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WASHINGTON UNIVERSITY, in St. Louis, opens this year its regular course in Architecture, which has been for some time in preparation. The course occupies four years, and is modelled upon that of the other great architectural schools in this country, resembling most, perhaps, that of the Massachusetts Institute of Technology. The Professor in charge of the Department of Architecture is Mr. Frederick M. Mann, who is well known in the profession, and will undoubtedly be a sympathetic and successful teacher. In addition to Professor Mann, Messrs. William B. Ittner, James P. Jamieson, E. L. Masqueray, J. L. Mauran and Thomas C. Young constitute a special committee, which has in charge the management of a Travelling Scholarship, offered to draughtsmen and young architects, under the auspices of the University. By a commendable innovation in the ordinary routine of travelling scholarships, candidates are required to spend the whole winter in work upon six rendered problems, and six sketch problems, after which they must pass a satisfactory examination in construction, architectural history and elementary French. Immediately after this examination, the award of the scholarship will be made, by a jury of three prominent architects residing outside the State of Missouri, three rendered problems and two sketch problems being selected, to be submitted by each candidate. In order to secure uniformity of conditions, as well as to utilize the work of the candidates as far as possible for the benefit of all, it is required that all the competing drawings shall be made in the rooms of the Department of Architecture, which are kept open until ten o'clock every evening for this purpose.

DR. LEDERLE, the President of the New York Board of Health, is rapidly making a name for himself by his energy in studying the public good in his own province. Recently, he determined to see, if possible, how far, and in what way, leakage of gas into the cellars of houses through defective pipes affected the health of the occupants of such houses. In the course of his investigations, his attention was directed to a gas main, two and one-half inches in diameter, in a single length of which, fifteen feet long, there were twenty holes. Naturally, the gas escapes in enormous quantities from such mains as this, and a large part of it finds its way, usually, into the neighboring cellars, the walls of which are often as permeable as the pavement over the pipes. Another way in which gas is said to be brought into buildings is through pneumatic tubes, which are often placed in the same trench, or conduit, with gas mains, and draw in gas from the leaks in the latter, to discharge it into the rooms served by the tubes. As pneumatic tubes, to be operated successfully, must be at least nearly airtight, it is difficult to see how gas could be drawn into them except from a source practically saturated; and the infection of cellars around such a spot would be likely to be much more serious than that carried through the pneumatic tubes. Dr. Lederle is said to be trying to trace an apparent connection between the infection of houses from leaky gas mains, and the occurrence of typhoid fever in the same houses. Of course, no one would expect to find the typhoid bacillus in gas, but the typhoid germ does not usually propagate itself in

persons in full health and vigor, and it is very possible that the breathing of air contaminated with small quantities of gas may produce such a depression of vitality as to expose the system to bacterial influences.

THE so-called "Drainage Canal" case, in which the State of Missouri is plaintiff, and the State of Illinois defendant, has come up before the Supreme Court of the United States, and, by agreement, the plaintiff is to have four months to prepare and present its evidence, and the defendant is then to have four months to present its reply. After this, each side is to have fifteen days for rebuttal of the evidence presented by the other. The attorneys for the State of Illinois had petitioned the Court to dismiss the case, on the ground that Missouri had neglected to prosecute its complaint; but it appeared that the Missouri authorities, instead of neglecting the matter, had spent a large amount of money in having analyses made of the water of the Mississippi below the inlet of the drainage canal, as a preparation for presenting its case, and the motion to dismiss it was therefore withdrawn. The testimony offered by Missouri, when the case is formally opened, will be of the greatest importance and interest to the whole civilized world. For many years, engineers and sanitarians have been unable to agree as to whether sewage can be discharged into a river without danger to persons who take water for drinking from the same river at any distance below. Even after the theory that sewage was immediately rendered innocuous by dilution with river water had been abandoned, the great majority of engineers believed that if the sewage was diluted with a certain proportion of water, and then exposed to the air during a flow of a certain number of miles, it was so changed as to lose its noxious properties. As time went on, various mishaps began to cast doubt upon this theory, and, ten or twelve years ago, one of the most eminent of English sanitarians declared that no river was long enough to purify sewage. The terrible cholera epidemic at Hamburg, which was traced directly to sewage in the river Elbe, cast additional doubt upon the river purification theory; and the tendency of science now is to consider that, while analysis may show a rapid decrease of albuminoid ammonia in flowing river water, it does not follow that specific germs are quickly destroyed, or that some of them may not preserve their vitality for a very long time in such water. Positive evidence on this point has not, however, been made public, and the investigations of the experts for the State of Missouri, corrected, if necessary, by those of the State of Illinois, will afford the first important contribution to the knowledge of the subject.

DR. AMBROSETTI, of Argentina, made an important contribution to the recent Congress of Americanists, in a paper describing the remains which still exist in Argentina of a race which seems to have resembled very closely the Pueblo Indians of Arizona and New Mexico. While, however, a remnant of the Pueblo Indians of North America still maintains its tribal organization and its habits of life, the Calchaquis, as the Indians of the corresponding race in the South are called, have totally disappeared, the few who escaped the weapons of the Spanish conquerors having been taken to Buenos Ayres, in the middle of the seventeenth century, where they intermarried with other natives, until their identity was lost. Before the Spanish invasion they seem to have formed a populous and powerful community, living in collective habitations, or pueblos, traces of which are scattered over the plains and mountains through a tract some nine hundred miles long. Although the Spanish soldiers were experts in the art of plundering the poor Indians whom they conquered, they overlooked some of the objects contained in the Calchaquis' pueblos, and Dr. Ambrosetti has collected a large number of gold and silver ornaments, beads of turquoise and shell, weapons of bronze and pottery, decorated with the figures of serpents which play such a singular part in the art of Central America and Egypt, as well as of South America. Among the villages Dr. Ambrosetti found many groups of stones, standing vertically, each a little higher than a man, and carved with a rude human face. These groups are surrounded by rings of stone, and recall the so-called Druidical monuments of Europe. In general, the Calchaquis seem to have been inferior to the people of the

Incas in wealth and intelligence, and appear to have formed a community apart from them, living an agricultural life, something like that of the Northern Pueblo Indians, but adopting a scientific system of irrigation which would be beyond the intelligence of the latter. That they were on terms of hostility with their neighbors, even long before the Spanish invasion, is indicated by the care with which the mountain passes leading to their territory were fortified; and it seems not improbable that they may have represented the aboriginal inhabitants of Argentina, who had retreated to the mountains before an invasion of the Incas, and maintained themselves there until the oppressors and oppressed alike were overpowered by the still stronger Spaniards.

ONE of the most sanguinary battles ever fought in Europe is recalled by the dedication of a large and beautiful church at the foot of the Shipka Pass, in Bulgaria. In this pass, the Pass of the Wild Rose, to translate into English its poetical name, was fought, in August, 1877, a battle, which lasted five days, between the Turkish and Russian armies. The soldiers on both sides fought with a heroism which will make their names immortal, and it was not until eighty thousand men had fallen that the Turks gave way, opening the route through which the victorious Russians marched, later, to Constantinople. With characteristic piety, the Russians, after the close of the war, prepared to commemorate the struggle by the erection of a church, which has been carried out by the Russian Government, and presented to the Principality of Bulgaria.

THE Academy of Fine-Arts in Berlin holds every third year a competition of a peculiar kind. Only Prussian architects are admitted to it, and candidates must not have passed their thirty-second year. Persons qualified under these conditions are required to submit plans, elevations, perspective drawings, sections and photographs of some building entirely carried out from their designs and under their direction. These documents are inspected by a jury, which awards to the author of the best a prize, consisting of the sum of thirty-three hundred marks, or about eight hundred dollars, which the winner is obliged to spend in a year's travel and study, at his discretion, the only restriction being that, unless he is familiar with Italy, he must spend a part of his time in that country. As the prize is awarded only once in three years, it does not constitute a very heavy drain upon the resources of the Academy, while it affords a valuable stimulus to young architects to study their early work to the utmost, in the hope of winning such a distinction.

ONE of the English magazines calls attention to the enormous development of the trade in spurious antique furniture which has marked the last few years. Americans, and, especially, American ladies, have a good deal of the passion for articles possessing some sort of historical association which is natural to people of cultivated minds and lively imagination, who see in their own homes very few objects endowed with such interest, and this sentiment, joined with their wealth, not to say their extravagance, and their inability to judge from experience of the truth of the stories told them, makes them easy victims. It is said that the factories of Rouen alone turn out more than a hundred specimens a day of "antique family clocks"; and the manufacture of old furniture is carried on in nearly every city in Europe. The clumsy old tricks, such as that of firing small shot at a chair or table, to give an imitation of worm-holes, have been superseded by more ingenious ones, and only an expert can detect imposition in such matters. In fact, a large business is now done in furniture actually made of old fragments, originally quite unrelated, but put together in such a way as to make a tolerably consistent whole. Even the ancient fabrics, such as brocades and laces, are now reproduced by thousands of yards, and sold in fragments to unsuspecting tourists, at an enormous price. These objects are sold, in many cases, by agents, who call upon the tourist at his hotel, and pretend to be old family servants, or impoverished heirs, who have come into possession of authentic relics of immense value, which they are willing to sacrifice for ready money; while, in the case of furniture, a great deal of use is made, everywhere in Europe, of cottagers, or inhabitants of dilapidated town houses. These persons are furnished with specimens of fictitious antiquity, which they arrange in such a way as to catch the eye of a person passing. Before long, some credulous tourist is tolerably sure to happen by, and to make the fortunate discovery of this ancient heirloom "in the last place where

anybody would have thought of looking for it." After an animated dialogue in broken German or French or Italian, the object changes owners, and is carried away by the triumphant victim, to be immediately replaced by another from the same manufactory. Even with antiquities of a more ambitious class, imposition is the rule. At least two establishments exist, or did exist, not long ago, in Switzerland, which carried on a flourishing business in the manufacture of "relics of the lake-dwellers," consisting of stone spear-heads, and other objects, of course imitated from those in the museums. In the same way, Greece, Italy and Egypt are flooded with spurious "antiques," many of which are made with such skill as to deceive even experts. The fact that the Boston Museum of Fine-Arts has recently removed from its shelves, as spurious, a considerable number of Greek terra-cottas, which had been exhibited as genuine for many years, shows that, where the most eminent judges are occasionally deceived, the amateur collector is practically defenceless.

WE have already mentioned the fact that the highest waterfall in the world was to be utilized in driving turbine wheels. The installation is now complete, and *Le Génie Civil* gives an interesting description of it. The water is derived from a little lake, the Lac de Tanay, situated on the side of a mountain at the upper end of the Lake of Geneva, about three miles from Bouveret. The mountains in this part of the world are steep, and the Lake, or, rather, pond, of Tanay, although so near the Lake of Geneva, is nearly four thousand feet above it. The Lake of Tanay covers something more than one hundred acres, and, by building a dam, can be increased in extent to nearly two thousand acres. A brook runs out of it, with an average flow of about eighty gallons per second; and, with such reservoir capacity for maintaining an even flow, it is not surprising that the idea of utilizing the brook should have attracted the attention of engineers. The first step was to build a power-house at Vouvry, a little station on the Bouveret-St. Maurice Railway, near the foot of the mountain, the upper valleys of which contain the lake. The difference in level between the lake and the power-house is about thirty-one hundred feet, and it was calculated that, with this head, one quart of water per second would give nine and one-half horse-power at the turbines, with all necessary allowance for friction and leakage. At this rate, the little brook would give a constant force of more than three thousand horse-power, but, by increasing the storage, by means of a dam, this could be greatly increased, and the pipes and valves, as well as the plans of the power-station, were arranged for a constant output of ten thousand horse-power. For the present, however, only four machines, of five hundred horse-power each, have been installed. The water is taken from the lake by a tunnel, a thousand feet long, with a slight inclination, and a branch from this tunnel serves as an overflow. From the tunnel the water is carried partly through other tunnels, and partly through pipes, to the power-house. The pipes are of Siemens-Martin steel, welded by hand, the joints being held together with rings and bolts, and kept tight by washers of copper. For the present, it is intended to use the power for the production of electric light, but it can easily be utilized for other purposes, if necessary.

THE *Builder* gives, in a letter from a correspondent, a very easy and useful method of laying-out an elliptical arch. The width and height of the proposed arch being given, a rod is cut, equal in length to the sum of the rise of the arch and one-half the span; and a notch is cut on the rod, at a distance from one end equal to the rise of the arch. A line is then to be drawn vertically through the middle of the proposed arch, and another horizontally across it at the springing line; or a strip of wood may be secured in each of these positions, so that the ends of the notched rod may rest against the strips, and move upon them. Placing the notched rod upright, in contact with the vertical strip, and holding a pencil in the notch, the rod, keeping the pencil in place, is to be moved along the sticks, so that one end is constantly in contact with the vertical stick, while the other is constantly in contact with the horizontal stick. The pencil will then describe one-fourth of a true ellipse, or one-half of a truly elliptical arch of the height and width desired; and, by shifting the rod, the other side of the arch may be drawn in the same way. For the use of plasterers, carpenters and decorators, who often have occasion to lay out elliptical arches of a given height and span, and who can always find three sticks and a pencil, this method is the readiest and simplest that we have ever seen described, and our readers will do well to keep it in mind.

