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SUMMARY:—

Appointment of a Consulting Architect to the Mayor of Boston.—Dr. J. S. Billings appointed Librarian of the Consolidated Library of New York.—Proposed Public Art League of the United States.—Death of Martin Brimmer, Amateur of Art.—Acetylene Gas and its possible Development and Uses.—Brass Tubing not suitable for the New Gas.—Elevator Shafts.—Boileau's Epigrams against Perrault.	25
A SYLLABUS OF EARLY CHRISTIAN, ROMANESQUE AND GOTHIC ARCHITECTURE.—VI.	27
EXPERIENCE WITH PROFIT-SHARING.	28
LETTER FROM BERLIN.	30
LETTER FROM CHICAGO.	31
THE SECRETARY OF THE TREASURY ON PUBLIC BUILDINGS.	34
SOCIETIES.	34

ILLUSTRATIONS:—

Hennepin County Court-house, Minneapolis, Minn.—The New Cathedral, Berlin, Prussia.—Public School Building, Millvale Borough, Pa.—House at Evanston, Ill.—House at Katonah, N. Y.—Staircase Hall in Same House.—Building for the Lindell Real Estate Co., St. Louis, Mo.	
Decoration of Domed Ceiling over Royal Staircase in the Palazzo Farnese, Caprarola, Italy.—A Group of German Castles.—Examples of Louis XVI Style.—A Group of Sun-dials and Escutcheons.	
Additional: Monument to the Memory of Señor J. Andresen, Oporto, Portugal.—Hennepin County Court-house, Minneapolis, Minn.—Decorations of an Hôtel in the Rue Daru, Paris, France.—Design for Christ's Hospital School, Hordham, Eng.—The Mercers' Hall Staircase, London, Eng.—Design for West Ham Technical Institute and Public Library, Eng.—Yorkshire Penny Bank, Bradford, Eng.	35
EXHIBITIONS.	36
NOTES AND CLIPPINGS.	36

PROFESSOR F. W. CHANDLER, of the Architectural Department of the Massachusetts Institute of Technology, has been appointed Consulting Architect to the Mayor of Boston. Under the amended charter of the City, passed last year, it is the duty of the Mayor to approve all plans for municipal buildings, as well as the selection of architects for them; and Mayor Quincy has selected Professor Chandler as his professional adviser in these matters. Incidentally, Professor Chandler has, for the present, been requested to supervise the building work now going on for the city School Board. It appears that the School Board, although invested by the new charter with a certain control over its building operations, is not legally a Department of the city government, and the Mayor has found it necessary to transfer its building work to the City Engineer, for whom Professor Chandler is to act as expert. It is hardly necessary to say that the city could not have a professional adviser better qualified by training and experience for such duties, and it is a satisfaction to see the connection between the Institute and the community, which the labors of Professor Swain, as expert to the Railroad Commissioners, and as a member of the Subway Commission, of Professor Sedgwick, as expert to the Board of Health, and of others, have already made so valuable, made still closer by enlisting the head of the Department of Architecture in the service of the city.

DR. JOHN S. BILLINGS, the well-known writer on ventilation, hygiene and medical topics, and now Director of the Department of Hygiene in the University of Pennsylvania, has been appointed Superintendent-in-Chief of the Consolidated Library of New York, and has accepted the appointment. Dr. Billings is already distinguished in library science, through his "Index-Catalogue of the Library of the Surgeon-General's Office," published in 1881. It is to be hoped that the community will not lose, through Dr. Billings's transfer to his new duties, the benefit of his experience, and, especially, of the clear and sensible style in which he imparts his knowledge to others. To our mind, Dr. Billings has long been the model of a scientific writer on practical subjects. Every architect knows how difficult it is to sift the valuable part out of books on ventilation, hygiene and similar topics. Even where the reader is not met by glaring errors in the statement of natural laws, like that, for example, contained in the very first sentence of an English work that we once saw, which began by saying that

"Air is warmed by rays of heat passing through it," he is likely to find that the writer has some pet theory, or device, his devotion to which is so evident as to cast suspicion on his fairness in presenting facts. With Dr. Billings, nothing of the kind is to be feared. The military man, above all others, is trained to deal with facts, and let theories take care of themselves; and Dr. Billings, as an accomplished scientific man with a military training, commands, we are sure, the confidence of the professional public in the highest degree.

AN effort is being made to apply to the art-matters of the nation the principle which has already been adopted by most of the larger cities, of giving to expert advisers some sort of control over the choice of statues, monuments and other artistic works executed for, or in behalf of the public. The Government of the United States has, of late, had too many other things to do with its money to indulge in the purchase of many pictures or statues, or the erection of important monuments; but the time will soon come when something can be spared, with the approval of the whole community, for such purposes; but, meanwhile, the ordinary administration of the public business requires the production and circulation of coins, postage stamps and other modest works of art, whose small size need not prevent them from being beautiful. That these should, not only for the credit and glory of our country, but for the education of our people in such matters, be as beautiful as possible, every one will admit, and the way to make them so, as well as to secure the highest excellence in the more ambitious works which are to lend dignity to the central authority of the Republic, is certainly to ask the judgment upon them of the people who have had the most opportunities for seeing and studying such things, and are best able to make comparisons, and to recognize meritorious originality. It is not likely to be very difficult to persuade the members of Congress of the truth of this proposition, but some one must undertake the task of presenting it to their consideration, and it is for the performance of this task in a more efficient manner that it is proposed to organize a Public Art League of the United States, including persons of influence in artistic matters all over the country, by whose coöperation and counsel the present practice of the Government in regard to such things may be changed for the better. Such a body has certainly a promising field of usefulness before it, and, even if its labors should not be immediately productive of the desired result, they may, indirectly, by the opportunity which they will give for uniting the artistic thought of the whole country, be of great service in the development of an art truly American.

OFTEN, when we have seen a toil-worn laboring man or woman stop and give out of his or her nearly empty pocket some few coins to a street-beggar, we have felt that if only the wealthy would bestow on the needy the same relative proportion of their income, the world would be a cheerier place than it is. The thought was a merely impulsive one, for it is a matter of common knowledge that the wealthy really do make a proper distribution of their income, and that the sum actually bestowed in charity each year is vast beyond comprehension. Some men do this gracious act as a matter of principle and justice, coldly and uninterestedly, others do it with a warm and heartfelt human sympathy which doubles the value of the gift. In this latter class, we believe, rightfully belonged Martin Brimmer, one of the most respected of the influential citizens of Boston, whose death this week closes a useful career. Possessor of an ample fortune, which was held in trust for him throughout life, he was willing to use a liberal part of the income from it not only in works of charity, but in all those undertakings which a high-minded, highly-educated man may enter into in the hope that they may benefit his fellow-citizens and mankind at large. A graduate of Harvard College, and in later life more than once elected an overseer, he always took an active interest in its affairs, but the interest which absorbed most of his time and thought was the Boston Museum of Fine Arts, of which he was one of the founders and from the first, we believe, the President of its Board of Trustees, and always an active, if somewhat conservative, promoter of its best interests. Because of the position he held at the Museum of Fine Arts he was a member of the Art Commission of the City of Boston and shared in the good work that

useful body has done for the city. A member, too, of the Massachusetts House and Senate at several different periods, he at various times in his life has performed more of the duties of good citizenship in more and more varied ways than the ordinary possessor of wealth usually thinks of concerning himself with. As a writer, he preferred to write for "private publication," and the only work by him we know of as regularly published is a series of "*Three Essays on the History, Art and Religion of Ancient Egypt*." The only blame we ever heard applied to him was apropos of his willingness to live in a house which is, externally, the last expression of a Neo-Grec nightmare.

SO much interest is just now taken in the new illuminant, acetylene gas, that it is desirable for architects, who are likely to be often called upon for information in regard to it, to make themselves familiar with its properties. Most people know that acetylene is a gas, of the class known as "heavy hydrocarbons," and containing equal weights of carbon and hydrogen. Ordinary coal-gas usually contains four or five per cent of this and the allied heavy hydrocarbons, which give it most of its illuminating power; while gas from cannal coal contains about twice as large a proportion, and burns, accordingly, with a flame about twice as brilliant as that from ordinary gas. By itself, acetylene burns with an intensely brilliant flame, which gives off a large amount of smoke, unless it is supplied with a strong current of air, by means of a chimney, or some other device. Until within a year or so, acetylene was derived only from the distillation of coal, and was with difficulty separated from the other products so derived. Now, it is found that, by heating powdered coke and lime together in an electric furnace, the oxygen of the lime can be driven off, and the remaining elements combined into solid calcium carbide, which, when heated with water, is again decomposed, the oxygen of the water uniting with the calcium to form lime, while the hydrogen combines with an equal weight of carbon, and escapes, in the form of acetylene gas. As calcium carbide can be produced at a cost of about one cent per pound, and each pound, when mixed with the requisite quantity of water, gives off from four to five cubic feet of acetylene gas, the latter considering its great illuminating power, is cheap in comparison with ordinary coal gas, and its cost is, in practice, reduced still further by the sale of the oxide of calcium, or lime, which remains after the acetylene has escaped, and forms a marketable product.

WHETHER acetylene will ever replace ordinary gas for illuminating purposes is, notwithstanding its advantages, by no means certain. Its tendency to give a smoky flame can easily be counteracted by chimneys, and the poisonous and explosive qualities attributed to it are, if anything, less notable than those of ordinary coal-gas; but the vast quantity of residuum left from its manufacture from calcium carbide and water must be a serious difficulty in working on a large scale. Roughly speaking, the production of a thousand cubic feet of acetylene involves disposing of a barrel of residuum; and, although the residuum is, at present, salable, it is hardly likely that the market could absorb the millions of barrels of lime that would come from the general substitution of acetylene for coal-gas, under the present process of manufacture. Perhaps the process may be improved, so that the proportion of residuum may be less; or the acetylene may be used simply to enrich ordinary gas. In any case, it is a very interesting substance, and the process by which it is prepared is one of the most remarkable discoveries of modern chemistry.

ANOTHER property of acetylene gas, which it is well for intending consumers to bear in mind, is that it cannot be used in brass fixtures, as it rapidly corrodes brass, as well as bronze and copper, forming with them a compound liable, under certain conditions, to explosion. Experimenters with the gas use, in consequence, burners and fixtures of iron, lead or tin, or, sometimes, of brass heavily coated with tin. Naturally, with a gas so highly carbonized, the burners should be made with an orifice in the shape of an extremely narrow slit, so as to give the air as free access as possible to the flame. The companies now preparing to put acetylene on public sale in this country propose, as is reported, to deliver the gas compressed in cylinders. Under what pressure it is intended to furnish the gas we do not know; but it is worth while to remember that, under a pressure of about seven hundred and

fifty pounds to the square inch, which is by no means beyond the resistance of a good steel cylinder, it becomes, at ordinary temperature, a liquid; and, as it occupies in that condition less than a thousandth part the space that it requires in the form of a gas, an immense saving might obviously be made in the cost of storing and transporting it, if means could be devised for reconverting it gently and safely, as required, into the gaseous condition.

WE have received a letter from an officer of an insurance company, saying that there seems to be a difference of opinion in his profession on the question whether a building is safer against fire with an elevator running through open hatchways in the several floors, or with the shaft in which it runs enclosed with wooden sheathing. As no one, so far as we know, has ever voluntarily stayed long enough in a building where flames were rushing up the elevator-shaft to write down his observations, we are unable to give any definite conclusions on the subject. The disposition of the insurance companies in this neighborhood is, or was, while elevator-shafts of either description were permitted, to prefer the wooden enclosure, and, although this furnishes additional fuel to the fire, there can hardly be any doubt that it would, for a few moments, at least, keep the flames in the shaft from reaching inflammable goods in the several stories, and thus perhaps give time for the fire-engines to arrive. As with so many other questions of the kind, the answer would be modified by circumstances. The character of the goods in the building; the nearness of a fire-engine station; the height of the shaft; the provision of a skylight over it, and many other things, would modify the advantages or disadvantages to be derived from the use of such an enclosure. We should ourselves be disposed, under the conditions prevailing in most general warehouses, to advise its adoption, but we should also advise wire-lathing and plastering it, at least on the inside. However, we should be glad to have the opinion of others on the matter.

