Kemp.

Boston, Mass. — *Bennington St., No.* 411, three-st'y fr. dwell., 22′ x 54′, flat roof; $5,000; o., Mary Sullivan; a. & b., William Keough.

Draper St., 2½-st'y fr. dwell., 25′ x 50′, pitch roof, furnace; $5,000; o., Henry F. Upham; b., Frank Silva; a., G. A. Fuller.

Dennison St., No. 21, 2½-st'y fr. dwell., 33′ x 44′, pitch roof, furnace; $6,000; o., a. & b., R. M. Goode.

Bay State Road, three-st'y bk. dwell., 32′ x 70′, flat roof, hot water; $45,000; o., E. R. Thayer; b., G. W. Morrison; a., Peters & Rice.

Galena St., nr. Kingsbury St., three-st'y bk. dwell., 23′ x 48′, flat roof; $6,000; o., a. & b., John J. Johnson.

Cooper St., 7 three-st'y bk. dwells. & stores, 13′ x 16′ x 38′, flat roofs; $5,000; o. & b., A. White; a., C. A. Halstrom.

Hillside St., four 2½-st'y fr. dwells., 25′ x 46′, pitch roofs, furnaces; $20,000; o., Mary T. Cantwell; b., John Cantwell; a., J. H. Cantwell.

Blue Hill Ave., nr. Talbot Ave, 2½-st'y fr. dwell., 32′ x 55′, pitch roof, steam; $6,000; o., a. & b., B. Fulman.

Cedar St., cor. Cedar Park, three-st'y fr. dwell., 31′ x 42′, flat roof, furnace; $6,000; o., E. and Mary Haley; b., J. J. Flynn; a., C. A. Russell.

Fenway St., nr. Boylston St., three-st'y bk. dwell., 33′ x 74′, flat roof, furnace; $45,000; o., M. Story; b., McNeil Bros.; a., Peabody & Stearns.

Commonwealth Ave., Nos. 472-74, 2 three-st'y bk. dwells., 25′ x 74′, flat roofs, hot water; $60,000; o., S. M. Shapleigh; b., D. L. Rand; a., S. D. Kelley.

Dorchester Ave. and Sullivan Pl., 6 three-st'y bk. dwells., 23′ x 54′, 22′ x 46′, flat roofs, stoves; $36,000; o., James Kerrigan; b., H. D. Kelley; a., G. H. Smith.

Harold St., nr. Ruthven St., 3 three-st'y bk. dwells., 22′ x 46′, 21′ x 48′, 21′ x 50′, flat roof, furnace; $18,000; o., John McWeeney; a. & b., T. L. Connelly.

Haskins St., No. 35, three-st'y bk. dwell., 23′ x 52′, flat roof, stoves; $6,000; o., a. & b., J. A. McCloskey.

Westwood St., nr. Wales Pl., 2 three-st'y bk. dwells., 23′ x 45′, flat roofs, stoves; $10,000; o., a. & b., P. F. Lonergan.

Ashmont St., nr. Washington St., 2½-st'y fr. dwell., 31′ x 47′, pitch roof, furnace; $5,500; o., Mary J. Boden; a. & b., H. J. Boden.

Page Ave., nr. Glenway St., 2½-st'y fr. dwell., 26′ x 43′, pitch roof, furnace; $5,000; o., a. & b., L. A. Belyea.

Huntington Ave., 2½-st'y fr. dwell., 26′ x 56′, pitch roof, furnace; $6,000; o., a. & b., J. C. Spillane.

E. Second St., three-st'y fr. dwell., 23′ x 50′, flat roof, stoves; $5,000; o., a. & b., Boyd & Berry.

Dorchester Ave., No. 775, three-st'y fr. dwell., 30′ x 37′, flat roof, stoves; $5,000; o., J. F. Grady; a., P. A. Tracy.

Spencer St., nr. Park St., four 2½-st'y fr. dwells., 29′ x 46′, pitch roofs, furnaces; $20,000; o., a. & b., J. R. McPherson.

Cambridge, Mass. — *Elm St.*, three-st'y fr. dwell., 27′ x 48′, furnace; $5,000; o., James Doran; a., Sylvester Woods.

BUILDING INTELLIGENCE.

(Apartment-Houses Continued.)

Fairmont, W. Va. — *Main St. and Park Ave.*, four-st'y bk. aparts., 67′ x 80′, tin roof, steam; $12,000; o., Mrs. L. E. Carr; a., A. C. Lyons.