LABOR-ISSUES IN THE BUILDING-TRADES.¹

THE practical student of labor-issues, no matter in what field he may investigate, is confronted with an almost universal condition — namely, a failure upon the part of the employer to act in the matter of labor as he does in all of the other relations connected with his business. He takes into account the factors of location, of transportation, of climate, of supplies, of cost of material of every name and nature that affect the business in which he is engaged; he assures himself that the parties he purposes dealing with are responsible, he fortifies himself by contracts of agreements so that on these points he may be reasonably assured that he can carry out the contracts he enters into, but he omits to protect himself in the most vulnerable part; like Achilles, he is practically out of danger, save at one point; unlike Achilles, however, the vulnerable part is not remote and insignificant, but in the most conspicuous position and one most open to danger. In spite of all the lessons which the experience of the last fifty years in this country, and a much longer period in the older countries, has offered, employers, as a rule, still go into the market and contract to "do and perform," without reckoning with labor.

The result from this blind policy, or lack of policy, is hardly different from what might fairly be expected: the wide-open gates invite invasion, the unprotected conditions suggests methods of attack, and a strong advance is made by those who see their opportunity and take it.

It is perfectly safe to say that the movement in the social and business world during the last hundred years, which has become known, somewhat too comprehensively perhaps, as "the labor movement," has not concerned, and does not concern, itself with the interest of employers, but is almost wholly addressed to gaining advantages, or supposed advantages, from employers and for a certain section of those engaged in the world's work, namely, those who work for wages. It may also safely be asserted that a large part of the objectionable features that have resulted from this labor-movement are due to the failure of employers to realize and act upon a common rule of business, namely, that if one does not look out for himself there will be nobody to look out for him. In other words, had employers recognized that labor-issues are as much a part of their concern as of those who are employed by them, and have participated, in legitimate and proper ways, in an effort to systematize and better the conditions under which labor is performed, the dangers which now threaten would have been largely modified, if not wholly avoided. The crux of the whole matter is this: that a field which is indisputably a joint possession has been cultivated exclusively by one party to the equation, with the inevitable result that the crop grown in that field is unsuited to the joint uses of the two parties; and as they must live upon the product of the field, and must live together, the unsuitable crop distresses and weakens each instead of giving life and strength to both.

What has happened is simple enough in its operation, but terribly complex in its results, and the whole world, awakened at last to the situation, exclaims with one voice that the labor-problem has become the most important and the most difficult of all problems.

These general statements apply to all lines of work, at all events to those lines where any considerable number of individuals are concerned, and, with the increased and increasing facility of communication and of bringing widely separated small groups into federated relations, thus making a most considerable interest, there are few lines of work which, at the present time, are outside this general condition of associated action.

The difficulties and dangers inherent in all associated effort are greatly increased by federation, centralization and concentration. Principles which in themselves are, perhaps, simple and admirable become difficult of manipulation and dangerous in application when many of varying nature are put into a crucible with the purpose of making them mingle into a consistent and workable whole.

The temptation is great to exercise undue power and to force by these measures of concentration that which can only safely come by growth, and the danger in the process is greatly enhanced by the fact that there are no trained minds available to safely direct and control the varied interests thus brought together.

There is no evidence that any one has yet been developed, and it is hardly conceivable that any one will be developed, capable first of comprehending and then of controlling the infinite complexities which cannot but be present in ever varying character in the aggregations of associated interests represented in the large federated or concentrated bodies. It is beyond all experience in Nature and Life to expect such capacity, and yet that is the condition with which the world is confronted, resulting from effort of a one-sided character, unrestrained and untempered by the application of those balancing forces which alone can create and maintain equilibrium.

The labor-problem comprehends three distinct interests — the interest of workmen, the interest of employers, and the interest of the public. It is usual to affirm that in all movements resulting from the agitation of labor-issues the interest of the workman and the interest of the employer are primary interests, almost paramount, while the interest of the community is collateral; but it is not at all certain that this relative position and definition is correct. The community, as the consumer of all products and the customer for all interests, is beginning to claim

that its right cannot be ignored, and may insist that it shall be first protected.

The movement of the interests, however, has, up to the present time, been largely in the order in which I have first named them — workmen, employers and public, and the character of these movements stated in the same order are aggressive, defensive and passive.

In the evolution of this social economic problem these movements are, in a sense, but natural — that is, they may be expected to occur as stated; but it does not follow that they may not be otherwise ordered, or that they cannot be replaced or adjusted through a wiser, saner process, in a different order and character, resulting from clearer comprehension of the true relation of these interests to one another.

It is easier to comprehend that the wage-worker was first stirred to activity, for it is he who will receive the most immediate and direct benefit from any improvement in conditions. At first he may have groped rather blindly for the changes which he as blindly hoped for, but the initiatory movement could certainly not have been expected from any other quarter, and the groping and blindness were soon supplanted by positive and clearly conceived action. From groping uncertainty to arrogant aggressiveness the stages have been infinitely varied and divided, and though the results in many of their manifestations have been, and are, familiar as household words to this assemblage, it is essential to the purpose of this paper to describe the principal route which the labor-movement has followed and indicate its growth from feebleness to uncontrolled and, apparently, under the present régime, uncontrollable power.

In a general way, the movement may be described as following the same route as natural forces, namely, the line of least resistance; for although there has never been a time when barriers have not been set up against the movement, they have been so superficial in character, so weakly unintelligent, that they have almost contributed to the rapidity, if not the smoothness, of the passage.

This line of least resistance has been the employer.

Although the community has always in the last analysis to foot the bill, the demands of labor have never been made directly on the community, but on that servant of the community, the employer of labor, who acts, in a sense, simply as the community's agent, but in such fashion that he oftentimes is subjected to almost all the difficulties and more than his share of the risk and ultimate loss. I shall hope to show before the conclusion of this paper that the time is fast approaching, if not already come, when a reversal of this process will be established, and the community will make its demands on both workmen and employer in a very direct manner, using its power to compel observance of rational rules of conduct in these labor-issues, which have been so radically ignored in these latter days.

Under present conditions demands are presented to, and attacks are made directly upon, an intermediary, who practically engages to deliver either to some specific member of the community or to the community in a more general way certain values which are the joint product of his labor and the labor of those whom he assembles, controls and directs in the process of production. This intermediary, the employer, is, under our present social status, indispensable. While it is possible that under some social polity which the world has not yet practised, a way may be found to dispense with the employer of labor, a way by which every one may work directly with and for the community, it is unquestionably true that such a socialistic condition has not yet arrived. But it is too plain to escape notice that in all the movements made by labor through its organized forces and under the conditions which I have described as existing, the principal effort, tendency and result is to injure this same indispensable intermediary — the employer. It is of course true that when an injury to either workman or employer occurs in these constantly increasing struggles, the community ultimately bears the burden, although it is often so thoroughly distributed that little notice is taken, but the aim thus far recognizable in the history of labor-movements is to catch the employer on the hip and make him bear, vicariously, the burden; a burden which, in this concentrated application and through his inability to escape or shift it, temporarily if not permanently cripples him. He is in the line of least possible resistance apparently, and, willy-nilly, he must take the consequences — at all events, he has taken the consequences thus far, and it is generally conceded that the employer's lot, under existing conditions, is not a happy one.

What is the character of this force which makes itself felt so widely, and often with such brutal disregard of individual rights, either of fellow-servants of same degree or those other servants whose work is equally indispensable with those who work for wage? Let us try and discover and define!

The study of associated effort is most interesting, and would be more so were it not for many painful stages through which one must pass in experiencing the character of this force, and one cannot study properly a practical, concrete question like this without experiencing its manifold vexations and suffering from its sharp pinches.

A principle in itself may be most admirable, and an individual in making application of that principle may be as admirable as the principle and ennobled in its application, but let a group of people attempt to operate the principle and almost invariably we have an illustration of the old adage, "Too many cooks spoil the broth."

A curious psychological change takes place when the minds, the souls, of men mingle.

¹ An address by William H. Sayward delivered at the Thirteenth Convention of the National Association of Builders, Washington, D. C., October 23, 1902.

Six or sixty men may individually be capable of dealing with their fellow-men on a given principle with practically the same result, but let them unitedly attempt to operate the principle and it is an altogether different matter, and that which should be a healing and helping becomes a wounding and hindering. I do not wish to convey the idea that this is peculiar to those who are connected with labor-issues *per se*, but rather that, whatever the kinds or conditions of men, their associated effort is full of dangerous possibility however clear the principle which actuates them may be.

In the first place I think we may say that the character of this force is selfish. However altruistic may be the purpose—and almost universally the claim is made of an altruistic purpose—the force as applied is eminently selfish. It is primarily an attempt to gain certain advantages, or supposed advantages, for certain chosen ones, without special consideration, or, rather, concern, for those who may be outside the artificially-fixed boundaries of the sect; but beyond this, and by far the most threatening aspect of the movement, is the deliberate intent to deprive those who may be within the charmed circle, or not in sympathy with its doctrines, of those privileges and rights which, until these notions were promulgated, it was supposed all human beings had as a natural inheritance, and which our American code describes as "life, liberty and the pursuit of happiness." This latter-day cult says you may have life, liberty and the pursuit of happiness only if agreeable to us, and provided it does not conflict with views we may hold, even though we do hold them under no authority from the State and exercise them regardless of the will of the community. The cult says, we are a power outside of the power of State or Nation, and may, and will, traverse all regions on a plan of control which the community cannot successfully interfere with through any of the recognized instruments which usually have compelled the observance of law and order and which have usually been sufficient to uphold the principle that the rights of the individual shall not be interfered with by powers outside the laws of the land.

The character of this force is, secondly, covert, disguised, evasive. Its primary operations are in secret, and its designs are hidden.

Thirdly, its effect is destructive rather than constructive, and, fourthly, its result is to keep the whole body-politic in a state of disturbance which makes sane and safe conditions practically impossible.

I believe this to be a reasonable statement of the character of this force which has been manifesting itself with ever-increasing significance for the last fifty years and with astounding power and alarming effect during the last dozen years, particularly in the United States.

Having thus briefly described the route which has been taken by the labor-movement and shown how it has naturally assumed authority and clothed itself with power outside all recognized boundaries, I wish to emphasize that power acquired and exercised under conditions where no balancing influences operate is certain to become despotic, and eventually harmful to those who exercise it, as well as to those against whom it is directed; and that we have no right to expect any other result when such conditions are permitted.

I have thus far treated labor-issues generically, and this method might be continued to the end of the discussion which I wish to give to the question, but we are here as builders, and therefore it will be wise to now address myself to those specific manifestations of labor-issues with which we, as builders, are familiar, and endeavor to show how we may modify our attitude so that more satisfactory conditions may prevail in our special business.

What I have said thus far may be considered as introductory to our special interests, and may serve to show that while we have troubles of our own, they are of the same class and character, arise from the same causes, and operate through the same channels as those in all branches of business where labor-issues are a factor, and I hope my conclusions as to what we may, and, I believe, *must*, do in our special field may seem also feasible in any lines which are subjected to difficulties common with ours.

The business of building in any or all of its branches is peculiarly open to disturbances arising from agitation of labor. This is partly the result of the preponderance of a lower grade of service than in some other lines, for instance, the finer lines of manufacture, which invite a perhaps higher intelligence than the ruder, harder tasks incident for the most part to building-work; but by far the greater influence which makes the building-business more liable than many others to these harassing troubles arises from the many distinct trades involved in the production of a single piece of building-work. The simplest structure, the least important undertaking in the building-line, calls into operation, on the premises, many distinct trades, all of them practically essential, the absence of any one making a gap which cannot be filled by any substitute, while in the more elaborate undertakings so common under the demands of modern business or domestic life, the trades which contribute to complete such buildings sometimes number more than two score. This great diversity, this specialization, which splits up building-work into so many parts, with a distinct employer and a distinct set of workmen for each part, invites disturbance, by the ease with which the whole machinery of operation toward a completed structure may be blocked. A portion of the work which in its relation to the whole may be absurdly insignificant may become the focal point upon which all the rest depends, and a labor hold-up in that trade may, in practical result, operate as effectively upon the whole building as in the relatively larger trades.

The sympathetic movement, of course, becomes peculiarly significant in the building-business, whether it be operated upon a single building, to bring either a general contractor or a sub-contractor to terms, or whether it be applied to a general group in a community, to bring all to terms.

One of the newer and most trying developments in later years is that arising from the conflicting claims of rival Unions in the same trade; with no grievances against the employer by either of the rival bodies, their grievances against one another are made to result in more injury to the employer, an injury which even the most easy and conciliatory of employers can find no escape from.

No doubt, many of the employers present here can furnish a long list of actual occurrences illustrating how the diversity of occupations grouped under the one general head, building-work, produces a danger which perhaps does not exist in such extravagant manifestation in any other calling.

From the character of actual disturbances that are taking place in the building-business under the present régime, one can readily understand that the opportunity for disturbance is practically limitless.

It seems to me that what I have said, coupled with what you, as practical men engaged in carrying on the various branches of building-work, know from your individual experience and observation, indicates beyond question that, as the case stands at present, the relations of employer and workmen in the building-trades are far from ideal, indeed they are full of danger as a building-proposition, not to say anything of the unsettling, undermining and, possibly, destroying of inspiration, satisfaction, delight in working out problems of construction or decoration upon which depends the development of power and ability to these ends in both employer and workman.

I would like to discuss somewhat fully this demoralization of purpose in work, which flows very directly from the maladjustment of relations of employer and workman, but it is more purely the business aspect of the question which engages me, and which is enough for the reasonable limit of a single paper. I will simply say in passing, however, that there is much in the attitude of antagonism of these two elements that tends to breed deterioration in quality of work; the workman who is constantly urged through unwise and inflammatory counsels, in his organization or elsewhere, to seek solely what he can get, the *utmost*, without much consideration as to what he shall give in exchange, gradually loses all other purpose, and, by the inevitable working of the law of cause and effect, the question of quality in what he does drifts, without his deliberate intent, into the background and finally disappears; while the employer, gradually ceasing to expect that which he is forced to believe he cannot get, lapses into the same attitude of get-as-much and give-as-little as possible.