M. CHARLES LUCAS continues in *La Construction Moderne* his interesting historical studies of the personal affairs of noted architects. Among other things, he recalls the savage sarcasms which Boileau directed at Perrault, for whom, probably on account of his family connections, he seems to have cherished a peculiar hatred. Perrault, as all students know, was a physician. He was a scientific man also, and a brilliant mathematician, and the example of another medical man of his time, Louis Savot, who, although physician to the King of France, found time to prepare and publish a book, entitled "*L'Architecture françoise des Bastiments particuliers*," appears to have led him to the study of architecture as an accomplishment, and he published several treatises on the subject, including a translation of Vitruvius. His brother, Charles Perrault, the renowned author of "*Perrault's Fables*," had been attached to the train of the minister Colbert, as general assistant adviser in matters of art, science and literature. Through his influence with Colbert, apparently, the doctor-architect was appointed, after the plans which Bernini had made for the east front of the Louvre had been finally abandoned, architect-in-chief for this part of the building, and, in this capacity, designed and carried out the Colonnade which still forms one of the architectural wonders of Paris.

HIS appointment aroused Boileau, who had just come off second-best from a literary encounter with his brother at the Academy, and he revenged himself on the latter by an epigram on the new architect, concluding with the lines,

"Our assassin renounces his vile art;
And, with the rule and square henceforth in hand,
Deserting Galen's doubtful practices,
From wretched doctor turns good architect."

According to Boileau's own story, this performance drew down on him the displeasure of the minister, so that he was urged by his friends to make amends, which he did by the following squib:

"TO A PHYSICIAN.

"Tis true, my verse once showed a famous assassin,
Who ceased to practice Galen's unproductive art,
And from a doctor had become a mason good.
But to refer to you I never did intend;
My muse, O Perrault, knows the truth too well for that.
You are, I will confess, a doctor bad enough,
But you are by no means a skilful architect."

A SYLLABUS OF EARLY CHRISTIAN, ROMANESQUE AND GOTHIC ARCHITECTURE.¹—VI.

GOTHIC ARCHITECTURE.—HISTORICAL INTRODUCTION.

THE twelfth century is a period noteworthy beyond any previous one, for its great strivings and activity in the world of thought as well as in the world of deed. The political events of the period are too many and too varied for a mere cursory treatment, and, therefore, a less detailed, more general statement of the condition of the main powers of Europe will, perhaps, be of greater value for the understanding of the age.

The two foremost powers in Christendom were the Pope on the one side, and the Emperor on the other. Throughout the Middle Ages they represented the poles between which all things secular and clerical were supposed to move. The ideal of the time was the perfect harmony and mutual assistance of these powers to maintain the order of society and make peace between heaven and earth. This ideal was in so far frustrated as the prevailing feeling between the two was jealousy, prompted by the claim of supremacy each made for himself as possessor of the better order of government, and the attempt to reduce the other to a minimum of power for the sake of this claim. Both failed in making good the claim, and the final outcome was the slow weakening of their authority upon the minds of the people and the gradual breaking-down of the structure of absolute obedience, upon which their power rested. But as yet, in the twelfth century, this was apparent only in its beginning. The dream of reconciliation and general peace still maintained itself for a long time among the nations, and found expression in the works of poets and thinkers. Among the mass of the people this secret yearning for a quiet and contemplative life is shown by their devotion to the Church and her commands, and their erection of numerous and elaborate structures for divine purposes: among the higher classes, the cultivation of the arts, of learning, and of other matters of culture, bear witness to the same feeling. But the circumstances did not permit a life of peace, the times were too agitated with great moral and political questions. The struggle between the temporal and clerical powers, with all its accompanying disturbances, shook the world to its foundations; passions and ambitions were fired and let loose in civic war. The world-commanding position of Germany, which the nation took pride in maintaining as far as its means allowed, drained the very sources of its strength and vitality. France, on the other side, being politically inferior, was able to develop some of the peculiarities of the time and held an esteemed and leading position in the arts of peace, in social refinement and ideal aspiration. The awakening power of its king tended to make his court and his residence the centre of the political and spiritual life of the country. The neighborhood of Spain with the constant crusades against the unbelievers, kindled a crusading spirit in France too, a spirit that assisted in the establishment of chivalry. Warfare was one of the necessary evils of the period, but in France chivalry was not merely the spirit of conquest brought into regular service and fixed forms, but was characterized by humane instincts as well, by the spirit of law in contrast to disorder, and obedience in contrast to lawlessness. To the boundless enthusiasm which chivalry kindled in the people and the feeling of safety it created is due much of the energy and stupendous activity and striving that these times show. Another cause of increased vigor may be found in the final success of the communes in securing independence and self-government, which took place during the eleventh and twelfth centuries. Under the guidance of the rising commerce, industry and art became established in the enfranchised towns instead of in the monasteries. The clergy were still active as dispensers of favors and bestowers of commissions, but the workers were no longer monks and lay brothers, but inhabitants of the towns and cities, who for better exercise of their crafts united in certain associations called "guilds." And the relation of these townspeople and their guilds to the development of art, and especially to that of architecture, must by no means be underrated. The material forces that furthered and in some measure brought about the creation of a new kind of edifice are not only, as in the previous period, to be sought among the clergy and in the royal power, but to a great extent in the communes. Most churches of importance were situated in some town and formed a part of its entity. The king granted privileges, the temporal lords assisted very munificently, but often it was the communes, in coöperation with their ecclesiastical superior, the bishop, that impressed their image upon the architecture of the time. The bishop took the lead, the church was his, at least under his jurisdiction. He inspired the work with the peculiar sacredness due to it. He was able also to promote the undertaking by granting spiritual favors to those who joined in it. But above all, it was the communes, their artisans and masons, that executed the suggestions, realized the plans and accomplished the work, sustaining the enormous enterprise with their zeal and devotion. By the very nature of the architecture of this period, it seems to bear witness to this popular element in its creation; a breath of democracy is found in the uniformity prevailing through its huge masses from the foundation to the smallest detail.

Gothic style is entirely a French creation. The French architects, having struggled with constructive problems in the various provinces for more than two hundred years, were especially fitted to find in

what is termed "Gothic" the solution of their difficulties. This solution, however, is no matter of invention or sudden change, but was arrived at through continuous development. The previous attempts and results from the time of Roman architecture have to be taken into account. When the way was found to avoid the difficulties that had hitherto beset the architects, the development of the Gothic style within the province where it originated and the immediate neighborhood was a matter of comparatively short time.

GENERAL CHARACTERISTICS OF GOTHIC ARCHITECTURE.

General Points.—The distinguishing trait of Gothic architecture must be said to be construction in its most ideal form and carried to its most absolute perfection. Logic of all parts, clearness and perceptibility of the constructive thought, clothed in forms that neatly and precisely express the purpose, form the ideal striven towards and reached before many decades. Gothic structures are architectural in the best sense of the word. In this quality the style can compete successfully with the Greek, and presents in comparison with the Greek far more subtle thought, greater exaltation of spirit and more intense striving. In the Greek edifice the exterior is the one feature emphasized. In the Gothic the idea of a lofty interior is carried to its utmost, all extraordinary effort in the matter of support being thrown outside the building and embodied in the array of buttresses, in order that the interior may be unincumbered. Gothic is in the highest degree a *system*, with every other consideration subservient to the exact representation of this system.

The Relation of Gothic to Romanesque.—In order to explain fully the excellence of Gothic, the failure of Romanesque architecture to fulfil all the requirements of perfect construction, its transitional character, in fact, is generally referred to and emphasized. Certainly, there were enough elements hidden in the Romanesque style that could receive further development. The bulk and clumsiness of the walls, the inefficiency of the memberment, the unyielding nature of the arch and the difficult adjustment of the vault may justly be mentioned as causes of perplexity to the Mediæval builders. The growth of a new art is often most effectively promoted by the shortcomings of its predecessor. The urgent need of correcting some fault in the general make-up of the Romanesque style kept the architect on the watch for a happier solution.

But too much stress ought not to be laid on the inefficiency of Romanesque architecture as the sole cause of the creation of Gothic. The times gave rise to what may be called the elements of a scientific spirit. Intellectual interests were no longer confined to the clergy—the world began to widen to other layers of society also. A more intelligent inquiry into the reasons and causes of strange occurrences was roused by the wayfaring habit of the knights and the contentious spirit of the communes. Research could start, it is true, only in a few privileged channels, and inasmuch as the science of building was more or less a matter of general interest, investigation was centered upon this, and the riddles of the previous construction were inquired into. Architecture became a scientific pursuit and the masons were the scholars that applied themselves to it. That the discovery of the saving principle was most likely a matter of accident ought not to have much weight, since it was the utilization of the principle that taxed the builders' powers. At the same time, however, this discovery made the whole movement dependent upon its most conspicuous feature, the use of the pointed arch. If this had not been the case, but if, for example, a more rational use had been made of the semicircular arch, matters would have stood differently. In an æsthetic sense, Romanesque architecture as a style possesses not only great beauty, but material merit as well. If, by some fortunate turn of events, it had not been so abruptly pushed aside and cut short in the midst of its development, but allowed to solve its own problems in its own and perhaps an equally satisfactory way, who knows what might not have been the outcome? It might have reached a renaissance far more germane to the races whose spiritual product it was than the Renaissance that actually took place. Instead, Gothic threw the whole development of architecture in another direction, and became the brilliant but one-sided evolution of what had previously been a well-balanced growth of inner and outer agencies.

Ground-plan.—In Gothic work the ground-plan remains only slightly changed. The scheme of the Latin cross and of the three-aisled structure, so largely favored during Romanesque time, is still the typical form, but developed and perfected. A general process of growth can be followed from the unsymmetrical ground-plan of earlier structures, where the Romanesque type is still prevalent, up to the perfection of the Gothic cathedral (Amiens), where the parts east and west of the transept easily balance, one (choir) being a little broader, the other (nave) a little longer, while the transept protrudes just far enough beyond the line of each to maintain its separate character. The possibility of being able to vault any space by means of the pointed arch, and the consequences of this method, had much influence upon the character of the ground-plan. In the nave the rectangular compartment could be applied without disturbance, the number of supports being increased, the nave made narrower, the additional breadth supplied by means of the aisles: these are continued all around the edifice and doubled in the choir which here usually has the genuine French character as its highest development. It is composed of a polygonal apse with surrounding aisles and radial chapels (*chevet*). No crypt.

¹ Continued from No. 1033, page 18.

Elevation.—The specific Gothic character is much more marked in the elevation than in the ground-plan. Some of the characteristics of the Romanesque system, such as the three stories of the nave, are retained; but the galleries, having no longer prominence as constructive parts, are now only preserved as narrow passages (triforia), giving relief to the wall and forming means of access to the upper stories and the roofs. The nave is far higher than the aisles, in fact, higher than any nave of the previous basilical structure, and of far more slender proportions. Compared with it the aisles are only low structures of one story, although a good contrast to and emphasizing the soaring character of the nave.

In the nave the system displays itself at its best, the memberment rising in huge masses but of perfect proportion and delicate finish. The pointed arch gives the structure a singular lightness of aspect, and the proximity of the supports a character of bony strength. Light pours in through the large windows and the chief wealth of decoration is concentrated here.

In the exterior the superior height of the nave is very perceptible, as it surpasses the aisles by two stories, the constructive function of the aisles being superseded by the buttresses. Towers mark the entrances and a small lantern the choir. Of the exterior these, the buttresses and the ridge of the nave are the most conspicuous parts.

M. WERGELAND.

[To be continued.]

EXPERIENCE WITH PROFIT-SHARING.

PROFIT-SHARING by workmen and capitalist alike is an ideal arrangement; it is but equitable. Until within recent years, the medium of wages was recognized as sufficiently accurate, so far as workmen were concerned. It was a ready method, and if at times of great prosperity there was barely equality in the sharing, the balance was probably made good during periods of commercial adversity. That, however, is now too simple a way for many people. It is true, the sordid, but almost inevitable, law of supply and demand has affected the old condition of the wage, being the principal factor in determining the selling-price, an arrangement which secured some uniformity in the profit. On the other hand, the increased competition, alike in buying materials and selling finished products, has involved a greater effort in labor or in skill, perhaps, also, in business acumen on the part of the employer, so that his share is, therefore, a greater and a less easily determined item. The introduction of machinery, too, has altered conditions; but, withal, there is no question that the wage of the worker has distinctly improved. We might say, in view of the return to capital in industrial companies whose accounts are made public, that the men have shared more largely in any improved result in recent years. Yet there is discontent; the men are ready to believe suggestions as to fabulous profits, and never consider the higher merits of present-day management, while the employers are anxious to raise the slight margin of profit from production alone by more efficient use of their plant; hence, the promulgation of new methods of profit-sharing, with a view to stimulate the men, if not also to promote contentment. Nothing seems simpler than the arrangement of a scheme; yet of the many who have tried, few have succeeded, and the cause of failure is not infrequently due to the very conditions which have prompted the change.