Indianapolis, Ind. — Three-st'y bk. & st. flat building, 40′ x 80′, gravel roof, hot air; $15,000; o., Julius Matzke; a., H. C. Hendrickson.

Joliet, Ill. — Three-st'y bk. & st. aparts., 44′ x 84′, shingle roof, steam; $10,000; a., J. H. Barnes.

Montgomery, Ala. — Three-st'y bk. aparts., 45′ x 75′, tin roof; $10,000; o., N. J. Bell; a., Lockwood & Bell.

New York, N. Y. — *Amsterdam Ave*, cor. 131st St., five-st'y bk. flat & stores, 24′ 11″ x 95′; $40,000; o., T. H. Bell, 145 W. 96th St.; a., Moore & Landsiedel, 148th St. & 3d Ave.

One Hundred and Thirty-seventh St., nr. Willis Ave., 2 five-st'y bk. flats, 25′ x 87′; $40,000; o., Gaines & Roberts, 667 E 137th St.

W. One Hundred and Eighteenth St., nr. 5th Ave., five-st'y bk. flat, 25′ x 87′; $22 500; o., C. M. Silverman, 1210 Fifth Ave.; a., Neville & Bagge, 217 W. 125th St.

One Hundred and Sixty-first St., nr. Eagle Ave., five-st'y bk. flat, 18′ x 70′; $17,000; o., McDonald & Thomas, 41 Wall St.; a., W. C. Dickerson, 149th St. & 3d Ave.

West End Ave., cor. 100th St., 2 seven-st'y bk. & st. flats, 48′ 10″, 56′ x 87′, 95′; $220,000; o., Elias Kempner, 35 Nassau St.

One Hundred and Twelfth St., nr. W. 7th Ave., seven st'y bk. flat, 75′ x 90′ 11″; $200,000; o., Halloran & Ahearn, 109th St. & W. Central Park.

Seventh Ave., w s, nr. 55th St., five-st'y bk. & st. flat & store, 25′ x 100′; $25,000; o., John J. Reilly, 158 W. 55th St.; a., Henry Davidson, 101 W. 21st St.

W. Twenty-first St., No. 340, five st'y bk. & st. flat, 25′ x 79′; $22,000; o., Monk & Gillies, 92 Eighth Ave.; a., Henry Davidson, 101 W. 21st St.

Courtlandt Ave., cor. 160th St., 2 five-st'y bk. flats, 24′, 26′ x 75′, 87′; $48,000; o., Chas. Brogan, 1165 Washington Ave.; a., Neville & Bagge, 217 W. 125th St.

Broadway, cor. 92d St., seven-st'y bk. & st. flat, 108′ x 108′ 6″; $200,000; o., Rachel Axelrod, 11 Manhattan Ave.; a., G. F. Pelham, 503 Fifth Ave.

One Hundred and Twelfth St., 200′ w Amsterdam Ave., six-st'y bk. & st. flat, 34′ x 88′ 6″; $60,000; o., John Paterno Sons, 507 W. 112th St.; a., M. V. B. Ferdon, 243 W. 57th St.

St. Louis, Mo. — Two-st'y bk. flat, 25′ x 65′, slate roof, hot water; $7,000; o., J. A. Friderich; a., A. B. Ridington.

CHURCHES.

Brazil, Ind. — Bk. church, 60′ x 90′, slate roof, furnace; $10,000; o., Christian Society; a., W. S. Kaufman, Richmond.

Brooklyn, N. Y. — *Thirteenth Ave.*, cor. 48th St., one-st'y fr. church, 40′ x 40′, tar & shingle roof, hot air; $6,000; o., Baptist Church, Borough Park; a., A. L. Valk, 378 State St.

Clyman, Wis. — Bk. church, 44′ x 94′, shingle roof, furnace; $8,000; o., Church of the Holy Assumption; a., Van Ryn & De Gelloke, Merril Building, Milwaukee.

Fulton, Mo. — Bk. church, 60′ x 80′, slate roof, hot air; $10,000; o., M. E. Church Society; a., H. D. Hunter, Mexico.

Harrison, N. Y. — One-st'y timber & st. church; $10,000; o., R. C. Church; a., Lynch & Coombs, 1133 Broadway.

Janesville, Wis. — Bk. church, 62′ x 132′, slate roof, steam; $30,000; o., St. Mary's Catholic Society; a., F. H. Kemp, Beloit.

