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To Architects and Draughtsmen.

ARCHITECTS requiring draughtsmen are invited to correspond with or call upon us, as we have the addresses of quite a number of draughtsmen who are seeking employment. It can also be borne in mind, by both architects and draughtsmen, that we proffer them the use of our office as a medium of communication, and all inquiries will receive prompt attention.

RESPONDING to our suggestion of last month that architects favoring the formation of a Western association should send us their names for record, quite a number of names have been sent in, accompanied, in most instances, by an enthusiastic endorsement of such an organization. It is very desirable that the strength of the movement be known as soon as possible, and we hope that those who are in accord with it and have not already sent in their names will do so at once. In the direction of an association that shall have the active support and awaken the profession, particularly in the West, from their present lack of interest in organization, comes the suggestive article, published elsewhere in this issue, from the Architectural Association of Des Moines. Their recommendation that local associations form and converge to a central point in a general organization seems to us of particular value and especially adapted to the needs of the West. Should their suggestions have no further effect than to firmly unite the profession in the West in a central association, that by earnest, active work shall promote all that is good and eliminate all that is bad in the profession, a great good will have been accomplished.

THERE has been a movement inaugurated by a prominent architectural firm in Chicago which, if generally adopted, we feel assured would result in great benefit to contractors. That is the abolishment of the custom of posting bids after a contract is let. The custom is an old one and has led to many abuses, the most important of which is that it has induced contractors to figure against each other rather than upon the cost of work. These posted bids are also often used by irresponsible contractors in the event of a call for a refiguring of contract. They see how the work was figured and then put in a bid below the lowest figure, in the hope of securing the work and getting even on "extras" before the building is finished. This is the case especially on large work, and will, in a moderate degree at least, account for the largely increased expense of some of our public buildings over the estimated cost. While architects all seem to think this new rule a good one, the contractors are about equally divided. The principal argument in favor of the old plan is that it enables contractors to see that they have been fairly beaten on their bids; but this is nothing less than a reflection upon the honesty of the architect, and there are enough other ways of discovering unprofessional conduct in an architect. The day is fortunately past when dishonesty is common among architects, and with exceedingly rare exceptions the contractors can trust the architect to act with perfect fairness, and base his decision on the merits of the contractor's work, if not on the lowest bid received.

FROM information derived from our correspondents in most of the leading cities in the West and South, it would seem that the amount of building to be done during the present season will not fall behind that of last year, if, indeed, a much larger amount in the aggregate will not be accomplished. In many of the towns and cities it is gratifying to observe that the character of many of the buildings, whether for public or private purposes, are such as afford evidences not only of energy and thrift on the part of the projectors of these enterprises, but also of good taste and the progress of improved culture and a tendency to a higher degree of refinement as well as architectural ability. On the whole, the outlook is very encouraging.

AT the opening of the Chicago Builders and Traders' Exchange, the remarks made by the Mayor in regard to the poor quality of certain brick furnished him by a prominent manufacturer, and the poor material furnished him in other lines, such as cull lumber, poor plastering, painting, etc., and the answer made to his statements by one of the accused builders, are worthy of note, as they show the relative position of the owner and his builder, as well as the usual reasons why we have poor construction. In his speech the Mayor says:

I know there are a good many tricks in all trades but ours; but I see over there one friend of mine, who built a foundation for me, which sunk down because there was quicksand. He failed to put in solid dimension stone. Another over there, who put in some brick. After a little they were as spotted as Joseph's coat. When I spoke to him about it, he said he didn't guarantee the color. There is another, who guaranteed the best plastering, but when the whiting was put on it burst all to pieces as though it had smallpox. Another feature is putting in the screws. I had to go to work and tie up a building with tarred rope to hold it together.

In his reply the brick manufacturer said:

Speaking of his experience in building here in Chicago, the Mayor said the lumber was poor, the carpentering was poor, the painting blistered, and the plastering fell to pieces. I do not know that he let the plastering to a cheap man, but I do know that he bought his brick because they were cheap. I do know that he got them for \$6 per thousand less than anyone else would sell them.

The owner, as a rule, wants to build cheap. He wants the most solid walls, the most unique and attractive design and the best materials when he first talks of his building with his architect, but a little conversation discovers the fact that he wants a ten thousand dollar building for five thousand dollars; and the architect refusing to try to perform the miracle, he takes the matter in his own hands and hunts all over town for cheap material, and, like our friend the Mayor, when he has secured it he tells how he has been swindled by the "rascally contractors." If owners would recognize the fact that all manufactured articles have their market value, that all labor is rated according to its actual worth, and that cheap material or cheap work means a cheap building, and that the men who use the material are in no wise to blame, we would have less complaint that the brick were off color, or the doors sprung, or the paint or plaster chipped off. The building on the northwest corner of State and Jackson streets, which it is understood was made of refuse brick and other material gathered from all over the city, and which should have been condemned by the city building department before it was finished, should be a solemn warning to all who contemplate the building of "cheap" structures, with a view of saving a few dollars in first cost, and laying the responsibility upon the builders when any "accident" occurs.

IN Chicago there is probably no better gauge of the condition of the real-estate market than that indicated by the activity in the architects' offices. This is because of the growing tendency which is so peculiar to this city, almost every transfer of realty being a move toward its improvement. Therefore, as the building season is one of unusual activity for the middle of July, so is the trading in real estate keeping the brokers at home when they long for a rest from the work of an unusually busy year. Although the fact of the presidential year is supposed to affect this, as all other lines of business, adversely, and the presence of two national conventions favorably, in reality neither of these materially influence the real-estate and building interests of Chicago. There is a natural demand for all classes of buildings which must be met, the old must give place to the new, and so old sites exchange hands, new districts are improved, and even the midsummer dullness cannot interrupt this march of progress. Another strong influence that, though already felt, will have greater influence on the future of Chicago, is the direct result of the late panic in New York. While banks were trembling, and for five days shut out Chicago and refused to send her banks one ounce of specie, the Chicago banks were filling the instant demands of their

correspondents throughout the West. The result of this was a thorough loss of trust throughout the West in the financial safety of New York, and a more permanent faith in the money power of Chicago. Immediately after this panic Chicago banks began to withdraw their surplus from New York, and, as a prominent banker privately asserted, with the intention of making it permanent; and instead of New York carrying millions of Chicago capital, and being accounted the money headquarters of the United States, she will in the future hold but sufficient funds belonging to Chicago banks necessary for the proper transaction of business. The addition of all these millions, and it is estimated that twenty millions of dollars have been withdrawn from New York in the past two months, will give Chicago so much more working capital, and therefore it is not surprising that realty is feeling the activity and impetus that belong to what Chicago is fast becoming, the financial center of the United States.