Like most novel proposals in social economies, that of profit-sharing was welcomed six or seven years ago as a panacea for all ills—for low wages, for slow and inefficient work, and thus for the increase of production from the same plant and with the same permanent charges. The experience of years is told in part by a report lately issued from the Labor Department of the Board of Trade. It can scarcely be said, after careful perusal of the report, that hopes have attained fruition. In the first place, profit-sharing, as first conceived, has been found almost impracticable, and where possible has been without appreciable result. Only the most sympathetic expected that it would be otherwise. The conditions required a mental, if not a moral, training; which the weekly or fortnightly wage did not inculcate. Reward quickly follows effort in the case of the ordinary wage; in the other it is so remote as to prove no incentive, except to the more thoughtful and energetic workman. And after a time even his enthusiasm is affected by the lack of interest of his neighbor. "To a man living from hand to mouth, the hope of receiving a reward at some distant period offered but little inducement towards higher efficiency." That is the view suggested by experience to Mr. Towne, of the Yale & Towne Company, Stamford, Conn. It was thought that this lack of interest in deferred results would be less operative in small works; but we read that in an English lead-works employing twenty persons, the system was adopted in 1893, when the bonus was 10 per cent; in 1894 it was 1.65 per cent. The basis was the same; the difference "is accounted for only by the fact that the men did not work so hard." That is the view of the firm in question. Again, in a skin-dressing factory the departments were divided, and the amount of bonus was based on the saving in production in each. Thus in "dressing," the men earned 7½ per cent, in dyeing 10 per cent, in finishing 5 per cent and in fellmongering about 8 per cent in the first year (1890). But since then no bonus has been earned. In regard to the effect of the system, the firm write that "the result was fairly satisfactory, but, in consequence of the system possibly, one department was over-

jealous at first of another's large bonus, and the indifference subsequently was rather marked."

This element of jealousy in cases where profit is credited to separate departments is most pronounced in individual work or in small groups, and is almost fatal to any scheme, for it begets the feeling that there must be unfairness in an arrangement which admits of one man earning a larger bonus than another. It is idle to offer explanations to the men, since a full statement cannot be given. The disclosure of a firm's financial affairs to the workmen would be injudicious, and this fact tends to make any profit-sharing scheme a one-sided arrangement. On the one hand, faith is commanded; on the other, a strong will against temptation. But to counterbalance this there is the still more unsatisfactory one-sided arrangement that all profit is shared, while the loss is borne by the employer. This loss may be due to many causes, even connected with the production, apart from material and selling. The skin-dressing establishment attributed the stoppage of bonus to depression in the principal market reducing production, while fixed charges remained constant, and although at one time they hoped to pay bonus, they subsequently departed from the scheme, writing, "The irregular quantity of work that had to be done, and the consequent variations in cost, have made it practically impossible to continue our scheme; since its stoppage we have found that slightly increased wages have produced as good results; the men prefer a certain sum weekly to an uncertain bonus." Instances might be multiplied to show that the division of the year's profit has had little effect in large establishments, because reward is deferred, activity and easy-working share alike, and where departments work under separate schemes jealousy assists the general disappointment.

Many who anticipated failure from such causes, and were yet satisfied that some incentive could be made to increase production, put in operation alternative schemes. The same idea of increasing production without increasing the cost proportionately underlies practically all schemes, and thus many trade unions do not look on the alternatives with any better favor. Some of these are known as gain-sharing schemes. This is not quite synonymous with profit-sharing, for there may be no profit earned, yet gain may be shared. The gain is on a standard cost of production including labor, an arbitrary fixed sum for the quantity of raw material used—probably a mean of the price for several years—incidental supplies, cost of power, water, light, cost of renewals of plant and the cost of superintendence. Immediate fluctuations in the price of material or selling may involve profit or loss. If the standard cost be 1*l.*, and the actual cost 18*s.*, the gain is 2*s.*, divided equally between employers and men. At first sight this seems a feasible scheme, and was adopted in 1887 by the Yale & Towne Manufacturing Company. It had several recommendations. In the first place, the reward was paid monthly. It was based on a liberal scale of standard costs, and was put into operation for five years, both of which were regarded as essential conditions to encourage the men to do their best, in the knowledge that a big bonus did not involve a speedy decrease of the standard cost. Moreover, standard costs were determined for such small products that individual exertion carried its own reward in most cases. The rate of dividend was from 2 to 12 per cent on the wages, while at the same time the cost of production was proportionately decreased, for half of the gain went to the employers, and the turn-out was greater, while establishment charges remained constant.

It will be at once apparent that the plan is limited in its application practically to standard productions, almost to such work as is repeated indefinitely with few alterations. Where the product is a specialty, and a man or boy is kept at one machine turning out, say, bolts or studs, it is easy to determine the standard price. But even the Yale & Towne Company, enthusiastic as they were at one time, were forced to replace the system with a well-organized piece-work system, because with groups restricted even to twenty, the want of uniform individual effort defeated the object. The chief reason, however, was that the products were of such infinitely varied character that it was found better to have a system where each man was directly interested in his work. "The men seem better satisfied with the piece-work system," and the company get "decidedly" better results than under the gain-sharing system. To quote again from Mr. Towne, "The cost of articles has been greatly reduced; but it must be stated that this is probably due to the fact that piece-work has taken the place of day-work, and that the dropping of gain-sharing has made but little difference one way or the other." The point is that piece-work is more effective and more acceptable to the men than gain-sharing.

Another variation to the same end was adopted by Mr. F. A. Halsey in Canadian works for the manufacture of rock-drills, air-compressors and general mining-machinery. In this system the time required to do a given piece of work is determined from previous experience, and the workman, in addition to his usual daily wages, is offered a premium for every hour by which he reduces the time for the same work. As the premium is less than the wage for the additional hour's work, there is economy. Thus, if a piece of work which formerly required ten hours at 8*d.* per hour wage were done in nine hours, the wage is 8*d.* less, while the premium to workmen may be 2½*d.*, the saving to the employer being 5½*d.* The rate of premium, decided upon judiciously, is made permanent for a period. Mr. Halsey's premiums are uniform—2½*d.* for each hour saved by a man, whose average wage is 8½*d.* per hour, and 1½*d.* to boys,

whose wage is 34d. per hour. It will be seen that the quicker the work is done, the higher will be the aggregate premium. If the nine-hour job takes six hours, the premium becomes 74d., the saving to the employer being about 1s. 6d. There is further gain to the employer in the greater production from the plant and for the fixed charges. Mr. Halsey used the scheme for three years and in three establishments, and is satisfied of its efficiency; but he readily admits that the conditions made for success. All the work done in the factory was repetition work, and was done single-handed, with one man only on each premium job. He believes, however, that it might be applied where small groups were engaged on one job, but the premiums would require to be higher, since the group-work does not afford "opportunities for the cultivation of individual dexterity on individual operations." This is the old evil, and with experience to the contrary, it is difficult to share Mr. Halsey's belief in efficacy, more especially as he himself did not apply the scheme to work of a miscellaneous character. The average increase of output was from 25 to 35 per cent, and the proportion of premiums was such as to make the increased earnings for the workman rather less than one-half of the savings to the company. Several others have tried the system, some failing because the time-rate was too high and the premium-rate low. But the application has been, and must be, limited to machine-shop work of small size and uniform products.

The report with which we are more particularly dealing also describes the results of Messrs. Willans & Robinson's reference-rate system, and also the Thames Iron-Works' good-fellowship scheme. In the case of the former company, the system was evolved out of the practice of paying the three directors actively engaged in the business three-tenths of the profits after 7 per cent had been paid on the ordinary capital of the company, and giving the works' manager and foreman of the erecting shop a bonus on the "gain" over the cost of each engine. In the latter case, a fine was enacted for delay in the completion of the work, a week's delay absorbing all the bonus. The system adopted now with the men is not unlike that already described in connection with other works. The labor cost of a job is calculated as the "reference rate," and is fixed for a period of years. If the amount earned as time wages (including over-time pay) in respect of this job falls below the "reference rate," then the difference is divided equally between the employers and the workmen, or the group of workmen, engaged on the job. The reference rate, as a rule, is fixed at from 5 to 10 per cent above the former average cost, so that if only normal activity be shown, the employers lose; their gain only begins when the men have earned 11.11 per cent of profit. If the men take 25 per cent less time they earn 18.75 per cent more wage per hour by reason of the bonus, while the decrease in the cost of the job to the employer is 5 per cent. In no case is the workman paid less than ordinary time wage, and should the workmen by invention improve the machine tools in the works, the reference rate is not reduced, but the introduction of new machinery and improved appliances by the owners calls for revision.

Since Messrs. Willans & Robinson confine themselves chiefly to repeat work, the conditions being almost ideal for such a system. They have standard types of engines, similar in design, with tools specially adapted for completing one operation or one part of the engine, so that in large measure the work is single-handed, and the simplicity enables them to divide the bonus weekly. Moreover, they have the greater latitude in respect that they have not to face a "cut-throat competition," as the Board of Trade Report forcibly, although inelegantly, puts it. Of their two hundred and fifty-seven workmen, one hundred and thirty-five are this year reported as earning bonus in the shops, and twenty-one on the permanent outside staff erecting engines, etc. This proportion has not differed in five years, for in 1891 it was one hundred and fifteen out of two hundred and thirteen. The system is therefore applicable to only a portion of the work, and it is interesting to quote the company's reason—that "there must always be a considerable portion of non-standard work." If that is so here, how much more so must it be in a general engineering work. In 1894 the men working on the bonus system had 10,579l. odd of wages and 1,597l. of bonus = 14.93 per cent, while the outside men had 1,957l. of wages and 117l. of bonus = 5.99 per cent. There was great variation between maximum and minimum percentage earned by individuals: in the case of the turners, from 82 to 10; pattern-makers, 57 to 6; machinists, 37 to 6; fitters, 14 to 2.75; grinders, 13 to 5.50. Of course this percentage is affected by the proportion of time engaged by individual workmen on bonus work, and here one recognizes possibilities of discontent. Only very small groups are put on bonus work, and in the foundry where the forty men work in a group, the scheme has not been successful. The reference rate was the former labor-cost plus 10 per cent, but the works' manager states that the group arrangement is "ill-calculated to promote that special efficiency which it is the object of the bonus scheme to evoke, since, while the less industrious among the members of this large group leave it to their more active mates to exhibit any special degree of efficiency, those more vigorous workmen do not care to put forth their best energies with the knowledge that their own extra zeal is likely to be, to a great extent, neutralized by the inactivity of their fellow-workers." The system is not adopted in the erecting shop; and outside, where also squad work is the rule, the gain, as we have shown, is only 6 per cent. There is profit to the employers, for Willans & Robinson quote typical examples of decreasing cost of standard articles, the 1894 cost being in some cases 15 per cent less, although in others the same as in 1891, while

they report that the system has tended to promote harmony between employers and employed, and to the exhibition of extra zeal.

This also is the end in the case of the Thames Iron-Works' scheme, which is more important, since the application is to miscellaneous work. It is called a "good-fellowship" scheme; but it is difficult to quite appreciate the difference in general principles from ordinary piece-work. When a contract is entered upon, labor values and sub-labor values are calculated by employers, foremen and workmen. For instance, in making labor valves a valve forms one unit, so also the turning, facing, screwing and fitting of a scuttle. The labor value of a bulkhead door is one item. In the civil-engineering department, the labor value of plating is so much a ton; in ship-building there is one labor value for levelling, another for marking, templating, punching, rolling, erecting and sometimes also closing. The men are arranged in fellowship groups varying in size from two to a dozen men, and a group may accept the job at the labor value, or refuse. Having accepted, they get the full labor value, whether or not they are required to work the number of hours assumed in determining the labor value. That is to say, if a ten-hours' job is done in eight, the men have the ten-hours' pay, the gain to the employer being in the better return for plant.

The first difference from the piece-work system is that the men never get less than time wage. Again, in the distribution of the bonus, there is the suggestion of piece-work practice. The men forming a fellowship group may be earning a bonus individually, but they do not receive it all. Originally the work of all the men in a fellowship group was pooled, and was equally divided. The objections are obvious, and in order to remove the defects it was decided that a balance should be struck between the profits and loss of the individuals composing the fellowship group; the net balance of profit, if any, was divided no longer between all the members of the group, but exclusively among the "fortunate," on whose work a profit was earned; but the deduction in respect of losses by some of the members of the group are recouped, when, if ever, those other members make a gain. The company subsequently recognized that the loss by some individuals might be due to less advantageous work, or to the work being performed under special circumstances of discomfort and difficulty, and they determined that the loss should not be cumulative. Probably men who had a run of ill-luck felt the burden too great and resigned, so that the "fortunate" were never recouped. A change was made at the beginning of this year. Only one-half of the profit earned by individual workers is given to them, the other half is pooled, being divided amongst profitable and unprofitable workers alike, as well as among laborers assisting the mechanics in the fellowship group. Mr. Hill says, "the individualist and socialist forces are thus placed in exact equilibrium." But the question comes to be, How long will the individualist help to maintain the balance at his own expense? That remains to be seen. Most workmen do not mind being socialists, provided there is gain, but will refuse being individualists at a personal loss.