Leipsic, O. — Two-st'y bk. church, 57′ x 80′, slate roof, furnace; $8,000; o., Lutheran Society; a., Chas. Henry & Son, 120 S. Main St.

Mason, Mich. — One-st'y & base. st. church, 71′ x 86′, slate roof, hot air; $12,000; o., First Presbyterian Society; a., Clark & Munger, Bay City.

New Castle, Pa. — *Jefferson St.*, bk & st. church, 56′ x 112′, slate roof, steam; $25,000; o., Presbyterian Society; a., H. M. Wirsing.

Terrell, Tex. — Bk. church, 71′ x 91′, metal roof, $10,000; o., M. E. Society; a., Flanders & Skeiloig, Dallas.

CLUB-HOUSES.

Philadelphia, Pa. — *Howard St.*, nr. Huntingdon St., two-st'y & base. bk. club-house, 25′ x 48′; $8,000; o., Kensington International Beneficial Co.; b., Joseph Heaton.

EDUCATIONAL.

Ann Arbor, Mich. — Three-st'y bk. Science Hall, main 60′ x 340′, three wings 50′ x 190′, comp. & slate roof, steam; $300,000; o., University of Michigan; a., Spiers & Rohns, 325 Chamber of Commerce, Detroit.

Augusta, Ky. — Two-st'y bk. school, 80′ x 92′, slate roof, hot air; $18,000; o., Board of Education; a., B. C. De Camp, Neave Building, Cincinnati, O.

Bronson, Mich. — Two-st'y & base. bk. school, 68′ x 83′, shingle roof, furnace; $12,000; o., St. Mary's Catholic Society; a., H. J. Hill, Buhl Block, Detroit.

Dixon, Ill. — Two-st'y bk. school, 50′ x 80′, shingle & slate roof, hot air; $12,000; o., Board of Education; a., C. E. Hair.

BUILDING INTELLIGENCE.

(*Houses Continued.*)

Brookline St., No. 102, three-st'y fr. dwell., 42′ x 56′, stores; $6,000; o., a. & b., John Gustafson.

Circleville, O.—2½-st'y bk. dwell. & barn, 48′ x 56′, tile roof, furnace; $18,000; o., Turney Ruggles; a., C. A. Stribling & Co., 85 N. High St., Columbus, O.

Flushing, L. I., N. Y.—*Madison Ave.*, cor. Boerhm, opp. Murray Hill Station, 2 two-st'y fr. dwells., 23′ x 38′, with one-st'y extension, 23′ x 56′; $8,500; o., Charles Fisher; a., Marshall Grimes, 621 Broadway, New York.

New York, N. Y.—*Depot Pl.*, nr. Sedgwick Ave., four-st'y bk. dwell. & office, 25′ x 64′ 7″; $11,000; o., A. H. Green, 214 Broadway; a., Walker & Morris, 44 Pine St.

Crotona Park, nr. Crotona Ave., three-st'y fr. dwell., 32′ x 62′; $7,000; o., Chas. V. Halley, 1014 E. 175th St.; a., M. J. Garvin, 3307 Third Ave.

Pelham Heights, N. Y.—2½-st'y fr. dwell., 40′ x 40′; $10,000; o., Albert R. Searles, 44 W. 13th St.; a., C. W. & A. A. Stoughton, 96 Fifth Ave.

Philadelphia, Pa.—*Washington Lane*, nr. Green St., three-st'y st. dwell., 19′ x 67′; $7,000; o., R. G. Nichols; a., M. Fielding.

Drexel Road, 2 three-st'y st. & bk. dwells., 26′ 6″ x 49′; $10,000; o., Wendell & Smith; b., Milton W. Young.

Old York Road, nr. Oak Lane, two-st'y st. & bk. dwell., 40′ x 56′; $6,500; o., James Clarency; b., William E. Buckley.

Sedalia, Mo.—Three-st'y st. & bk. dwell., 42′ x 70′, tile roof, steam; $10,000; o., J. B. Quigley; a., W. G. Epperson.

Somerville, Mass.—*Highland and Fanning Aves.*, two-st'y fr. dwell., 26′ x 46′, pitch roof, furnace; $6,500; o., Otto Oleon.

Traverse City, Mich.—*State St.*, two-st'y fr. dwell., 44′ x 58′, shingle roof, steam; $7,000; o., B. J. Morgan; a., W. A. Dean.