Under such conditions as these, the ability to execute becomes gradually a lost art. This is no fairy tale, as many of you can testify, who already find it difficult to secure skilful hands to manipulate stone and iron and wood and all the materials for building into structures and things of usefulness and beauty.

The business aspect of the situation is most appalling.

I can conceive of no more threatening condition than that which grows more and more impressively evident as ultimately possible with every new phase of the labor-problem now rapidly developing in every direction.

While the disturbances which quickly reach the individual, so that he personally feels their sharp pinch, like the coal strike, for instance, appeal glaringly to the public and result in volumes of wise and unwise discussion, mostly from those who have no practical experience in the fields of work involved, who "never set a squadron in the field nor the division of a battle know" more than a spinster, the disturbances that take place in the building and other trades are none the less destructive, though the public, from the smallest and most insignificant consumer up to the President, be not keenly on the alert and insistent that "something be done" to ameliorate the conditions.

Labor-issues in the building-trades are fully as difficult to meet as those of any business, not excluding the business of mining coal; indeed, I think more so, and, as respects the extent or volume involved, either in money values or number of workmen affected, there is but little question that it—the difficulty—is equalled in few callings. I have previously indicated how the problem with us is complicated by the number of trades that are inextricably interwoven—the completion of a building being as dependent upon one as another—and I wish to emphasize the point now, as the action which I shall immediately recommend is made more imperative by the complexity referred to. The building-business is not, like mining or manufacturing, concerned principally with one general movement and one product, but is made up of many independent parts, independently conducted.

The independently conducted parts of a whole movement, as in the building-business, make possible a pressure upon the whole through some comparatively insignificant part. This interdependence is suggestive. It suggests weakness, and strangely enough, it suggests strength—and most of all, it suggests obligation. It suggests weakness because insufficiency in any one part blocks the wheels of all parts; and it suggests strength because under intelligent direction, based upon a proper principle of action, all parts may act together to defend any one or more parts from attacks that may be instituted against them. The suggestion of obligation is the strongest, because each part may not, with a proper sense of its duty to the other parts, pursue a course which may result in injury to all,

and for this reason, in the building-business more than any other, each of the blended trades should, in these labor-issues, feel its obligation to so arrange its affairs that others may not be made to suffer on its account.

Three compelling reasons exist for the adoption of a consistent policy as regards labor-issues in this business which immediately concerns us.

1. *Obligation* of each part to every other part.
2. *Weakness* which prevails most peculiarly in the building-business where there is no common policy.
3. *Strength* which is peculiarly available for the building-business when a common policy is positively adhered to.

Now, what policy is possible?

It would be a useless consumption of your time and mine, if this discussion should not bear fruit in the shape at least of a suggestion of possible remedy for what I believe to be a most serious mistake in the attitude of employers generally toward the labor-problem, and especially our labor-problem.

I am of the opinion that the attitude of employers generally in all kinds of business where labor is an issue should be radically changed. Instead of holding themselves as they too often do, either indifferent or opposed to organizations of workmen, I feel that they should take the matter up with liveliest interest and determination and insist that workmen in their various trades *shall* be organized; that they, the employers, will have no settled policy with them until they be organized; and organized in such fashion as will produce proper, and therefore safe, bodies to be recognized; that they, the employers, will cooperate with the workmen to this end, and that the organizations thus formed will be treated with in fullest, freest and most open manner, so that agreements shall be made at seasonable times of the year, governing terms and conditions for each coming year, or series of years, these agreements to be made public so that the community may know what the contract is and where to place the blame if contracts are not kept. Such a policy of participation will render it practically impossible for the affairs of labor-organizations to be one-sided or to drift into the hands of unworthy or dangerous men. The one safeguard that workmen's organizations need, to make them wholly valuable, is the cooperation of employers. I will not say they are entirely helpless without this cooperation, but I may say with truth that this cooperation will be their greatest defence against those evils which now most glaringly assail them and so often discredit them in the eyes of the public. At all events, an intelligent recognition by employers of the fact that they are a part of the labor-problem, that no inattention or discrediting on their part can alter the fact, but, on the other hand, that frank and complete cooperation insisted upon as, not only a duty, but a right, will furnish the element so greatly needed to balance a machine which often has seemed ill-adjusted for the work it aims to accomplish.

A policy of this nature, persistently and patiently followed, will put the employer in the same relation to the element of labor that he is to the other elements which, as I pointed out in the beginning of this paper, he feels it imperative should be fixed and stable in order that he may secure in his undertakings.

Now, what are the difficulties?

There are many, but none, I believe, so great that they may not be surmounted.

In the first place we have the difficulty arising from the prejudice which an untenable attitude and unwholesome action on the part of labor-organizations have engendered, and from the fact that in many cases their leaders have been irreconcilable and wholly unworthy of the important offices they have been permitted to fill; but I wish to make my belief entirely clear, that this prejudice will vanish when cooperation modifies the action taken, and puts that power of selection back into the hands of the conservative rank and file which has oftentimes been wrested from them; for be it also clearly understood that when I say that "labor must be reckoned with" I do not mean any and everything which presents itself as labor, or as a representation of labor—it may be a counterfeit presentment—but until employers put themselves in a position where they can participate in the issues, they cannot tell the true from the false and cannot help the true to oust the false. Employers must get near enough to the problem to be able to understand the difficulties which the honest and true men in labor-organizations have to struggle with, and it is only by so doing that they can help the good element to overcome the dangerous and bad. Wherever you find a labor-organization which constantly assumes the attitude and acts upon the assumption that the employer is an enemy to be attacked—alas, this is too often the sentiment which prevails—there you will find an organization which has drifted away from wise counsellors and into the hands of demagogues and dangerous men, and that is the organization which, more than any other, needs the help of the employer to rescue it from the danger into which it has fallen;—for an organization which fosters this sentiment of antagonism widens the breach, increases difficulties and deteriorates character. It needs help. Shall it be denied?

On the other hand, I wish to express with equal emphasis that when you find an organization of employers which goes no deeper into the labor-problem than to resist indiscriminately all measures sought by labor, and fails to address itself to the more significant and promising effort of cooperating with labor in an intelligent way, so that labor may be saved from its self-inflicted errors—and, alas, too many organizations of employers and too many individual em-

ployers seem to have no clearer vision of their opportunity and duty than this—there you will have an element which tends to increase rather than diminish the conflict between capital and labor, that conflict which has no sane reason for existence.

Another difficulty to be overcome is that sentiment so often expressed by employers that they will not treat with unions until they reform themselves and become proper bodies to deal with. This must be met by showing that the chief hope of reform lies in the introduction of that element which the employer alone can furnish and that to demand that the reform must be effected *before* this element be introduced is of the same nature as the restriction placed by a mother on her child, when she insisted he should not go into the water until he had learned to swim!

Another, and one of the greatest of difficulties in the way of setting up new and more wholesome relations, is the unfortunate attitude which unions have assumed toward non-unionists, and which they seem disinclined in most instances to either abandon or modify.

If we put ourselves in their places, I think we may readily understand how this feeling has become deeply rooted. Human nature is about the same whether it be of one condition of life or another, and we are all liable to become prejudiced against those who persistently oppose us. We must grant that the great bulk of those who are members of trade-unions believe in them thoroughly as their only hope for betterment of conditions, and in this view our intelligence and our fairness compel us to concur, even though we may severally condemn some general principles of action and many specific acts—for it is plain that employers or the public generally would not of their own motion have brought about the changes which the unions have secured—and we must also admit that non-unionists have participated in the general improvement. Is it not easy, therefore, to understand why the union man, as a rule, looks with contempt upon the man who sneers and flouts him, refuses to pay his share of the bill of expense, and yet takes all the gain that others have won?

It is easy of comprehension, I say, this deep-rooted antagonism of the union man against the non-union man, and yet, twist it how we may, there is a still deeper rooted feeling which compels us to say that, however galling it may be for a group of men to see others profiting in an increase of wages or by a reduction of hours secured through their concentrated efforts, *the inherent right of the individual to work or not to work must not be interfered with.* This principle is so based on the very foundation of our faith in independence of action, that independence for which this country stands, that it cannot be successfully assaulted; therefore it is the height of unwisdom for labor-unions to make it an issue. As has recently been well said by a sociological writer, "unions have rights to be as exclusive as they please and are within their rights so long as they control only the labor and movements of their own members, but they pass the limits of right and common justice the moment they use their organizations, either directly or indirectly, to exclude even one human being from the chance to make his own livelihood in his own way." This right to make a livelihood is inalienable in every human being so long as he does it within the law, and any man or any group of men who set themselves up against it injure their own cause by so doing. They injure their own cause also by setting up an argument which, if tenable at all, is equally tenable against themselves, for if the non-union man cannot, without interference, pursue any lawful course under any agreement or condition agreeable to him, then the union man must submit to the same injustice. It is time for unions to drop this most unfruitful endeavor; it is time for them, for their own good, to quit claiming that they have the right to work or not to work, and then, by the measures they adopt or support their members in adopting, practically deny that right to others.

It is my thorough conviction that the quickest road out of this folly is to cooperate with unions to help them, among other things, to see that this non-union opposition is wholly untenable; it will then soon cease to be a factor. As the attitude of resistance has created evils and dangers, so will cooperation banish them.

If employers abandon their distrust of unions and enter into friendly business relations with them, unions must abandon their distrust of non-union men and concede the right of their fellow-workmen to join, or refrain from joining, their bodies. If a labor-union is recognized as a fit and proper representative body to act for the class—and it must be fit and proper and representative or it cannot be dealt with—then all is gained which it may properly seek; and, by the abandonment of its attempt to coerce people into joining, it opens the surest road for accession to its ranks of those who may come of their own accord, but *won't be driven.* Relieve the unions of unworthy methods (and cooperation by employers will accomplish this more quickly than anything else), and those who now object to joining will be much more ready to do so, and if they still stay outside and no notice be taken of them, it will soon be demonstrated that they are entirely harmless, because they have no effect. When employers and employes take each other mutually into confidence and thoroughly discuss matters of mutual concern, antagonism to labor-unions, to employers of labor and to non-union men will soon disappear; and I further believe, and my belief is based upon actual experience, that if the dropping off of non-union opposition be made a prerequisite of recognition, it will be dropped without hesitation.

Two minor difficulties should be mentioned. One is the trouble connected with joint-committee work, which every employer holds as

a bugbear, and the other the claim that labor-organizations should be incorporated so that they may be held financially responsible for their acts, even as the capital of employers is the basis of their responsibility. As to this last feature, I must confess that I see very little real increase of responsibility, such responsibility as is argued for, financial responsibility, through incorporation, unless the capital of such corporations should be very great (a practical impossibility) and made available only for damages under broken agreements; but I do think that employers and workmen alike should seek to give their respective organizations some legal status which should result in rendering them subject to removal of rights granted under State charters when failing to adhere to agreements, or causing stoppages of work, or creating interference with privileges and rights of others. As to the objection that any form of cooperation entails trouble, I can only reply that this is a most unworthy plea; better any amount of trouble to defend ourselves and the community from the harassment and larger trouble which is inevitably connected with strikes and lock-outs.

In summing up it may be said that in labor-issues, either for the building-trades or other lines of work, these intricate and involved matters will not take care of themselves; they cannot safely be entrusted to one of the interested parties alone; both parties must have equal concern, must act jointly, not only in their own interests, but, in effect, in the interests of the community.

This being done and agreements formally made and legally entered into, if contracts are then broken it will be penalty, not arbitration, and the community will be the chief factor in imposing the penalty.

Now, in conclusion, I wish to point out what seems to me a peculiar advantage for the building-trades in carrying out this policy, showing, as I have previously indicated, the strength given by the very conditions which primarily seem a cause of weakness. It will be remembered that I endeavored to show that the diversity of trades involved in each and every building-operation, each trade standing by itself, with a distinct employer and a distinct set of workmen, gave opportunity for almost limitless interference; in some cases a small and comparatively insignificant trade blocking progress of work as effectually as a larger trade. This may be turned to advantage by so concentrating the action of employers that any strike in any single trade, even on the work of a single employer, shall result in a lock-out of all trades by all employers.

This is coercive action, and it should be the study of employers to avoid it. But it would be legitimate under certain conditions which I will endeavor to indicate, in describing specifically how I think these labor-issues can be most effectively met on the lines of the policy I have been discussing.

I should begin by having those employers in the various building-trades, the best, the most responsible in each branch in every community, united together for the specific purpose of dealing with labor-issues. I should have this central body, acting in the general interest, at a seasonable time in each year, issue a call to all organizations of workmen in these various trades, requesting that they formulate their desires as to wages, hours and general conditions for the coming year, and transmit them to the central employers' organization, this latter organization committing itself to laying the desires of the workmen thus expressed before the employers' organizations in each respective trade, and engaging still further to bring about agreements between the employers and workmen through joint conferences. All conferences to be upon a uniform plan and all agreements to be under the observation of the central body, in order that there may be no conflict in the terms and conditions of the various trades.

These agreements being effected and made public, so that the community may understand exactly what has been done in its interest, the central body will then be in a position to demand and secure observance by both parties of the terms of the agreement.

For instance, should any branch be embarrassed by stoppage of work in apparent violation of the agreement, the central body will immediately take it up and make public investigation and fix the blame and penalty. Should the blame be upon an employers' organization, it would have to withdraw from the position taken, or lose affiliation with, and the support of, all the rest of the central body; a serious matter. Should the blame be upon a workman's organization it would have to withdraw from the position taken, or the central body would at once cause all work to be stopped in all trades; an equally serious matter, and one which would speedily end the recalcitrancy of the guilty organization.