There is in the report a wealth of detailed results as to the profits, etc., in connection with the Thames Iron-Works' scheme; but into these we do not care to enter in the meantime. The bonus of the past five years has been equal to 3.22, 6.83, 4.92, 4.27 and 5.68 per cent, respectively. In ship-building it has usually been highest, 6 to 8 per cent; in engineering it was 6.49 in the first year, but has never since exceeded 3.66; in civil-engineering, from 3 to 4 per cent; and in the dry-dock work, 5½ per cent. Moreover, Mr. Hill considers that it has sweetened the relations between employer and employed. That is the most important desideratum; but we do not know that a fair piece-work system would not attain the same result, with less expenditure for book-keeping, etc., and with higher economy in production generally. The Thames Company make no secret of the conviction that it is desirable to make the groups as small as possible.

A piece-work system, to be fair, should be reasonably liberal and, where possible, rates should be permanent over a period of years. No more effective cause of discontent can be suggested than the reduction of piece-work rates as a sequence to the earning of big wages. Such is often practised by the over-zealous foreman, sometimes without the knowledge of the employer, although we fear at other times with his tacit approval. This is especially so with squad piece-work, and it has resulted in extraordinary effort being required for little more than "time-and-quarter" wage. We are satisfied that in ordinary cases where a fair contract rate is offered as the equivalent to the standard cost, the reference rate, or the good-fellowship scale, piece-workers will attain for employers the same degree of efficiency as with any gain-sharing scheme. Careless work but indicates too often the lessening of rates of remuneration. And as for the drones in the hive, the piece-worker will as quickly get rid of him as did the good-fellowship worker at the Thames Iron-Works, where three hundred or four hundred were discharged in a few months at the request of "the fellowships." Moreover, there is no great objection to the drones ultimately uniting together as a squad. The other advantage of profit-sharing in the direction of ingenuity can readily be covered by awards for inventions, an arrangement which readily appeals directly to most men, while the detection of flagrant waste of material is the duty of the foreman. Like the workman, he need have no special incentive to duty, although the steadily growing practice of presenting a *douceur* at the end of the year, which may or may not be in proportion of the year's profit, is commendable and a special incentive. But, for this *douceur*, let there be no nibbling at piece-work contract prices.—*Engineering*.



THE NEW CATHEDRAL.—THE MEMORIAL TO THE EMPEROR WILLIAM I.

IN my last notes I said I would give particulars of some further new monumental works in hand at Berlin. In the first place I will now speak of the new Cathedral, the designs for which have been in the hands of various architects for quite a century, and are at last being carried out after revised drawings from a scheme by Professor Roschdorff; by the courtesy of this architect, I give a plan and a photograph from the original drawings of his elevation [See Illustrations], and would here at once mention that the Cathedral, as such, practically consists of (1) a cathedral church, (2) a marriage chapel, and (3) a mausoleum for the Hohenzollern family.

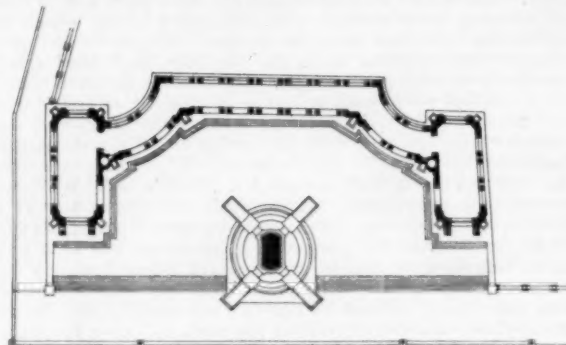
The design is the one finally approved and its execution will cost two-and-a-quarter million dollars. The plan is taken from the actual working-drawings. There are some discrepancies between the plan on the one hand and the elevation and section on the other, due to the alteration of some parts of the design. These alterations, however, principally affect the shape of the chapels to the northwest front and the apse to the northeast.

The main part of the Cathedral measures 270 feet in length. The cross is about 330 feet above the pavement. On passing up the flight of steps to the main entrance of the Cathedral, there will be a fine aspect to the right and left of the great porch, as there is little doubt that the broad passage which runs along the front of the block and is so well lighted will be very effective, the more so if full advantage be taken of a good color-study on this, the sunny side. Three doors open from the main entrance proper and a few steps take one across a somewhat low vestibule to the space under the dome. The height of the porch is 68 feet, the vestibule is 20 feet high, and the dome (taken at the foot of the lantern) 240 feet. The effect of these sudden contrasts will be somewhat startling, though we fully recognize the difficulties which have beset the architect in fulfilling the requirements laid on him.

One of these was an order that the Royal seats should be exactly opposite the altar. These seats have been placed over the afore-said vestibule: they could not well have been placed at a higher level. It is under the dome that the services will be held, i. e., it is this part of the building which is to serve as the "Cathedral Church" proper. The orientation of the altar is exactly northeast, and the pulpit stands exactly to the east. There will be seats for a congregation of fourteen hundred and eighty on the floor, and, besides, there will be a gallery to the southeast—if we may call it so—for another hundred and twenty, besides the choir gallery to the northwest for two hundred; the court seats, to which we referred above, for seventy, and the galleries in the three niches reserved respectively for the ministers, the diplomatic corps and the clergy, with forty seats each. The total seating accommodation is, hence, nineteen hundred and ninety, which on extraordinary occasions could easily be increased to three thousand,

while at state functions, when the majority would stand, room could be found for quite five thousand without crushing.

The chief dimensions of the Cathedral Church are 170 feet from the main-entrance doors to the back of the altar, and 100 feet for the interior diameter of the dome. Light enters at eight sides through



Plan of the National Monument, Berlin.

large windows between the two entablatures, and smaller ones at the base of the dome. Some light will also enter through the lantern. The only offices in connection with the Cathedral Church proper consist of a vestry and a waiting-room on either side of the altar, each of which have their own entrance and lobby from the northeast front.

As regards means of exit and ingress, the plan shows there will be a sufficient number. There will also be ample communication with the galleries, five staircases having been provided for this purpose. One of them is reserved for the Court. Members of the Court

intending to use the Royal seats have a special carriage approach at the southeast end of the long passage on the main front. There is a separate lobby for their use and a lift has been provided. The other south staircase is reserved for the Diplomatic Corps. The approach to this staircase can be easily cut off when requisite, and the whole of this Court and Diplomatic corner kept private if the occasion requires it. The Ministers of State will use the west staircase, while the clergy will share the east staircase with part of the congregation (probably Court officials) which is to have seats in the southeast gallery. The choir has its own staircase at the north corner. The two last-named staircases, which are approached from lobbies on the northeast front, also lead to the confirmation and classrooms, which are on the same level as the galleries, and to the offices of the secretaries and treasurers to the chapter.

To the northwest of the dome the design shows the proposed

memorial church, which, with its crypt, is to form a kind of *campo santo*, in which memorial and other services can be held on special occasions. Though this part of the building has its own approach from the outside—at the northwest corner of the main front—its principal entrance will practically be from the Cathedral Church through three doors on the northeast. The plan here explains itself, the ring of side-lighted chapels, if we may call them so, giving



Central Feature of the National Monument, Berlin. Herr Begas, Sculptor.

excellent opportunities for placing the memorials, while the top-lighted central part remains free for the services. As will be seen, a staircase is to give easy access to the crypt, which will be a very extensive one, including, as it does, the space under the dome. The crypt will be tolerably well ventilated, and the part under the Memorial Church even fairly lighted from an area running round the northeast side of the block. The height of the crypt averages, from floor to vault, 16 feet.

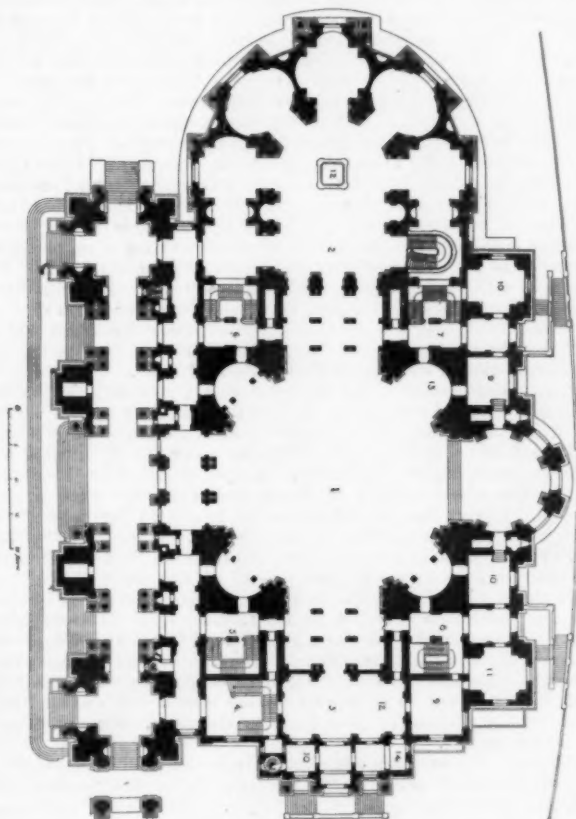
The baptistery, required both for ordinary christening and marriage ceremonies, has been given a place on the southeast front facing the Royal Castle. It is practically an entirely independent part of the building, with its own approach, entrances, lobbies and sacristies, though it can also easily be reached from the Cathedral Church proper by three doors and from the Royal entrance and staircase by a fourth. The altar has its orientation due northeast, and there will be sufficient seating accommodation for a congregation of one hundred and sixty. The dimensions of the baptistery are 30 feet by 65 feet. The lighting will be partly from the top and partly from the side. A winding staircase leads to a small gallery opposite the altar.

As to the actual architectural treatment, both of the façades and the interior, one may say that though academically correct from the

an interesting piece of work and I will attempt to describe it. Herr Begas is the sculptor and Herr Halmhuber acts as architect. I add a plan and a photograph from the model, which have kindly been put at my disposal.

The position of Herr Begas's monument is on the Schlossfreiheit near the river Spree. The statue itself shows the deceased Emperor on a charger which is led by an allegorical figure of "Victory." The pedestal, which is decorated with symbolical reliefs, has four lions at either corner, while figures representing "Peace" and "War" take up positions at the foot of the pedestal proper. The figures will be all in bronze but the pedestal will be of granite. The height of statue and pedestal together is 22 metres, or 72 feet. The distance between pedestal and the castle opposite is 35 metres or 115 feet. The entablature of the castle is about 28 metres or 92 feet above the road-level, while the cupola, which is just over the main entrance opposite the monument, is 65 metres, or 213 feet high.

As to the colonnade, there is little to say except that good positions have been arranged for the statues, or busts, of contemporary statesmen and generals. There is much symbolical sculptural decoration, the two quadrigas indicating North and South Germany. The work will be of freestone on a granite base, picked out with bronze and the busts and statues will be of bronze. The cost of the monument, complete, was originally estimated at £400,000, but Parliament has decided that not more than £200,000 is to be spent on the gratification of the Emperor's wish. We understand much of the sculptural decoration on the arcade will have to be omitted, or its completion, at least, postponed, until the country's representatives are more ready to spend the extra thousands.



Plan of the Cathedral.

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| 1. Cathedral Church. | 6. Staircase for the Ministers. | 10. Waiting-room. |
| 2. Memorial Church. | 7. Staircase for the Choir. | 11. Beddie. |
| 3. Baptistery. | 8. Staircase for the Clergy and Court Officials. | 12. Altar. |
| 4. Staircase for the Court. | 9. Vestry. | 13. Pulpit. |
| 5. Staircase for the Diplomatic Corps. | | 14. Font. |

German point-of-view, it will probably find but few admirers in this country. The younger generation of architects abroad call the building an encyclopedia of Italian Renaissance architecture and only wish its different parts to be labelled. This is somewhat hard on Herr Roschdorff, though there is little doubt that parts of the design have been most carefully compiled from standard works. It is just this compiled work which is, however, the essence of what is termed the "Berlin School."

As to the materials, we understand that the Cathedral will be of brick, faced throughout with national freestone. The extent of the sculptural and fresco decoration depends on the actual cost of covering the building.