Waterloo, Ia.—*Mulberry St.*, two-st'y fr. dwell., 34′ x 46′, shingle roof, steam; $5,000; o., O. B. Courtright; a., Murphy & Ralston.

White Plains, N. Y.—2½-st'y fr. dwell., 32′ x 41′; $6,500; o., L. P. Fish; a., Nitchie & Farwell, 13-21 Park Row, New York City.

OFFICE-BUILDINGS.

Boston, Mass.—*Washington St.*, nr. Winter St., bk. office-building, 20′ x 25′ x 78′, flat roof, steam; $85,000; o., Chas. H. Ditson; b., William Pray; a., Kendall, Taylor & Stevens.

Charlotte, N. C.—Two-st'y bk. & st. office building, 30′ x 120′, gravel roof, steam; $8,000; o., E. D. Latta; a., Hayden, Wheeler & Schwend.

Kansas City, Mo.—Three-st'y bk. & st. business building, 44′ x 140′, comp. roof, steam; $25,000; a., Van Brunt & Howe.

Madison, Wis.—Three-st'y bk. & terra-cotta telephone exchange, 50′ x 90′, comp. roof, steam; $20,000; o., Wisconsin Telephone Co.; a., H. J. Esser, 406 E. Water St., Milwaukee.

Philadelphia, Pa.—*Seventeenth St. and Allegheny Ave.*, two-st'y bk., st. & steel sub-station, 34′ x 94′; $25,000; o., Bell Telephone Co.; b., Charles McCaul.

Racine, Wis.—Three-st'y bk., st. & terra-cotta telephone exchange, 38′ x 70′, comp. roof, hot water; $15,000; o., Wisconsin Telephone Co.; a., H. J. Esser, 406 E. Water St., Milwaukee.

PUBLIC BUILDINGS.

Fort Worth, Tex.—Two-st'y bk., st. & terra-cotta library building, 89′ x 108′, asphalt roof, steam; $45,000; o., Carnegie Library Association; a., Herbert M. Greene, Dallas.

New York, N. Y.—*Webster Ave.*, nr. Tremont Ave., one-st'y & base. bk. concert hall, 75′ x 75′; $18,000; o., Freund Bros., 670 Tremont Ave.; a., Arthur Boehmer, 751 Tremont Ave.

BUILDING INTELLIGENCE.

TENEMENT-HOUSES.

Morgantown, W. Va.—Two-st'y fr. tenement, 21′ x 46′, slate roof, gas; $15,000; o., Bannister & McDermott.

THEATRES AND HALLS.

Chicago, Ill.—*Jackson Boulevard*, nr. Wabash Ave., three-st'y Bedford st. & granite theatre, 72′ x 152′; o., W. J. Davis, H. J. Powers *et al.*; a., Wilson & Marshall.

Yonkers, N. Y.—Three-st'y bk. & st. theatre, 75′ x 145′, tin roof, steam; $40,000; a., A. J. Van Suetendael.

WAREHOUSES.

Brooklyn, N. Y.—*Flushing Ave.*, nr. W. Broadway, five-st'y bk. warehouse, 40′ x 95′; $25,000; o., John M. Wolff, 507 Willoughby Ave.; a., A. R. Koch, 1022 Madison St.

Iola, Kan.—Two-st'y & base. bk. & st. warehouse & office, 50′ x 100′, furnace; $6,000; o., Iola Wholesale Grocery Co.; a., W. H. Hadley, 628 Kansas Ave., Topeka.

MISCELLANEOUS.

Brooklyn, N. Y.—*Broadway*, nr. Conway St., elevator structure, 137′ 8″ x 162′ 2″; $40,000; o., Brooklyn Elevated R. R. Co.; b., Post & McCord, Clay St. & Paidge Ave.

COMPETITIONS.

SCHOOL-BUILDING.
[At Roswell, N. M.]

The Board of Education will receive plans and specifications **until March 15,** for a new school-building. HARRY CARMACK, clerk. 1263

PROPOSALS.

HIGH SCHOOL.
[At New Ulm, Mich.]

Sealed proposals will be received by the Board of Education **until March 12th,** for the erection of a high-school building. A. F. REIM, clerk. 1263

SCHOOL-HOUSE.
[At Hillsboro, Wis.]