If it be too difficult to get a central body thus effectively organized, the same thing can be accomplished by the most prominent general contractors banding themselves together for the same purpose and with the same policy of action. In some respects this is the more attractive form, inasmuch as it limits those who must be in harmony to a much smaller number. But, in any event, this line of action gets all its strength and value upon setting up preliminary agreements to settle all matters of mutual concern by and through joint committees, these joint committees to formulate working rules under said agreements.

With these agreements existing, it will be hard for either party to evade the penalty which breaking of the contract will bring, hard for the guilty parties to avoid the just condemnation of the public.

But, in my opinion, and this opinion is based upon many years of experience, the discipline spoken of will rarely, if ever, have to be

applied, for agreements fairly entered into and made public are seldom violated.

I have one word more and a suggestive one.

I received a letter last week from one of our good builders, a man of large experience and extensive business operations, a letter in reply to an urgent request from me that he be present and discuss this most important topic. He wrote, "I am sorry. I should like to be with you in Washington, but I am too much occupied with actual business to spare the time."

Ah, my friends, until employers realize that the labor-problem is as much "actual business" as any part of that "business" which seemingly demands their whole attention, they will fail to take those steps which the old adage comprehended when it declared that "An ounce of prevention is worth a pound of cure," and they will go on as they have in the past, blunderingly refusing to protect themselves and honest workmen against the dangers that threaten, and permitting bad men and measures to obtain control.

PURIFICATION OF SEWAGE.¹



HERE is, perhaps, no more difficult problem to be solved than the successful purification of sewage, and certainly nothing has given so much hope of a satisfactory solution of the difficulty as the recent experiments which have been conducted on bacteriological lines. In the past, many methods have been tried with more or less success, but none have been supported by scientific investigation to the extent accorded to this system. Exhaustive experiments have been carried out on bacteriological lines in many towns in England, especially in Exeter, Manchester, Leeds, and, under my own direction, at Leicester. The particulars and results of the Leicester experiments were fully set forth in the report I prepared thereon, and largely embodied also in the evidence I had the honor of giving before Lord Iddesleigh's Royal Commission on Sewage Disposal. The workers in the bacterial purification of sewage have become very numerous, but one may fairly mention broadly such distinguished men as Klein, Houston, Frankland, Roscoe, Woodhead, Parry Laws and Andrews, Dibdin and Thudicum, Clowes, Dupre, Adney, Rideal, Scott-Moncrieff, Waring and Ducat, and the well-known eminent officers of Lord Iddesleigh's Commission.

Much credit is also due to Mr. Cameron, the late City Surveyor of Exeter, for the untiring energy and ability with which he has devoted himself to his now famous idea of adapting to modern bacteriological practice the septic action which has for ages past prevailed in the old and familiar cesspool, but with this difference, that, although some advantage was derived from partial liquefaction of solid matters in those cesspools, they were a source of great danger to health from defective design and construction and from their close proximity to dwellings and sources of drinking-water, and the offensive overflowing liquid therefrom dangerously polluted the neighboring ditches and brooks; while Mr. Cameron's septic tanks, with his excellent automatic appliances, are so designed, arranged and located as to effect a large amount of liquefaction of suspended matters without the drawbacks and dangers peculiar to the old cesspool. The effluent from the septic tanks, which is usually then treated on bacteria-beds on the intermittent-contact system as introduced and developed by Dibdin, is passed through one, two, or three beds successively, according to the strength of the sewage, in order to reach the necessary standard of purity. The continuous process of slow filtration through bacteria-beds is now also much advocated by some; it is really the old system of filtration, but adapted to modern practice. It has not yet, however, made such successful headway as the contact, or intermittent, system.

Broadly speaking, the respective artificial bacterial systems, apart from land treatment, which are now practised may be grouped as follows:—

Ordinary subsidence-tanks of comparatively small capacity, followed either by contact-beds or continuous filtration in beds; open or closed septic tanks, followed by contact-beds or continuous-filtration beds; contact-beds or continuous filtration alone.

In some towns where the trade liquids render the sewage very stubborn to treatment, some preliminary chemical precipitation, in conjunction with subsidence-tanks and contact-beds, or continuous-filtration beds, has been resorted to. These artificial processes are defined and dealt with in detail by the present Royal Commission.

There are several combinations of these systems which cannot be done justice to in the scope of this address; but from my own experiments, extending over a period of thirteen and a half months, treating volumes of 60,000 to 467,000 gallons per day by seventeen different processes, I have been led to certain conclusions, which I will briefly refer to, viz:—

That neither contact-beds nor continuous-filtration beds, without previous treatment of the sewage, will be permanently successful unless the sewage is extremely weak and largely free from matters in suspension.

That open or closed detritus, or subsidence, tanks, with a capacity of about one-sixth of the dry-weather flow per day, in conjunction

¹ Extract from the Presidential Address of Mr. E. George Mawbey at the Annual Congress of the Royal Institute of Public Health.

with first and second and, where necessary, third contact-beds, effect a thoroughly efficient purification, and in these experiments gave, with two contact-beds, an average purification of 83.12 per cent in albuminoid ammonia, and 90.15 per cent in oxygen absorbed, at 80 degrees Fahr., in four hours, the average strength of the crude sewage being 1.2481 grains per gallon of albuminoid ammonia, and 7.5929 grains per gallon of oxygen absorbed. The same process, but with the addition of a third contact-bed, gave an average purification of 86.74 per cent in albuminoid ammonia, and 91.32 per cent in oxygen absorbed, the average strength of the crude sewage being 1.3641 grains per gallon of albuminoid ammonia, and 7.8160 grains per gallon of oxygen absorbed.

The experiments with the use of a closed detritus tank, followed by a closed septic tank, and then double contact beds, gave an average purification of 79.91 per cent in albuminoid ammonia and 89.72 per cent in oxygen absorbed, the average strength of the crude sewage being 1.0094 grains per gallon of albuminoid ammonia and 7.2152 grains per gallon of oxygen absorbed; and this same process, but with the addition of a third contact-bed, gave an average purification of 83.68 per cent in albuminoid ammonia and 89.64 per cent in oxygen absorbed, the average strength of the crude sewage being .8837 grains per gallon of albuminoid ammonia and 7.2019 grains per gallon of oxygen absorbed. In these last two experiments, the volume treated in the septic tank for each twenty-four hours was equal to one and a quarter times its capacity in addition to the detritus tank.

Other important experiments which were carried out throughout the whole thirteen and a half months included the preliminary bacterial treatment of the sewage, with final purification on old pasture-land with a heavy clay subsoil. The most successful of these was an eight months' continuous test of treatment with a closed detritus tank, worked at the rate per day of six and three-quarters times its capacity, then through first-contact bacteria-beds (three fillings a day), with final purification by broad irrigation on the old pasture. An average of numerous analyses gave a purification effected of 86.76 per cent in albuminoid ammonia and 91.08 per cent in oxygen absorbed, the average strength of the crude sewage being 1.1823 grains per gallon of albuminoid ammonia and 7.4419 grains per gallon of oxygen absorbed. It will be seen that this process of detritus tank, first contact-beds, and broad irrigation effects a purification quite equal to closed detritus tanks with triple treatment in contact-beds.

For the last eleven years, the bulk of the sewage at Leicester has been efficiently purified by broad irrigation on a farm with a heavy clay subsoil; 1,350 acres have been specially laid out on a newly devised method, so that the effluent from the drains as well as from the surface can be intercepted and treated over and over again until a high standard is reached, and upon this work we expended about £60,000. Owing, however, to the great increase of the population, and the abolition of a subsidiary sewage-farm, it was found necessary to enlarge the system of treatment, and these experiments were carried out with the object of deciding (1) whether it would be better to increase the area of land laid out, (2) or adopt a system of preliminary clarification with subsequent final purification on the land without extension, (3) or even to adopt complete bacterial treatment to supersede the land.

The results of these experiments proved that the second-mentioned scheme — viz, bacterial clarification and land — gave an effluent at least equal to the best system of bacterial treatment on artificial lines, and the utilization of the land already laid out gives a greater certainty of permanent success than there has yet been time to establish in connection with complete bacterial treatment.

One very important fact in connection with this system is that the clarified effluent from the detritus tank and first contact-bed does not, when applied to broad irrigation, foul the grass land; in fact, in my opinion, it is an almost ideal process where plenty of land is available. I therefore designed a scheme to deal with our eight million gallons of sewage a day, comprising detritus tanks, with a capacity equal to one-sixth the daily dry-weather flow, 12 acres of first-contact bacteria-beds, the clarified effluent therefrom to be finally purified by broad irrigation, chiefly on old pasture and rye-grass land. This scheme, which included some additional pumping-plant and sewerage, estimated to cost about £170,000, has been adopted by the Corporation, and is now before the Local Government Board. I may add that, so satisfactory has been this combined bacterial and land treatment, the Corporation have, on my recommendation, purchased an additional 1,269 acres of this sewage-farm land which they previously held on a lease expiring in about fifteen years' time. — *The Builder*.



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

RHODE ISLAND NORMAL SCHOOL BUILDING, PROVIDENCE, R. I.
MESSRS. MARTON & HALL, ARCHITECTS, PROVIDENCE, R. I.

DETAIL OF THE SAME AND VIEW OF THE RHODE ISLAND STATE-HOUSE.

ONE of the most amusing pieces of sarcasm we have noticed for some time was paraded a few weeks ago by the *New York Tribune*, in the Sunday edition of which a view very similar to this was published. The editor, seemingly puzzled, undertook to relieve a similar doubt on the part of his readers by adding to the title-line under the cut these words, "the Capitol is the building with the dome on the right."

STABLE BUILDING, COHASSET, MASS. MR. JULIUS A. SCHWEINFURTH, ARCHITECT, BOSTON, MASS.

[Additional illustrations in the International Edition.]

DETAIL OF LAWN FRONT: HOUSE OF E. J. BERWIND, ESQ., NEWPORT, R. I. MR. HORACE TRUMBAUER, ARCHITECT, PHILADELPHIA, PA.

HOUSE OF REV. DANIEL MERRIMAN, BAY STATE ROAD, BOSTON, MASS. MESSRS. LITTLE & BROWNE, ARCHITECTS, BOSTON, MASS.

THE GARDEN FRONT AND THE DINING-ROOM: HOUSE OF MR. MURRY NELSON, JR., WINNETKA, ILL. MESSRS. CHARLES A. PLATT AND W. A. OTIS, ASSOCIATED ARCHITECTS.

PLANS AND LIBRARY: HOUSE ON WOODLAWN AVE., CHICAGO, ILL. MR. W. A. OTIS, ARCHITECT; — IL TEMPIETTO: VILLA BORGHESE.

In order to fill in the space we interpolate on this plate a view of the Il Tempietto in the garden of the Villa Borghese in Rome.



A NEW FIRE-EXTINGUISHER. — George C. Hale, ex-Chief of the Kansas City Fire Department, has invented an automatic chemical fire-extinguisher which appears to work well. The invention is in the nature of an addition to or an improvement upon the regular chemical extinguishers, but, instead of the small tanks carried by firemen, a tank capable of holding 500 to 1,000 gallons is installed in the building to be protected. The tank is connected with an automatic alarm which sets the extinguisher in operation, and at the same time notifies the Fire Department. In a recent test a seven-gallon tank was used. This was set up in one corner of a yard. To the tank was attached a line of 1-inch pipe leading to another part of the yard. At the far end of the pipe a regular sprinkler-head was attached and on the ground immediately beneath it material for a good-sized bonfire was piled up. It is in the attachments inside the tank that the main idea is evolved. In the bottom of the tank was seven gallons of a solution of water and bicarbonate of soda. Near the top of the tank there was suspended an open-mouthed bottle containing sulphuric acid. The mouth of the bottle was covered by a circular cap pressed down by a piston descending from a valvular arrangement by which the tank was closed. This piston was connected with a spring, the action of which was to raise the cap off the bottle. This piston was depressed by air pumped into the lead pipe, and it held the bottle upright. When the fire was started and the heat caused an expansion that opened the distant sprinkler-head, the air was released from the pipe, the piston in the tank shot upward and released the bottle, which tilted over and precipitated the acid it contained into the solution of soda. This created a terrific pressure of carbonic-acid gas, which, with the soda-water, was projected with great force from the sprinkler-head. The fire, which had made considerable headway, was extinguished almost instantly. In a subsequent test the air was allowed to leak from the pipe until the pressure was only three pounds, but that proved sufficient to operate the sprinkler. To meet the contingency of premature action on the part of the extinguisher through a leakage of air, a gauge is attached, and Hale is getting up a device by which the indicator on the gauge, when the air is reduced to a certain number of pounds, will make an electrical contact and sound an alarm. In the same manner the release of the air through the opening of the sprinkler-head in case of fire will turn in a fire alarm. In a closed room the carbonic-acid gas will extinguish a fire by smothering it, without much damage from water. — *N. Y. Evening Post*.

ELECTRIC-RAILWAY REGULATIONS. — The municipal authorities of Leipsic, Germany, appear to take the position that the grade-crossings of an electric street-railway service, when the cars maintain a speed higher than that which vehicles drawn by horses would ordinarily have, constitute a hazard comparable in a number of ways with the grade-crossings of steam-railway tracks; and in the past the street-railway company maintaining its service there has either had men with flags stationed at crossing roads to give warning of approaching cars, or the conductor on one of these cars, on coming to the crossing of a street, has been obliged to run ahead for the purpose of seeing that no vehicle was crossing, or was likely to cross, which would be in any way endangered by the passing of the electric-car. This system has either militated against the time made in running these cars, or has involved a very large outgo in paying the wages of flagmen. The company has

now introduced a system of light-signals at each crossing. Cars coming in one direction, when within a given number of feet of the street-crossing, cause the signal to glow with a red light, or, if coming in the other direction, the signal shows a green light, and this is said, by means of reflectors, to be effective both during the day and night. They are, doubtless, much more careful of human life in Europe than we are in this country, and yet when it is taken into account that our various suburban electric street-car services are frequently run at a speed equal to that of the ordinary railway-trains, and that the modern long-distance electric-car is a very heavy vehicle, it would seem as though this German method of giving warnings at street-crossings is one which might be wisely investigated by supervising authorities in this country, for the purpose of seeing whether its introduction here would not be both feasible and desirable. — *Boston Herald*.

