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THE State of New York has been put to a large expense in the last few days to prevent the infliction upon its citizens of a great damage through the strike of workmen upon the new Cornell dam at Croton. The control of the mob of strikers has been effected in an efficient and peaceful manner, and, curiously enough, without much of that outpouring of sympathy for the misguided strikers which usually floods the newspapers contemporaneously with the outbreak of any large and particularly threatening strike. This unsympathetic attitude is due in part to the fact that the strikers were Italian aliens, possibly mere birds-of-passage, certainly not voters, but still more was the silence due to the fact that the strikers were not enrolled in the army of Organized Labor. They were a mere casual aggregation of individuals seeking redress—in a misguided way—for individual wrong, and because of this they had more of our sympathy, at least, than if they had been union men fomenting trouble in the usual way with threats of sympathetic strikes and sustained by the sensational daily press. The prompt action of the public authorities was due in part to the fact that the strike was not only an interference with a great public undertaking, but also was a distinct menace to the very existence of the metropolitan city of this country. New York City, with its millions of inhabitants athirst and its buildings subject to a fire-risk of incalculable magnitude because of the destruction of its water-supply, as they would be a few days after the destruction of the old Croton dam, was not a spectacle to be regarded with nonchalance, and the authorities took proper steps that no strikers handling high explosives should have access to the old dam. A disaster, a possible one, perhaps even one really planned, has been prevented, and the public, acting through its constituted authorities, has saved itself.

BUT why may not the public always save itself in a similar way in the many analogous cases that affect it? There can be no doubt that a strike occurring in the militia is mutiny, which in time of peace is punishable by disbandment and dismissal, while in time of war it carries death as a penalty. There is hardly less doubt that a strike of a police-force is also mutiny, and, by analogy, a strike of postal-clerks, telegraphers, or any other body of men in public pay whose disaffection stops or interferes with the regular operation of government undertakings is also mutiny and should subject those who take part in it to discipline and summary punishment. Extending the analogy to municipalities, strikers amongst enrolled city workmen, pavers, street-cleaners, or whatever else, are also mutineers and should be punishable as such, and all the more in

those communities which have been so blind as to agree that only union men, the subjects of Organized Labor, shall be employed. However impotent the private individual may be to protect himself against loss and injury through strikes, the Governments of the United States, of the several States and of the large municipalities, at least, should be able to prevent damage to the public, as it is unquestionably to the direct benefit of the public-at-large that all public and governmental undertakings should proceed from the outset to the end in an orderly and uninterrupted fashion. The appearance of the "strike clause" in any contract to which a governmental body is a party is a disgrace to that body and to the public-at-large, as it is a confession of impotency in that very body in which power in its highest form is supposed to be lodged. In place of the ordinary strike clause, there should be in all government contracts another strike clause running something after this fashion: "During this undertaking no strikes or delay on the job because of strikes will be tolerated. In case of disputes between laborers or mechanics and the contractors the work must proceed without interruption, pending the prompt arbitration of the Government, whose findings must be accepted as final by both parties at the risk of personal fine and imprisonment. In case of delay in delivery of material through strikes at mills, yards or factories, the Government will exert its paramount right and will take temporary possession of such mills, yards or factories, and former employees of such industries declining as a body to resume work, pending prompt arbitration of the dispute by the Government, will subject themselves to personal fine and imprisonment. But nothing in this provision shall debar any person in his individual capacity from abandoning his work and permanently vacating his position."

IT is absurd to argue that a Government, City, State or National, may not protect the public interest entrusted to it in some such way as this, and if this step could be taken it would go a long way to eliminating strikes from private undertakings as well. It would be found, first, that there were a considerable number of quasi-public enterprises thus bought under the shadow of the protecting Government aegis, the railroads, steam and trolley, the telegraph and telephone services and certain branches of sea-service, no one of which can be interfered with without directly affecting the Government. And shortly it would be found that great "building strikes," as at Chicago or New York, could not be maintained, since their maintenance affected the Government, which secures its supplies here, there and everywhere, and could and would insist that the "struck" plants should be kept in operation for the benefit of the public work going on under Government protection. The quondam strikers would not, after the first, object; the average workman is a reasonable being and does not really expect the impossible: he only seeks his fair rights, and these could be secured under the prompt arbitration of the Government. In Austria and, perhaps, in other European States where the prompt transport of troops may be of the first necessity, there is a special regiment of the engineer corps which takes possession of the railroads of the country, one after another, as to its running department and operates it for a few weeks in place of the regular railroad force, and then goes on to the next road. In this way the men of the regiment not only become competent railroad men but acquire an efficient working knowledge of each road, and hence there is no longer any fear that in time of need troops cannot be forwarded promptly and safely. If the Austro-Hungarian monarchy can, and does, protect itself from strikes in this way and enters and takes temporary possession of private property for merely military reasons, why may not this people, acting in the interests of peace and civilization, follow its example? If Government would enact that strikers interfering with the orderly prosecution of public works are mutineers and punishable as such, it would put an end to the too common riot and bloodshed, and scenes like those at Homestead, Pittsburgh, Altoona, Chicago and Buffalo could no longer stain our record as a law-abiding and peaceable people.

THE Fine-Arts Federation of New York which, as is known, consists of delegates from the National Academy of Design, American Water-color Society, Architectural League of New York, Society of American Artists, American Fine-Arts

Society, National Sculpture Society, Municipal Art Society of New York, the Mural Painters, New York Water-color Club, and the New York Chapter, A. I. A. — the membership of these many and variously named bodies being largely identical — have adopted a resolution declaring their disbelief in a bill, now before Congress, to "create an Art Commission of the United States" who should advise in the matter of the purchase of, or acceptance by, the National Government of works of art of, practically, all kinds. As the bill referred to is that promoted by the Public Art League to which we have before referred and in some measure have advocated, and as the resolution of the Fine-Arts Federation of New York is laid before the public without preamble or explanation, but with a mere notice that its officers have been instructed to "oppose" the pending bill, it would surely have been our impulse to ascribe the action of the New York societies to that curious jealous mania which afflicts most individual artists and all bodies of artists had not we noted a possible explanation in a letter in one of the New York papers a few days earlier. In this an unnamed artist points out a radical defect in the pending bill, which, as the above mentioned resolution states, makes it an "impracticable measure." The bill prepared by the Public Art League provides that three out of the five members of the proposed Art Commission shall be the presidents of the American Institute of Architects, the National Academy of Design, and the National Sculpture Society, that they must serve without pay and that none of their own works can ever come before the Commission for adjudication. As the work to be imposed upon this Commission would not only be very considerable in amount but, in individual cases, would demand the expenditure of much time and frequently be attended by unpleasant incident and the rupture of former personal friendships with fellow-artists, the bill as it stands would exact from these individuals an amount of work and degree of self-abnegation that only the wealthy and retired practitioner could afford to give — even if he had the will and the strength requisite. In fact, just as the unknown correspondent to whom we refer puts it, the proper title for the proposed measure should be, "A Bill to prevent three eminent artists from being engaged on any work for the Government of the United States." The bill should be withdrawn and amended.

WHEN, a few weeks ago, we explained how and why we expected there would shortly occur a lowering in the prices of building materials, and consequently a fresh impulse given to building enterprise, we could not have foretold that a striking incident of the decline in iron and steel prices would be a stock-broking move, be it audacious and criminal, or be it sagacious, on the part of an individual in control of one of the two vast "steel trusts." Whatever the motive, the cause was the cause to which we directed attention. The trusts had paralyzed the industries which supported them, for after prices, partly by accident and partly by force of natural circumstance, had been floated up to an abnormally high figure by those whose needs were urgent and must be satisfied at any price, undertakers of new enterprises found it best to wait and the natural result, a rapid accumulation of manufactured stock which buyers would not accept at the price demanded, has followed. As material could be disposed of only at lower prices, a cut in prices was necessary, but the violence of the movement seems to have been due to the selfish astuteness or the commercial imprudence of the single individual who, on his own responsibility, issued an order which has forced large losses on dealers in stocks, both metal and commercial, and at the same time has carried foreboding and the pinch of hunger to the home of many a workman whose daily wage is cut off by the shutting down of the mills. Because of similar reasons there comes at the same time a "slump" in the lumber market, and at this writing there is being held a convention of Maine lumbermen to consider how those who have bought spruce timber on the stump at the late high ruling price can now market it without meeting too heavy a loss. With the price of steel and spruce lumber declining, it is likely that architects will find it possible to vivify some of the undertakings they have looked on as abandoned for this season.

THE presence in Lafayette Square, Washington, of the rather fantastic and very "Frenchy" monument to Lafayette, due to the united efforts of the architect Pujol and the sculptors Mercié and Falguière, lends a passing interest

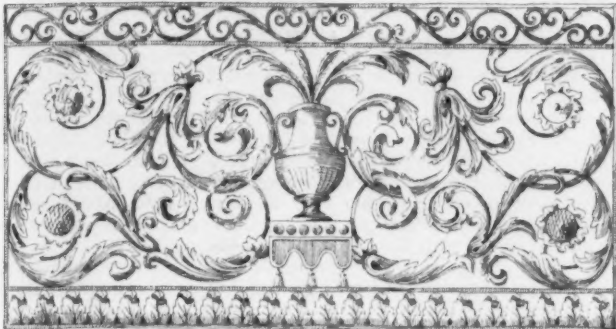
to the death of the latter in Paris, April 19. For some not easily explained reason, Falguière was one of the best known of the sculptors of his time, and finally achieved, in 1882, the aspiration of every French artist by being elected to the Académie des Beaux-Arts. He could hardly have gained this distinction without possessing qualities of substantial worth, but so far as we are familiar with his work it was more distinguished for a flashy sensationalism than for real sculptural merit, and if his creation of the nude statue of the supposed-to-be beautiful Cléo de Mérode, exhibited four or five years ago, at the *Salon*, when that actress was at the zenith of her notoriety, is a type of the work he preferred to do, he was evidently an artist willing to bolster his claim to notice with all the pitiful devices of the sensation-monger. Probably his "Gambetta," at Cahors, is as nearly his masterpiece as any of his works, although he made a nearly successful attempt to secure immortality for himself through his great group, "The Triumph of the Revolution," which he modelled as the crowning feature of the Arc de l'Étoile in Paris. Erected in 1885, this great staff-and-plaster model, the chief feature of which was a quadriga facing down the Champs Elysées, was quickly decided to be inadequate for the place; but in spite of this it lingered there for several years, gradually crumbling to pieces under the attacks of rain and wind, merely because a parsimonious government would not provide the money to remove it. At length, just before the opening of the Exposition of 1889, it was taken down so that its decrepit presence might not disgrace the city in the eyes of foreign visitors to the fair. Born at Toulouse in 1831, Jean Alexandre Joseph Falguière, pupil of Jouffroy, won the Prix de Rome in 1857. His earliest appearance as an exhibitor at the *Salon* was in 1855, and throughout his life there were few of these annual exhibitions in which he was not represented by the work either of his graving-tool or his brush, for he was amongst the gifted few who, like Gérôme, Watts, Meissonier and Herkomer, are skilled in more than one branch of the Fine-arts.