THE proneness of humanity to procrastinate, and the demonstration of the truism that "what is everybody's business is nobody's business," is nowhere so aptly illustrated as in the matter of sanitary measures for public safety. At the present time, Asiatic cholera, like a vast army, is steadily marching toward us, and each day or week that passes may see its vanguard landed on our shores and the work of death begun. Yet there is practically no need for alarm if the proper sanitary measures are taken in time. Cholera, like an army, must have something on which to feed, or it will die. And though it sweeps through the eastern countries like a simoom, if the more northern and more civilized countries will but aid cool winds and healthful atmosphere by removing the decay and rottenness of vegetable deposit and adopt the most ordinary measures in the way of hygienic living, cholera will be made a practical impossibility. But city governments are too apt to wait until the damage is done, rather than by the expenditure of a few thousands effectually prevent the evil; and if this year the cholera sweeps the United States as it did thirty years ago, the responsibility will rest with those who have charge of public affairs. For there is no lack of warning, no lack of knowledge of the greatness of the danger or of the proper preventives, and no lack of money to put those measures in operation, and effectually protect the people from the threatened danger. Let each ward in every city be thoroughly inspected, the streets kept clean, each cesspool and unclean place thoroughly purified, and when we find that we have escaped, rather than deem it a useless expenditure and simply a "cholera scare," say that never was the old adage more fully proven, "An ounce of prevention is worth a pound of cure."

ON the 29th of April, 1859, the late Peter Cooper executed a deed in fee simple of the property in the city of New York, known as the Cooper Institute, to six trustees, to be forever devoted to the instruction and improvement of the inhabitants of the United States in practical science and art. In addition to founding the institution, erecting the buildings, and providing an endowment of \$200,000 during Mr. Cooper's lifetime, the institution will receive in pursuance of his will \$100,000, and his children will contribute an additional \$100,000, which they understood to be among his final wishes. The number of pupils who entered the various classes during the last year was 4,327. An average of 1,672 readers resort daily to the free reading-room. The work of the institution is thoroughly practical, and male and female pupils are fitted at the smallest possible expense to them to become useful citizens. All of the classes and privileges of the institution are entirely free, with the exception of the

amateur class in the Woman's Art Department. Every page of the report is replete with interest, and we have only space to mention that the art department of the evening schools embraces instruction in all branches of drawing—free hand, architectural, mechanical, and drawing from cast; also industrial drawing and design and modeling in clay. The number of pupils in architectural drawing during the term was 260; of these 167 remained to the close of the term and 88 received certificates of proficiency. In looking over this report one cannot help thinking of what a glorious revolution would be wrought in the condition of the people of the United States if every man of large wealth would contribute so generously and work so earnestly and persistently for "the instruction and improvement" of the less fortunate of their fellows as did Peter Cooper. The most imposing granite columns are insignificant in comparison with such a monument as Cooper Union to the work and worth of a human life. The possible results—the refinement, the comfort, the concord, the happiness, where else would be ignorance, squalor, wretchedness, vice and crime—in short, the millennium would indeed seem to be very near, if all men of large wealth were to emulate the illustrious philanthropist, the founder of Cooper Union.

AGITATION is being made upon the future outlook in ocean travel. The new steamers plying between this country and Europe, and many of the old, belong to what might be called the seven-day class, and are bound to have a full list of passengers every trip. But the owners of a vast number of those less swift will soon be trying to discover what to do with their slower and therefore less popular vessels. The more natural result will be a cut in rates and an increase of travel, and in this event two important points will have to be closely watched, both by the steamship companies and government inspection. One is that all vessels carrying passengers shall be fortified by airtight compartments, and the other that the rate of speed shall be regulated and kept within the capacity of the vessel's machinery, that no sacrifice of safety be made to gain a few hours' time.

WE are glad to know that several of the leading architect offices have adopted our suggestion of giving the draughtsmen a half-holiday on Saturdays. The benefit to be derived is important to the draughtsman and his employer. With one afternoon in the week the draughtsman can inspect the current work upon his boards in the building which he has designed; he can go upon sketching tours, picking up new ideas, and gather as he walks the rest and exercise that will come from a break in the monotony of office life. It will not only intellectually and physically benefit the draughtsman, but, what is to many employers more to the point, benefit the pockets of those architects who are willing and able to give their workmen these hours of recreation and study. Of course in extremely busy seasons the rule could be suspended, but architects will do well to consider the matter and assist these draughtsmen to become practical as well as theoretical.

THAT the National Convention of Master Plumbers has, thus early in the history of its organization, recognized the so-called West as the center of the building interest in the United States, and transferred its management to the West, electing its president from Chicago, and by vesting in the president the chairmanship of the executive committee, practically making Chicago the headquarters, is an indication of how strong the West is growing, and independent of the East. Still, there should be no separation of interests. In

the actual work of the association there should be no West and no East, but a grand whole, each seeking the welfare of the profession as a whole, and filling that grand mission which, next to the medical profession, is given to plumbers—the care of the public health. The association cannot take too high a stand in the matter of sanitary elevation. All honor to those active spirits who have drawn their profession in the United States together in permanent organization—an army for the protection and safety of the public health.

The Sanitation of Cities.

ESSAY ASSIGNED TO CHICAGO MASTER PLUMBERS' ASSOCIATION BY THE NATIONAL ASSOCIATION.

BY ALEX. W. MURRAY.

WE have in use two words in reference to the care, preservation, and the like, of health; one of these is "Sanitary," and the other "Sanatory." The first is the one most generally in use, and covers all that may be necessary in this article or any other one which treats of sanitation. The one has more especial reference to a system; the last named, or sanation, to the means which are put in use to produce beneficial sanitary results. To avoid useless employment of words, let us adhere to the word most commonly in the vocabulary of our profession, to wit, sanitation.

One of the very material elements in the sanitary condition of a city is a location, much depending on an elevated and flat site, and all having reference to facility of drainage. Other things being equal, a high situation is far preferable to a low one. Abundance of pure water is another requisite to a good sanitary condition. But while a good site and plenty of pure water are essential to good health in a city, they constitute but a small part of all the material requirements.

One of the great faults of most modern cities is to be found in the irregularity of the streets, and their narrowness. It is much better that the streets should be regularly laid out, so that the sun can penetrate all parts; and the result is still better where the streets are made wide, so that the air and the sunshine can penetrate freely to all parts of them. In this direction, there is growing a vicious innovation which has come into existence since the discovery and the general use of the passenger elevator. This is the construction of very high buildings; these with narrow streets have a bad effect, for the reason that they exclude the sunlight, and leave the streets beneath but little more than dark, damp, unwholesome passages. As it is not within the means of the sanitarian to remove this difficulty in the shape of lofty buildings, he must needs adapt himself to the situation, and labor to deal with the difficulty as it now exists.

It might be possible to awaken public attention to this evil, and through municipal regulation secure a limit to the height of buildings; a limit which should depend on the width of the street adjacent, or the distance from other structures, and in this way some amelioration of the difficulty would be effected. It is apparent that a very high building standing in an open space would be less damaging than one which stands on the street line, and has buildings on the other sides. The problem is a difficult one in old towns where the site is built up; about the most that can be done is to attempt to stay the evil at its present state.

In towns yet to be laid out, the constructing of wide streets and the prohibition of very high structures in continuous street fronts can be procured. In the cases of these, and also in those of additions to towns already laid, it might be practicable to have a somewhat different arrangement of blocks from those constructed in the ordinary way. They might be so built as to leave air-passages between various buildings, through which there would be always such a movement of the air, and such an admission of sunshine, as would secure maximum sanitary results. A street should never be less than 100 feet wide where perfect air and sunshine are desired; and if this fact be understood at the outset of the construction of a city, it can be done without difficulty. The blocks should be as small as possible, and the alleys thereby avoided.

No time need be expended on the nature of filth. All know that filth, ignorance and crime are inseparable. To remove filth is to remove a potent provocative of degradation; a degradation which fills our infirmaries, our prisons, which makes bad citizenship, and which, by its tendency to poverty, decreases the taxpaying power of the people, and thus acts even on the national treasury.