I have, perhaps, gone rather too much into detail as to the Cathedral, in comparison with other works, but I consider I am entitled to do this, owing to the interesting requirements which have been imposed on the architect and the unusual programme of his work. I will only now add that the contractors are making rapid progress, and the architect hopes to have the building finished by 1900.

Of monuments which are being pushed forward rapidly, I must next mention the national monument to Emperor William at Berlin, which is, however, scarcely the Pantheon which the admirers of the deceased monarch had hoped to have as a memorial. It is, however,



THE PAST YEAR'S WORK.—THE LATEST HIGH BUILDINGS.—INSTITUTIONS FOR MECHANICAL TRAINING.—THE KENWOOD CLUB-HOUSE.—ST. ALPHONSUS.—MUNICIPAL STATISTICS.—THE DRAINAGE CANAL.—THE CITY-HALL QUESTION.—A NEW AND COSTLY BUILDING CONDEMNED.—THE STRENGTH OF FIRE-HOSE.—HONORS TO CHICAGO ARTISTS.

ANOTHER year is ended; again we write a strange figure for the last one of our date; again we look back over the finished year and its work, and once more we look forward and speculate on how much of business activity will be found in the new twelve months. Viewing it from a most optimistic point-of-view this has not been a year of architectural activity, as compared with previous seasons. Several large buildings are now nearing completion and these cause the total amount of money expended in building operations in ninety-five to be larger than in previous years, while the total amount of frontage used shows a decrease this year over that of the preceding one. In a review of the work of the year, published in one of the daily papers and written by one of our well-known architects, the statement is well put that "An architect who takes the artistic side of his profession seriously can hardly be expected to be enthusiastic over the output of the year. It is to be hoped that the great mass of the hopelessly commonplace houses and flats and the like that have been added to our streets, already plethoric of mediocrity, atone in some measure for their artistic shortcomings by the possession of decided merits in soundness of construction, abundance of light and air, and in that which conduces to health and comfort."

One of the largest structures now in process of erection is the Fisher Building. It will be eighteen stories and basement high, and its cost is reputed to be in the neighborhood of six hundred thousand dollars. The material will be semi-glazed terra-cotta, of a yellowish shade, the style of the building being French Gothic. The building has one hundred feet on Dearborn Street, and a little less than that on Van Buren Street, and in construction and finish will be that of the first-class modern office-building. The main entrance will be at the extreme north of the building on Dearborn Street. This was one of the buildings a permit for which was taken out before the present building ordinance limited the height to one hundred and thirty feet, as it has eighteen stories and a height of two hundred and thirty-five feet, thanks to its permit being taken out in 1891. The rapidity with which this building has been erected has made it a noticeable one to every one who has come into its neighborhood. In just thirty days these eighteen steel stories raised their skeleton on high, the work being commenced October 12th and in November of the same date a flag was flying from the highest point which the building was to reach—two stories higher than the Monadnock, and one story above the Old Colony, its two highest neighbors. It has the same height as the Masonic Temple. Of course, the work accomplished in this short month does not include any of the foundation work, which was completed last August, when work was then delayed six weeks waiting for the structural iron.

The addition to the Great Northern Hotel, before spoken of as another one of these structures of excessive height, and one over

which there was a considerable amount of discussion between the owners and architects on one side and the city building authorities on the other, is now well under way, and, if reports are true, will be as nearly a fireproof building as it is possible to make it. The new portion will extend one hundred feet east of the older part from Jackson to Quincy Streets. On the Jackson Street side the portion given up to offices will be built, while the hotel addition will be on Quincy Street, and the hotel will be left in the centre between the two. Both the office portion and the addition to the hotel will have sixteen stories, making them two stories higher than the present hotel. The stories will be kept on a level with it, however, and there will be connections between the two. Elaborately finished entrances to the theatre will be both on Jackson and Quincy Streets. Three balconies, a large stage and a seating capacity of two thousand, are some of the chief characteristics of the theatre. Retiring-rooms for the women and smoking-rooms for the men are planned at each side of the foyer. As part of the fireproof characteristics of the building, the drops on the stage will be on steel rollers and much of the scenery will be of asbestos.

The Studebaker Building, on Wabash Avenue, is one of the buildings which comes into the list of structures for ninety-five. This is now nearing completion, and is noted for unusual and interesting features in its manner of construction.

Another of the soon-to-be-finished structures of this recently finished year is the Davies Building, on Dearborn Street, while the Atwood Building is still another huge structure of ninety-five. The Davies is twelve stories high, which is an increase over the usual number of stories planned in the 130 feet, ten being the ordinary number. The lower three stories are of cut-stone, brick and terracotta of light color being used above. Two bays rise from the third story upward, and at their base, which is of cut-stone, two huge figures of Hercules are apparently to support the weight. There certainly is in this innovation great possibilities, for something sublime, or — that other quality, said to be but one step from it.

The Atwood Building was originally planned for a thirteen-story structure, but the existing building ordinance reduced it to ten.

One of the buildings of a semi-public character is that of the Lewis Institute on the West Side. This structure is the outcome of the will of the late Allan C. Lewis, who left \$1,000,000 for the erection and maintenance of a building where boys could receive the education of a practical mechanic. This brings up the number of such institutions in our city to fair proportions, as we already have in flourishing condition the Jewish Manual Training School, the Armour Institute and the Chicago Manual Training School.

Another building of this semi-public character is the home of the Kenwood Club in the southern part of the city, while in the opposite direction, in the northwest section a new Catholic church, of rather unusual size and dignity, is the work of the passed year.

The Kenwood Club-house is a fine large Colonial mansion, overlooking a shaded lawn, its material being the dark rough brick made in Massachusetts. On the east side of the building a wide porch extends the entire length, while on the west side the building comes within a few feet of the sidewalk. On the other side the entrances to the house are situated, the building on this side coming to within a few feet of the sidewalk. A rather imposing door and gateway open into the main hall, while a lesser one gives access to the ball-room, dressing-rooms, etc., so at the time of evening parties, this part can, if desired, be entirely shut off from the rest of the building, leaving the library and such rooms in undisturbed quiet. Apparently, if all reports be true, it is this same ball-room which is the *pièce de résistance* of the whole creation. A marble floor, fifty by eighty feet, is surrounded by a row of well-proportioned columns, whose fluted shafts separate from the main floor a row of comfortable seats. This not only beautifies the hall, but also the positions of wall-flower and chaperone. Windows on three sides and a stained-glass skylight light the room in daytime, while rows of incandescent lights on the ceiling, separate lights on the columns and lights behind the skylight are one of the features of the room in the evening. The heating of the room is by a system of indirect radiation by which the heated air is admitted into the hall at a height of ten feet from the floor. A well-appointed stage occupies the south end of the room, whose seating-capacity can, as occasion demands it, be increased by opening very wide folding-doors into the main hall. In this way, it is said, six hundred people can be accommodated. The building possesses much extremely good and interesting detail, and is really one of the most satisfactory constructions from an artistic standpoint erected during the passed year. That it should be so harmonious is rather a source of surprise, since three architects are reported to have been associated in the designing of the building.

It is a curious fact that very often in elaborate and minute accounts of these buildings, given in the daily papers, which are not ordinarily sensitive about mentioning names, absolutely no mention is made of the architect. Of late years, members of this profession have received far more recognition than heretofore, but in the case of a club-house, with a list of the officers of the club, its prominent members and an enthusiastic and detailed account of its new home, no mention is made of the creator of the work which is being admired. How likely would a musical critic be to give an account of some fine musical composition and fail to mention the name of the composer, unless to mention it would be a twice-told tale; and what would be thought of an art critic, who forgot to mention the name of the artist whose picture he was either praising or condemning?

It looks as if the time were a long way off before architecture would receive its proper recognition along with the kindred arts of music, and painting and sculpture.

Saint Alphonsus Church, the German Catholic one above mentioned, is a very fair example of the Gothic style as used in Germany to-day. One feature, an unusual one in this country, is the raised grand steps or platform from which opens the nave and side entrances. The church, which is a large one and in fairly good style, would have a good deal of dignity without such surroundings, but it certainly does gain much from it. The height of its main tower is nearly 250 feet, and it is of good proportions. With the object of economy, so often practised in this country, the front of the edifice is of buff Bedford stone, while the sides and back are of brick. Fortunately it is no one but Satan who is told to get behind us, and from the frequent practice of building only the front of a church of stone, one would think that the God to whose glory it was erected was not expected to look around the corner. The custom of building well as far as they go, even if apse and tower and terrace have to wait, say, even for a century, does not prevail in this country as in the old, and even when the exterior of a church has some dignity it is seldom that the interior realizes the expectations held out by outside impressions.

In glancing over the annual reports which come from the various municipal departments of our great city, some rather interesting facts are brought to light. There has been pumped during this year of 1895, for this very dirty Chicago, 91,798,813.554 gallons of water, over 300,000 feet of water-pipe have been laid, and 4,629 miles of sidewalk of various kinds have been put down. Forty-six miles of paving at a cost of over a \$1,500,000 have been accomplished, while from the Engineering Department comes the report of a tunnel into the Lake from Lake View being practically completed. Over 1,300 feet have been built during the year of a seven-foot tunnel connecting with the Chicago Avenue pumping-works; a good start has been made on a new land-tunnel which will furnish water to the northwestern portion of the city, and work which will mean an outlay of \$90,000 has been accomplished on the outer Hyde Park crib. By the Bridge Department three new bridges and one new viaduct have been nearly completed, and plans have been drawn for a new viaduct at Wells Street over the tracks of the Northwestern railroad, which will conform with the remodelling of the Wells Street bridge for the accommodation of the Northwestern Elevated Road.

Among engineering circles the great work here is still that on the Drainage Canal, before mentioned in these letters; a work which, when completed, will turn our sewage away from the Lake to run westward, mingled with Lake Michigan water till it reaches the river system at our west and south. A short extract from the annual report shows the amount of money expended and work accomplished. During the year of ninety-five nearly 80 per cent of the work of digging the canal has been completed. At present \$18,879,392.02 have been expended, \$7,400,752.34 being used in the work of last year. At present the estimate of the entire cost of the main channel is \$28,000,000. In excavating glacial drift the number of cubic yards this year has been 7,475,600, while 5,130,000 cubic yards of solid rock have been removed. During the last month at four o'clock in the morning one of the huge dynamite magazines, through carelessness on the part of some of the employés, exploded, and the shock was so great as to shake houses and awaken their inmates at a distance of 40 miles from the place. Strange to say, no lives were lost.

Although this has been considered a year of financial depression, still the revival of activity among certain classes and trades would indicate better prospects for the future. Last year's real-estate transfers show an improvement over the preceding years to the amount of \$12,000,000. In architects' offices the feeling is generally that the tide has turned and brighter times are coming than those which have just passed by in the last year, or year and a half. While no unusual activity is felt in building circles, still the outlook for the future is more hopeful and better times seem to be expected.

Among the schemes for the future, that of erecting a new city-hall is still present, and talked and written of. The people of the West Side are trying to persuade themselves and the public that Union Park, a small West-side pleasure-ground, is in the centre of the city, and that of all places this would be the most suitable site for the new city-hall. Maps are drawn showing the relative position of Union Park to the rest of the city, in which the down-town streets are drawn with Chinese accuracy, while many of the streets in the western part of the city have a certain Whistler suggestion in their uncertain mistiness. It will only be after a long and hard struggle that this matter will be decided, and if ninety-six sees any final decision, the matter will have been accomplished with quickness and dispatch.

A large tract of land in the southern part of the city, known as that of the old Douglas University has just been sold and will be the site of forty-four houses. If reports be true, this group will be a veritable congress for the study of all manner of styles of architecture, for the Classic and Gothic of all nations, not to mention similar attacks of Renaissance, will disport themselves on this once barren prairie.

One large office-building is also reported as about to be erected in the down-town district, this on the site of the old Grand Pacific Hotel, while several smaller structures of a similar character are upon the boards in some of the prominent architects' offices.

Though these buildings will, doubtless, some of them, be built to carry more stories than is at present permissible, the ordinance limiting their height to 130 feet being now in full sway.

At the December meeting of the Illinois Chapter of the American Institute, the subject of this ordinance was taken up and the report of the standing committee on this topic, which advocated the 160-foot limit for the height of fireproof buildings, was listened to. Probably the subject will be again brought forward in the January meeting; if so, the City Building Commission as well as representatives from the Chicago Real-estate Board and the Chicago Underwriters' Association will be asked to be present.

Some of the members favored the testing of the legality of the ordinance, if peaceable means failed to secure its repeal, and the wisdom of it was thoroughly agitated by many of the members present. By putting such a limit to expensive fireproof buildings, it was alleged that as paying investments they were not a success, and that a stop was put to the erection of such buildings, while, as a result of this, many old and insecure structures were remodelled and enlarged, the probable consequences resulting from this act being disastrous fires in the future.