ABOUT the same time died, also in Paris, an American sculptor of some note in his native city, Philadelphia, Mr. Howard Roberts, who practised his art and sought fame through less sensational channels than did Falguière. Although born in 1843, it was not until 1886 that Mr. Roberts went to Paris and entered the École des Beaux-Arts to finish his studies under Dumont and Gumery. The greater part of his work was in the line of ideal figures, largely statuettes and busts and portrait-work. His most important figure is probably the statue of Robert Fulton in the Hall of Statuary of the Capitol at Washington.

HOWEVER unreal and seemingly unprofitable to the general welfare may be the labors of archaeologists and ethnologists, they always have the merit of affording to others an interesting intellectual study, since it is rarely that these labors do not give proof of singular intellectual powers in the line of deductive reasoning on the part of the head of the exploring expedition. Although the unveiling of the mysteries of the Zuñi religion by Mr. Frank H. Cushing, who died a fortnight ago at the age of forty-three, can hardly be said to have added to the material wealth of the world, it did add considerably to its intellectual wealth, and better still, afforded to the intelligent observer one more example of the manner in which a man may use to the full, if he so choose, the peculiar mental qualities with which nature has endowed him. As the columns of this journal, some eight or ten years ago, have offered to our readers full accounts of Mr. Cushing's really interesting discoveries and borne testimony to the keen intelligence with which they were developed, it is not needful here to retell their story, which is essentially the life-tale of the man himself. But a writer in the *Boston Transcript*, in recounting some anecdotes in connection with Mr. Cushing's life among the Zuñis, makes plain the fact, which we did not entirely realize before, that peaceful as these Indians are supposed to be, the young ethnologist's life was often at risk through his determination to reach the very fundamental facts of the tribe's civil and religious life. According to this writer, when Mr. Cushing brought a party of the chiefs and priests of the tribe to Boston, so that they might see and worship in the "great salt-water," he was but paying the purchase-price for his life, which he had forfeited through some too-persistent effort to fathom a lower deep of mystic worship.

PAINT-FACTS AND PAINTING SPECIFICATIONS.¹—VI.

PAINTING STRUCTURAL IRONWORK.



From the House of Pierre Puget, Paris, France.

PAINTING on metal surfaces differs radically from painting upon wood. Metal does not present a porous surface, like wood, into which the particles of paint can enter and thus attach the paint-skin with a firm grip. Again, in order to preserve a metal surface from decay it is essential that the paint shall be of such a nature that it is practically impermeable to moisture. In painting a wooden surface it is no disadvantage if the paint be to a certain extent porous, since it seldom happens that wood is absolutely dry at the time it is painted, and if it were entirely covered with an absolutely impervious coating, there would either be a tendency to dry-rot, or the moisture would be drawn to the surface by the action of the heat of the sun, and in time would cause blisters. On the metal surface, more particularly on iron or steel, since it is these metals that architects are especially concerned with, the presence of moisture beneath the paint will work to the destruction of the iron; and if the paint-skin be porous, it will permit moisture or destructive gases to pass through and act upon the metal. Experiments made by Dr. Dudley, of the Pennsylvania Railroad, proved pretty conclusively that the skin formed by the drying of linseed-oil was sufficiently porous to be permeable by moisture, and this has led a number of paint-manufacturers to design protective coatings for iron which are either varnishes or are composed of pigment held in suspension by varnish.

On a wooden surface the test of durability is the appearance of the paint itself. So long as the paint remains in fair condition the wood beneath it will be preserved. But with iron we cannot depend upon a mere inspection of the paint to determine its value. Experience with railroad-bridges exposed to the action of locomotive gases has shown that it not infrequently happens that the iron becomes honeycombed with rust, while the surface of the paint shows a fairly good state of preservation. Moreover, in order to protect iron, whatever coating of paint is applied must be applied to a clean surface and one that is free from rust. If rust be covered up by an air-tight coating, it will nevertheless go on extending deeper and deeper into the metal. This has been supposed by many writers to be due to chemical action on the part of the iron-rust imparting its oxygen to the adjacent molecules of iron and inducing oxidation in them. Spennrath says, however: "Iron rust does not form a thick covering, but a porous mass, which permits the passage of water, and can, therefore, not prevent the further formation of rust. It has even been noticed that rust formation, once started, goes on rapidly. This may be explained by the porous mass of rust acting as a densifier of gases, especially of oxygen and water vapor. A porous layer of rust also acts like a sponge. When wet, it holds the water and holds it for a long time." It may perhaps happen that this water is imprisoned by the coat of paint intended to protect the iron, and being unable to escape by evaporation, acts as an oxidizer for the iron. Spennrath goes on to say: "The assumption usually adopted that the rust acts chemically, to wit: as a medium of oxidation on the iron, is false."

The exact cause of iron-rust seems to be disputed. Condit says: "Air alone does not rust iron. Pure water without air does not rust iron. Air and water alone rust iron slowly. What is needed for rapid rusting? The presence of some acid. Carbonic acid does exceedingly well. . . . For rapid rusting, therefore, we need air, water, carbonic or some other acid. The last is always present in the air, and rain brings down a good deal of it dissolved in the drops of rain-water." Spennrath holds a different view. He says: "The rust-forming element is a solution of oxygen in water, while the vapor of water is itself inactive. . . . Many claim and think that the presence of carbonic acid is a requisite for the formation of rust in free air. This is not the case. . . . Carbonic acid in connection with water can produce rust, for water containing carbonic acid dissolves iron, and a carbonate of iron is formed. This breaks up in the air, and hydrated peroxide of iron is formed in the usual way."

But no matter what the cause of rust, it is important that the surface of the iron shall be free from it before the protective coating be applied. It frequently happens that the priming of structural ironwork is done at the rolling-mill, and the architect has little chance to

see whether the rust is removed, or to ascertain the composition of the paint applied. When no supervision is exercised, it is safe to assume that the very cheapest possible material is employed that can be bought, provided it coats the iron with a colored wash that will remain intact at least till after the erection of the ironwork, no matter whether it be a benefit or a positive detriment to the metal. Nor can it be safely assumed that the rust and mill-scale is all properly removed with wire brushes, and by subsequent pickling with dilute acid, which must afterwards be thoroughly washed off before the paint is applied. Another method suggested for removing the rust is to use coal-oil. The iron should then be thoroughly washed with benzine in order to remove all traces of the coal-oil, which, being greasy, would prevent the paint from drying.

Left to himself, the iron-manufacturer will probably employ for the priming, if it is to be applied at the works, an iron-oxide paint of the cheapest possible description. While there are good iron-oxide paints made by roasting native iron-ore, rich in iron, which by the process of roasting is converted into peroxide of iron, the highest possible form of iron-oxide, and which contains no sulphur, by far the larger proportion of these iron-oxide paints that are used by the iron-mills are made from the spent pyrites from sulphuric-acid works, and contain enough free sulphur to be changed to sulphuric acid by the action of such water as may fall upon the paint before it is finally covered up in the building. Such paints, used because they are cheap, are positively detrimental to the iron, because they introduce an active element for its destruction.

Every architect in the country has doubtless been flooded with an immense volume of pamphlet literature, some of it urging the merits of iron-oxide paint, while in other cases the claims of red-lead, graphite, or various varnishes or varnish-paints are set forth. In this literature, so freely sent out, each manufacturer decries the merits of all other materials but his own, so that the reader who is not familiar with paints becomes bewildered and discouraged amidst the mass of conflicting testimony. While a suitable grade of iron-oxide paint, mixed with pure linseed-oil, has undoubtedly been shown to give good results under certain conditions, the great temptation on the part of the painter to substitute the cheaper grades containing free sulphur, and the difficulty of detecting the substitution, practically exclude it from the protective paints desirable for the architect to specify. Moreover, its color is so near that of rusted iron that it is difficult for the clerk-of-the-works to detect whether the iron has been entirely coated.

As to red-lead, the preponderance of testimony seems to be in favor of this material. Experiments made a number of years ago by the Dutch State Railroads on a series of specially-prepared iron plates, some of them being scrubbed, while others were pickled, and were afterwards painted with different materials and exposed to the most trying conditions for three years, show that at the end of that time coal-tar was entirely gone, and iron-oxides, though superior to coal-tar, were decidedly inferior to red-lead. In every case except the red-lead the scrubbed plates were inferior to the pickled. Red-lead, however, held equally well on both. Mulder, the celebrated Dutch chemist, commenting on these experiments, says of boiled-oil and iron-oxide, boiled-oil and litharge, boiled-oil and zinc-white, and boiled-oil and red-lead: "The lead when dry contained the largest amount of oxy-linseed-oil-acid lead, and was harder than the others. It seems to me, therefore, that the best interpretation of the facts is the simplest, namely: the difference in the plates is the scaling off of the black-oxide on the scrubbed plates; the difference in the paints that the red-lead did not give way when this scaling occurred, because it is a hard, elastic layer of paint, which holds itself together by its own cohesion."

In a series of experiments reported in a recent number of the *Oil and Colorman's Journal*, of England, in which tests extending over a period of six months were made with iron plates partly immersed in water, and with iron trays containing water, it was found that red-lead, orange-lead, vermilionette and permanent-red paints showed no traces of rusting whatever. Zinc-white and white-lead showed a small percentage of rust, while iron-oxide paints were decidedly inferior. If these experiments had been continued through a series of years, it is quite probable that the zinc-white would not have showed so favorably on account of the well-known tendency of this pigment to crack and peel. Nor will a priming of white-lead hold well to iron for any length of time. The experiments, however, conclusively demonstrated the superiority of red-lead to any of the twenty-four other pigments tested.