CHARLEMAGNE'S BURIAL-PLACE.—The perennial controversy over the exhumation of Charlemagne has revived of late in Germany. It is one of the most desperate of its class. We are accustomed to read, as a simple matter of fact, that the Emperor Otho III resolved to test the value of tradition which asserted that Charlemagne sat in a chair of state beneath the altar of the Church of the Holy Virgin at Aix la Chapelle. In the year 1000 he carried out his purpose. A manuscript almost contemporary gives an account of the operation in the very words, as it professes, of Count Otho of Lourelo, Captain of the Imperial Guard, who was present. They cut through an "alcove" by the altar, and found the great King, exactly as legend described him, upright on his throne, the crown upon his head, and the sceptre in his hand, a gold chain round his neck. A snow-white beard covered his chest, and the nails had grown through his gloves. So well had he been embalmed that only the tip of his nose was decayed, and Otho replaced this with gold, removed the crown, sword, and other valuables, also one of the teeth; draped the figure in white, and rebuilt the alcove. The story could not be more circumstantial, and it is told by an eyewitness, apparently. Further, the crown and sword are preserved to this day at Vienna, and no one has ever questioned their authenticity. There was a "talisman" also, which Otho bestowed upon the city; the city presented it 800 years afterwards to Napoleon, who gave it to the Earl of Holland. His representative restored it to Napoleon III, and it is now at the Louvre. Upon the whole, the evidence seems indisputable. But on the other hand we have the positive statement of Eginhard and Thegan, his friends and Ministers, that Charlemagne was buried on the day he died. They say nothing of embalment. It seems very improbable that the science of those days could have preserved the flesh of a man who died of dropsy; certainly it could not have done the work in a few hours. Had it not been for this picturesque story, no one would have questioned that Eginhard's description refers to a simple burial beneath the pavement of the church. But there is another objection. No "alcove" can be found which shows signs of disturbance, and, though the pavement has been tested again and again, no vault can be discovered. Further, the Chronicle of Cologne reports, under the date 1165, that Frederick Barbarossa "lifted the bones of Charlemagne out of the sarcophagus in which they had lain for 351 years." Apparently they had not heard at Cologne of Otho's remarkable discoveries. A sarcophagus is still shown to visitors, but, to complete the confusion, it is far too small to have held the giant. The crown and sword and the rest have still to be accounted for. But it is recorded that when the Danes were advancing on Aix in 880 the treasures of the church were removed to Stablo. It seems more than likely that any valuables in Charlemagne's grave would be sent away with them. — *London Standard*.

THE BALZAC STATUE.—The statue of Balzac ordered by the Paris Society of Men of Letters will be unveiled in the Avenue de Friedland this month. Never was an attempt to honor the memory of a famous writer attended with more difficulties. The Society gave the commission some years ago to the sculptor De Vasselot, who, for some reason best known to himself, produced a sphinx, which was promptly rejected. Then Rodin undertook the work, and produced a Balzac which was likened by adverse critics to a porpoise in a bath-robe. After the flood of discussion which it aroused had subsided, Rodin sold it to a wealthy Englishman. Next Falguière, the noted sculptor, took the commission, and died, after which Dubois finished the work. Even after the statue was done, there was trouble concerning the site and the pedestal, which required more than a year to settle. — *Exchange*.

RUSSIAN IZBAS.—A fireproof village is the latest plan to which the Russian administration has resorted in order to prevent conflagrations, which have retarded so much the development of Muscovite country lands. It is known that the "izbas," or huts, of the moujiks are built of wood and roofed with straw, so that a whole village is likely to be destroyed entirely if only one hut catches fire. This was the fate of the prosperous village of Bazina. The inhabitants asked the Government for permission to establish themselves in a neighboring locality. Authorization was granted, but on the condition that houses shall be built in a manner different from the traditional one; that is, they should be constructed of fireproof-material. A subsidy of 100 rubles was granted to each inhabitant, and the municipality furnished iron at cost price. The village was built according to those conditions, but the peasants do not like it; the majority of them regret the old "izbas" where their fathers were born and where there is always a chance of being burned alive. — *N. Y. Tribune*.

CAST OF THE COLLEONI FOR THE BOSTON MUSEUM OF FINE-ARTS.—The Museum of Fine-Arts has just received, as a gift from Francis Bartlett, of this city, a full-size cast in plaster of the great equestrian statue of Bartolommeo Colleoni in Venice. Negotiations for the pro-

duction of this copy have been in progress for a number of years. As the supports of the statue are no longer considered strong enough to warrant the taking of a mould directly from the original, the authorities of the Berlin Museum have generously permitted the reproduction of their cast, which is one of three that were made about fifty years ago, the only full-size copies known to exist at the present time. Unfortunately, the Museum has at present no place in which it can exhibit a work of this size and scale, so the new gift will have to be placed in storage to await the growth and completion of the new Museum Building. — *Boston Transcript*.

BURNING OF THE CHATEAU D'EU, NEAR ROUEN.—The virtual destruction on November 11 of the Château d'Eu, the seat of the Duke of Orleans, was caused by a fire in one of the chimneys, and owing to the great height of the building the pressure of water was insufficient to reach the flames. The greatest efforts were made to save the art-treasures in the building, but they were not entirely successful. Many objects of great value were destroyed, including two-thirds of the library of 30,000 volumes. Among the art-works which were rescued was a statue of Psyche, which was presented to the late Duke of Orleans on the occasion of his marriage, in 1837, by the city of Paris. A large bronze statue by Princess Marie of Orleans was also saved. — *Exchange*.

RUMORED AZTEC FIND IN MEXICO.—A remarkable story of the discovery of hidden Aztec treasures has just been reported to the Government authorities at Tepic by the Rev. Pablo Martino, the parish-priest of Yesca. The priest makes a statement, which is concurred in by several reliable witnesses, that a party of Americans headed by an archaeologist who gave the name of Heverick arrived at Yesca several weeks ago and went from that place into the mountains accompanied by three Mexican guides. The archaeologist directed his course by means of a chart which he claimed to have copied from an Aztec stone tablet in the National Museum in the City of Mexico. He found a vast cavern in a mountain near Yesca. Immense stone images stood about this chamber and in one end was a handsome altar. In a chamber adjoining this main temple was found a great store of ornaments and utensils belonging to the Aztecs, or some other prehistoric race. Twelve burros were required to transport the articles taken from the cave to San Blas, where they were shipped to San Francisco, accompanied by the Americans. As such articles cannot be removed from Mexico without the consent of the Government, an investigation is in progress. — *N. Y. Evening Post*.

TEST OF A TWENTY-STORY STAND-PIPE.—Severe and successful tests were made by the fire-department of the 6-inch stand-pipe in the "Flat-iron" building, at Broadway and Twenty-third St., recently. Chief Croker declared that it had demonstrated that no matter how high a building might be it could be safely protected from fire if properly equipped with stand-pipes. He added that such a pipe as in the "Flat-iron" building erected by the side of the pier of the East River bridge would have saved that structure. The purpose of the test was to determine if the 6-inch pipe would stand the great pressure of twenty three stories of water and to find out how much force could be given to a stream from the hose attached to the stand-pipe at so great an altitude. In the second trial nine streams were thrown, one from each of the eight floors above the twelfth story and one from the roof. Three 4-inch nozzles were used, and a pressure of 200 pounds was obtained upon each of the nozzles. When the trial was finished Chief Croker said: "In every respect the test has been perfectly satisfactory. The stand-pipe in this building is made of galvanized-iron and stands the great pressure all right. Summarized, we have done here with two engines, I might say with one, what it would have taken a second alarm, or eight engines, to do without the aid of the stand-pipe." — *Boston Herald*.

THE SEISMOGRAPH AND BRIDGE VIBRATION.—An engineer named Omori has become familiar with the apparatus used in detecting and registering earth-tremors through his service on the Imperial Earthquake Commission of Japan. He was thus led to consider the question of utilizing seismometers for another purpose. Some of the strains to which bridges are subjected, especially the ordinary bending from stationary loads, can be easily computed in advance. But another set, due to moving loads, are not so readily ascertained. These are vibrations, up and down, crosswise or endwise. They have more to do with the security or insecurity of a given structure than the bending strains. Mr. Omori has tried his seismometers on bridges long enough to prove that they are so delicate that they will afford valuable information. He advises making tests at regular intervals, as in this manner warning would be given when a bridge was weakening through age. — *N. Y. Tribune*.

LUINI'S PORTRAITS OF THE SFORZAS.—The municipal museum of Milan has acquired from Count di Cigada fourteen fresco portraits which Bernardino Luini painted on the walls of a house originally belonging to Leonardo da Vinci, but which passed into the possession of a favorite of Duke Ludovico Moro. In order to testify his gratitude this person employed Luini to paint portraits for fourteen members of the Sforza family. For a long time these pictures were attributed to Leonardo, until chronological comparisons proved the impossibility of this theory, and experts decided that they were by Luini, the pupil of Leonardo, whose frescos at Lugano and Milan are among the finest specimens of this art. The portraits mentioned have been carefully detached and cleaned. Particularly impressive is that of Maria Sforza, the defender of national independence, under whose rule art attained its golden age in Lombardy. — *Exchange*.

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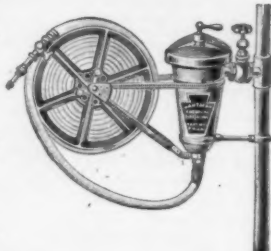
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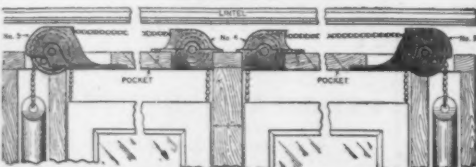
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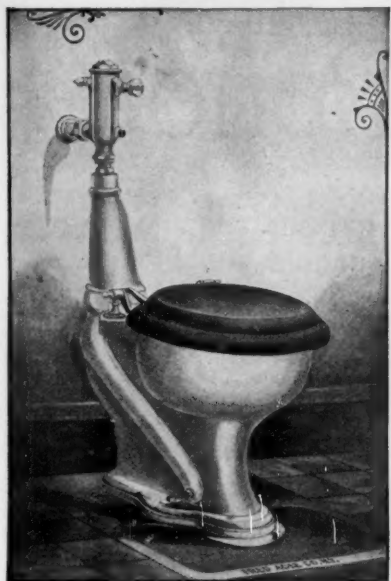
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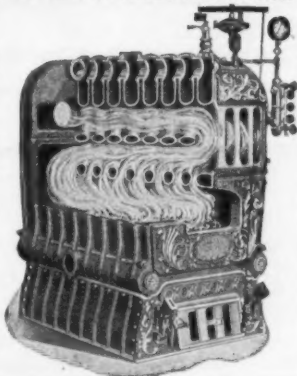
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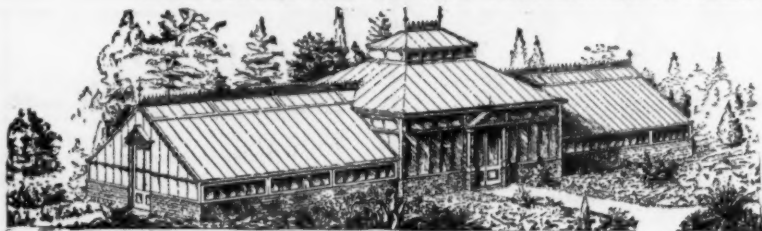


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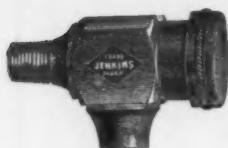
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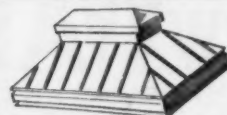
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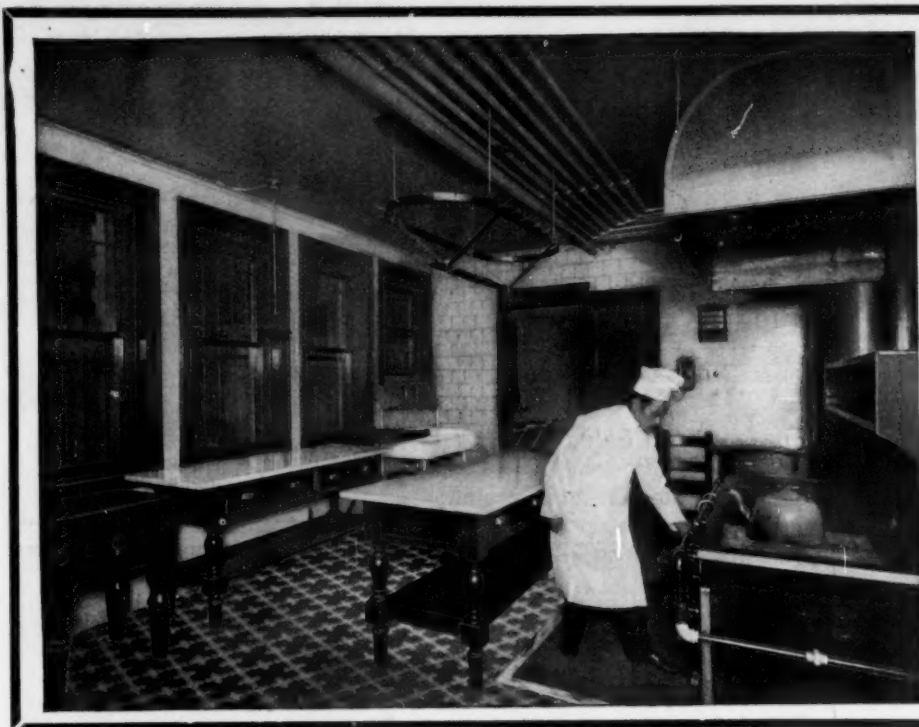
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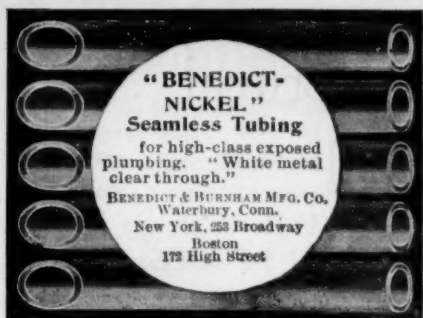
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

residence to be built at Grosse Point for Carl E. Schmidt; cost, \$16,000.