The Chapter has also taken up the subject of uniform contract for the State, which was abandoned by the Institute, as a whole, at the St. Louis meeting. The committee on this subject promises to report something in the near future.

The City Building Department has taken a positive stand about one building during the last month. A certain structure known as the de Tamble has recently been finished on the West Side at a cost of nearly \$100,000. It remained for one of the tenants to discover that something was "queer" with one of the walls, and upon investigation it was discovered that the west wall was 14½ inches out of plumb. Notice was given to the tenants to vacate the place and the entire building was condemned as unsafe. The explanation of this unusual state of things is, according to the architect who was called in consultation in the case, that the foundations of the big building were laid in freezing weather. He further says, "As soon as the weight began to make itself felt, the concrete

"squashed" out, and the wall began to lean. It is evident, and entirely probable, that as soon as the lean in the wall was noticed an attempt was made to correct it by building the wall back in the other direction — an act of folly, to say nothing worse of the matter. This made the wall curve. If it had been found that the building-back process had gone too far, it would have been necessary to build the other way again, and then one side of the structure would have looked like a letter S, though much modified.

"We shall be obliged to take down the building as far as the second floor on one side, and as far as the first on the other. We have already reinforced the foundations with concrete and steel beams, and they are strong enough to bear much more than the weight which they will be called upon to sustain.

"The material in the building is new and can be used again, but the cost of taking it down and rebuilding will be \$30,000, not including the loss of rentals.

"The building from basement to roof has been fitted with cribs, which consist of great beams put together like a square log-house. These cribs, extending along the sides of the structure on each floor, practically take the place of walls and, with the great wooden braces which have been put in, do away with the danger of a collapse while the work is in progress."

Two disastrous fires have occurred during the last month (one of

them with a deplorable loss of life), which have given rise to the usual unsatisfactory investigation on the part of the City Fire Department as to the cause, and subsequently a fire-test was made on the Masonic Temple, one of the highest buildings in town, by the City Fire Department. To Chief Sweeney the experiment proved that they could get a stream of water at the top of the highest buildings, provided all the stand-pipes were in perfect order, as with a slight leak in the pipe at the Masonic Temple they were able to get but a small supply of water. Whether it would be possible to carry a load of hose sufficient to fight a fire as far up as the Masonic Temple roof seems to awaken questions of doubt in the minds of some of the men conducting the test. The Superintendent of the fire-patrol, however, in an interview, expressed himself as satisfied with the result of the experiment. "I regard the experiment as perfectly satisfactory. The leak in the stand-pipe joint below the first landing of escape was caused by the bend in the pipe, and was only a very slight one. In the event of a fire such a leak would cut no figure. These stand-pipes are examined in the course of the regular

inspection of the buildings by the officers of the Fire Department, valves and connections being tested, and any serious defect would be soon discovered. Fire-hose is supposed to be able to stand a pressure of 800 pounds, but I do not recall any case where it has been fairly tested at a height of more than 125 feet. There was a small fire in the Great Northern Hotel some time ago when a hose was carried to the roof, which must be 200 feet high, but the pressure was so small that you couldn't really tell anything about it. These high buildings are all right for office purposes, and I don't expect ever to see any trouble from fire in them, but when they are filled with merchandise, which will generate a great heat, it is a totally different thing. The heat in these cases is so intense that the tiles get red-hot, and, when water is thrown on them, just crumble to pieces."

In the early part of December, the Chicago Architectural Club held its annual competition for the Robert Clark prize. Mr. Robert Clark, a prominent iron contractor, wishing to do something for the encouragement of architectural students, placed \$1,000 in the hands

of a number of prominent architects, that it might be devoted to some series of prizes. They ultimately put it in the hands of trustees with the understanding that the interest from it should be devoted to the purchase of five medals, one gold, one silver and three bronze, competition to be made under the auspices of the Chicago Architectural Club. This was in 1888, and the Club competition has now become quite an event of interest among architectural students, not only in our own city, but east and west of us as well. The problem this year was that "A man, wishing to share his large and valuable collection of paintings, statuary and architectural fragments with his townsmen, has decided to place them in a building which he proposes to erect for the study of architecture, painting and sculpture. The building is to face the town square and is not to be more than 150 feet in its greatest dimensions. It shall consist of one story and a high basement." These were the chief conditions.

Thirty-two sets of drawings were submitted, of which one from Boston took the gold medal, a set from Lynn, Mass., the silver, and one from Buffalo the bronze. The two other bronze medals and the honorable mentions were captured by Chicago men. A set of drawings from Brooklyn, owing to some mistake in delivery, arrived too late to enter the competition, which was much to be regretted, as they were full of merit.



Interior: "Katonah's Wood," House of Clarence Whitman, Esq., Katonah, N. Y. Lamb & Rich, Architects.

Twice within a month a Chicago artist has received recognition from the world of art not centered in his own town. Mr. Walter McEwen, whose work has made his name well known throughout the breadth of our country, as well as in the galleries abroad, has with the beginning of the new year received the red ribbon of the Legion of Honor, from France. Upon Melchers and MacMonnies the same honor was bestowed last year. Mr. McEwen has left Chicago for Paris, but will stop in Washington on his way there to attend to the final arrangements for some decorative work of his in the new Congressional Library.

The other recognition of a Chicago artist comes through the Peabody Institute, in awarding the Roman Scholarship to Herman Atkins MacNeil, a young Chicago sculptor. Mr. MacNeil, unlike Mr. MacEwen, is not a native Chicagoan, but much of his best work has been done here. He was born in Chelsea, Mass., beginning his studies in the Massachusetts Normal Art School. After trying his hand at mechanical draughting and painting, he found that the work of the sculptor was the thing which attracted him the most, and like many another American artist, turned his face towards Paris. After returning to America in 1891 he was fortunate enough to be able to work in with Martiny in his excellent World's Fair work. This brought Mr. MacNeil to Chicago. The large figure of Electricity in the Electricity Building at the Fair, and the four large panels in the entrance to the Marquette Building are perhaps some of his largest and best-known works. He has done some excellent things for which he has taken the American Indian for model.

The Prix de Rome includes a studio and other accommodations in the Villa Ludovici in the City of the Cæsars, "and an allowance from the Rinehart fund of \$1,100 a year for expenses, personal and professional, including the cost of passage to Europe during the first year of holding the prize."

This is the first Roman Scholarship ever bestowed in America and is founded by Mr. Rinehart, of Baltimore, a sculptor of the early American School. Coming, as it did, from a jury composed of Augustus St. Gaudens, J. Q. A. Ward, Daniel C. French, Charles F. McKim and a Baltimore art connoisseur, Mr. Walter, it was in the mere judging a delight and honor.

Among the losses which Chicago has suffered this year in artistic and architectural circles should be counted the death of Mr. C. B. Atwood. It is a source of regret to all Chicagoans that no more work will stand in their midst from the skilful hands which planned the Art Palace and some of the finest creations in our wonderland of ninety-three.

THE SECRETARY OF THE TREASURY ON PUBLIC BUILDINGS.

SECRETARY CARLISLE has made the following response to a resolution of inquiry, adopted by the Senate December 5, in regard to the delay in erecting a certain public building in Oregon, which covers the whole ground as to the delay in constructing public buildings all over the country. The Secretary says:

"At the date of the convening of the 51st Congress (the Congress which has authorized the public building at Portland, Or.), there were upon the books of this Department appropriations for 163 public buildings, all of which were in various stages of construction. That same Congress authorized the construction of seventy additional public buildings, and provided for the extension of seven marine hospitals, at an aggregate limit of cost of \$12,916,890.77. The 52d and 53d Congresses authorized, altogether, the construction of twelve additional public buildings, and improvements to five marine hospitals and other structures at a limit of cost of \$5,843,000, making an aggregate of ninety-four buildings authorized to be constructed and improved at a cost of \$18,759,890.77, which, in addition to the 163 buildings above referred to, make a total of 257 buildings upon which construction operations have been in progress since December, 1889, of which number there are at this time twenty-five buildings for which no drawings have been prepared.

"It has been the general practice of the department to begin work upon the various public buildings in the order of their authorization by Congress, and under this practice there remain six buildings which claim priority over the public building at Portland, Or.

"Notwithstanding the large number of public buildings authorized by Congress, no increase in the force of the office of the Supervising Architect has been provided for, although a specific request to the Committee on Appropriations of the House of Representatives was made by this department on January 22, 1895, that the amount allotted for that office for the fiscal year ending June 30, 1896, should be increased to \$250,000, the reason given being that such an increase was necessary in order to enable the department to employ a sufficient technical force to bring the work up to date. This request, however, was not complied with, and the usual allowance of \$200,000 was made.

"Since the 6th of March, 1893, this department has made every effort possible, with the limited appropriation allotted by Congress for the support of the office of the Supervising Architect, to expedite the preparation of drawings and specifications for the various public buildings under its control, and to take up new work as rapidly as the force would permit, and to proceed with the construction of buildings with all possible expedition.

"The sum of \$200,000, which the Secretary is authorized by Congress to use during each fiscal year for the preparation of designs,

plans, specifications and drawings for public buildings, does not exceed the amount of the usual charges of a competent architect for the preparation of designs, plans and specifications and superintending the construction of a single public building of the first class, and it must be evident, therefore, that the office of the Supervising Architect must be relieved from a very considerable part of the labor now imposed upon it, or adequate provision must be made for the pay of a sufficient number of skilled employes, or that the work upon the many public buildings must continue to be delayed, as heretofore."



AMERICAN INSTITUTE OF ARCHITECTS: DIRECTORS' MEETING.

THE first meeting of the Directors of the American Institute of Architects was held at the headquarters of the Institute, 156 Fifth Avenue, New York, on Friday, January 10th at 10 A. M., President George B. Post in the chair.

It having been previously arranged that the meeting should be adjourned to the time of the opening of the Architectural League Exhibition, and that business of general interest should not be considered at this meeting, the records of the last meeting, which was held in St. Louis, were not read, and the President announced that he would appoint the members of the several Committees, and named them as follows:

Executive Committee.—George B. Post, New York, *Chairman*; Alfred Stone, Providence; S. A. Treat and Daniel H. Burnham, Chicago; E. H. Kendall, New York; W. S. Eames, St. Louis; Robert D. Andrews, Boston.

Committee on Foreign Correspondence.—W. L. B. Jenney, Chicago, *Chairman*; R. S. Peabody, Boston; Henry Van Brunt, Kansas City; C. F. McKim and Thomas Hastings, New York.

Committee on Education.—Henry Van Brunt, Kansas City, *Chairman*; William R. Ware, New York; T. P. Chandler, Philadelphia; N. C. Ricker, Urbana, Ill.; A. W. Longfellow, Boston.

Committee on Publication and Library.—Frank Miles Day, Philadelphia, *Chairman*; W. L. B. Jenney, Chicago; Cass Gilbert, St. Paul; T. C. Link, St. Louis; W. R. Briggs, Bridgeport, Conn.

Committee on Conservation of Public Buildings.—R. M. Upjohn, *Chairman*; The Presidents of the several Chapters.

Committee on Building-Laws.—T. M. Clark, Boston, *Chairman*; N. LeBrun, New York; Alfred Stone, Providence.

It was Voted, That when the Board adjourns, it shall adjourn to meet in New York on the 14th of February at 10 A. M.

The Board then proceeded to open the letter-ballots for the amendments to the Constitution and for the election of Fellows to the Institute, and it was found that the following men were elected: Albert W. Hayward, Cincinnati, O.; Andrew G. Thomson, New York, N. Y.; Charles C. Taylor, Cincinnati, O.; Ennis R. Austin, South Bend, Ind.

It was found that both of the proposed amendments to the Constitution were decided in the negative. The vote on Article IV, by which it was proposed to reduce the number of Directors to seven, was:

Affirmative.....	280
Negative.....	30
Blank.....	23

The vote on Article VI, by which it was proposed that the Constitution could be amended on a two-thirds affirmative vote of the ballots cast, instead of a two-thirds affirmative vote of all the Fellows of the Institute, was:

Affirmative.....	307
Negative.....	23
Blank.....	3

The number of votes necessary to amend the Constitution is 310. The publishers of the St. Louis Convention Souvenir presented a proposal to print a History of the Institute to be prepared by some prominent member of the same, with

"... a photographic collection of all members of the Institute, together with a brief biographical sketch of each, and biographies of the most prominent deceased members, such as Messrs. Root, Richardson, Hunt and others; also a photographic collection and write-up of the most prominent builders, contractors and manufacturers in the building line: the whole to be published in two volumes. Volume 1 to contain the history of the Institute and portrait gallery of members, with biography of each, portraits of deceased members and biography; Volume 2 to contain write-ups and photographic collection of contractors, builders and manufacturers in the building trades."