In view of the satisfactory results obtained by red-lead and linseed-oil, not only in these experiments, but as shown by the testimony of railroad and bridge engineers, it may well be supposed that when this material combines with linseed-oil to form a soap, it entirely overcomes the porosity of the oil. Linseed-oil, when used alone, showed five hundred pounds of rust to fifteen hundred square feet of surface at the end of six months, while the red-lead showed no rust whatever.

Several years ago (December 17, 1892), the writer read a paper before the Engineers' Club of Philadelphia, from which it may be well to quote here: "Red-lead, from the fact that it dries up linseed-oil almost entirely by saponification, forming a pure lead-soap, and that there is, therefore, none of that oxidation of the oil which takes place in the presence of pigments wholly inert, or which only partially combine with it, has long been regarded as the best possible preservative for clean, dry iron. But in order to be most effective the iron must be perfectly clean, and free from any suspicions of

¹ Continued from No. 1234, page 60.

rust, and absolutely dry. Red-lead should be perfectly pure and of the best and most careful preparation. That from any well-known corroding-house may be depended upon for purity, but not always for quality. It is simply a red-oxide of lead. The best type is orange-mineral, which is made by roasting white-lead. On account of its expense, this is not so frequently used as it would deserve. Red-lead proper is made directly from the metal, which is first oxidized to the yellow-litharge and then to the red-oxide. This, however, does not give as good a paint as that made from the scrap-settlings and tailings of the white-lead works. As red-lead saponifies very quickly with linseed-oil, it must be used within a few days after being ground, and, moreover, it is rather difficult to work. Hence, there is a great temptation to the unscrupulous painter to add some substance, such as whitening, to it in order to make it work freer, as well as to cost less money for material."

To quote from a paper subsequently read before the same club, by E. A. Custer and F. P. Smith, we find that "red-lead possesses an advantage over any other active pigment in the fact that not only does it combine with the fatty acid of the oil, but with the glycerine as well. In this way any volatilization during drying is largely prevented. The glycerine present is rendered insoluble, the film formed possesses great tenacity, elasticity and adhesiveness, and the drying of the paint is of a double nature, as it sets, in some respects, like a cement, besides exhibiting the ordinary phenomena of oxidation common to the drying of all linseed-oil paints."

To the architect the decided bright-red color of red-lead is a positive advantage for a priming-coat, since it renders it very easy to determine whether the metal has been properly coated or whether any spots have been left bare. Another great advantage is that it affords a good foundation for final coats of white-lead paint, tinted as may be desired. While white-lead is not suitable for priming ironwork, it may be used to advantage over undercoats of red-lead.

Spennrath, in his paper on "Protective Coatings for Iron," says: "For the priming, that is, for the first coat, it is advisable to use a pigment of a high specific gravity, because it always produces a hard paint cover. It is apparently attributable to this circumstance that red-lead is so extensively used for priming with iron coatings. Of all pigments it furnishes the hardest coating." Yet, in spite of this statement, he reaches the somewhat remarkable conclusion at the end of his paper that while oil-paints are the best for protecting metal surfaces, "the pigment of an oil-paint has no influence over the durability of the binding material." His experiments, however, lasted less than a year, and though he subjected the different pigments to severe and unusual tests, such as would not be met with in ordinary building practice, it is only by actual tests on practical work, lasting over a series of years, that the real efficiency of a paint can be determined. It is by tests of this kind that the actual value of pure red-lead in pure linseed-oil has been determined. Especially severe tests have been given this material on iron and steel ships, both of the navy and merchant marines, where the action of the paint is watched most carefully; and, where the paint has been applied over iron free from rust at the time of application, it has been found to act as a preservative of the metal.

Many claims have been made for graphite as a paint for structural iron, and while undoubtedly it has shown remarkable results on machinery and boiler-fronts, subjected to great heat, sufficient to destroy a red-lead coating, its merit for structural iron cannot be regarded as proved without a doubt. Its elasticity gives it value for painting tin and galvanized-iron roofs, but in these the metal-coating of the sheet-iron gives conditions not met with in ordinary structural iron, and painting upon such surfaces must be considered as entirely apart from ordinary ironwork. The tests reported in the *Oil and Color-man's Journal*, already referred to, place graphite on the list below the iron-oxide paints, and show that two hundred and fifteen pounds of rust were deposited on fifteen hundred square feet of iron surface after six months, under a coating of graphite, surely a poor comparison with red-lead, that showed no rust at all.

As for the protective varnishes and protective paints having a varnish-like binder, it is noticeable that some of the manufacturers of these materials recommend that the work be first primed with pure red-lead. It is quite probable that, used in this way, they would serve their purpose of enveloping the metal with an air-tight envelope, and if the owner is willing to pay for them, might be used to advantage on structural iron. But their use is, nevertheless, somewhat in the nature of an experiment, since they have not been on the market long enough to afford opportunity for a series of tests lasting over a long enough period to be of real value, say twenty-five years. While these varnish-like mediums have undoubtedly shown good results for comparatively short periods, it is well known that in time all varnish-gums show a tendency to disintegrate, and what the action would be when buried behind the brick, terra-cotta and cement of the modern fireproof building, can only be conjectured. But when used over red-lead, even should the preservative varnish begin to decay after some years, the red-lead coating would probably still remain, for, having the nature of a cement, it has been shown to be practically permanent by actual tests under ordinary building conditions, where it is not exposed directly to the action of the weather. Even where it is so exposed, it seems to last longer than other pigments usually employed for coating ironwork. This is not strictly true, however, where iron roof and bridge trusses are exposed to the action of steam and sulphur gases from locomotive smokestacks, for in such cases it often happens that the iron is eaten away and honey-

combed beneath the coating of paint. For such exposures an impermeable varnish-like coating, somewhat in the nature of a baking japan, though of necessity air-drying, is perhaps preferable.

In the application of red-lead and other paints to structural ironwork, the air-blast painting machine has been found to be very satisfactory on account of its ability to search out the crevices which would be passed by in ordinary brushwork. Ironwork painted by the pneumatic machine has been found to be thoroughly covered with paint, even round the rivet-heads and under the bolts. On woodwork, the friction of the brush drives the paint into the pores of the wood, but iron-painting being a surface application, there can be no advantage credited to the brush on this score. And where air-pressure is used, of from forty to eighty pounds to the square inch, the paint is probably applied with at least as much force as can be obtained with the most vigorous brushing.

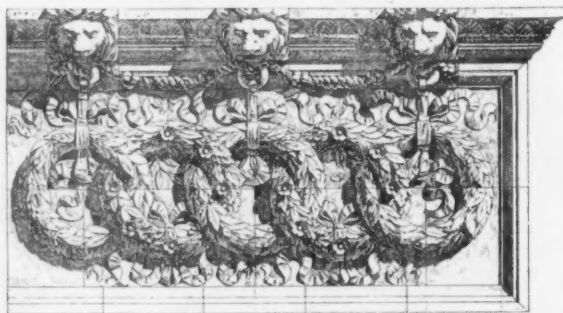
In view of the important part which iron plays in modern building-construction, the architect should do all in his power to insure, so far as may be, that this material suffers no deterioration from rust, which unless guarded against, might go on slowly eating the strength away from the skeleton of the building until at last the structure collapses from weakness. Our modern steel-frame construction is of too recent origin for all facts concerning it to have become known by actual test, and the question of what action the confined moisture and the acids from the cement used in construction have upon the iron after it is painted and buried away out of sight, although very seriously affecting the life of the building, is not yet fully determined, owing to the absence of sufficient data. The first-cost of painting the ironwork should not be allowed to enter into consideration at all, since the difference between the cheapest and the most expensive pigments is but a trifle compared to the enormous injury that would be inflicted upon the building by the ultimate rusting and decay of the steel framework. It is true that the architect's connection with the work usually ends when the building has been turned over to its owners, but he should nevertheless have sufficient pride in the structural portion of the work to insist that it shall at least be made as safe as possible against the ordinary ravages of time.

The architect who desires to pursue a conservative and safe course should specify that all mill-scale and rust shall be removed from the structural ironwork at the ironworks, either by brushes or by sand-blast, to be followed if necessary by pickling with dilute acid and thorough washing; after which the iron shall be immediately primed with pure red-lead mixed with pure raw linseed-oil. The second coat, to be applied after the erection of the ironwork, to consist of pure red-lead, tinted with not more than six ounces of lamp-black to twenty pounds of red-lead, mixed with pure raw linseed-oil, and as little japan drier as is absolutely necessary—half a pint to the gallon is sufficient. If the work is to be left in sight, additional coats of pure white-lead and linseed-oil, tinted as directed, may be used to obtain the color desired.

A manufactured oil, intended to take the place of linseed-oil, has been urged as an excellent binding medium for red-lead, because it does not solidify so quickly in the can or package after being mixed. In fact, it is claimed that red-lead mixed ready for use may be kept indefinitely, when ground with this oil. Tests made by the writer show that the paint-skin formed by this oil has remarkable power for resisting acids and alkalis, not even being soluble in carbon disulphide, but nevertheless, it has not been tested long enough under all sorts of conditions to warrant specifying it in place of linseed-oil, whose action is definitely known, for use on structural ironwork that is buried away out of sight and cannot be got at for repainting. Conservative methods are most prudent in cases where the risks attending failure of the material are so great as they are in paints designed to protect structural iron from decay.

EDWARD HURST BROWN.

ENGLISH FURNITURE.¹—III.



Terra-cotta Fragment from the Palais des Beaux-Arts Exposition of 1889. From *La Revue des Arts Décoratifs*.

WITH regard to carving generally, and with the proviso that hardly any rule in art is so strict but that circumstances may sometimes justify its being broken, I should say that the laws which govern it in its relation to furniture are that high relief should

¹ A paper by Lasenby Liberty, J. P., read before the Society of Arts, and printed in the *Journal of the Society*. Continued from No. 1269, page 23.

be reserved for portions already in relief from the main mass, such as columns, pilasters, table-legs, etc., and that even here the ornament should never interfere with the proper contour and main outline, and that panels and all flat surfaces, when carved, should be only in very low relief. If it be desired to display a fine piece of work in high relief in a pediment or a panel, then the latter should be sunk, and should be of large dimensions, so that the height of the carving be counterbalanced by the breadth of the work. I have no need to enlarge on that on which every one is now agreed, viz., on the studious avoidance of such abominations as were produced fifty years ago: a sideboard supported by laboriously carved spread eagles, or a table with carved dolphins for legs, like the notorious dumb-waiters in Trafalgar-square; but I would point out that a small panel with an exquisitely carved group projecting far beyond the level of the stile frame, such as we see in really fine work of the Italian Renaissance, shows the necessity of keeping the artist-workman strictly to heel, even in a good period of art.