It may seem strange, but it is the fact, that one of the most powerful obstacles in the progress of the sanitary progressive is to be found in the landlord, and who is at the same time a capitalist. Sanitary improvements cost money; he may be willing to incur the expense in his own residence, but is rarely agreeable when the same care and outlay are demanded in the construction of residences for tenants. What is especially needed in this direction is the education of public opinion to a point where sanitary measures and laws are thoroughly understood, and then, if the rapacious landlord will not heed these, he should be forced to perform his duty by law. A man has no more right to place people in situations where they will be poisoned by filth and bad air than he has to place prussic acid in their food. It is essential that there shall be such sanitary regulations that no man shall be permitted to do aught that will endanger the life or the health of either himself, his family, or that of his neighbor. Health is more precious than wealth; in fact the former is at the base of the latter; why, then, should not the laws for the protection of the one be as stringent as those for that of the other?

It is a suggestion worth considering as to whether it would not be to the advantage of cities to have the generation of power for the running of machinery located outside the limits, so that by this means to avoid the

charging the air with the products of combustion. The time may be distant when this suggestion may become practical, and yet it is within the possibilities of this progressive age; of its value there can be no question.

An especial feature in which the French cities are superior to ours, and to some extent also the English towns, is in the provision of urinals on the principal streets. These should be provided not only as a matter of comfort, but also as one of health. In addition to these there should be water-closets and bathing-places; the latter to be frequent in location, and furnished to the public at a small cost, say five cents per head. In this way, cleanliness of person would be cultivated, and this improvement would strongly reinforce sanitation in its application to the household and the streets. Public parks play an important part in the sanitary welfare of a city.

Within certain limits, foliage plays no inconsiderable part in preserving the health of cities. It affords a grateful shade in heated seasons; it is claimed to absorb poisonous carbonic acid gases; it tends to preserve the air from the dusty dryness peculiar to some portions of the summer, and its roots are of value in the absorption of water from the subsoil and which often contains deleterious matter in solution. Trees should be plentifully planted, but not in sufficient numbers to shut out too much of the light of the sun. In all cases a house which is surrounded by trees should have the latter so arranged that the sun can pierce through in spaces sufficiently numerous and wide to permit the sun to reach every portion of the house.

In the construction of sidewalks and pavements, care should be exercised that all are water-proof, and the rain be carried off to the gutters; to prevent injury to the eyes, the color should be of a greenish hue. A pavement that permits the surface to absorb excrementitious matter, where it lies and undergoes putrefaction is an element of danger in a community. Akin to this is the question of the disposition of garbage. Many plans have been suggested in this direction. Perhaps a feasible remedy could be found in treating the garbage as it accumulates, and before its removal, by some process which will arrest decay, or which will have the effect of a disinfectant. It is certain that under the method in vogue in many cities in which the garbage is left to broil and fester in the sun for hours before its removal, is one calculated to produce evil consequences of serious nature. It is a matter so easily remedied that there is no excuse for permitting the evil to have a permanent existence.

There is much liability to infection from sewer-gas in the case of foods stored in basements and sub-cellars. The greatest care should be exercised in these matters, and wherever possible the ground-floors should be covered with a rigid layer of asphalt or cement. Another thing needed about the house is something in the nature of a measurer of the purity of the atmosphere, and which should indicate its sanitary condition with the same certainty that the thermometer shows the degree of heat, or the barometer the weight of the atmosphere.

In the attempt to secure the highest sanitary results in a household, the use of water is of the most essential character. Many other inconveniences, and even positive unsanitary conditions, may be endured with less danger to health than the deprivation of the abundant use of water. It washes out the drainage pipes; it absorbs and neutralizes many of the poisonous organisms that are bred in the fetid cell-life of "bacteria" and other parasitic elements. Water in plenty, in profusion, should be supplied in every city, and its plentiful use—not its waste—should be encouraged. Cleanliness is next to godliness, and he is a good christian who spares no pains to make his own residence a healthful and beautiful home, and in doing this not only sets an example to his neighbor, but assists in preventing the origin or the spread of unhealthful agencies.

What is needed among householders is common sense. It is of the commonest order to find that the owner of a house will spend every spring large sums of money in refitting and refurnishing his house, and all for the benefit of that which is to meet and please the eye. He never possibly thinks that one of the most vital points in his home is located in the dark earth, beneath, where all sorts of mysterious chemical processes are in constant operation, where nature's chemistry is decomposing particles of matter and changing them into noxious gases, and they in turn are becoming vehicles for the transportation of deadly organisms through pipes and crevices to the air above. He never thinks for a moment of this underground laboratory with all its possibilities of harm, or asks whether it, too, does not need repair, or looking after. Out of sight, out of mind. Some day a mysterious malady invades the household; the doctor is sent for; he finds the cause located in a vitiated atmosphere, and then in a physician's bill, or in that of the undertaker, he pays out fifty times what it would have cost him to have had his drainage examined at intervals and its working kept in perfect order. We need laws, to be sure, to make people save their own lives; but we need more the general education of the public up to a point where they will exactly comprehend the meaning and requirement of sanitary science.

While there needs to be some common sense hammered in the head of the citizen, there needs to be a good deal done to advance the learning and requirements of many of the workers in the field of sanitation, as well as those who are directly interested, as those, who, like the mason, the carpenter, and the plumber, have an indirect interest in the securing of the best sanitary results. There has been a decided improvement in our own profession. The time has passed when any plumber is willing to assert that he knows it all, or that when he left his apprenticeship he had been taught all that there is in the business. Men who are willing to progress beyond the point where they were brought by the master of whom they learned the trade are seeing that there is a broad road which few have trodden, and which leads toward perfection. There should be among the technical schools, which are now becoming the fashion, a school for the plumber, which should teach him not only the practical details of his profession, but its theory, the mechanics connected with it, and such chemical knowledge as may be essential to securing an educated workman. At the same time that the plumber is receiving the benefit of a training in his trade, there should be something done to educate, or at least to partially civilize, the average owner. The plumber who is asked to do a thoroughly first-class job may be often met; but the one who is asked to do this, and at the

same time is offered a first-class price for his labor, is the rarest of occurrences in the plumber's experience. Men who build will cut down everything which is not in sight for the sake of ministering to the eye. They wish something which they and the world can look at and enjoy; what is not to be seen is not regarded. The plumber is not a philanthropist; the very most he can do is to honestly put in a job what he is paid for it, minus a reasonable profit; and it is he who is cursed, and not the wretched parsimony of the owner, when devastation and inconvenience follow the plumbing of a house.

A duty the trade owes to the public, and which should be immediately agitated, is the establishment, by the authority of the state, of a board of examiners, to pass upon the qualifications of those who are to be granted a license for the purpose of practicing the business of plumbing. This board should consist of men who have a thorough knowledge of the theory and practice of plumbing (and they should not be removed from office except for cause), as suggested by Dr. DeWolf, Commissioner of Health of Chicago, in his late address before the Chicago Master Plumbers' Association: Is it within the province of the National Association to prepare a memorial address to the U. S. Congress, suggesting the propriety of the U. S. Government appointing a commission of practical and scientific men, whose duty it would be to investigate the practice essential to the perfect sanitary construction of a building in the different sections of the Union, and to establish a sanitary code, based upon the experience thus learned, best adapted to a certain defined section?