It is proposed by the publishers, I. Haas & Co., if authority is granted them to publish such a work, to do it free of charge to the Institute and send to each Fellow of the Institute a handsomely bound copy, free of charge. The matter was laid upon the table until the next meeting of the Board, when a full attendance is expected.

Adjourned.

Attest: ALFRED STONE, Secretary.

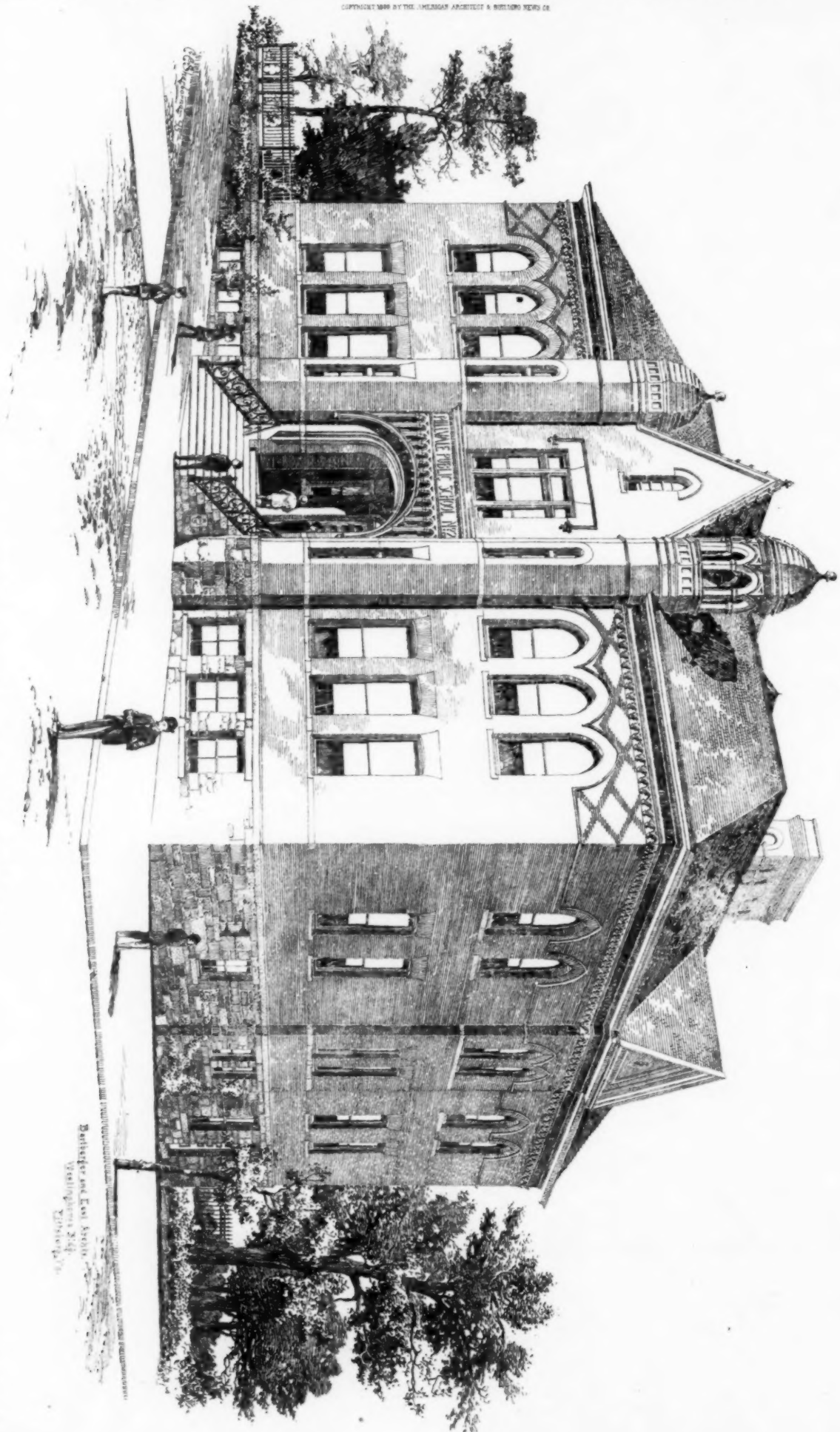


THE NEW CATHEDRAL, BERLIN, PRUSSIA.

PROF. ROSCHDORFF, Architect.

ILLUSTRATED BY J. H. MASON

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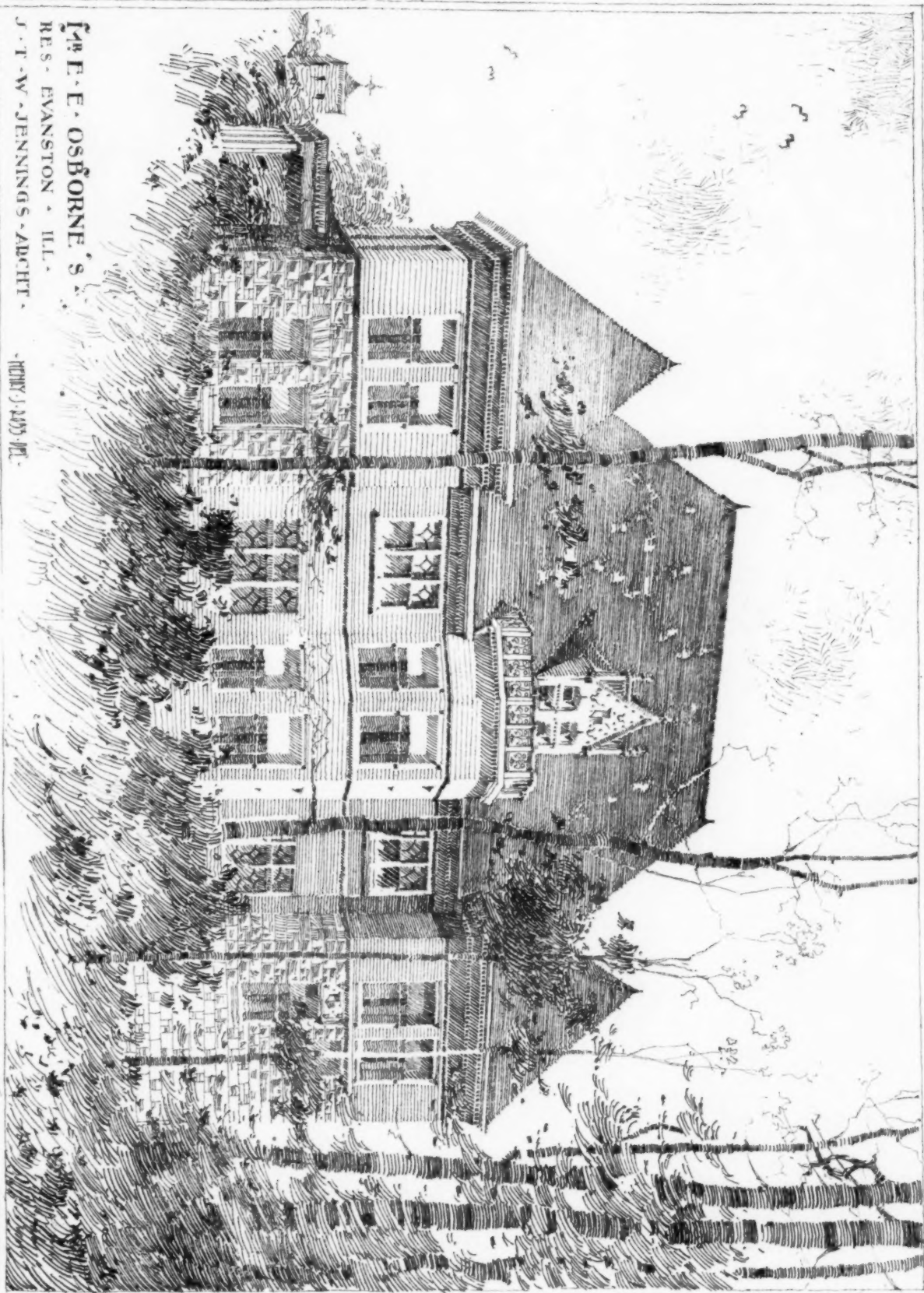


Public School Bldg. Milwaukee Borough, Wis., Co. Pa.

Illustration by J. A. Smith

J^{RS} E. E. OSBORNE, S.
RES. EVANSTON, ILL.
J. T. W. JENNINGS, ARCHT.

HENRY J. MOSS, DEL.



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"KATONAH'S WOOD": HOUSE OF CLARENCE WHITMAN, ESQ., KATONAH, N. Y.

LAMB & RICH, Architects.

RENDERING BY F. J. B. BOSTON



BUILDING FOR THE LINDELL REAL ESTATE COMPANY

SHEPLEY, RUTAN & COOLIDGE



COMPANY, WASHINGTON AVENUE, ST. LOUIS, MO.
& COOLIDGE, ARCHITECTS.

RELIQUARY PHOTOGRAPH BY BAYTON

NEW YORK CHAPTER, A. I. A.

A REGULAR meeting was held in the Chapter Quarters, 156 Fifth Avenue, on Wednesday, December 11, 1895, at 3.30 P. M.

The minutes of the last meeting were read and approved.

A letter was read from the Superintendent of Buildings requesting the Chapter to appoint a committee of not more than three, to cooperate with the Board of Examiners of his Department and many of the large organizations interested in real estate, building, building-material, and structural work in New York City and desiring a revision of the Building-Laws. A committee of three was accordingly appointed.

The following, reported by a special committee, was read:

"In the death of Richard Morris Hunt, the New York Chapter of the American Institute of Architects has lost its most cherished member, its ablest counsellor and foremost friend.

"His artistic gifts were so many, his personal qualities so rare, his instincts so high, his devotion to his work so zealous, his intercourse with his co-workers so helpful and loyal, that association with him was an education and his comradeship a delight.

"Bereft of his splendid personality, we still have the inspiration of his ethics, and of his varied and scholarly achievements.

"So, while we deeply mourn, we equally rejoice in his career, and in the high professional standard he has set for us and for succeeding generations.

"Beside commemorating his great services to his art, we desire to offer to Mrs. Hunt, in her personal loss, a sympathy which words are barren to express."

The memorial was adopted.

One of the representatives of the Chapter in the Council of the Fine Arts Federation reported that, at a recent meeting of the Council, a resolution had been adopted adverse to the acceptance of the fountain offered by German-American citizens to the city as a monument of Heinrich Heine, the distinguished German poet, and that the Chairman of the Council had been authorized to make use of its opinion in his discretion.

A member was appointed the representative of the Chapter on the Advisory Board of the Committee on Fireproofing Tests, co-operating with a body engaged in a revision of the Building-Laws of New York City.

A. J. BLOOR, Secretary.

CHICAGO ARCHITECTURAL CLUB.

THE Ninth Annual Exhibition of the Chicago Architectural Club will be held at the Art Institute, Chicago, opening March 27, 1896.

This exhibition will include architectural drawings and perspectives in all renderings, scale, details of public and private work, projects, landscape drawings of parks and other public improvements, works of sculpture and artistic exhibits of works of the allied arts.

Detailed information with circular of instructions and application-blanks can be had by addressing

FRANK M. GARDEN, Secretary.

274 Michigan Ave.

THE T-SQUARE CLUB, PHILADELPHIA.

A SPECIAL meeting of the T-Square Club was held January 8th, at noon, to take action on the death of one of its founders and most sincere friends, John Stewardson.

Resolutions were adopted as follows:

Whereas, By a sudden and sad calamity, God has seen fit to take from us our beloved comrade John Stewardson, be it

Resolved, That the members of the T-Square Club express to his family their heartfelt sympathy in this affliction.

For his loss to us is incalculable; as one of the founders of this Club, as its President, and for years a member of its Executive Board he remained to the end one of its most enthusiastic supporters; as one who has guided, encouraged and sympathized with us, we deeply mourn his loss.

An unaffected simplicity and enthusiasm combined with his fidelity to the highest ideals made him the friend of the humblest, and this will remain his proudest and most lasting memorial. Be it further

Resolved, That his unblemished professional record stands as a permanent inspiration to us; that his career affords a striking example of the success to be expected from a consistent honesty of purpose, united with a faithful performance of duty.

A motion was made by Mr. Boyden, that a letter of condolence should be written to Mr. Cope, and a committee of three—Messrs. Boyden, Seeler and Day—were instructed to express to him our deep sympathy on the loss which he has sustained, and to see beneath our words more than could be written.