A good deal of what I have just said is true of marquetry, though I am not one of those who regard this as illegitimate decoration. In a sense, of course, it is a sham, but, at the same time, it proclaims itself so frankly to be what it is that no one is deceived, and probably nobody ever thought he was looking at a mosaic of variously colored woods, cut and pieced together in the solid. Still, inlay of all kinds ought to be strictly kept within bounds. Like carving, it is a good servant, but a bad master. The enthusiasm of the specialist is proverbial. There is nothing like leather in the opinion of the cobbler, and there seems to be an inherent tendency in every trade and craft to assert itself unduly. We see what the inlay cutter is capable of when allowed to get out of hand, by examining some old marquetry of the seventeenth and eighteenth centuries, where the cabinet, bedstead, chest-of-drawers, clock-case, and the like, appear to have been made for the express purpose of showing what he could do, and certainly he did some wonderful and terrible things. Good marquetry is subdued in tone and without violent contrasts in color, always conventional, or, at the most, semi-conventional in character, and, above all, never attempts to suggest a picture. With some hesitation, I may also, perhaps, be allowed to add that it is like the garlic in a salad—a little goes a long way. In anything I have said by way of criticism I must not be understood as decrying the arts of the carver and inlayer *per se*. The celebrated carved group at Chatsworth of the woodcock, lace handkerchief, etc., is in order as a *tour de force* and as a more or less satisfactory specimen of wood-sculpture, though personally I would prefer the work of the unknown carver in the Boulak Museum at Cairo; and an elaborately inlaid wood panel framed as a picture would be at least a legitimate method of displaying the craftsman's skill; but I protest against the use of such work as decoration for a piece of furniture.

Perhaps in this connection I may say a few words on the vexed question of machine-made ornament. The sweeping denunciations of it as an accursed thing, which we are accustomed so often to hear, are, it seems to me, uncalled for and unreasonable. It is neither practicable nor desirable to go back to the fifteenth century, and the cry that all decoration not executed by hand is no decoration at all, is another illustration of the regrettable fact that the average man, when caught by a taking phrase, seldom or never stops to consider whether or not a proposition which on the face of it is sound enough, covers all the ground. It is overlooked that a strict rule of this kind would debar us from the use of all inexpensive paper-hangings and textile fabrics, and that there are, indeed, few minor art productions which would be accessible to any but the wealthy, without the aid of labor-saving appliances of some sort. It is true that such a rule would be more applicable to ornament, as applied to furniture, than to most other art developments, though, even here, it should be confined to the production of ornamental carving of a high order, and which can only be satisfactorily executed by hand. When a continuous reproduction of egg-and-dart or other simple ornament on a moulding is necessary to the effect, and the high cost of carving by hand is prohibitive, it is surely preferable that it should be cut by the carving-machine than be omitted altogether. I need hardly say that I am quite in agreement with those who denounce such false work as wood embossed in imitation of more ambitious carving by pressure, or *repoussé* metal produced by the stamping-machine; but these stand in a different position from ornament which is merely intended to vary a succession of straight lines and satisfy the eye without attracting it. In short, I consider that machinery can be satisfactorily employed in producing ornament of the humbler kind, and which is intended to be felt rather than observed.

Now a word on the use of varnish. For the protection of wood from the effects of damp and dust, and, still more, for bringing out the beauty and color of the grain, varnishes of different kinds have been in use from very early times. For heavy furniture and fittings of oak, teak, etc., the old mixture of turpentine and wax is still unrivalled, while for fine cabinet-work the more recently invented solution of shellac in spirit is used. This latter is one of those things which requires the most skilful manipulation, as when employed in excess, or without the utmost refinement and delicacy of finish, it easily becomes the acme of vulgarity. This naturally introduces the question of stain. Some purists have spoken and written very warmly on the subject, and have decried the use of stain altogether. "Rub the wood with a little oil, and so leave it to mellow by time," says, in effect, one authority. "It is a sham," says another, "to try to make new oak look as if it were antique." Now,

I submit that we do not buy furniture, or have wood fittings put in our houses exclusively, or even primarily, for our heirs. Life is short, and, as a rule, many years elapse before wood puts on its final complexion. I submit, too, that in staining our oak brown, and in deepening the natural color of our mahogany and satinwood, we are not necessarily attempting to make it look as if it were old, but only investing it with the richer tone of color, which, without stain, we might never live to see, and to which even it might never attain. Of course, stain can be abused. To employ it to imitate inlay is the sham of a sham, and to invest wood with a color which does not, and never can, belong to it in the natural order of things, is also questionable, although I would, perhaps, make an exception in favor of some shades (green for instance), which, when intelligently employed with proper accessories in the way of decorative surroundings, is capable of very satisfactory results, i. e., when the furniture is executed mainly as fittings, as part of the architectural features and joinery of the room. Painted and japanned furniture in color is rarely successful in Western work, since the pigment never attains to sufficient depth and richness, and the general consensus of opinion, I think rightly, has decided that a tint of cream, slightly varying according to surroundings, is the only color which can be satisfactorily applied to movable furniture, or to fittings *en suite* with it. It certainly possesses the advantage of lightness and elegance of effect, and harmonizes with practically any scheme of color.

The relation of metalwork to furniture is one of the most fascinating branches of the subject, partly because of the great interest of the work itself, and partly because in all ages the metal mountings have afforded a very complete test of the worthiness or otherwise of the art-school to which the furniture has belonged. The characteristics of good metalwork in this connection are, first, that it should fulfil a distinct purpose, which could not be fulfilled by the wood alone, second, that it shows such purpose plainly, and, third, that it should be good in itself. All good metalwork, as applied to furniture and fittings, does fulfil these conditions. The lock-plates, keys, handles, hinges, bolts, &c., of mediæval work are almost always excellent, and the same, with some qualification, may be said of that of the best period of the Renaissance. The debased French styles of the eighteenth century degraded metal to the purpose of ornament, pure and simple, and this not sparingly, but to an absurdly excessive degree, while every bit which was of use and answered any purpose was studiously kept out of sight. Hinges were made as small as possible and carefully hidden, lock-plates were whittled down to an escutcheon to cover the keyhole, handles were often omitted altogether, the key being the only means of pulling open the door or drawer, and when they were used they were made to look as unlike handles as possible. Some of the ormolu-mounted pieces of furniture of this period are models of perverted ingenuity and skill. In the present century, up to the Gothic revival, art metalwork could scarcely be said to exist in England, but then the art of the smith once more came into fashion, and there has been during the past fifty years a steady and continuous improvement of design, until an excellence has been reached equal if not superior to any in past times. Once more, however, a careful observer is able to notice a tendency to over-elaboration, and we may see a small door with hinges and lock-plate, large and elaborate out of all proportion to what is necessary, and drawer handle-plates almost concealing the wood. It is not always perceived that what would be perfectly suitable for strengthening a set of old Flemish window-shutters, or a mediæval treasure-chest, is out of place on a modern sideboard. The smith may be allowed to run to the end of his tether in a gate, a grille, a fender, or a pair of andirons; but in the making of a piece of furniture he must learn that his work is to be subordinate to that of the joiner or the cabinet-maker.

Time will not permit of my entering at length into the subject of fabrics, which, even within the comparatively limited scope of their application to furniture, might well fill a paper; but apart from the ease and comfort which the art of the upholsterer contributes to our lives, I would mention their great value from an æsthetic point-of-view, for effects of color and to soften outlines. The general improvement in taste which has characterized the art-history of the past thirty years, has in no case been better exemplified than in the design and coloring of the textiles of the present day, as will be readily admitted by those who are old enough to remember the repps, poplins, Union damasks, and other furnishing materials of a generation ago. There has also been a corresponding improvement in the handling of our furniture fabrics, and in the design of upholsterers' trimmings.

A most important subject, and one I should much like to have had time to emphasize, is that regarding the relative balance which should be maintained as between furniture and mural decoration and hangings; but I must content myself with saying that as a rule furniture should stand out in contrast from mural treatment. That is to say, if the furniture is elaborate in design and full of broken colors, then walls should be in a monotone coloring and unbroken by any pronounced design. On the contrary, if the walls are rich in design and coloring the furniture should be severe in form and of a monotone color. Further, this holds good of an individual piece of furniture; I mean that elaborate detail and rich color in any portion of it should be counterbalanced by comparative plainness elsewhere. I need not say that when I speak of contrast I do not imply contrast of style, for that of course should be homogeneous, or that such contrast should necessarily be strong, for harmonious treatment is generally far more satisfactory.

And now I will bring these desultory comments to a conclusion with a few remarks on what I think are the correct lines which should be followed by our designers in the future.

Obviously, some common standard of excellence should be first recognized, not to be copied, or even perhaps closely imitated, but for what I would call the *motifs* for work in furniture. Our best periods, in fact the only periods when England developed a national art in the household, were those of the first half of the seventeenth and the latter half of the eighteenth centuries. Always keeping in view the character of the English climate, and the tastes and habits of the people, I consider the Jacobean combines in itself all the characteristics of a good style, and from its dignity and solidity is especially applicable to what may be called the masculine side of furnishing — the dining-room, hall and library. At its best in oak, it can be worked successfully in walnut and teak, and is susceptible of the greatest variation in its treatment, from the richness and elaboration suited to the state apartments of a palace, to the degree of plainness and severity which accords with the surroundings of a farmhouse or cottage. When enriched with carving and good marquetry, and used in conjunction with gilded leathers or fine tapestry and handsome ceiling-plaster, it is in the highest degree sumptuous and magnificent, and at the same time in a simple form, with that touch of the archaic which gives character and originality, it lends itself with equal facility to use with the humble wall-paper. The furniture and fittings of this period at Holland-House, at Knole, and in the South Kensington Museum are models from which it would be possible to form a truly national style in the future, not, as I have said before, by copying, but by a due observance of the principles underlying both the design and construction of the works in question. Allowing the widest latitude to individual taste — for I hold that good taste can be found equally among those whose predilections are in favor of richness and abundant ornament and those who incline to the simple and severe — the examples I am recommending to be studied will furnish us with rules both for keeping the highly ornate within proper limits, as well as for softening harshness and austerity.