H. M. Hunt is preparing plans for a terrace of 4 brick veneered residences to be built on Cadillac Ave.; cost, \$12,000.

Report states that plans will soon be ready for a \$150,000 brick and stone casino building, to be built at Belle Isle Park for the city. It will have slate roof, plate and ornamental glass, steam heat, marble tile floors.

East St. Louis, Ill. — Report states that a \$200,000 opera-house and roof-garden will be built by ex-Mayor Hy. Zeigenthal Furniture Co., 141 Collinsville Ave.

El Paso, Tex. — A \$500,000 union station will be erected here, representatives of the seven main lines entering this city having agreed on the project.

Fond du Lac, Wis. — It is said that Jack Hoefler, Appleton, manager of the Appleton theatre, and J. A. Hawes, Appleton, are interested in the erection of a new theatre building in this city.

Fort Wayne, Ind. — Contracts are being let by the Fort Wayne, Van Wert & Lima Traction Co. for 14 steel bridges on its right of way. Estimated cost, \$150,000.

Gallipolis, O. — Plans are being prepared for an \$80,000 hospital building. Frank L. Packard, Hayden Building, Columbus, architect.

Greenfield, Mass. — At a recent town meeting it was decided to secure plans from E. C. & G. C. Gardner, of Springfield, for what is practically to be a new high-school building to take the place of the one destroyed by fire in September. The town will acquire the land north of the present lot. The old walls are to be taken down to the water-table, and extensions added to the north and east. There will be eight class-rooms and an assembly-room, with accommodations for 400 pupils.

Greenville, S. C. — The Union Bleaching & Finishing Co., incorporated last April with a capital stock of \$2,500,000 to establish cotton goods finishing plants in the South, made its first definite move last week when it closed the deal for a tract of land and water supply at this place, paying therefor about \$10,000. On this site will be erected a modern plant for bleaching and finishing cotton piece goods, and in the future it is proposed to add a printing plant. Immediate arrangements will be made to contract for buildings and machinery.

Henderson, Ky. — Harris & Shopbell, 123 Fourth St., Evansville, Ind., have prepared plans for a two-story stone library building, 70' x 80'; cost, \$25,000.

Hot Springs, Ark. — Garland County desires plans for a new \$50,000 court-house.

Liberty City, Ga. — The Ludowici Roofing Tile Co., of Chicago Heights, has purchased a tract of 1,000 acres of clay lands at this place, and will erect a plant at a cost of \$75,000.

Madison, Wis. — The Metropolitan Hotel Co., recently organized with a capital stock of \$1,000,000, will erect a \$300,000 terra-cotta and brick fireproof hotel building here, plans for which have been completed.

Mansfield, Mass. — The Walter H. Lowney Co., confectionery manufacturers, are clearing the site here, comprising 200 acres, for the erection of a new factory. It will be of brick, six stories, 80' x 350'. Other stories may be added as needed.

Maynard, Mass. — The American Woollen Co. is contemplating the erection of a brick five-story, 130' x 200', addition to its plant, at an expense of about \$100,000.

Memphis, Tenn. — The Southern Railroad Co. have permit to build a freight-house on Charleston Ave. \$20,000.

Montgomery, Ala. — Bids will soon be received for the \$45,000 building for the Standard Club.

New Orleans, La. — Frank T. Howard has decided to present to this city a public school, to be erected on Foucher and Camp Sts. It will be of brick and

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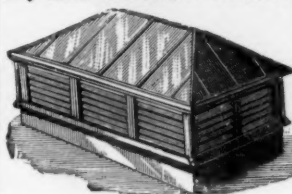


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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

contain 12 rooms and cost about \$50,000. Thos. Sully, 107 Camp St., is the architect.

Newport News, Va. — The corner-stone of the new \$60,000 Baptist Church was laid recently.

New York, N. Y. — It is reported that Henry B. Sire has bought No. 209 W. 45th St., a four-story dwelling-house, adjoining the plot at the northwest corner of Broadway, which is owned by Sire Brothers. The two plots combined will be used as a site for a five-story theatre to cost about \$300,000, which Sire Brothers will erect.

The corner-stone of the new French Hospital, at No. 450 W. 34th St., was recently laid by Ambassador Cambon. Prominent members and friends of the French colony and of the different French societies attended.

A press report states that the Lenox, a six-story business building at the southwest corner of 36th St. and 5th Ave., and a four-story building adjoining it in 5th Ave., have been leased by William Waldorf Astor for a long term of years to a person who, it is reported, intends to improve the properties on a large scale for business purposes.

It is stated that an ordinance for \$1,627,000 for the construction of a portion of the Blackwell's Island bridge has been approved by the mayor.

Niagara Falls, N. Y. — A company, headed by Chas. Crosby, Keystone Building, Pittsburgh, Pa., will erect a \$300,000 four-story hotel building here.

Owosso, Mich. — A \$40,000 temple and opera-house will be erected at this place by the Elks lodge.

Peoria, Ill. — At the meeting of the next State legislature an appropriation of \$400,000 for the construction of new asylum buildings will be asked for.

Philadelphia, Pa. — The contract is about to be let for an addition to the fertilizer manufacturing plant of the Berg Co. at Ontario and C Sts. The addition will consist of a brick three-story building, 115' x 175', to cost \$30,000.

It is reported that the mill to be built for the American Lase Co. on the plot of ground extending from the north side of Glenwood to Allegheny Ave., between 8th and 9th Sts., will cost \$200,000.

Architect R. W. Boyle has completed plans and specifications and is ready for estimates on a brick and stone parish house to be erected at 20th and Locust Sts. for the Roman Catholic parish of St. Patrick.

G. R. Currie is about to begin work on the construction of a three-story brick addition to the Union Mission Hospital on the east side of 4th St., above Columbia Ave., from designs by Stearns & Castor, architects. Addition will measure 50' 9" x 100', and cost \$40,000.

John Wauamaker has donated funds to Bethany College for a large college building. The building will be located on Broad St., between Catherine and Christian Sts., and will cost \$250,000. Architect has not been selected.

Extensive alterations and additions will be made to Dr. J. C. Wilson's house at 1509 Walnut St. from plans and specifications by Newman, Woodman & Harris. Addition will be a four-story and base-

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

ment building, 18' 2" x 112', with brick and terra-cotta front, shingle roof, hardwood interior finish, tile and marble work. Improvements will cost \$35,000.

Pittsburgh, Pa. — It is reported that the Home of the Good Shepherd will build a new home, consisting of 6 four-story brick buildings, to cost about \$300,000. J. A. Long, Park Building, architect.

A \$60,000 six-story brick and stone hotel building will be erected on Craig and Forbes Sts. for George A. Charles, after plans by S. A. Hall, House Bldg.

A \$1,500,000 ten-story brick and stone fireproof hotel building will be erected at Forbes and Halket Sts. for John Dimling. Plans by F. C. Sauer, Hamilton Building.

Plans for a \$100,000 ten-story hotel building, to be erected at 436 Third Ave., have been drawn for James R. Treacy, of McTigue & Treacy, 318 Liberty Ave.

Providence, R. I. — The old City Hotel on Weybosset St. is to be razed. Work will begin in January, and by September it is hoped the first three floors of the new seven-story building to be erected by the Manufacturers Outlet Co. on the site will be ready for occupancy. Eventually, the building will extend to Eddy St. Corner and will form one of the best equipped department stores in this section of the country.

Quincy, Mass. — A two-story frame dwelling to cost \$8,000 will be erected here for A. B. Robbins, of this city, from plans by F. H. Gowing. It will be constructed of wood and will be 36' x 42' in dimensions.

Reading, O. — The Reading Council has approved an ordinance providing for a bond issue of \$12,000 for the construction of a new engine-house.

Reading, Pa. — Plans have been prepared for a \$75,000 bridge over the Schuylkill River. It will be 510 feet in length and divided into three spans, with 200 feet of approaches on the Reading side and about 1,000 feet on the opposite side.

Savannah, Ga. — G. L. Norman was awarded the contract recently for one of the handsomest residences ever planned for this city. Mr. Lawrence McNeil is the owner. The total cost will be \$30,000.

Sioux City, Ia. — It is stated that the plant of the Armour Packing Co. destroyed by fire on November 16th will be rebuilt at once. The new plant will be much larger and finer than the one burned.

Sparta, Ga. — The Presbyterians will build new church edifice. J. W. McMillan, of Milledgeville, has contract.

Springfield, Mass. — The Springfield Cemetery Association have planned some extensive improvements to the cemetery. New gates at the entrance will be built, one each year, if possible. With this plan in mind the members of the association decided to build a new gate at the Cedar St. entrance this fall, and this is nearly completed. The entrance is a simple, classic treatment of Maynard

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BUILDING INTELLIGENCE

(Advance Rumors Continued.)

red sandstone. The gates are to be of wrought-iron, and are designed in reference to a future fence of some material to extend around the whole cemetery grounds. Durants & Rankin, of East Longmeadow, are contractors for the stonework, and the gates are being executed by John Williams, of New York. E. J. Parlett, of this city, designed the entrance. The other entrances which will be remodelled later are on Pine and Mulberry Sts.

St. Louis, Mo.—The Church of the Redeemer will build a handsome new church at the corner of Euclid and Washington Aves.; cost, \$30,000.

Members of the executive committee of the Irish National World's Fair association met at the New St. James Hotel recently and decided upon the erection of an Irish building at the exposition. Subscriptions were opened and a large amount of the stock was taken.

Four 6-room flats are being planned by Architects Baker & Knell for J. J. Hammond, to be erected on the south side of Park Ave., east of California. The new building will adjoin the corner property, which also belongs to Mr. Hammond, and which was improved a few years ago under plans provided by the same architect.

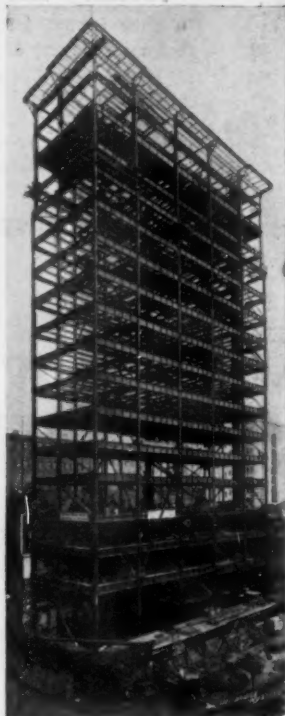
It is reported that Thomas H. West will build a magnificent residence on the south side of Berlin Ave., west of Euclid Ave. It is to be a three-story twelve-room structure. Plans are being made by H. F. Roach.

Judge Sol Boehm is preparing to remodel the buildings at 902-904 Morgan St. to convert them into moderate priced stores. The plans are by Baker & Knell.

H. F. Roach has made plans for the reconstruction of the building at 312 N. Broadway for the White Catering Co., and work will begin about the first of the year. Henry Thompson has the contract for the work. From \$10,000 to \$12,000 will be expended.

A deal is being considered by which the southwest corner of 9th and Olive Sts., now occupied by the Emille Building, will be improved by the erection of a stately structure for the use of the Frisco railroad offices. The property is owned by the Corner Realty Co.

The Lincoln Trust Co. reports the closing of a 99 year lease on the southeast corner of Jefferson Ave. and Olive St., having a front of 60 feet on Olive St. by a depth of 111 feet on Jefferson Ave. The property is owned by Mrs. Nancy L. Johnson and was leased to the Olive St. Realty Co., the officers of which state that they are planning to erect an elegant five or six story hotel. The building will contain all modern improvements in the way of heating apparatus, lighting, ventilation and plumbing. It is to be a very substantial and attractive



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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

structure of 125 rooms, each arranged to admit outside light and ventilation. The building will cost from \$100,000 to \$125,000, and the main entrance is to be on Olive St.

Plans have been prepared under the direction of Henry Weaver, manager of the Planters', for three hotels of 1,040 rooms each, which it is proposed to erect adjoining the World's Fair grounds on the north. The cost of the three structures will be over \$1,000,000. The company which is being organized to build the hotels is composed of some of the leading men of the city. It is said, including several of the World's Fair officials.

Stockton, Cal.—E. M. Frasier has drawn plans for cotton factory buildings to be erected here. They will be of brick, 100' x 300', one of one-story and the other of four stories. A power-house is also to be built. The expenditures for the buildings will be \$200,000, and for the machinery \$100,000.

St. Paul, Minn.—The Minnie Harvester Co. has been incorporated for manufacture of farm machinery in connection with the Grass Twine Co and it is understood will erect some large buildings.

Sullivan, Ill.—The Masons of the State of Illinois will build a \$25,000 building to be used as a home.