ADIN B. LACEY, Secretary.

THE STORY SCULPTURES.—The will of William Wetmore Story, the sculptor who died some time ago in Italy, gives his marble statues to his son Julian, but the plaster statues, casts, models, sketches and certain furniture are given to his son Waldo, to whom is given a private letter containing the wishes of the testator as to their disposition.—*Exchange.*



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

HENNEPIN COUNTY COURT-HOUSE, MINNEAPOLIS, MINN. MESSRS. LONG & KEES, ARCHITECTS, MINNEAPOLIS, MINN.

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

THE NEW CATHEDRAL, BERLIN, PRUSSIA. PROF. ROSCHDORFF, ARCHITECT.

See letter from Berlin elsewhere in this issue.

PUBLIC SCHOOL BUILDING, MILLVILLE BOROUGH, PA. MESSRS. BARTBERGER & EAST, ARCHITECTS, PITTSBURGH, PA.

HOUSE FOR E. E. OSBORNE, ESQ., EVANSTON, ILL. MR. J. T. W. JENNINGS, ARCHITECT, CHICAGO, ILL.

"KATONAH'S WOOD": HOUSE OF CLARENCE WHITMAN, ESQ., KATONAH, N. Y. MESSRS. LAMB & RICH, ARCHITECTS, NEW YORK, N. Y.

STAIRCASE HALL IN SAME HOUSE.

BUILDING FOR THE LINDELL REAL ESTATE CO., WASHINGTON AVE., ST. LOUIS, MO. MESSRS. SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS, BOSTON, MASS.

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

DECORATION OF DOMED CEILING OVER ROYAL STAIRCASE IN THE PALAZZO FARNESE, CAPRAROLA, ITALY.

A GROUP OF GERMAN CASTLES.

EXAMPLES OF LOUIS XVI STYLE.

A GROUP OF SUN-DIALS AND ESCUTCHEONS.

[Additional Illustrations in the International Edition.]

MONUMENT TO THE MEMORY OF SENOR J. ANDRESEN, OPORTO PORTUGAL. SENOR JOSÉ MARQUES DA SILVA, ARCHITECT.

[Copper-plate Photogravure.]

HENNEPIN COUNTY COURT-HOUSE, MINNEAPOLIS, MINN. MESSRS. LONG & KEES, ARCHITECTS, MINNEAPOLIS, MINN.

[Gelatine Print.]

DECORATIONS OF AN HÔTEL IN THE RUE DARU, PARIS, FRANCE. M. RICH, ARCHITECT.

THESE plates are copied from *La Construction Moderne*.

DESIGN FOR CHRIST'S HOSPITAL SCHOOL, HORSHAM, ENG. MESSRS. ASTON WEBB & E. INGRESS BELL, ARCHITECTS.

This perspective view, copied from the *Builder*, was prepared by the architects for, and exhibited at, the last exhibition of the Royal Academy. The execution of the scheme itself stands in abeyance.

In their description of their scheme the architects say: "In dealing with such a problem as the one now before us, one's first impulse is towards a reproduction, with modifications of the traditional type of our university towns. The leading features of our great Mediaeval seats of learning are familiar to all. The well-guarded entrance gateway for security and discipline, the enclosed 'quad,' with hall and chapel, master's house, cloistered walks and students' rooms, with further similar 'quads' beyond, round which are ranged libraries, museums and such like—these present a complete embodiment of the requirements of a great school all in proper order and due sequence. For security and control, for convenience of daily work and for economy of administration the Mediaeval plan does not admit of improvement.

"But investigations into the conditions of healthy life show that this time-honored arrangement, as sketched above has one defect. It is insanitary. The enclosed 'quad,' with its four dead angles,

makes for the partial exclusion of sunlight and the stagnation of air, whereas an abundance of sunlight and the free movement of air about and around a building are now universally regarded as amongst the first requisites of health. So that the ideal arrangement from a sanitary point-of-view — and sanitary considerations must rule in this case — is not to be sought in the compactness and concentration of the Mediaeval plan, but, rather, in its opposite, dispersion and segregation. If, however, this principle be pushed to extremes, the results would be, in the case of so large an establishment as Christ's Hospital, a practically unworkable plan. The true solution appears to lie in the division of the scheme into two sections, the residential portion and the working portion, and to treat each portion on its merits.

"Accordingly, in the plan now submitted, the residential portion has been extended along a southern frontage, the blocks separated by ample interspaces, and the working portion has been gathered up in the centre and disposed about a cloistered 'quad,' where the hall, chapel and schools are, with sufficient intervals between, placed.

"By this arrangement something of the architectural effect of the Mediaeval treatment is retained, and with it the scholastic stamp. The working portion of the hospital is brought to a focus and the time of the working day is economized, while the residential portion is dispersed."

THE MERCERS' HALL STAIRCASE, LONDON, ENG.

THE black wainscot work of the handsome old hall of this, the leading Company, makes the interior of the famous building one of the most interesting still existing among the historic halls of the City of London; but, unfortunately, the apartment is so very dark that a photographic view is well-nigh out of the question, even during the clearest days in the summer. Indeed, the hall itself requires to be seen at night-time, when illuminated, to be properly examined in detail. The chapel occupies the site of the house of Gilbert & Becket, in which his son, Thomas, the murdered Archbishop of Canterbury, was born in 1119. To-day we show the new staircase, which was erected about 15 years ago, when the façade buildings in Cheapside were carried out from the plans of the late Mr. G. Barnes Williams, the Company's architect. The interior fittings were designed by the late Mr. J. G. Crace, and executed under his supervision. The staircase is reached from the principal entrance in Cheapside by way of a floridly-treated vestibule in oak, carried up some 14 feet high, and above that the walls are hung with leather. The ceiling and cornice, in imitation of oak framing, are carried out in plaster. The area of the staircase is about 45 feet by 20 feet on the ground-floor level, and the height is about 40 feet. The stairs are 8 feet wide, and have balusters with carved and fluted features, the newels being surmounted by sculptured lions bearing shields. One of these animals is seen in the accompanying view. The walls of the upper part of the staircase are lined with leather, and the oak frieze and cornices are relieved by gold and bronze enrichments. The lunettes are filled with three paintings, representing the Arts, Commerce and Industry, the remaining compartment being occupied by a window. In the middle of the ceiling occurs a painting of "Mercury," by Barrias. This hardly comes into our present picture. Below, a great feature is made of the hall chimney-piece, erected in stone, under the middle landing of the grand stairs. This plate is copied from *Building News*.

DESIGN FOR WEST HAM TECHNICAL INSTITUTE AND PUBLIC LIBRARY, ENG. MESSRS. ESSEX, NICOL & GOODMAN, ARCHITECTS.

YORKSHIRE PENNY BANK, BRADFORD, ENG. MR. JAMES LEDINGHAM, ARCHITECT.



BOSTON, MASS.—Paintings recently purchased; Japanese Paintings; Line Engravings, Mezzotints and Etchings by Rembrandt: at the Museum of Fine Arts.

Paintings from the Paris Salons of 1895: at the Jordan Art Gallery, 450 Washington St.

Pictures by Ross Turner: at Doll & Richards's Gallery, 2 Park St., opened January 16.

Fifty-third Exhibition, Oil-paintings and Sculpture: at the Boston Art Club, January 13 to February 15.

Paintings and Water-colors by Edward C. Cabot: at Chase's Gallery, 340 Boylston St., January 14 to 25.

R. Caton Woodville's "1815": at Williams & Everett's Gallery, 190 Boylston St.

BRIDGEPORT, CONN.—Second Annual Exhibition of Pictures: at the Public Library, January 25 to March 15.

CHICAGO, ILL.—Paintings by August Fransen: January 17 to 31, Works by Gustave Doré: January 21 to March 22, at the Art Institute.

CINCINNATI, O.—Paintings of the "Glasgow School": at the Art Museum, January 5 to February 2.

NEWTON, MASS.—Exhibition of Pictures: at the Newton Club, January 22 to 30.

NEW YORK, N. Y.—Twenty-ninth Semi-annual Exhibition, including Loan Exhibition of Early American Paintings, Old English Paintings, and the Cullum Collection of Classic Sculptures: at the Metropolitan Museum of Art.

Water-colors of Constantinople, Holland and Venice, by F. Hopkinson Smith: at the Avery Galleries, 368 Fifth Ave., January 6 to 18.

Exhibition of Japanese Paintings and Color Prints: at the Fine-Arts Building, 215 West 57th St., until February 5.

Paintings by Maxime Maufra: at the Durand-Ruel Gallery, 389 Fifth Ave., January 8 to 22.

Exhibition of Competitive Drawings of Society of Beaux-Arts Architects: at the Architectural League Rooms, Fine Arts Building, 215 West 57th St., January 16 to 18.

PHILADELPHIA, PA.—Sixty-fifth Annual Exhibition of the Pennsylvania Academy of Fine Arts: opens December 23, closes February 22. The Architectural Section of the Exhibition closes February 1.

NOTES & CLIPPINGS

TISSOT, ARTIST AND ARTISAN.—Of the art of Tissot, the younger generation of painters know little, for during the last ten years he has been represented in the annual exhibitions only at long intervals, and then by nothing other than an isolated portrait. In the early part of his career in France, and during his ten years' sojourn in England, he was known by pictures of a purely worldly character—ball-room scenes, garden-parties; portraits of fashionable women, like Lady Londonderry and the celebrated Lady Waldegrave, of men of rank and distinction—among them the Prince Imperial and the brilliant, ill-fated Captain Burnaby—with many other of the celebrities of twenty years ago. His powerful etchings, so well known, and by which alone he realized a fortune, have an additional value from the fact that they were always carefully printed by the artist himself, on his own press. He is also a skilful workman in enamels, bronzes and in the art of the goldsmith, the many beautiful objects which fill his magnificent studio testifying to his great versatility, as well as to life-long habits of unflagging industry. He has his own furnaces, where he carefully superintends the casting and all practical details of this last-mentioned sort of work, considering, as did Benvenuto Cellini and the master-workmen of his time, that the mind which conceives must be one with the hand that executes, and that to deliver a design, no matter how complete, into the hands of merely mechanical workmen, is inevitably to detract from its ultimate excellence.—"Tissot's Life of Christ," by Edith Coues, in the *December Century*.

THE NEW JAPANESE CATHEDRAL.—When foreign architects visit Japan and see the Cathedral of Buddhism for the first time they are generally astonished at the magnificent structure. It is executed in pure Oriental style, and is richly ornamented with carvings. H. Ioto, a famous builder, of Nagoya City, designed it. The structure was commenced in 1878, and was completed last year. The cost has been estimated at seventeen million dollars. It would have greatly exceeded this amount had not numbers of Buddhists worked without any recompense. As the structure neared completion, the committee having the work in charge was much perplexed as to fire insurance. They found that no company would assume the risk on such a valuable wooden structure, the danger of destruction by fire being very great, and thus the premium would amount to an enormous sum of money. At last the committee decided on a design devised by Dr. Tanabe. Numbers of powerful fountains were constructed, both exterior and interior, which can be made to play on all parts of the structure at the same time. Usually only one great ornamental fountain is playing, rising to the great height of 157 feet. This is probably the largest artificial fountain in existence, emitting 82,000 gallons per hour. In case of fire, all the water pressure can be directed through numbers of exterior and interior fountains, thus every part of the structure, both inside and outside, could soon be drenched and any conflagration soon extinguished. — *Cincinnati Commercial Gazette*.

A FRENCH MARKING-STONE IN PENNSYLVANIA.—Isaac Yohe, of Monongahela City, has given to the Academy of Science and Arts of Pittsburgh the "French marking-stone," owned by him, recently discovered in Jefferson township, Allegheny County. The stone weighs almost five hundred pounds, is about four feet long and three feet broad. On its face is artistically carved the symbol of a cross, below which is chiselled out a cavity as a receptacle to hold a leaden plate bearing an inscription. This stone is undoubtedly the work of the early French discoverers of this region, and is such a stone as the early French surveyors were accustomed to place at well-known points in the Ohio Valley asserting their claims to the country. A leaden plate was placed within the cavity, on which was an inscription to the effect that the region belonged to the French. Unfortunately, the leaden plate in this stone had been removed when it was found, having been taken out probably years ago by the Indians or early white settlers to cast into bullets, not realizing or caring for the historical value it would some day possess. It is believed that this stone is one of those erected by the French force of two hundred men and thirty Indian guides which made an expedition down the Allegheny and Ohio Rivers in 1749, under Monsieur Celeron de Bienville, the commandant, coming from Canada by way of Niagara and Lake Erie. — *Pittsburgh Post*.