If parsimony in the individual is productive of bad results, it is equally so in the management of the affairs of a city. There should be no "scrimping" of the public's money whenever there is a demand for its use by a competent board of health. Perfect cleanliness of street and alley should be secured; nuisances should be as vigorously suppressed as if they were cases of cholera or smallpox. For this, money is needed, and it should be given. In the matter of the sanitation of cities, liberality in the use of money is absolutely essential to good results. All our large cities have their bidewells crowded with dissolute and robust prisoners. Let these be placed on the streets and forced to labor, to keep the public places clean, and in this way they will not compete with honest workmen, and by their devotion to the work of cleanliness they will compensate somewhat for the uncleanness of their own immoral lives.

It is impossible in an article of the character of this to lay down all the details which are necessary to be developed in the perfect sanitation of a city; all these would require a volume. The most that can be done is to endeavor to awaken public opinion to the necessity of sanitary reform, and by constant iteration so imbue people with the proper ideas, that the observance of sanitary rules will become in the nature of a habit. Men are not so ignorant in these respects as would seem to be the case; but they are careless and indifferent. If the evil results of their carelessness could be limited to themselves, it would not be so much a matter of regret. Unfortunately, the main sufferers are innocent children, who are slowly but surely murdered every year by the thousands in the great cities.

The family physician has a part to play in this drama of household life. It is he who, more than all others, can reach the comprehension of the heads of the family. He can point out the danger and insist on the remedy; and when he, in the language of the learned sanitary engineer and plumber, James Allison, of Cincinnati, shall take his place in the happy trinity of Doctor, Architect and Plumber, then will the sanitary millennium have made its appearance.

Stained Glass.

BY FRANCIS LE BARON.

TIME out of mind stained glass has been used in ornament. It has added a grace to architecture, a solemnity to religion, and has vibrated in harmony with the highest note struck by gaiety and pleasure. Cathedrals owe to it their dim religious light, and halls of rejoicing and enjoyment shine brighter in its effulgence. It gives dignity and refinement to the great halls of trade, it sends a golden shower of light into the banking-house to "gild refined gold," its purple radiance pours through royal houses, it shines above the dead like the "golden stairs of heaven," and the humble household has its brightly tinted window, at sight of which the baby laughs and claps its hands, and reaches from its cradle or from its mother's arms to grasp the shining treasure.

It is, and always has been, the efficient handmaiden of architecture. In the vast rock-tombs of Egypt we find its shining fragments, and in the solemn gloom of her titanic architecture a sudden flash of radiant windows would appear like a dash of wild roses on an alpine crag, like a crown of jewels on a royal brow, or rather like a diadem of stars on the forehead of a god.

Gothic architecture knew how to clothe itself with this wonderful radiance, knew how to set within its walls those glowing pictures painted with the sunbeams; to raise them over its high altar, to unravel the white light, the very garment of God ("He clothes himself with light as with a garment"), and place it as an altarcloth upon its altar before the symbol of its incarnate Divinity. The worker in stained glass should be a consummate artist. Other painters must use pigments to interpret their thoughts; his interpreter is the light itself, he draws with the pencil of the sunbeam, and the sun alone grinds his paints and spreads his colors.

The various methods of glass treatment are called "Mosaic," "Painted," and "Enamel." Glass that is of one uniform hue is called "stained," and when color is applied to the surface of colorless glass, and then burnt-in, it is said to be "painted." In the "enamel method," as it is called, the whole picture is painted and burnt-in on the previously colorless surface; while in the simple "mosaic method" the picture is composed of pieces of stained glass. In the "mosaic-enamel method" both processes are used.

What is generally called "mosaic glass" has really some of its details and shadows marked by colors, and of this kind are the earliest windows of the eleventh and twelfth centuries in France; for though composed

of colored pieces of glass, held together by the leads, which form the outline of the designs, the shading is made by lines in bistre, laid upon the surface and afterward burnt-in; and the same color is used for some of the details and folds of draperies. A new invention in staining glass in lines and shadings of color is now used for skies and draperies, and the opalescent tints, which are so beautiful and so effective, have opened an entirely new field of design in stained-glass work. The art gradually grew out of the original, simple mosaic process, but it has long been a question when and where the first idea originated of adding the few shades and bistre lines, for in that was the germ of the enamel process, and the real origin of painted glass.

Another process, which is rarely used, consists of welding two or three plates of stained glass alternately to two or three plates of colorless crown glass. A specimen of this treatment was found in the abbey of Königsfelden, near Burgg, in Switzerland. It consists of six plates, three of common greenish glass and other three of stained glass of a reddish pink color. The effect of the combination was a very pale pink, different from that of the plates, so that by this process any tint whatever may be produced. This specimen, after being cut and polished on the edges to show the combined plates, was presented to Sir Walter Scott, who fitted it up in a stand, and it is probably now at Abbotsford.

The choir of the church at Königsfelden is lighted by eleven colored glass windows, by the light of which are displayed the portraits of all the knights who fell in the battle of Sempech.

Windows of stained glass seem to have been used in the fourth century, in the age of Constantine, and probably a century earlier. From Byzantium,—the repository of all the arts after the age of Constantine,—colored-glass windows passed into the west of Europe. About the year 400 they were used in the San Paolo-fuori-le-mura at Rome, built by Constantine; and in the sixth century in the apse of San Giovanni Laterano, at Rome. Before the eleventh century they were employed in France, and in Flanders and Germany in the twelfth century.

Although there can be no doubt that we owe to the Byzantine Greeks the art of painting on glass, yet the French had the merit of bringing the art to a perfection which the Greeks could never have attained, and of giving to the painting a brilliancy which constitutes its real merit.

The best specimens of colored glass for style are the mosaic windows of the twelfth century. The thirteenth-century glass is often richer in color, but inferior in the arrangement and character of ornamentation. The merit of the windows of the twelfth century is their perfect harmony with the general effect of the edifices to which they belong. They were a part of the architecture, integral portions of the buildings themselves, not stuck in as an afterthought because they were "pretty." The building committees of those grand old buildings did not advertise a competition for the stained glass, nor say, "How much work will you do for so much money?" nor dilly-dally week after week, till the artists' patience became threadbare and their enthusiasm was turned into disgust.

In the middle of the fifteenth century the revolution in the art of painting upon glass was complete. Thenceforth glass was nothing more than the material subservient to the painter, as canvas or wood in oil painting. Glass-painters went so far as to copy on white glass, as upon canvas, the masterpieces of Raphael, Michael Angelo, and the other great painters of the Italian Renaissance. We also find entire windows painted in monochromatic tints. But the era of glass-painting was at an end. From the moment that it was attempted to transform an art of purely monumental decoration into an art of expression its intention was perverted, and this led of necessity to its ruin.

In the mosaic windows are placed a series of medallions or lozenges—circular, oval, or of other shapes—containing Scripture subjects, and surrounded by a colored mosaic ground; the medallions, with a rich border, form the whole window, and hence they are called "*medallion windows*," to distinguish them from "*canopied windows*," which contained the figures of saints under canopies. Very fine specimens of the medallion windows are found in the cathedrals of Rheims, Chartres, Bruges, Auxerre, Sens, and the Sainte Chapelle in Paris.