The other period of which I have spoken, viz. that of "Adams" decoration, and Hepplewhite and Sheraton furniture, should be studied by designers for *motifs* of what I would call the feminine side of furnishing — the drawing-room and the boudoir, and its characteristics are lightness, elegance and grace.

Hepplewhite may be considered a connecting link between Chippendale and Sheraton, his chairs, etc., being more refined than those of the older master, though not wholly free from their blemishes. Sheraton was an exceedingly able man, and was one of the best draughtsmen of his day, and, though himself a prolific manufacturer, very large quantities of furniture were made by contemporary cabinet-makers from his designs. Working mainly in mahogany and satinwood, his cabinets, chairs, tables, etc., though unequal in merit, even in his best period (say from 1790 to 1800), are, for the most part, worthy of praise. The influence of the spurious Classic of the Empire period in France caused, later on, a very remarkable falling-off in his designs, some of which, produced in the early part of the century, are about as bad as they can be. During the time in which he continued under the influence of the Adames, however, he aimed, like them, at severe refinement rather than massiveness and fanciful ornament, and consequently, made but slight use of carving. The cabriole chair and table legs of Chippendale were discarded altogether, and the heavy, square legs of the same maker he tapered with rare elegance of effect. The ornament was almost confined to inlay, and this is found almost invariably in keeping with the general design and aim of the furniture, as even in his most elaborate work it is subordinate to the main effect, while in the simpler pieces, by the judicious use of lines only, it is made to emphasize the construction. The details of the decoration are simple, and perhaps a little wanting in *verve*, but are admirably drawn, and are never stereotyped, each husk, loop, and festoon being varied according to the shape and size of the space to be covered.

The contemporary style of this period in France, the Louis Seize, was a vast improvement on the rococo of the preceding reign, inasmuch as it conformed to some of the more reasonable and obvious rules of construction, and the decoration, though nearly always overdone and often false in its application, had an elegance and comparative severity very refreshing after what had gone before. When it is desired therefore to produce furniture for the drawing-room and boudoir of a distinctly ornate character, the Louis Seize can be studied with profit by the designer. I would limit such study strictly to the ornament, as the general lines and construction of the Sheraton style can hardly be improved upon; indeed furniture can be made quite unmistakably Sheraton in character, without any ornament whatever.

According as our designers, therefore, aim at dignity and massiveness, or lightness and grace, let them keep in view the work of these our best periods. Both styles are in reality allied, being founded on the Classic; both are capable of much modification while retaining their distinctive characteristics; both are true and correct in construction; and, lastly, both are English — in the sense that, though evolved from foreign models, they were adapted not crudely by copying, but intelligently, after being modified by national feeling and taste. It is surely not too much to hope that in course of time we shall become discontented with remaining in leading-strings, and with ringing the changes on the styles of the past, some of which are utterly alien to our national sympathies and needs, and that the

influence of these two allied forms of art will cause the opening up of future artistic possibilities at present unrealized.

If I may believe that by anything I have said to-night I have helped forward this consummation, I shall feel grateful to my colleagues on the Committee of the Applied Art Section who over-persuaded me to prepare this paper.

THE WINTER EXHIBITION AT BURLINGTON HOUSE.

THE works of Van Dyck naturally divide themselves into four periods: First Flemish, Italian, Italo-Flemish and English. The first of these were principally religious works, of which few are exhibited. "The Betrayal of Christ," lent by Lord Methuen, a large work, 107 x 88 inches, is a striking example of the influence of Rubens, noble in conception, color and movement, while in the figure of Christ is a dignity seldom attained by the later Flemish painters in their religious pictures. It is a night-piece, and in its depths of darkness, in its passages of torch-light, or brazier-light, half-obscurity, the very night is alive. The figures of Christ and of Judas are larger than life, the latter wearing a brown cloak and holding the Saviour's hand. One cannot but admire the vigor of the handling throughout.

Sir Francis Cook lends a large finished sketch of this work, and at the Prado, Madrid, is a copy of the original, undoubtedly by Van Dyck.

Captain Holford lends a delightful sketch of the famous Saventem picture, "St. Martin dividing his Cloak," over which so much romance has been thrown, and of which a copy is at Windsor Castle, but erroneously ascribed to Rubens.

The Rev. M. Vere's "Crucifixion" is an early work, which, though much injured by rolling, is a powerful composition. Not so good a picture, but evidently genuine, is another of the same subject from Prior Park College, Bath.

The Italian pictures are magnificent productions, and rarely seen save in the private galleries of their princely owners, whose wealth has enabled them to retain their treasures.

The Duke of Abercorn lends a large canvas, the full-length portrait of "Paola Adorno, Marchesa Brignolé Sale," whose husband, the son of a Genoese doge, was ambassador to Philip IV. This imposing picture depicts a tall, handsome lady of aristocratic grace and dignity, whose expression is most pleasing as she looks round to the spectator. The original is in Genoa, and the above is one of the very few copies made by Van Dyck himself of these Italian pictures. Time has mellowed but not injured the Venetian tones of this magnificent work. Another stately lady is Captain Holford's "Princess Balbi," an extraordinarily vigorous and realistic portrait of an intelligent and pleasing dark young Italian. She wears a gold-embroidered mantle over her dark dress, and is seated full length, facing the spectator; canvas, 73 x 47 inches.

The famous "Balbi Children" has, unfortunately, not been sent from Pan-shanger. Among other works of this period is a seated full-length portrait of "Andrea Spinola," Doge of Genoa, in which the play of light on the delicately-modelled small head is noticeable, while the red brocaded robes and the white ruff are a triumph of execution. This picture was brought from Genoa early in the century by Sir David Wilkie, and has always been admired as one of the greatest of all the works of Van Dyck in his Genoese and most attractive period.

The Duke of Newcastle's "Rinaldo and Armida" illustrates Tasso's "Jerusalem Delivered." The beautiful sorcerer — who ultimately bore the Crusader to her palace, in which he for a time gave himself up to sensual pleasures — is seen bending over him as he sleeps, while she twines a wreath of flowers round him; a siren, rising from some water near by, sings from a scroll in her hand. In this fine work, 93 x 88 inches, we are strongly reminded of Titian and the Venetians generally by Armida's blue and crimson draperies, the *amorini* poised in the air above her, and the flesh-tints of the nude figure of the siren. This rich and splendid mythological painting is believed to have been bought by Endymion Porter in 1629 for 78l from "Monsieur Vandick of Antwerp," and handed over to King Charles for the same sum. Almost at the end of his life, Van Dyck painted another picture from the same poem, "Hermionia putting on Clorinda's Armor," which was a portrait of his own wife, the beautiful Mary Ruthven.

Van Dyck's portrait of himself, a three-quarter figure, 47 x 34 inches, is lent by the Duke of Grafton. The head is turned back to the spectator; in his right hand is a gold chain, while with his left he points to a sunflower. The deep blue of the background, the rich crimson of his costume, and the mellow tones of the flesh, all suggest a Venetian rather than a Flemish source of inspiration. The lifelike, full-length portrait, 80 x 44 inches, of the "Abbé Scaglia," robed in black, with white collar and cuffs, is lent by Captain Holford.

This wily intriguer was in the service of his sovereign, the Duke of Savoy, and also in that of the King of Spain, for whom he negotiated the Peace of Münster. When this portrait was shown at Antwerp last year, it far surpassed, in its scheme of color, a rival full-length lent by the Museum of that town. Our English picture seems to have found its way here during the Napoleonic wars, and to have passed into the possession of Sir Thomas Baring, from whom the late Mr. Holford acquired it. Both the Queen and the late Duke of Westminster have lent a "Marriage of St. Catherine," of which the latter is the finer, though both are beautiful. This picture, on account of the exceeding beauty of the Virgin, was

commonly known as "La plus Belle des Vierges." It was bought by George IV in 1820 for 2,500 guineas, and has never before been publicly exhibited.

A "Virgin and Child, with Donor," lent by Lady de Rothschild — a picture of the very first order — is very little known in this country. The originals of the principal figures are believed to be the Duchesse d'Areberg and her son. This marvellously-painted Virgin is a handsome woman of fashion, and the Child is most naturally posed on her lap. In the kneeling Donor one recognizes the famous Abbé Scaglia. The canvas is an oval, 41 x 46 inches.

In marked contrast to these charming women is Lord Hopetoun's "Infanta Isabella Clara Eugenia, Governess of the Netherlands." She was the daughter of Philip II and his third wife, Elizabeth of Valois. In her hard and relentless face one plainly discerns the cruel, inflexible father. Hands, attitude, expression — all help one another in the impression they produce upon the spectator of being in the presence of a dominant personality, as, dressed in the gray habit of the "Poor Clares," she stands, holding in her hands the end of her black veil. At the siege of Ostend she is said to have sworn not to change her linen till she was mistress of that place. As the siege lasted three years and more it is not surprising that her linen became of the tint known from the circumstance as "Couleur Isabelle." The portrait was probably one of Van Dyck's last works before coming to England.

Among portraits of many celebrities of the Netherlands painted by Van Dyck during a short leave of absence from the English Court is that of Beatrice de Cusance, "Madame de Ste. Croix," whose great reputation for distinction and beauty is fully borne out. This fine example is lent by the Queen, from Windsor Castle; it is 80 x 46 inches.

"The Guitar Player," lent by the Earl of Northbrook, is startlingly lifelike. There is much individuality in the rather Spanish-looking swagger of the man, and as he stands singing one can easily fancy one hears the thrumming of the guitar he plays. He wears a black dress, deep white collar and cuffs, buff boots, and his long dark hair falling over his shoulders.

Undoubtedly the works produced by Van Dyck during the second and third periods are distinguished by much grandeur and vigor, which may largely be attributed to their having been entirely executed by his own hand.

"BUILDINGS." 1

THE statutes with which we have to do speak of "buildings" and of "houses," and it would be well at the outset to ascertain what these words mean. In construing a word, you must take it in its ordinary and popular sense, unless you gather from a perusal of the whole Act that it is to be otherwise understood. Further, so far as possible without straining the language of the Act, you must carry out its intention. This intention must be gathered from the words of the statute itself, the whole of it being duly considered.

First, as to "building."