Texarkana, Tex.—The Texarkana & Fort Smith R. R. will build a \$20,000 depot here.

Toledo, O.—Bacon & Huber, "The Spitzer," are reported to be preparing plans for a four-story brick building to be erected by George A. Chase, to cost about \$50,000.

Torresdale, Pa.—Builder Geo. Kessler has started work on a large addition to it. H. Foerderer's residence. Addit on will be two stories high, measuring 50' x 77'; cost, \$50,000.

Traverse City, Mich.—The Board of Library Trustees have accepted a free site for the Carnegie

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Library building, offered by the Oval Wood Dish Co. Plans for same will now be considered.

Wahoo, Neb.—The directors of the Luther Academy have decided to erect a new \$18,000 school. Architect Plym. Brownell Building, Lincoln, is to prepare the plans.

Wallace, Idaho.—The Northern Pacific R. R. Co. is to erect a \$30,000 freight-depot here. W. L. Darling, Ch. Engr., St. Paul, Minn.

Walla Walla, Wash.—The county commissioners are considering the erection of a \$25,000 infirmary.

Waukegan, Ill.—Plans have been drawn by John J. Flanders, Masonic Temple, Chicago, for a three-story store, office and flat building for Clarence and Fred Murray, to cost \$40,000.

Winnabow, La.—Col. Stevens, of Alexandria, has prepared plans for a \$20,000 court-house for Franklin County.

APARTMENT-HOUSES.

Brooklyn, N. Y.—Prospect Park, cor. President St., six st'y bk. apart. 7' x 100', comp. roof, steam; \$200,000; o., Carl J. Zimmerman, 681 Willoughby Ave.; a., S. I. Schwarz, 160 Fifth Ave.

Chicago, Ill.—Lake View Ave., Nos. 159-165, 3 three-st'y st. & bk. apart. 5'9" x 59', steam; \$75,000; o., M. D. Matteson, 79 Dearborn St.; a., George S. Kingsley, 36 La Salle St.

Madison Ave., cor. 6'd Pl., 2 three-st'y bk. & st. apart. 45' x 115' & 40' x 69', steam; \$65,000; o., G. C. Watts, 145 Van Buren St.; a., L. M. Mitchell, 145 La Salle St.

New York, N. Y.—One Hundred and Seventeenth St., nr. 5th Ave., six-st'y bk. flat, 23' 1" x 87' 11"; \$35,000; o., Charles Adams, 2187 Madison Ave.; a., Lorenz F. J. Weiher, 103 E. 125th St.

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PART I

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AMERICAN ARCHITECT & BUILDING NEWS CO., Boston, Publishers

BUILDING INTELLIGENCE.

(Apartment-Houses Continued.)

St. Paul, Minn.—Selby Ave., three-st'y bk. & st. apart., 34' x 56', steam; \$40,000; a., Griffith Jones.

CHURCHES.

Chicago, Ill.—N. Ashland and Greenleaf Aves., bk. & st. church, 73' x 109', slate roof, steam; \$35,000; o., Rogers Park M. E. Society; a., J. S. Woollacott, 109 Randolph St.

EDUCATIONAL.

Melrose, Minn.—Two-st'y bk. & st. school, 62' x 73', shingle roof, steam; \$14,000; a., Omeyer & Thorl, St. Paul.

New York, N. Y.—Sixty-sixth St., nr. 1st Ave., four-st'y bk. & st. school, 61' x 142', gravel roof; \$125,000; o., City of New York; a., C. B. J. Snyder, Park Ave. & 59th St.

FACTORIES.

New York, N. Y.—Twelfth Ave. and Forty-eighth St., two-st'y bk. factory, 22' x 100'; \$20,000; o., B. Johnson Est., 33 Cortlandt St.; a., R. E. Dusenberre, 123 E. 23d St.

HOUSES.

Attleboro, Mass.—2-st'y fr. dwell., 28' x 46', shingle roof, steam; \$4,000; o., L. A. Hyde; a., Karl H. Hyde.

Brooklyn, N. Y.—Rugby Road, nr. Beverly Road, two-st'y fr. dwell., 38' x 43' 10", shingle roof; \$10,500; o., Dean Alvord, 1522 Albemarle Road; a., C. H. Pratt, 1505 Beverly Road.

Atlantic Ave., cor. Beach 42d St., two-st'y fr. dwell., 32' x 41', shingle roof; \$8,000; o., F. Q. Barstow, South Orange, N. J.; a., F. T. Cornell, 125 E. 23d St., N. Y.; b., F. J. Van Note, Bath Beach.

Avenue C, nr. E. 32d St., two-st'y bk. dwell., 24' x 47'; \$4,500; o., H. Reynolds, 165 Nostrand Ave.; a., B. Driesler, 13 Willoughby St.

E. Twenty-third St., nr. Avenue F., two-st'y fr. dwell., 29' x 31', shingle roof; \$5,500; o., J. R. Corbin Co., 1516 Flatbush Ave.; a., B. Driesler.

E. Twelfth St., nr. Albemarle Road, two-st'y fr. dwell., 30' x 44' 10", shingle roof, steam; \$7,000; o., Dean Alvord, 1522 Albemarle Road; a., C. H. Pratt, 1505 Beverly Road.

Bergen St., cor. Rochester Ave., three-st'y bk. store & dwell., 25' x 50'; \$5,000; o., F. Homeyer, on premises; a., L. Dananacher, 250 E. New York Ave.

BUILDING INTELLIGENCE.

(Houses Continued.)

Gravesend Ave., bet. Avenues C & D, two-st'y fr. dwell., 24' x 40', shingle roof; \$5,000; o., M. McLaughlin, 1250 Fortieth St.; a., O. Larson, 1250 Thirty-ninth St.

E. Twenty-third St., nr. Avenue F., two-st'y bk. & fr. dwells., 33' x 36', shingle roof, hot air; \$10,000; o., Mr. C. Baur, E. 24th St. & Foster Ave.; a., Benjamin Driesler, 15 Willoughby St.

Eighth Ave., nr. 7th St., 5 three-st'y bk. & st. dwells., 16' x 47', gravel roof, hot air; \$35,000; o., a. & b., John Allen, 306 Clinton St.

Cambridge, Mass.—Highland and Reservoir Sts., Ward 9, three-st'y fr. dwell.; \$35,000; o., Alvin F. Sortwell; a., E. S. Childs; b., John Quinn.

Detroit, Mich.—Putnam Ave., No. 334, two-st'y bk. dwell., 25' x 40', slate roof, hot water; \$5,500; o., Nelson S. Praig, 384 Putnam Ave.

Minneapolis, Minn.—S. Irving Ave., No. 2320, two-st'y bk. & tile dwell., 38' x 40', shingle roof, steam; \$5,000; o., F. H. Chapin, 10 N. 3d St.; c., Yale Realty Co.

New York, N. Y.—Forty-second St., No. 160, two-st'y & base. bk. dwell. with store, 35' 5" x 43' 9"; \$8,000; o., B. S. Weeks, 240 W. 73d St.; a., B. W. Berger & Sons, 121 Bible House.

Fifty-second St., nr. Madison Ave., five-st'y bk. & st. dwell., 25' x 70', tin & slate roof; \$30,000; o., Thomas S. Young, Jr., 100 Broadway; a., Robertson & Potter, 60 Fifth Ave.; b., Harvey Murdock, 116 Nassau St.

Pilot Ave., nr. Main St., City Island, two-st'y fr. dwell., 30' x 44'; \$5,000; o., Nicholas Abbott, City Island; a., John Cotter, Fordham Ave., City Island.

Amsterdam Ave., nr. 146th St., two-st'y bk. store & dwell., 25' x 88'; \$10,000; o., Fred'k H. Walker, 256 W. 116th St.; a., Richard R. Davis, 242 W. 125th St.

Philadelphia, Pa.—Paxton St., bet. Market & Arch Sts., and Arch St., nr. Paxton St., twelve 2-st'y bk. dwells., 16' x 60', slag roofs, hot air; \$60,000; b., Mr. McFarland.

St. Paul, Minn.—Dayton and Fairview Aves., two-st'y attic & base. dwell., 34' x 35', shingle roof, steam; \$5,000; o., A. C. Keith; b., John Peterson.

Hague Ave., nr. Oxford St., two-st'y fr. dwell., 32' x 44', shingle roof, furnace; \$6,000; o., T. U. Egan; b., A. Dahlman.

BUILDING INTELLIGENCE.

(Houses Continued.)

Willmar, Minn.—Two-st'y fr. dwell., 32' x 42', hot water; \$8,000; o., Russell Spicer; a., W. M. Kenyon, Minneapolis.

Worcester, Mass.—Fiske St., two-st'y fr. dwell., 28' x 41'; \$4,000; o., Sidney Bryant; c., A. P. Robbins.

Fiske St., 2-st'y fr. dwell., 26' x 30'; \$5,000; o., M. A. Beaman; a., W. H. Harvey; c., A. P. Robbins.

MERCANTILE BUILDINGS.

Worcester, Mass.—Stafford St., one-st'y fr. elevator building, 18' x 250'; \$42,000; o., Standard Elevator Co.; c., G. H. Cutting & Co.

OFFICE-BUILDINGS.

New York, N. Y.—Fulton St., from Pearl to Water Sts., three-st'y bk. office-building, 85' x 97' x 101'; \$40,000; o., C. Lane, 243 E. 83d St.; a., H. T. Horwell, 2d Ave. & 138th St.

STABLES.

New York, N. Y.—Forty-first St., nr. 3d Ave., three-st'y bk. stable, 25' x 64' 6"; \$15,000; o., Rob't D. Winthrop, 40 Wall St.; a., Lionel Moses, 156 Fifth Ave.

Orchard St., nr. Main St., City Island, one-st'y bk. stable, 25' x 52'; \$1,500; o., Henry Hunneke, Penfold Ave. & Crotona Park East; a., J. J. Vreeland, 1965 Webster Ave.

STORES.

New York, N. Y.—Jones St., nr. 4th St., seven-st'y bk. loft & store building, 25' x 90', plastic slate roof; \$40,000; o., George H. Figueroa, 5-7 E. 42d St.; a., W. G. Figueroa, 5-7 E. 42d St.

TENEMENT-HOUSES.

Brooklyn, N. Y.—Kingsland Ave., cor. Lombardy St., 4 three-st'y bk. tenements, 25' 6" x 65'; \$23,000; o., C. Buehl, 527 Humboldt St.; a., L. Berger, 300 St. Nicholas Ave.

Franklin Ave., n.w. cor. Park Pl., 4 three-st'y bk. stores & tenements, 35' x 87' 6"; \$85,000; o., Mohawk Realty Co., 1133 Broadway, New York; a., Neville & Bagge, 217 W. 125th St., New York.

New York, N. Y.—E. Seventy-second St., No. 509, five-st'y bk. tenement, 24' x 34' 3"; \$20,000; o., G. Knoche, 516 E. 72d St.; a., R. Moeller, 741 Tremont Ave.

Cannon St., Nos. 115-117, six-st'y bk. tenement,

BUILDING INTELLIGENCE.

(Tenement-Houses Continued.)

41' 6" x 87'; \$42,000; o., Feldman & Weiss, 140 Scholes St., Brooklyn; a., G. F. Peilham, 503 Fifth Ave.

Union Ave., cor. 168th St., five-st'y bk. tenement, 26' 6" x 86'; \$25,000; o., Frank Mezger, 971 Holme St. St.; a., Vincent Donagur, 971 Holme St.

E. Eighth St., Nos. 299-305, 2 six-st'y bk. tenements, 48' x 80' 11" & 48' 6" x 71' 10"; \$45,000; o., M. Silberman, 242 E. 71st St.; a., G. F. Peilham.

Eighth St., nr. Avenue B, six-st'y bk. tenement & stores, 21' x 84'; \$15,000; o., Henry Wynhouse, 210 Clinton St.; a., Harde & Short, 3 W. 29th St.

Third Ave., Nos. 4143-45, 2 five-st'y bk. tenements & stores, 28' x 25' x 88'; \$55,000; o., Stephen M. Anderson, 309 W. 117th St.; a., Rudolph Moeller, 741 Tremont Ave.

Avenue D, nr. 3d St., six-st'y bk. tenement & stores, 40' x 46' 10" & 80'; \$40,000; o., Sarah Michelson, 351 E. 3d St.; a., Horenburger & Straub, 122 Bowery.

WAREHOUSES.

Cambridge, Mass. — Bent St., Ward 3, one-st'y bk. storage building; \$115,000; o., George F. Blake Mfg. Co.; a., B. L. Baldwin & Co.; b., O. H. Drisko & Son.

New York, N. Y. — Wooster St., No. 53, seven-st'y bk. storage building, 18' x 75'; \$30,000; o., Thos. Monahan, 483 Broome St.; a. & b., John A. Dooner, 29 Dominick St.

MISCELLANEOUS.

Chicago, Ill. — W. Jackson Boulevard, No. 102-110, seven-st'y iron & st. printing-house, 75' x 100'; \$80,000; o., F. M. Farrer; a., Iver C. Zarbell, 97 Clark St.

Prairie Ave., Nos. 5021-23, two-st'y bk. & st. home for nurses; \$30,000; o., White Cross Visiting Nurse Assn.; a., Arthur Foster, 3903 College Grove Ave.

New York, N. Y. — Central Park West, bet. 76th & 77th Sts., two & three-st'y st. museum & library, 115' x 204' & 125', copper roof; \$800,000; o., N. Y. Historical Soc. ety, 170 Second Ave.; a., York & Sawyer, 156 Fifth Ave.

Rider Ave., nr. 138th St., one-st'y & base. garbage incinerating plant, 60' x 105'; \$20,000; o., John and Mary Dalton; lessee, Decarie Mfg. Co., 446 Central Park West; a., Bronx Architectural Co., 3307 Third Ave.