It was in the latter part of the thirteenth century that corruption crept into the art of stained-glass work, and the colored-glass windows assumed gradually the character of large pictures, until, in the fifteenth century, the whole window, though consisting of several lights, was covered with one picture; and mosaic yellow canopies and monstrous transparent columns, with other architectural accessories, defied all harmony of color, proportion and possibility. In the middle of the fifteenth century the revolution in the art of glass painting was completed and its era was at an end. Glass, as I have said, was merely the ground that a painter substituted for canvas, and the works of Raphael, Michael Angelo, and other great painters, were copied upon white glass.

We take from Sir Gardner Wilkinson, as a guide to those selecting windows who are not blessed with taste of their own, the following list of conditions or properties of colored-glass windows:

They should be subservient to the general ornamentation. Their object being decorative, they should assimilate to and aid the decorations and style of the building.

They should not be a contrast to a white wall, nor pretend to be a painting or large picture.

The small figures in the medallion, though conventional, should be good, not imitations of a rude style, and should be part of the colored effect of the windows when seen from a distance.

Broad, opaque shadows should not be introduced, nor an attempt be made to convert the flat into a round style.

Figures larger than life should be avoided as injurious to the proportions of a building.

No great expanse of one color in one place should catch the eye, and a picture extending over two or more lights, cut by an opaque mullion, is inconsistent and offensive.

A quantity of white glass is bad and poor, and yellow is better than white for preventing red and blue from appearing purple at a distance.

The border should be in proportion to the size of the light.

Too small, and even too large a quantity of ground between medallions, should be avoided.

The medallions should not be all of the same form, and the patterns should not be too small nor have a spotted appearance.

The primary colors should predominate over the secondary and tertiary.

The best windows for imitation are those of the twelfth century.

In rosette windows, the tracery lights, or openings, should radiate from the center rather than be concentric.

Colored glass is not required in buildings of the Renaissance style.

How far stained glass may be used in dwelling-houses is a question to be decided by a good architect. In hallways and on staircases, where it is seen only in passing, it is beautiful and desirable. Whenever it is desirable to shut out an unpleasant prospect,—a vacant lot, a stable, a back-yard an alley-way,—its use is evident; it is admissible as a delicate border around windows in living-rooms; but then the work should be especially fine and artistic. In apartments commonly occupied by the family, and in which they work and read, windows of stained glass would be wholly unsuitable. Even in dining-rooms it should be sparingly used. An artistic panel over a sideboard is very ornamental, but our guests and friends are not improved in appearance by being seen with purple hair, or green noses, or yellow lips, or variegated foreheads. The vulgar combinations of cheap stained glass that are stuck into every window of every "flat" are simply abominable. They corrupt the taste, for by constantly looking at them we grow to like them,—

"Vice is a monster of so frightful mien
That to be hated needs but to be seen;
But seen too oft, familiar with her face,
We first endure, then pity, then embrace."

And this style of stained glass is simply "vicious." In rooms containing pictures, or objects of natural history, or of vertu, colored-glass windows are always inadmissible.

Colored glass would be inappropriate in churches of the Renaissance, painted with large frescoes, where the color from the windows would interfere with their effect. Nor would painted glass be suited to a building of the Gothic style, decorated with fresco paintings, such as Giotto's Chapel at Padua. In such buildings the windows necessarily consist of colorless glass in order to admit the light required for that kind of decoration. When colored-glass windows are used, the building should be painted in harmony with them.

Stained glass has come into such general use of late that the firms who work in it are legion, and much good work is executed. The twenty firms who entered into the Board of Trade competition are all prominent firms in the country; still I do not think it will be invidious to say that the names first spoken of in connection with stained glass are Donald McDonald in Boston, Tiffany and La Farge in New York, and two or three firms in Chicago.

Donald McDonald is a great artist in glass, using it as a great painter uses his pigments—to produce effects full of dignity, grace and beauty. Some exquisite specimens of his work are found in the best houses in New York and Boston. In the McCormick house on Rush street, there are some fine panels of his work, and Mr. Leiter has one in his house at Lake Geneva.

La Farge designs in glass with the feeling and refinement of the fine-art painter, which he is, and of the first rank. He gains his effects, as does McDonald also, both by the mosaic process and by enameling. The windows of the grand staircase in Wm. H. Vanderbilt's house in New York, are a fine specimen of his work. The transom for one of the windows in the Board of Trade Hall,—the only one completed,—also executed by La Farge, and entered in the competition, is very beautiful. It represents "Fortune."

Tiffany claims to gain his effects entirely by the mosaic process. He is very much the fashion, and he gets strong effects; there is a barbaric splendor about his work that is almost brutal. The glass in the side entrance of Wm. H. Vanderbilt's house is Tiffany's work,—supposedly at his best. It is a cataract, a Niagara of jewels, very gorgeous; but having said that, you have said all. He seems carefully to avoid refinement of color and delicacy of design. The work of the best Chicago artists is so frequently described in the current numbers of this journal that present reference to the many artistic productions of these firms would be superfluous.

Of Interest to Draughtsmen.

Warm water is better than cold for rubbing up Indian ink. When it becomes necessary to trim a piece of rubber it will be found that the knife will cut much more readily if dipped in water. When paste is used to fasten papers to a board, both sides of the paper should be dampened, as the paste takes longer to dry. In sharpening pencils, be sure the knife-blade has a good edge. Many a pencil has been half cut away from the blade being dull, on account of the undue pressure necessary. Stale bread makes an excellent means of cleaning up a drawing. It will hardly remove pencil lines of any strength, but it clears up the surface beautifully. Avoid the crust, as it may dent and scratch the paper when rubbed upon it. In selecting a pen, care should be taken to see that the nibs are of the same length, and that they are of sufficient thickness. In some pens the metal is so thin that the nibs really cut into the paper; and another disadvantage is, that in using the very moderate amount of pressure necessary to keep the back nib against the ruler, the two surfaces of the metal become nearly in contact, and the line becomes uneven. A fine pen will not necessarily make fine lines; a pen of medium size, if in order, will work as finely, and the larger handle is more convenient to hold.

THE collection of American woods made at the expense of Morris K. Jessup, of New York, and under the charge of Prof. Sargent, will soon be completed and presented to the Museum of Natural History in New York city.

The Chicago Builders and Traders' Exchange.

THE inaugural meeting of the Chicago Builders and Traders' Exchange was held in the new rooms of the association June 26, and was attended by all the prominent builders of the city. The time was wholly occupied by addresses, and the discussion of a generous lunch set before the invited guests by the association.

The meeting was called to order at 11.15 A.M., by President Geo. C. Prussing, who addressed the members as follows:

Gentlemen: It affords me pleasure to welcome so large a number of members and visitors here today. In calling you to order for the first time in these rooms, an opportunity offers to speak about the foundations of the pyramids, or the topping out of that ancient landmark, the tower of Babel. What is there to prevent an introduction to the secret recesses of an oriental Harem? The field is unlimited—the opportunity tempting—and I would be inclined to embrace it if I did not see those among our invited guests better able and doubtless ready to entertain you.