Sealed proposals for the erection of a school-house will be received by the Board of Education of Hillsboro, Wis., **until March 15, 1900,** at the office of the clerk of the Board in Hillsboro, Wis. FRED J. LEMKE, Clerk Board of Education. 1263

COURT-HOUSE.
[At Spencer, Ia.]

Bids will be received **until March 15,** for the erection of a court-house for Clay County, to cost about $50,000. COUNTY COM. 1263

HOTEL BUILDING.
[At Portsmouth, O.]

Proposals are wanted **until March 12,** for the erection of a four-story building for the Portsmouth Hotel Co., to cost about $50,000. A. B. ALGER & SON. 1263

COURT-HOUSE.
[At Hudson, N. Y.]

Bids will be received **until March 14,** for the erection of a court-house. JOHN CONNOR, Clerk, Board of Supervisors. 1263

SCHOOL-HOUSE.
[At Brownsville, Tenn.]

Sealed bids will be received at the office of the Brownsville Bank, in Brownsville, Haywood County, Tenn., **until March 20, 1900,** for furnishing of all material and labor necessary to erect and finish complete (with and without heating apparatus) a public school building at Brownsville. BROWNSVILLE SCHOOL BOARD. 1264

PROPOSALS.

HIGH SCHOOL.
[At Fairmont, Minn.]

Bids are wanted **until March 17,** for the erection of a high school. M. ALDRICH, Secretary, Board of Education. 1264

SCHOOL BUILDING.
[At Holyoke, Mass.]

Sealed bids will be received **until March 23d,** for the erection of an 8-room school-building. BOARD OF PUBLIC WORKS. 1264

CHURCH.
[At Fulda, Minn.]

Sealed bids will be received by the German Lutheran Society **until March 30th,** for the erection of a church. F. BRASCH, secretary. 1265

CHURCH.
[At Gray, Me.]

Sealed proposals will be received **until noon, March 12, 1900,** for furnishing all the materials and labor required in the erection of a Congregational Church. JAMES T. HANCOCK *et al.*, Bldg. Com. 1263

CHURCH.
[At Brazil, Ind.]

Bids will be received **until March 15,** for the erection and construction of a new church for the M. E. Society. REV. L. C. BENTLEY, pastor 13 N. Meridian St. 1263

NORMAL SCHOOL.
[At Duluth, Minn.]

Bids are wanted **March 10** for building a State Normal School. WM. F. PHELPS, Chmn. Bldg. Com. State Normal School Bd. 1263

COMPETITIONS.

The John Stewardson Memorial Scholarship in Architecture.

FOURTH COMPETITION, 1900.

THE Managing Committee of the John Stewardson Memorial Scholarship in Architecture announces by authority of the Trustees of the University of Pennsylvania, who act as trustees of the Memorial Fund, a competition for a scholarship of the value of $1,000, the holder of which is to spend one year in travel and in the study of architecture in Europe under the direction of the Committee.

Candidates must be under thirty years of age, and must have studied or practised architecture in the State of Pennsylvania for the period of at least one year preceding the 14th day of March, 1900.

Candidates are required to pass the following: —

PRELIMINARY EXAMINATIONS.

Freehand Drawing. — A five hours' study of an architectural subject from the cast will be required at the time of the examination, either in pencil, charcoal or crayon, as the candidate may elect.

In addition each candidate will be required to show the examiners six examples of his work in pencil, color and pen and ink, all these mediums to be represented.

History of Architecture. — Written Examination. A knowledge of the subjects treated in "*Smith and Slater's Classic Architecture*" and "*T. Roger Smith's Gothic and Renaissance Architecture.*"

Construction. — Written Examination. A knowledge of "*Clark's Building Superintendence*," and familiarity with the use of Kidder's and Trautwine's Hand-books.

French or Italian. — Ability to translate at sight any passage in "*Laloux's Architecture Grecque*," or an equivalent work in French or Italian as the candidate may elect.

The preliminary examinations will take place at the School of Architecture of the University of Pennsylvania, on Wednesday, Thursday and Friday, March 14th, 15th and 16th, 1900.

No candidate will be admitted to the final examination who receives less than 60 per cent of the marks in Construction, History, and French or Italian, and less than 75 in Drawing.

Graduates of any of the recognized Schools of Architecture (as approved by the Committee) will be exempt from the preliminary Examinations. Any candidate who, in a previous year, has passed any preliminary examination of the John Stewardson Memorial Scholarship in Architecture or of the Travelling-scholarship in Architecture of the University of Pennsylvania, will also be exempt from such examination in this competition.