West Boylston, Mass. — Two-st'y fr. town-hall, 50' x 85', slate roof, hot air; \$20,000; o., Town; a., Cooper & Bailey, 95 Milk St., Boston.

Worcester, Mass. — Market St., two-st'y bk. & steel car-house, 64' x 112'; \$30,000; o., Worcester Consolidated St. R. R. Co.; e., Henry Mellen & Son; a., Frost, Briggs & Chamberlin.

PROPOSALS.

BRIDGE.

[At Somerville, Mass.] Sealed proposals for building Wellington Bridge, Middlesex Falls Parkway, Somerville and Medford, will be received at the office of the Metropolitan Park Commission, 14 Beacon St., Boston, Mass., until December 1, 1902. The total length of bridge from abutment to abutment is about 950 feet. Pamphlets containing further information for bidders, form of proposals, contract and specifications, can be obtained, and plans can be seen, at the office of the Engineering Department, 14 Beacon St. WILLIAM B. DE LAS CASAS, EDWIN R. HASKELL, EDWIN U. CURTIS, DAVID N. SKILLINGS, ELLERTON P. WHITNEY, Metropolitan Park Commission. Wm. T. Pierce, engineer. 1404

HEATING, PLUMBING, ETC.

[At Monson, Mass.] Separate proposals for heating and plumbing will be received at the office of Kendall, Taylor & Stevens, architects, 93 Federal St., Boston, Mass., by the Trustees of the Massachusetts Hospital for Epileptics, until November 28, 1902, for all labor and material required for the heating and plumbing of the Nurses' Home now being erected at Monson, Mass., for the above institution, and for steam piping and connections for an Electric Building at the same place, in accordance with plans and specifications, copies of which can be seen and examined at the office of the architects on and after November 19, 1902. WILLIAM N. BULLARD, chairman. 1404

SEWERAGE SYSTEM.

[At South Orange, N. J.] Sealed proposals for building a sewerage system for the Village of South Orange, N. J., in accordance with the contract and specifications to be furnished by the village trustees, will be received at the village hall on December 2, 1902. The work includes the construction of 13,700 feet of 10-inch sewer pipe, 105,780 feet of 8-inch sewer pipe, 768 feet of 12-inch, 10-inch, 8-inch cast-iron railroad and river crossings, 343 manholes, 79 flush tanks, 2,500 cubic yards of rock. Plans and specifications can be seen at the office of the village clerk and at the office of the engineer, 150 Nassau St., New York City. By order of the village trustees. ROBERT S. SINCLAIR, president. M. A. Fitzsimmons, clerk. Alexander Potter, chief engineer. 1404

CEMENT.

[At Duluth, Minn.] U. S. Engineer Office, Duluth, Minn. Sealed proposals for furnishing 65,000 barrels Portland cement for South Pier, Superior Entry, Wis., will be received here until December 15, 1902. Information furnished on application. D. D. GAILLARD, captn., engrs. 1404

BUILDING.

[At Fort Myer, Va.] Sealed proposals for fire apparatus building will be received until December 1, 1902. Information on application. CAPT. W. F. CLARK, Q. M. 1404

SEWERAGE PUMPING STATION.

[At Washington, D. C.] Office of the Commissioners, D. C., Washington, D. C. Sealed proposals will be received at this office until December 20, 1902, for constructing the substructure and foundations, including masonry conduits, screen and sediment chambers, gate wells, pump wells and structures appertaining thereto, and also for constructing the superstructure, including



PROPOSALS.

stack, coal-tower, conveyor bridge, etc., complete, of the sewerage pumping station, Washington, D. C. Specifications and blank forms of proposal may be obtained at this office. HENRY B. F. MACFARLAND, HENRY L. WEST, JOHN BIDDLE, Commissioners of the District of Columbia. 1405

REBUILDING MACHINE-SHOP.

[At Boston, Mass.] Sealed proposals will be received at the Bureau of Yards and Docks, until November 29, 1902, for rebuilding machine shop No. 2, building No. 42, navy yard, Boston. Estimated cost, \$91,000. Plans and specifications may be seen at the bureau, or will be furnished by the commandant of the navy yard named upon deposit of \$15 to secure their return. MORDECAI T. ENDICOTT, chief of bureau. 1404

HOSPITAL.

[At Fort Lincoln, N. D.] Office of Chief Q. M., St. Paul, Minn. Sealed proposals will be received at this office until December 1, 1902, for the construction of a hospital at Fort Lincoln, N. D. Plans and specifications may be seen and blank proposals with full instructions, had upon application here, or at the office of the constructing quartermaster, Bismarck, N. D. GEO. E. POND, Q. M. 1404

JAIL.

[At Lake Village, Ark.] Sealed proposals for erecting new jail building for county of Chicot, plans by F. B. and W. S. Hull, architects, will be received until December 1st. WALTER DAVIS, N. B. SCOTT, commissioners. 1404

OFFICE-BUILDING.

[At Kiowa Agency, O. T.] Department of the Interior, Office of Indian Affairs, Washington, D. C. Sealed proposals will be received at the Indian Office until December 3, 1902, for furnishing the necessary labor and materials required to construct and complete an office-building at the Kiowa Agency, O. T., in strict accordance with the plans and specifications and instructions to bidders, which may be examined at this office. For further information apply to James F. Randlett, U. S. Indian Agent, Anadarko, O. T. W. A. JONES, commissioner. 1404

LIBRARY.

[At Steven's Point, Wis.] Sealed proposals will be received by the undersigned until December 1, 1902, for the erection and completion of a Carnegie Library building. Separate proposals for the general contract, for the steam heating, plumbing, gas piping and electric wiring will be considered and also proposals for entire building complete. Plans may be seen at the office of the undersigned at Steven's Point, Wis., and at the office of the architect, Henry A. Foeller, Green Bay, Wis. W. B. BUCKINGHAM, chairman of building committee. 1404

BUILDING.

[At Boston, Mass.] Sealed proposals will be received at the Bureau of Yards and Docks, Navy Department, Washington, until December 6, for constructing a brick and steel smithery building, navy yard, Boston, Mass. Estimated cost, \$130,000. Plans and specifications can be seen at the bureau or will be furnished by the commandant of the navy yard named upon deposit of \$25 to secure their return. MORDECAI T. ENDICOTT, chief of bureau. 1404

PUMPING ENGINES.

[At Louisville, Ky.] Sealed proposals for pumping engines will be received at the office of the Louisville water company, No. 549 Third St., Louisville, Ky., until December 30. All bids, whether for pumping engines, boilers or furnaces, must be for both 30,000,000 and 24,000,000 gallons, and also separate bids for boilers and furnaces to meet the requirements of the engines of both the respective capacities. Louisville Water Company. By CHARLES R. LONG, president. 1404

CODE OF PRACTICE
FOR SUB-ESTIMATING AND SUB-CONTRACTING

Adopted by the Master Builders' Association of the City of Boston, Aug. 2, 1894.

ARTICLE I.

Obligation of Principal Contractor to Sub-Contractor.

A principal contractor is under obligation to treat upon an equal basis all estimates which he "receives" prior to putting in his own bid. Estimates must be considered as "received" when they come into a principal contractor's possession, either by his direct solicitation or by being accepted by him. The opening of a bid, knowing it to be such, constitutes receipt of the same.

A principal contractor is under no obligation to use a bid which he has not solicited, accepted, or received, but if he does not wish to use the estimate of a sub-bidder he should decline it, if proffered personally, or should return it unopened if sent to him by mail or otherwise. The retention of a bid should be construed as a receipt of the same.

A principal contractor, when making up his estimate, is not entitled to receive bids from sub-contractors if he is at the same time making himself their competitor by figuring their portion of the contemplated work. It is legitimate for a principal contractor to figure all portions of work, depending upon no one for what are usually known as sub-estimates, but it is not legitimate for him to receive bids from others for sub-work if he is himself figuring those portions independently.

ARTICLE II.

Award of Sub-Contracts.

The principal contractor having been awarded a general contract should immediately award the sub-contracts to the lowest bidder in each branch.

ARTICLE III.

Penalty for not Awarding Contract to Lowest Sub-Bidder.

A principal contractor failing to award a sub-contract to the lowest sub-bidder to whom he is under obligation as previously provided should be liable to pay damages to the said lowest bidder, in amount not less than ten per cent of the amount of the estimate.

Payment of such damages will not relieve the principal contractor from liability to discipline under provisions of Article X of the By-Laws of this Association.

ARTICLE V.

Payments to Sub-Contractors.

Unless the contracts made with sub-contractors otherwise provide, payments during the progress of the work should be made by the principal contractor to the sub-contractors upon the same basis of payment, in relation to amount of work performed, as is prescribed in the contract made by the principal contractor with the owner.

Final payment to a sub-contractor should be considered as due at the expiration of thirty days after the completion of his work and its approval by the architect or owner, unless otherwise provided by the sub-contract or agreement.

ARTICLE VII.

Obligation of Sub-Contractor to Principal Contractor.

Should a sub-contractor refuse to contract at the amount of the estimate he has given to a principal contractor who has used the said estimate in good faith, he then should be liable to the said principal contractor for damages in amount not less than the difference between the amount of the estimate which was submitted by him and the amount at which the principal contractor may be obliged to contract the work.

Payment of such damages will not relieve the sub-contractor from liability to discipline under provisions of Article X of the By-Laws of this Association.

ARTICLE X.

Bids to Architects or Owners.

When bids for separate departments of work on a building are solicited by the architect or the owner, they should be submitted with the understanding that they are direct estimates, for which direct contracts are to be made by the owner with the lowest bidder, and no other disposition of such bids should be permitted without consent of the bidder submitting the same.

Sub-bids should be given only to the principal contractors who are estimating the work in question, and should not be left with architects or owners for the inspection and information of principal contractors. Sub-contractors must understand that bids thus left with architects or owners are in great danger of losing their confidential character, and that if they so leave them they cannot claim protection or redress under the first article of this Code.

SUGGESTIONS.

Members of this Association having sub-contracts to let, or material to buy, should, as far as may be consistent with business principles, deal only with members of the Association, or at all events give their fellow-members an opportunity to compete, and then give them the preference, other things being equal.

All bidders should take cognizance of the danger they may be subjected to through the practice, so prevalent in "ome architects' offices, of making change. In plans or specifications, or in both, during the progress of estimating. Correction of this pernicious practice can only be obtained through refusal by contractors to estimate under such conditions.

A true copy.

Attest: WM. H. SAYWARD,
Secretary, M. B. A.

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American Architect and Building News Co., Publishers
211 Tremont Street, Boston**Professional
Ethics.**

The following . . .

. . . CODE OF ETHICS . . .

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

ADOPTED BY THE SOCIETY, FEBRUARY 1
.. 1895. . .SECTION 1. No Member should enter into
partnership, in any form or degree, with any
builder, contractor, or manufacturer.SECTION 2. A Member having any ownership
in any building material, device or invention,
proposed to be used on work for which he is
architect, should inform his employer of the
fact of such ownership.SECTION 3. No Member should be a party to
a building contract except as "owner."SECTION 4. No Member should guarantee an
estimate or contract by personal bond.SECTION 5. It is unprofessional to offer draw-
ings or other services "on approval" and
without adequate pecuniary compensationSECTION 6. It is unprofessional to advertise in
any other way than by a notice giving name,
address, profession, and office hours, and
special branch (if such) of practice.SECTION 7. It is unprofessional to make altera-
tions of a building designed by another archi-
tect, within ten years of its completion,
without ascertaining that the owner refuses
to employ the original designer, or, in event
of the property having changed hands, with-
out due notice to the said designer.SECTION 8. It is unprofessional to attempt
to supplant an architect after definite steps
have been taken toward his employment.SECTION 9. It is unprofessional for a Member
to criticise in the public prints the professional
conduct or work of another architect except
over his own name or under the authority of
a professional journal.SECTION 10. It is unprofessional to furnish de-
signs in competition for private work or for
public work, unless for proper compensation,
and unless a competent professional adviser
is employed to draw up the "conditions" and
assist in the award.SECTION 11. No Member should submit draw-
ings except as an original contributor in any
duly instituted competition, or attempt to
secure any work for which such a competition
remains undecided.SECTION 12. The American Institute of Archi-
tects' "schedule of charges" represents mini-
mum rates for full, faithful and competent
service. It is the duty of every architect to
charge higher rates whenever the demand for
his services will justify the increase, rather
than to accept work to which he cannot give
proper personal attention.SECTION 13. No Member shall compete in
amount of commission, or offer to work for
less than another, in order to secure the work.SECTION 14. It is unprofessional to enter into
competition with or to consult with an archi-
tect who has been dishonorably expelled from
the "Institute" or "Society."SECTION 15. The assumption of the title of
"Architect" should be held to mean that the
bearer has the professional knowledge and
natural ability needed for the proper invention,
illustration and supervision of all building
operations which he may undertake.SECTION 16. A Member should so conduct his
practice as to forward the cause of profes-
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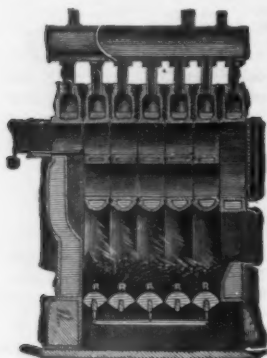
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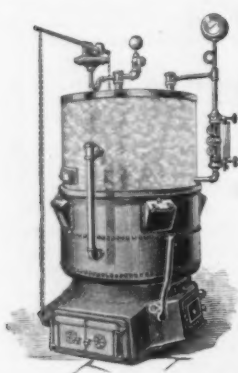
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