This word occurs in two kinds of provisions, and its meaning varies according to which of these two kinds of provision contains it. It occurs in provisions for the benefit of the public generally and in provisions for the health and safety of inmates of buildings. I must emphasize the chameleon-like nature of this, and, indeed, of all words. It is of little use to search through cases as to inspecting dilapidations or as to voters' qualifications in order to ascertain the meaning of this word.

In provisions for the benefit of the public, the word "building" must be taken to include any structure, whatever its material, if it be only large enough and be intended to be permanent; thus a wall fifteen feet high is a "building" in breach of an obligation not to build within so many feet of the footpath, and a huge wooden trellis is a breach of a covenant against putting a "building" in a yard. If the size, however, is not great, the erection will not be a "building." For example, a small conservatory 4½ feet by 2½ feet was permitted to project in front of the line of buildings, and in another case a small railing, and it was held that a wall 8 feet high was not a breach of covenant against building within so many feet of the footpath, as it was about the height that would be necessary to secure privacy against pedestrians. I have quoted several cases of covenants, but the principle is the same. As to the necessity for permanence, the case as to the huge wooden trellis above alluded to may with advantage be examined. Common-sense tells us that in order to carry out the purposes of these restricted covenants or of statutes forbidding "buildings" in certain places, a wall must be included, for it would be almost as objectionable if it broke the vista of our streets or encroached on our public parks or on our highways as would any other building.

Very different, however, is the meaning of the word "building" when it is found in provisions for the health and safety of inmates. A "building" in these provisions requires size and permanence, as it did in the former class of provisions, and thus your builder's shanty intended to be removed when the new terrace you are putting up is completed does not come under the term "building." One other ingredient, however, is requisite, and that is capacity. To use more

homely language, it must be something a man can get into and move about in, and must have a roof to shelter him. But if these ingredients are present it matters not that it is uninhabitable. It may have no fireplace, no chimneys and no foundation. It may be of any material. It may have wheels, if it is used for the purposes that buildings are used for. Thus night-houses for cattle and coach-houses have been held to be "buildings" for the purpose of these provisions, but not a boiler standing on a base of bricks four feet high. A judge has decided that a dog-kennel, a bird-cage and a wig-box do not come under the category of "buildings" in this connection. You may, therefore, if you wish, design these without fear of the Public Health Acts.

Next, as to the meaning of the word "house."

We are only concerned with the meaning of the word when it occurs in provisions for the benefit of inmates. It requires the three ingredients of size, permanence and capacity mentioned above, but adds to them one other — that is, habitability, though this ingredient may be absent if the word comes under the interpretation clause mentioned below. Thus it includes an unconsecrated chapel which was inhabited by a caretaker, and the whole of which could have been inhabited without any structural alterations; conversely, nothing that is uninhabitable, unless it come under the interpretation clause, can be a "house." This lack of habitability may arise from two causes — from structural defect in the absence of such things as a fireplace, windows or doors, or from the legal bar to using the structure for purposes of habitation which results from consecration, as in the case of a church, which has been held not to be a "house" in this connection. Thus we must exclude such opposites as a cow-house and a church. We must, however, in accordance with the interpretation clause of the Public Health Act, as modified by later Acts, include "schools, factories and buildings where persons are employed." Thus, taking what I may call the common law and the statutory definitions together, you might, I think, include schools, factories, offices, shops, warehouses, theatres, and all premises where a caretaker sleeps.

When the word "dwelling-house" is found in the Acts we deal with, it seems to mean a house of which the main purpose is residence. The mere fact that a caretaker resides on premises such as a chapel or warehouse would not of itself be sufficient to make them a "dwelling-house."

Before leaving this part of my subject I may mention that the interpretation of the meaning of words contained in a statute is a matter of law, but the question as to whether any particular subject-matter with which you may have to deal comes within the definition of any word so interpreted is a question of fact.

BOOKS PAPERS

MR. JOHN BEVERLY ROBINSON has undertaken a rather thankless though important task in venturing to discuss the principles of architectural composition, and in illustrating his theories² by examples. It is hardly necessary to say that an architect who offers pictures of the work of other architects as specimens of bad composition, and shows by sketches how he would improve them, runs a risk of incurring the violent resentment of the authors of the works which he holds up to reprobation at the same time that he exposes his own work to criticism; and yet every architect acknowledges in his heart that the principles under which certain combinations and proportions of line and mass excite intellectual pleasure while others do not are capable of being elucidated, and that it would be an advantage to the art of architecture to have them elucidated; and, as they can only be studied by means of examples, those persons who have the courage to use examples for such a purpose are entitled to commendation and respect, even from those who may feel themselves aggrieved by them.

Taking the golden rule of all art, that of unity, as a starting-point, Mr. Robinson develops it in a very interesting manner and with an earnestness which cannot be too highly praised. With him, as we hope with every other conscientious architect, the pursuit of the beautiful is a most serious consideration, and although we have not much faith in the theory of angular proportions in antique work, to which he devotes a good deal of space, everything that may help to refine the design of buildings is worthy at least of study, and Mr. Robinson is far too good an architect to attribute to the "sacred triangle" or the "diagonal of the square" the mystic virtues with which amateurs clothe them.

Starting from his first proposition, that unity is a necessary quality in architectural design, Mr. Robinson goes on to show how two equal features, as two towers or church spires, may be so combined as to be pleasing, and then takes up the question of three parts. There is no mysticism or anything else except clear common-sense, reinforced by example, in his conclusion that, with three principal features, one should dominate, and, in general, that the predominant one should be in the middle. It is easy to see how the discussion of such simple rules as these, with their exceptions and their development

¹ Extract from a paper read at a sessional meeting of the Northern Architectural Association on January 17 by Mr. Algernon Barker, B. A., barrister-at-law, of Newcastle.

² "Principles of Architectural Composition": An attempt to order and phrase ideas which have hitherto been only felt by the instinctive taste of designers. By John Beverly Robinson, New York: The Architectural Record Co.

into more complex principles, may be made extremely interesting; and although Mr. Robinson does not pretend to have said all that there is to be said on the subject, he has at least produced a work of much value to architects and students, and has, we hope, opened the way to a discussion which may have important consequences. The profession has suffered long enough from the amateur discoverers of proportional mares'-nests, and if the people who have spent a lifetime in combining and refining masses, lines and details can be induced by Mr. Robinson's example to join in the inquiry into the true sources of architectural beauty, the world of art may profit greatly.

ILLUSTRATIONS

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

THE NEW YORK "BOX-STOOP,"—XI: NO. 38 EAST 37TH ST., NEW YORK, N. Y.

BEDROOM CHIMNEYPIECE: HOUSE OF ISAAC ROSENWALD, ESQ., NEW YORK, N. Y. MESSRS. BRUN & HAUSER, ARCHITECTS, NEW YORK, N. Y.

CHOIR OF THE CHURCH OF ST. ETIENNE, TOULOUSE, FRANCE.

This plate is copied from Baron Taylor's "Voyages pittoresques."

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IN designing the furniture illustrated, an attempt has been made to return to first principles and to form the pieces in as simple and direct a way as possible. They could be readily made by a village carpenter or an amateur cabinet-maker. Being devoid of carving or ornamentation, whatever merit they may have as designs relies on their proportion and on their fitness for use.

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Sideboard A is designed to be executed in oak, stained a gray-green color, with the pulls and mounts of hard copper, or wrought-iron, finished gray, part bright.

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

WROUGHT-IRON GATE TO THE PETIT PALAIS DES CHAMPS ELYSÉES, PARIS, FRANCE. M. CH. GIRAULT, ARCHITECT.

This plate is copied from *L'Architecture*.

[Additional illustrations in the International Edition.]

STAIRCASE FROM THE OFFICE OF THE HOTEL MANHATTAN, NEW YORK, N. Y. MR. H. J. HARDENBERGH, ARCHITECT, NEW YORK, N. Y.

[Gelatin Print.]

DOORWAY TO BANQUET-HALL: HOTEL MANHATTAN, NEW YORK, N. Y.

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THE NEW YORK "BOX-STOOP,"—XIII: NO. 220 MADISON AVE., NEW YORK, N. Y.

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METALWORK,—II: RAILING AND GATE, NO. 681 MADISON AVE., NEW YORK, N. Y.

NOTES AND CLIPPINGS

MINNESOTA'S PINE-SUPPLY.—It is estimated that at the present rate of consumption there is pine enough in Northern Minnesota to last thirty-five to forty years. The probability is that twice that length of time will see the same forests now being cut still furnishing timber, and, with a reasonable conservation of the forests, the establishment of a Northern Minnesota forest-park and the adoption of forestry, systematically undertaken, as is now proposed, the Northern Minnesota woods should furnish timber and a revenue to the commonwealth for an unlimited time. — *Duluth Correspondence Boston Transcript*.