In this assembly I need not mention the marvelous growth of our own Chicago, not excelled in rapidity or beauty of architectural design by any other city, modern or historic. The quality of the work of its builders is attested at every hand by its monumental business structures, its palatial residences and spacious factories; it challenges criticism and fears no comparison. When I say builders, I include all whose work enters into the construction of buildings—the architect who designs, the artisan who executes, and the manufacturer who fits for their various uses the materials required. But to them you need no introduction; nor need the volume of building business be enlarged upon. That it is larger than in any other place in the known world our friends of the press will figure out and prove to our common satisfaction on new-year's day next, as they have done for so many years back. They will figure out, within an inch or two, the height of a column you would have were you to pile, one upon another the three hundred and fifty millions of brick made and used in this city. They will give you the exact number of times a railway train loaded with the lumber handled here in a year will reach around the globe at the equator, and in numerous other ways will impress on you the fact that the building business of Chicago is immense. I will not steal their thunder. Let us admit that it is large.

For the accommodation of the multitude engaged in this important branch of trade, a place and hour to meet on common ground was deemed desirable. That it is recognized as an absolute necessity is proved by the long roll of members already on our list. Over four hundred firms, comprising the longest established and best known in every branch of building trade and manufacture hold membership tickets in our Exchange on this its inauguration day, and new applications are received continuously. The Exchange thus established will be the headquarters of all builders—the center of the building trades. From 11 to 12, during the Exchange hour, a representative of each live firm will be on its floor, within easy reach of architects and customers attending to their buying and selling and incidental business.

The committee on membership has exercised due care in the admission of applicants. The bylaws provided for the expulsion of any found guilty of unbusinesslike practices, and, from what I know of the gentlemen comprising your present Board of Directors, I feel safe in saying that the provisions of the bylaws will be strictly enforced.

Thus we believe it will not only be found an advantage for all connected with the building business to be members of the Exchange, but that ere long it will be a measure of reproach to have it known in Chicago that a builder is not admitted to membership therein.

A word about these rooms. We have endeavored to provide the most centrally located, and easily accessible to all; have fitted and furnished them for business, and shall try to meet every necessity and reasonable requirement for its speedy transaction. We trust our endeavors in this direction will meet with your approval.

Gentlemen, I thank you for your attention.

The president then introduced the Mayor, the Hon. Carter H. Harrison, who spoke as follows:

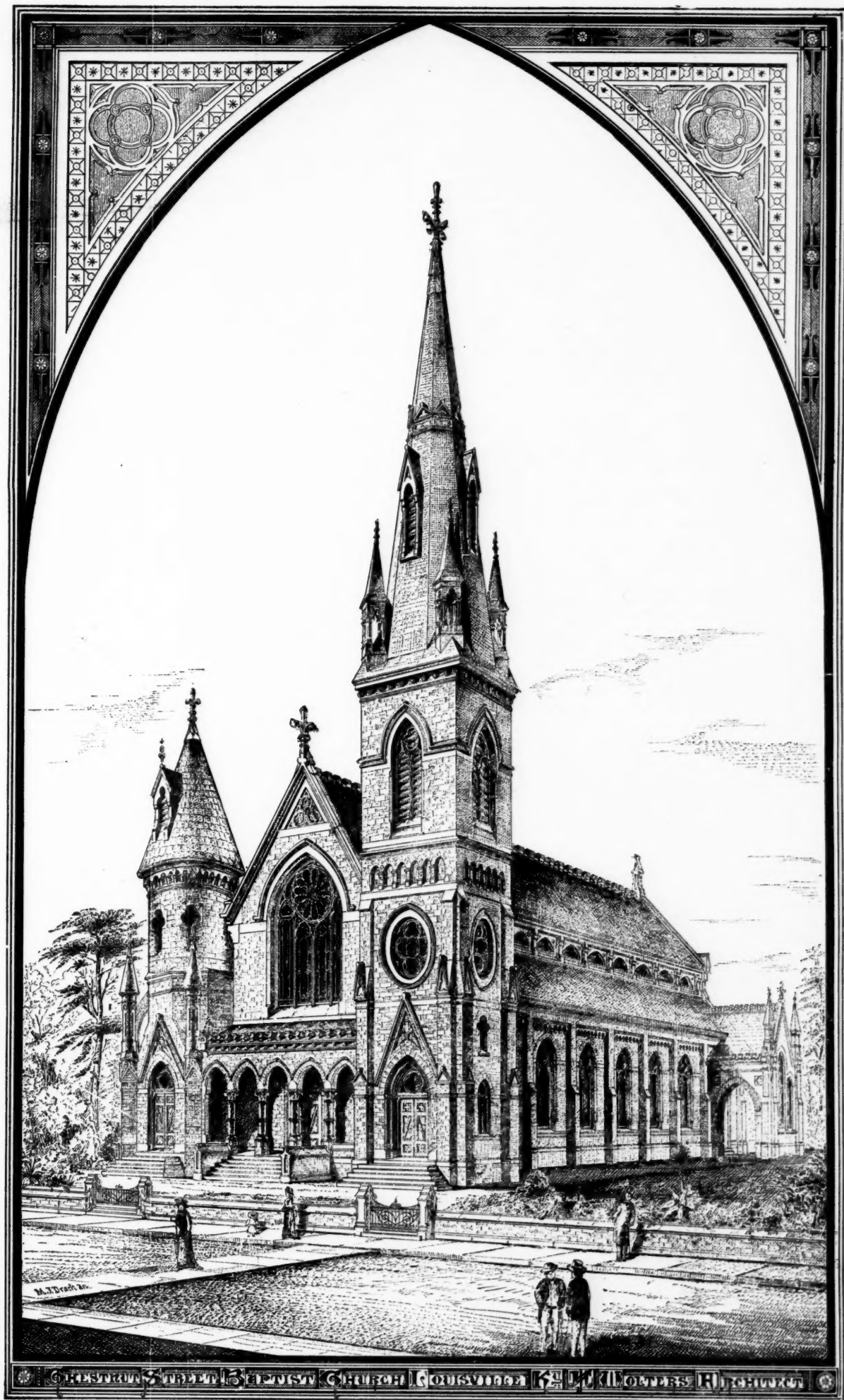
Mr. President and Gentlemen of the Exchange: The desire of the committee that I should come down and help you open this new room, and inaugurate the Builders and Traders' Exchange, shows a laudable desire on their part to commence right, that they may go right afterward. [Applause.] They want the Mayor of Chicago (not Carter Harrison, but the Mayor of this mighty city) to start the ball in motion, and say a few words of encouragement to you. I was a little startled when your president started out to make his speech. When he spoke of the foundations of Chicago, the pyramids and the tower of Babel, and, further, said we might go into the recesses of an oriental Harem, and then said he might embrace the subject, I rather thought he was getting a little off the subject. [Laughter and applause.] A thought came to me that I would have to check him if he would attempt to embrace the Occident and all oriental harems. We have no such thing here for him to embrace, therefore you must embrace true business rules, and perform your business with regularity and honesty.