FINAL EXAMINATION.

There will be required in the final examination a design for "The Improvement of the Entrance to Fairmount Park, Philadelphia, by a proper treatment of a plot of ground, bounded by Spring Garden St., 25th St. and Pennsylvania Ave. and of the bank of the reservoir opposite the plot.

The specific requirements of the problem, the number, kind and scale of drawings, and other conditions will be made known on Saturday, March 17th, when each candidate will make a preliminary sketch at the School of Architecture, in the twelve hours between 10 A. M. and 10 P. M.

The final drawings will also be made at the School, which will be open to the competitors every weekday from 8 A. M. to 11 P. M. They are to be handed in, on, or before 10 P. M. on Saturday, April 7th.

The award will be made by a jury of architects, none of whom will be members of the Managing Committee.

The Scholarship will be awarded on the result of the examination in Design; but the marks in the preliminary examinations may be taken into account in case of doubt on the part of the jury as to the relative merits of competitors in design.

The successful competitor will be required to sail for Europe not later than April 21st, 1900.

Inquiries may be addressed to Prof. Warren P. Laird, School of Architecture, University of Pennsylvania, Philadelphia.

Managing Committee. JOHN C. SIMS, WARREN P. LAIRD, WALTER COPE, FRANK MILES DAY, WILSON EYRE, JR.

Philadelphia, February 20, 1900.

Professional Ethics.

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

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

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

"This valuable publication ['*The Georgian Period*'] grows in interest with every succeeding number, and the accumulated value of the whole is, of course, so much greater than that of its parts taken separately that it is hard to foresee the value to history and to art of the whole set when it shall have filled twenty such portfolios as that which safeguards No. 4. The previous parts have been reviewed in these columns, and it has been pointed out that while its title promises 'Measured Drawings of Colonial Work,' and nothing but these, the photo-prints issued are at least equal in value to the measured drawings, and that the combined value of photographs and measured drawings of one and the same building or detail is vastly greater than the separate value of an equal amount of material not so mutually illustrative. The present number contains still another and an unexpected attraction. It begins with thirty-six folio pages of text interspersed with an incredible number of small drawings — all spirited and evidently trustworthy — and with a certain number of small half-tone prints. * * * *

"The effect of this series will inevitably be to increase the respect of the world for the eighteenth-century architecture of what is now the United States."— *New York Evening Post*, Dec. 28, 1899.

BUILDING MATERIALS.

Reported for the American Architect and Building News.

BRICK. — ℔ M.	New York. (*Wholesale Prices.*)	Boston. (*Prices to Builders and Contractors.*)	Philadelphia. (*Prices to Builders and Contractors.*)
Common: *Cargo afloat.*			
Pale	2 25 @ 2 50	Domestic Com.	In Yard.
Jersey	@ 5 50	8 50 @ 9 50	Sq. Hard 8 00 @ 9 00
Long Island	@	Domestic Face	" @ 7 00
Up River	5 75 @ 6 00	18 00 @ 25 00	Salmon @ 5 50
Haverstraw Bay 2d	@ 5 75	Philadelphia }	Sq. " @ 5 50
" 1st	@ 6 00	35 00 @ 40 00 }	Light Stretchers
Hollow	@ 7 00	10 00 @ 11 00	9 00 @ 11 00
Fronts:	@		Medium "
Croton, Brown	@ 12 00	Phila. mould }	@ 12 00
" dark	@ 12 00	50 00 @ 80 00 }	Red "
" red	@ 12 00		@ 12 00
Chicago pressed		Enamelled B'k.	Dark "
" Moulded		Imported	@ 12 00
Baltimore	37 00 @ 41 00	Enam. (edge)	Pressed
Philadelphia	19 00 @ 21 00	105 00 @ 120 00	@ 17 00
Trenton	17 50 @ 18 50	" (edge & end.	Paving
Milwaukee		120 00 @ 135 00	11 00 @ 13 0
Moulded:		Domestic.	Second " @ 12 00
Red Pressed	@ 29 00	Enam. (edge)	Third " @ 10 00
Buff "	@ 27 00	90 00 @ 100 00	
Moulded Red & Buff	45 00 @ 70 00	" (edge & end.)	
Enamelled: *Imp.*		110 00 @ 115 00	Dom. { @ 65 @ 85
Enamelled (edge)	85 00 @ 100 00		
Enamelled (edge and end)	90 00 @ 110 00		