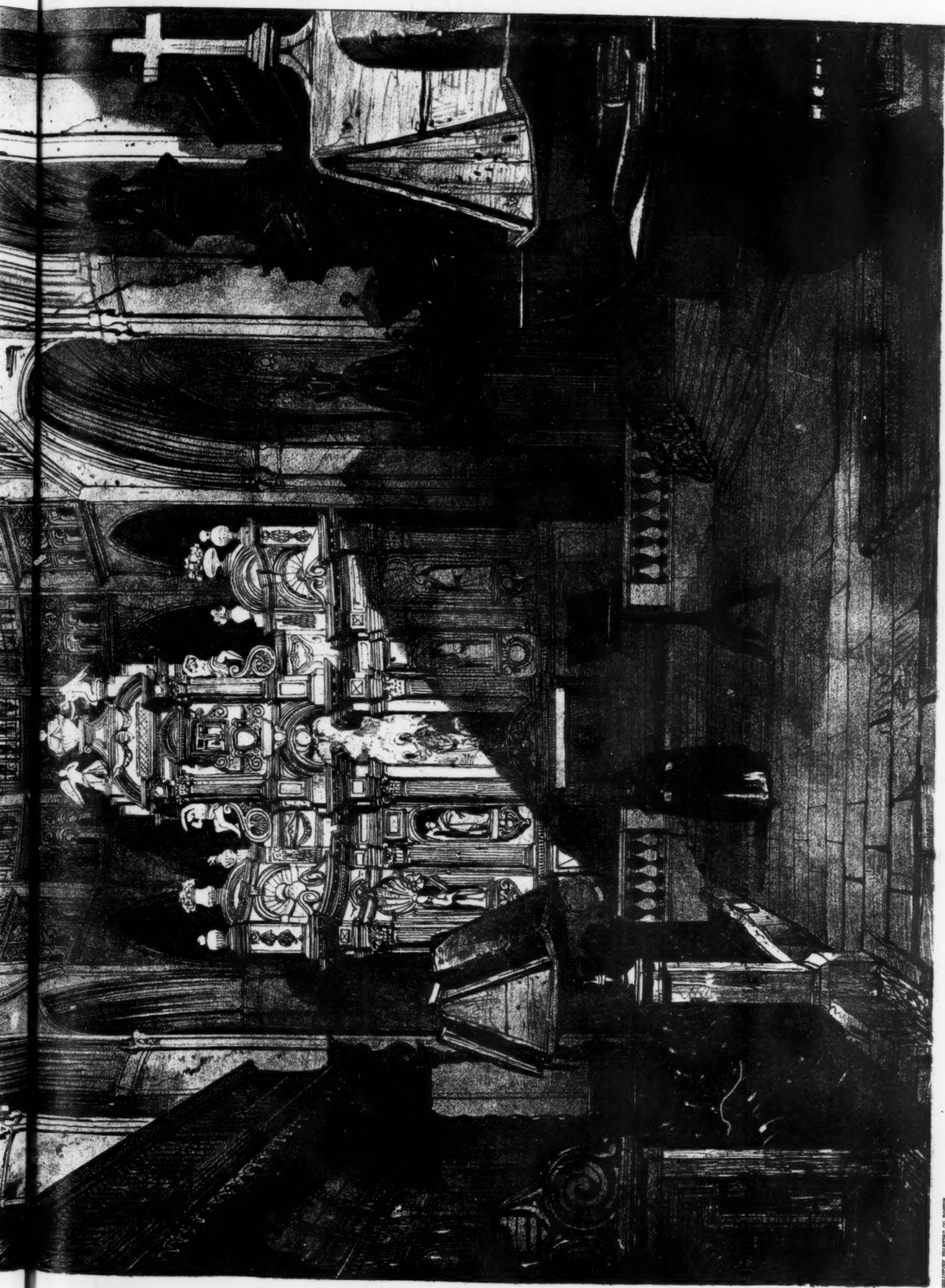
LESE-MAJESTY IN CHICAGO.—A man may speak contumeliously of the President of the United States without fear of punishment, but it is no more safe for a member of the Chicago Bricklayers' Union to make disrespectful remarks about the president of that union than it is for a German to revile the Kaiser. A thoughtless bricklayer said when he was seeking a city position that the president of the union exerted successfully his influence in favor of another man not a member of the union. This remark was held to be in violation of the rule forbidding criticism of the acts of an officer. The offender was fined \$10. He refused to pay it. He was promised a remission of the fine if he would apologize for his rash words in open meeting. He would not do so, and, as he still refused to pay the fine, the business-agent has ordered him off his job. This bricklayer must bend his stubborn knees, or there will be no more work for him as a union man. — *Chicago Tribune*.

WHO INVENTED THE STEAMBOAT?—The removal next autumn of Robert Fulton's remains from the Livingstone vault in Trinity Churchyard—where they lie unmarked—to a plain sarcophagus, suitably inscribed, within the same precincts, has revived the controversy whether priority in inventing steam navigation belongs to Fulton, to John Fitch, or to James Rumsey. Reginald P. Bolton, of this city, who has particularly studied the question, to-day expressed the conclusion that William Henry, of Lancaster, Pa., originated the idea of steamboat propulsion in 1775, that Fitch operated a toy steamboat on the waters of Collect Pond (site of the old Tombs), that both Rumsey and Fulton took their ideas from him, but that to Fulton belongs the credit of the first serious development of steam navigation. Mr. Bolton proposes a tablet near the site of Collect Pond to commemorate Fitch, and suggests that Pennsylvania should honor Henry. Steps are being taken in Maryland to erect a monument to Rumsey. — *N. Y. Evening Post*.

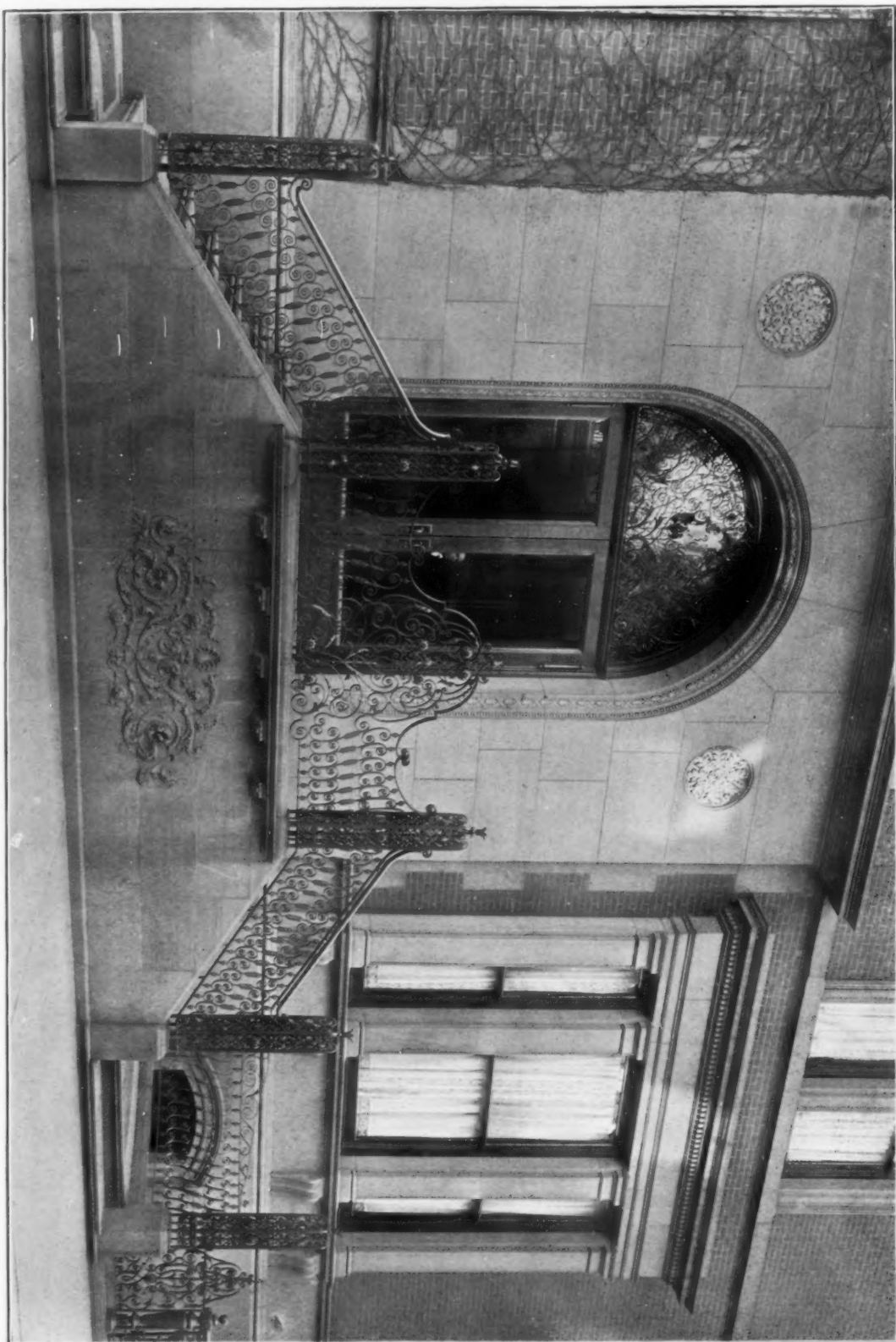
THE CHATEAU DE VALENCAY.—Thanks to a decree just issued by the French courts, the magnificent castle of Valençay, one of the most regal abodes in all Europe, is about to be sold by public auction, and, inasmuch as it costs a good deal of money to keep the place up, it is improbable that any member of the French aristocracy will care to buy it, so that it will pass into the hands either of some rich foreigner, or else become the prey of one of those doubtful financiers who make their headquarters at Paris, and whose one object in life seems to be social recognition, aims which they will hope to further by means of becoming the owners of Valençay. The contents of the castle—that is to say, the historic treasures which it contained—have already been dispersed by public sale. But the château itself remains, and is magnificent, being of pure Renaissance style, and throned on a gently sloping hill of smooth-cut lawns, the background being constituted of dense forests. It was here that King Ferdinand VII of Spain, and his brother, the Infant Antonio, were imprisoned for eight years by the first Napoleon, and the great statesman of the latter's reign, the famous Prince Talleyrand, is buried in the chapel of Valençay. — *Marquise de Fontenoy in the Philadelphia Press*.

COLORS CEMENTS.—The March number of *La Céramique* says: The qualities required in the colors used to color cements are: the property of thoroughly mixing; that of not decomposing under the action of lime, and that of resistance to the action of light. These colors should mix completely with the different compositions of which cements are made up, the cohesion of which they diminish. The means of testing them are to mix them with a certain quantity to a given quantity of slaked lime. Care must be taken not to use low-priced materials containing salts of lime and barytes, which give to the objects which contain them, especially when damp, a veiny aspect, which has a very bad effect. The colors for cements should resist the action of chemical alkaline agents. When washed by soda they should not be impaired after a day of this treatment. Those which mix well are unassailable by chemical alkaline agents and resist the action of light fairly well. The best means to assure one's self of these qualities is to color a plane surface and to cover certain parts with some opaque bodies and to expose the painted surface to the sun's rays for some time. The most common red is jeweller's-red, or brown-red, composed of peroxide-of-iron in the proportion of eighty-five per cent at least. Red-ochre (calcined) is less recommendable. The ochres, composed essentially of peroxide-of-iron and alumine-of-lime, constitute the yellows. These diminish very slightly the cohesion of cements. The ochres have also the advantage of being the less expensive yellows. Sienna earth (not burnt) may also rank in this category. Ultramarine is the blue most employed, but it is well to correct the reddish reflection it has, especially in artificial light, by adding to it fifty per cent of sea-green. These three primary colors serve to compose the secondary shades—orange-color, violet, green, etc.; nevertheless the lime-resisting colors not always permitting certain mixtures, one has recourse to chrome-greens, ultramarine, already mentioned, and umber. For the gray-blue tints very good results are obtained with graphite.