I am glad the builders have met together. I know there are a good many tricks in all trades but ours. I see over there one friend who has helped to build a foundation for me, and it sunk down because there was a little quicksand at the bottom, and he failed to put in a solid dimension stone. Another over there put in some brick, and guaranteed them; they were as spotted as Jacob's frock was; but he said he did not guarantee the color. There is another who guaranteed a job of plastering, but when the plaster was put on, it burst all to pieces, as though it had smallpox. Another, a carpenter, made a failure putting in some screws, and I had to go to work and tie up the building with tar rope to hold it together. No such business will exist now. My friend Purington will never sell me any more brick not fully ripe. [Applause and laughter.] I feel that Indiana brick, sold by Chicago men, will be all that is claimed for them. He told me all the

bricks were got down in Indiana, and you know you cannot trust Indiana Hoosierism. [Applause and laughter.] An Exchange of this kind is calculated to do a great deal of good. Not only will it facilitate the means of intercourse with each other, but you will become better friends here, and always be ready to act together in matters which will be for your mutual good. All I ask of you is, that you be honest in your trades and estimates; and when you propose to do work, let it be done in good faith; and if any do wrong, let others expose the wrong, and all combine to break up bad habits, and bring all to the exercise of greater care. You will have an immense advantage and can better protect the higher interests of members. You will be acquainted with the needs and conditions of the various building trades, and you can be influential in establishing legitimate trade organizations and in preventing strikes. In a city taking a course leading to strikes, you will consult together in your own affairs, and appropriate not more than is due, but give fair wages and exact a fair return for labor. You will have the opportunity to indulge in different styles of architecture, because, I believe, you can admit you have many good architects, as well as grand architecture. You yourselves know these men, and under whose direction the foundations are being laid almost as solid as the pyramid of Cheops. What is to become of this mighty city planted here in the midst of this greatest grain field in the world, capable of feeding millions of people from the fields around, with railroads leading to every port in the United States, there meeting ships that go to every point on the globe? We have reason to believe, and it is no boasting, that Chicago is coming on to a population of from one to three millions of people. I believe today that there are men in this hall who will live to see fifteen hundred thousand people in Chicago. I recollect when I came here, twenty-nine years ago, a man who spoke of Chicago, of what Chicago is today. William B. Ogden pointed out the canal, and said: "Young man, you will live to see steamers coming into Chicago and running to New Orleans"; and further said, "you will live to see the day when land will be sold on the Desplaines river by the foot and not by the acre." The Illinois and Michigan canal is not yet completed, but the Government will take it in hand, I believe, another year. The Desplaines property is sold by the foot. Going on as we have gone, our city is to be a vast one. Let it be your duty to see that the buildings put up here will endure, not for a day, but for all time. Put on the corner-stones your names, and have the arches and architecture so firmly built, that a hundred or two hundred years hence your names may be read as the builders, and thus go down to fame. Do your duty. Do all things well. Chicago affords you what no other city can offer. I congratulate you, therefore, upon the opening of the Exchange, and that you have met here together as you have met in this entire work, and hope that all unfairness may depart at the door, and that none but fair work may be demanded. And, gentlemen, when I come to build for the city, if you think any of you can bid a little lower because I have been "the best Mayor of Chicago," I will be pleased to ask you to bid low for me. Gentlemen, once more, in the name of our people, in whose behalf I am here to assist in the opening of this Exchange, I congratulate you. I hope and believe, from my knowledge of men in Chicago, whom I have associated with, that building will be better. I want to say to my friend Purington that I, too, have been a brickmaker, and over in St. Patrick's church are some of my brick, and they stand well. Purington, do your duty. [Applause and laughter.] I can trust you in all things but two,—that is upon your bricks and black politics.

Mr. Gurney being called for, was introduced by the president, and said:

Mr. Chairman and Gentlemen of the Association: I want to say before the Mayor goes out that he helped to open the Exchange in a room not far distant from this. He took the first steps in opening it, and I am glad that he is feeling nicely, occasioned not only, I hope, by the opening in the other room, but simply by the good feeling manifested here today. I am not a builder, and think I should have very poor success in the designing of a building; but there are certain principles connected with it that men cannot ignore, if they expect to reach a position where their business will be respected. By the advantages of this Exchange, men and architects may have protection. We should know more of the business if a record had been kept in communities, and it is not only by the failure of individuals but of communities to keep a record of their business that these things have been lost to the world. It is not more than seven or eight hundred years since the work of associations of men coming together in their common good and interest have been preserved to the world. We find back in the middle ages where men commenced to come together to attend to things for their mutual protection. In Asia, Europe and Africa we have some evidences of the difficulties they met with, and monuments of their industry, wisdom and perseverance. I believe, firmly believe, that every institution traveling upon certain lines of industry should be organized. But the great trouble is, our inevitable conflict of evil with good in any time and place. So often does greed take the place of honesty and integrity. This has been the trouble as far back as we know. It does not exist simply in organizations for mutual benefit or friendly meeting, but it exists in politics and theory, and everything that concerns the people. This organization is the result of our civilization. The organizations which exist are all results of our civilization. Now, gentlemen, I am not very old—not quite as old as the Mayor [laughter]—he is older in a great many things than I am; he can beat me out of sight in politics, out of sight in a great many things. But one thing if any, that he has impressed on my mind is, that in a city government integrity should be the rule, if nothing else. Everything that is right in the city government comes in the interest of the people. When an individual or an organization, I care not which, departs from the straight line of integrity they become a detriment to the community. There is one hour appropriated to carry on business, and the principles of business direct that this hour should be devoted to it. I was glad to hear the president say that any man whose conduct was wrong would be expelled. I congratulate you, Mr. President, and I congratulate the men



here that you have come together, and that this day marks a new era in the building business of Chicago. There are, as the Mayor said, young men in this building today who will see in this city fifteen hundred thousand people. Never was there a city where progress was so rapid, and its progress so gratifying to the people. We want this organization, and every man among the trades, the people, and the artisans, to feel that this movement is sure to prove a blessing. But if they become an organization to be handled by a dozen men, in which the people cannot have any confidence, they become a curse. I have no trade. If I knew how to make a brick, how to make a waxend, or to lay out a building, I would be glad. There is no organization that I would unite with any quicker than this Builders' Association. [Applause.] I am very glad to be here, and it has afforded me great pleasure, but I thought I would like to hear from some of your own men. You have got good men here who are better able to entertain you. I hope you will introduce some of the members of your organization.

Architect W. L. B. Jenney, in response to calls, delivered a practical speech, which is condensed as follows:

Mr. President and Gentlemen: The inauguration of this assembly, composing the enterprise of our building fraternity, is the inauguration of a new era in the building of Chicago. Your meeting here in Chicago will afford new opportunities for friendship and good fellowship that cannot fail to elevate the moral standard of all business competition. The opportunities thus afforded for the exchange of views and the discussion of things of importance and questions that arise in every grade of building enterprise cannot fail to be greatly beneficial. Architects well know, at least those who have had a few years' experience, what a fund of information there is in the minds of experienced builders—information not to be found elsewhere, and which they can readily obtain. This object can be attained by an evening each week for a lecture, to be followed by a discussion of the points brought out; for there is nothing that will make the meeting more interesting than the discussion after the lecture. In fact, the way to make men's brains enlarge is to put something into their brains. This association is not inaugurated too soon. We have already felt the want of a union of the building interests. Seventeen years ago, when I first came to Chicago, the main part of the city was comparatively small; the main street was Michigan to Twenty-sixth, and west on Washington to Union Park. But a change has taken place within a few years. The citizens then seemed to be here to make money and to spend it elsewhere. While such a state of things existed, permanent architectural structures could not exist. Chicago has gone through every phase of existence, from the old log cabin of Fort Dearborn to the great Pullman building, which is from the one story to the ten and twelve. A few years ago a four-story building with limestone front was considered a fine building. Today we build of brick from St. Louis, Trenton, Philadelphia and Baltimore. Our stones are brought from Wisconsin, the east and extreme north of Lake Superior. In fact, I have in my office today some forty specimens of stone furnished to Chicago builders. Ten years ago we calculated that there were eighty pounds to the square foot; today we must estimate on one hundred and seventy-five. Our workhouses today must be calculated for three hundred pounds to the square foot, and the whole works make all things alike. Now, these things come from time to time to be a record of your association. If we have disadvantages, we have some advantages, for since the wrecking work of financial disturbances elsewhere, the disasters have affected Chicago very little. Today we seem to be entering upon a new era of building operations grander than ever before.

Alexander Kirkland was called for and responded substantially as follows:

Mr. President and Gentlemen: It affords me a hearty satisfaction to be present at the formation of this association, and to congratulate you upon the auspicious formal opening of your new quarters. It would seem to me that the gentlemen engaged in the business of building have at last decided to organize in an association that is calculated to promote their special interests. It is well, gentlemen, that you have done so. At the outset you may not perceive the actual benefits of such an association, but speaking from an experience of upwards of forty years of intimate acquaintance with building interests, I venture to predict that, if you follow up the rules of your association, you will do for yourselves far more good than you now anticipate. "In union there is strength," and if you will conscientiously unite to carry out to their legitimate issues, the purposes for which you organize, as set forth in your charter, a great good will be conferred, not only on yourselves, but also upon the clientage of owners which this wonderful city is continually thrusting upon you. And right here, gentlemen, I take the opportunity of saying that in every judicious effort you may put forth in the interests of building, you will have the coöperation of the city administration. The system now in operation governing the issue of permits for building, and the execution of the bonds required by law for the temporary use of a portion of the street upon which the building to be erected abuts, I know is unsatisfactory to the building fraternity. Since the creation of the Department of Building the system has not been changed. During the first year of the Department's existence there were issued four hundred and eighty permits of all kinds, yielding a revenue to the city of two hundred and forty dollars for the entire year. At that time the number of inspectors was thirteen, as against four during the administration of Mayor Harrison, until last summer, when four more were added. Forty-eight hundred permits were granted last year, and the number this year promises to be much larger than last year. Under these circumstances I think it is high time that steps should be taken to simplify the manner of issuing permits of all kinds required by persons about to build. There is now, I believe, an ordinance before the city council, prepared by a committee of your body, relating more particularly to the execution of bonds, which I endorse as far as it goes, but it doesn't go far enough. I think I am perfectly safe in saying that his honor the Mayor, the City Council and myself, will be

pleased to coöperate with a committee of your association in perfecting a system that will be satisfactory to and appreciated by you, and at the same time one that will not conflict with the city's interests. The time occupied under the present system in procuring the necessary permits, in my opinion, is entirely uncalled for, and may be easily obviated. I assure you, gentlemen, the Department of Building is actively alive. I thank you for your attention.

DeWitt C. Cregier, the city engineer, was then introduced, and said:

Mr. Chairman, Gentlemen of the Convention: I did not come here to have any pleasure at all. I came as one of the city fathers. I understood that a "keg of nails" would be opened, and came here to congratulate you upon the occupancy of these appropriate and beautiful quarters. I desire to congratulate you upon this association or organization as one of the great factors in the building up of the magnificent city in which we are all personally or otherwise interested; as has been said, this is the great forerunner. If you would see your good works, look around you; you can see them on the streets everywhere, and it may well be one of the claims for the formation of this organization. I did not come here, Mr. Chairman, to make a speech. If I had, I do not know that I could do it; nevertheless, a word, will be my congratulations to the gentlemen, many of whom I have the pleasure of knowing, and a good many of them I have the distinguished pleasure of looking after, and I am going to keep looking after them so long as I am hired for that purpose. So far as this company is concerned, I think there are many here more able to entertain you than myself, but I thank you for recognizing my presence here and wish I could do more toward entertaining this intelligent assembly.

Architect S. M. Randolph was called for and spoke as follows:

Mr. President and Gentlemen of the Exchange: I congratulate you upon the opening of this Exchange, because I do not believe that it is possible for these brother citizens and Republicans to get together without a benefit to themselves, and it is not possible for you to come together to plot against the whites. I believe this meeting will prove a grand benefit to Chicago. I have in my practice never failed to realize something from builders. I have learned from the hod-carriers, the mortar mixer and the bricklayer. The first principle of good building is honesty, and the question of who is going to be a successful architect or a good builder lies in the question, who is honest in his profession? Of course there is an exception to every rule, but the only true course is honesty. Years ago, when I was younger than now (I am not yet a veteran, nor yet one of the boys), but years ago I had the pleasure of meeting with Thomas Hugh Walters. I was out to his house in Philadelphia—to his "tent," as he called it. He was making a plan for a college. He looked on me as a boy, and took hold of me and said, "If you would be successful you must be honest." He said, if he had been a better man he would have been a better architect. Now, I hope this fraternity of builders will learn to speak well of a man wherever a man is deserving of good credit; do not be afraid to give it to him. If, on the other hand, his work should be condemned, condemn it. Now, gentlemen, I hope you will succeed and hope this will be a benefit to all. We are only in our infancy yet; we have got to learn. In fact there is more for us to find out than any of us know today. I thank you for your attention.

J. P. Ketcham, Vice-President of the Builders and Traders' Exchange, was called and spoke as follows:

Gentlemen: I am here very unexpectedly. I thought I would be deprived this privilege, and therefore am not prepared with a speech. I am very glad to be here, however, and glad to see the Exchange take possession of this room under such auspicious circumstances. I suppose I am here as much a representative of the lumbermen as anything else. I was going to say that I propose to help the lumbermen's interest in coming here today. I can assure you we are in sympathy with this organization, and we see the need of one. The wonder is, it was not organized years ago. And we have demonstrated the necessity of organization among our own fraternity, and have seen the good results of it, and think there is nothing tending more toward our own advantage than union and harmony in our own trade, through our organization. We have felt since that organization, two or three years ago, we have become better acquainted, more harmony in the trade, and think as the result we make more money out of it. I think a very good result ought to follow from this organization. Just a word or two more. There was probably, a few years ago, fifty lumbermen who said they had no use for city trade. There was so many contractors unreliable; and if we could be made to feel that any of these contractors are perfectly reliable, and the fact that they are members is a certificate that they are reliable, will tend to make us feel that the builders who belong to the Exchange are fully worthy of credit. It is not a question that a man should be possessed of wealth, but that he is honest. A man of good character and honest dealing, and that he belongs to this organization, should be a certificate of that fact. I am glad to be here today, and will pledge the lumbermen to do what they can for its success.

Mr. D. V. Purington said:

Mr. President: I supposed that I would be the last to be called upon. My being called upon I thought will be a signal to depart, and if you will delay departing, I will promise to let you off easy. There are many men in this assembly who have been engaged in business much longer than I have. For sixteen years all the energy and all the time has been spent together to its interest. It is therefore, Mr. Chairman, peculiarly satisfactory, and I congratulate the gentlemen and those connected with the building work. The common interest draws them together, where we can arrange matters of business of building, and arrange for their benefit and encouragement. This is, I hope, Mr. Chairman, a forerunner for all and every one to success in building. It remains to be seen whether or not we can maintain an institution of this kind in Chicago. Sometimes I have doubts of