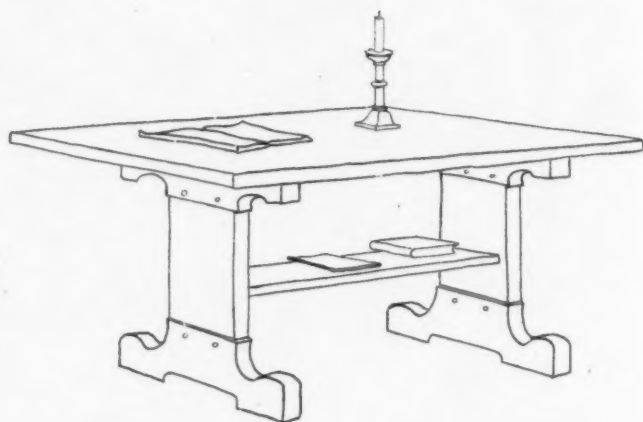
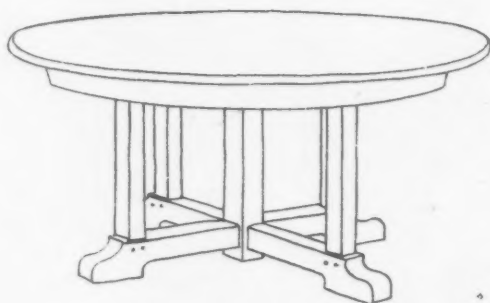
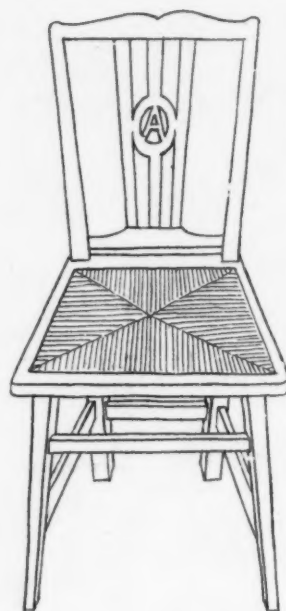
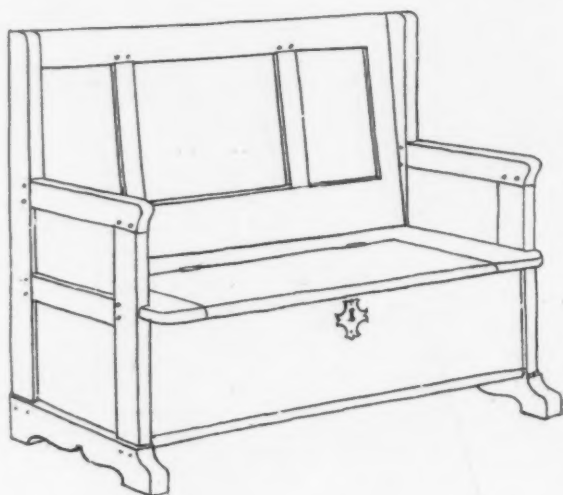
THE CHOIR OF THE CHURCH OF ST. ETIENNE, TOULOUSE, FRANCE.



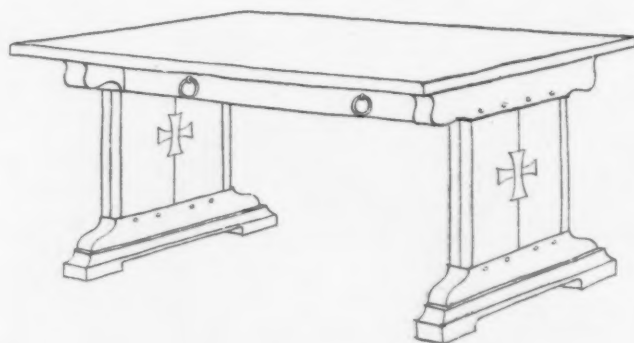
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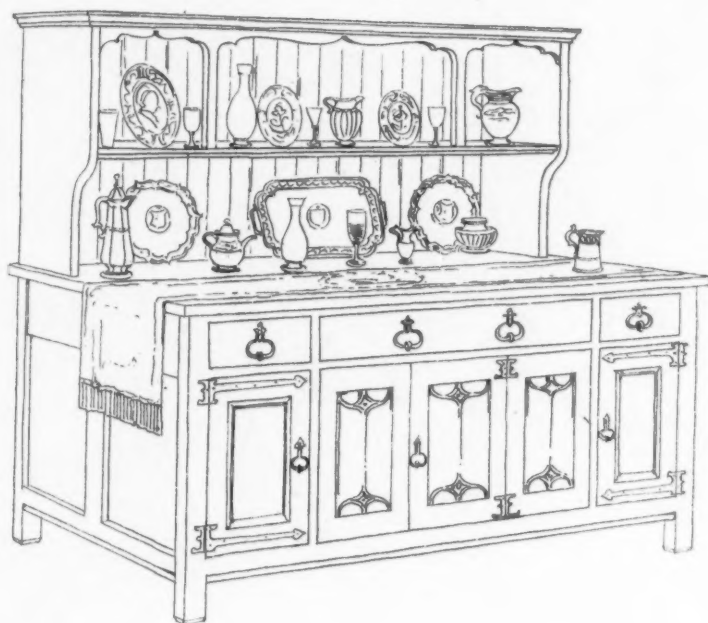


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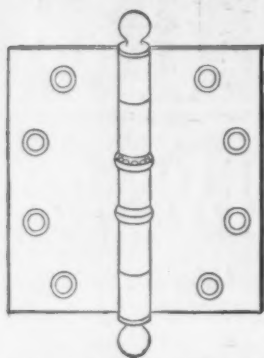
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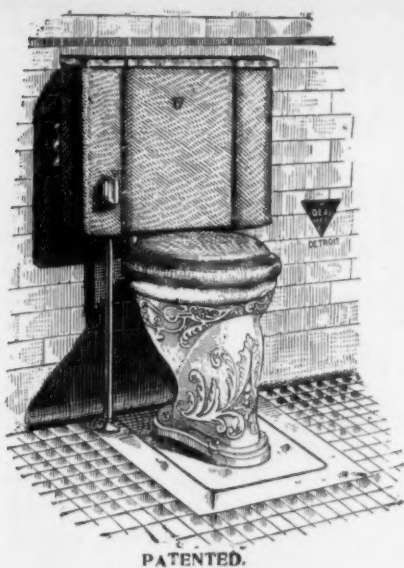
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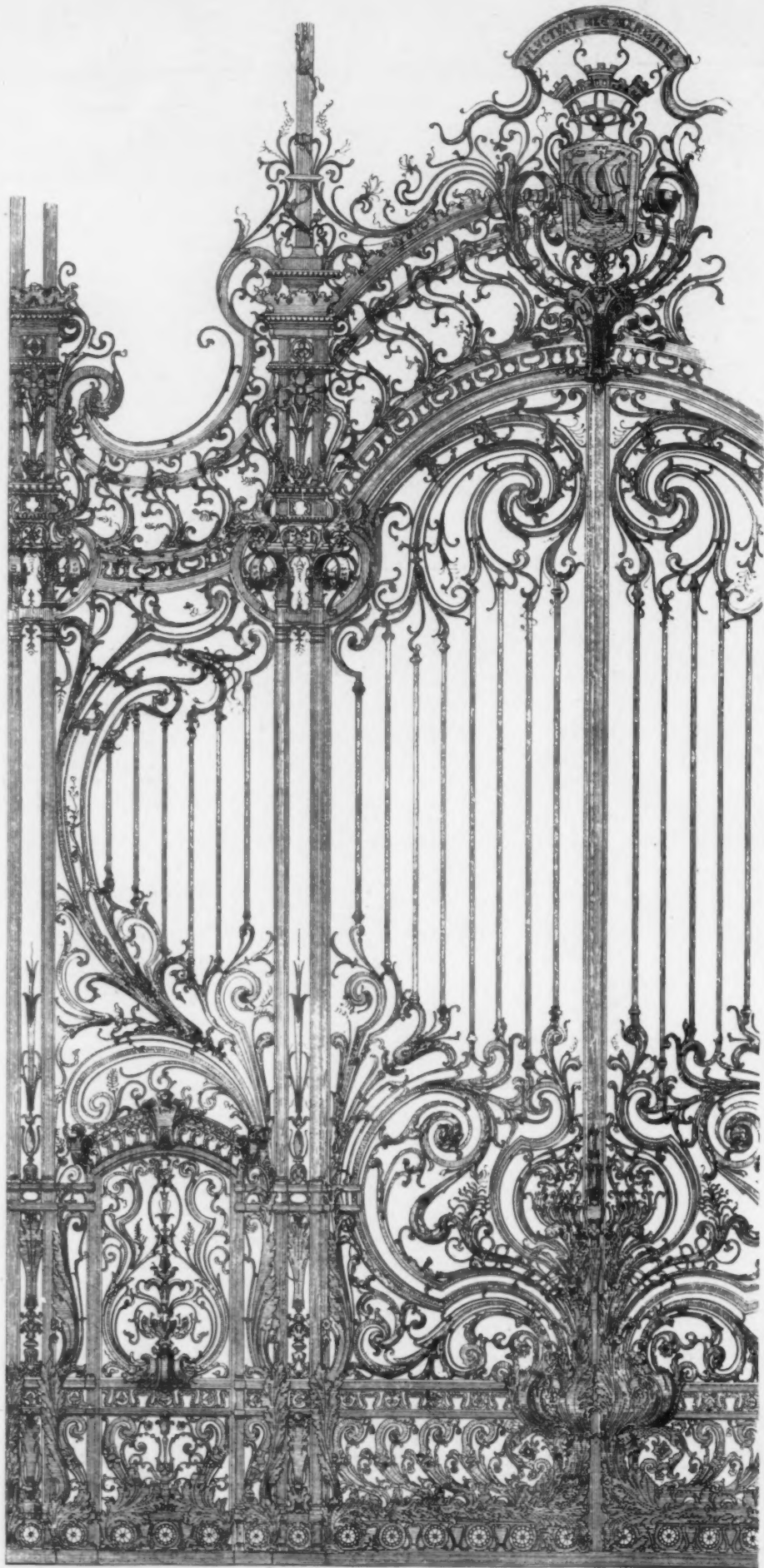
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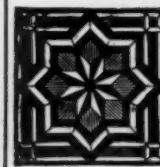
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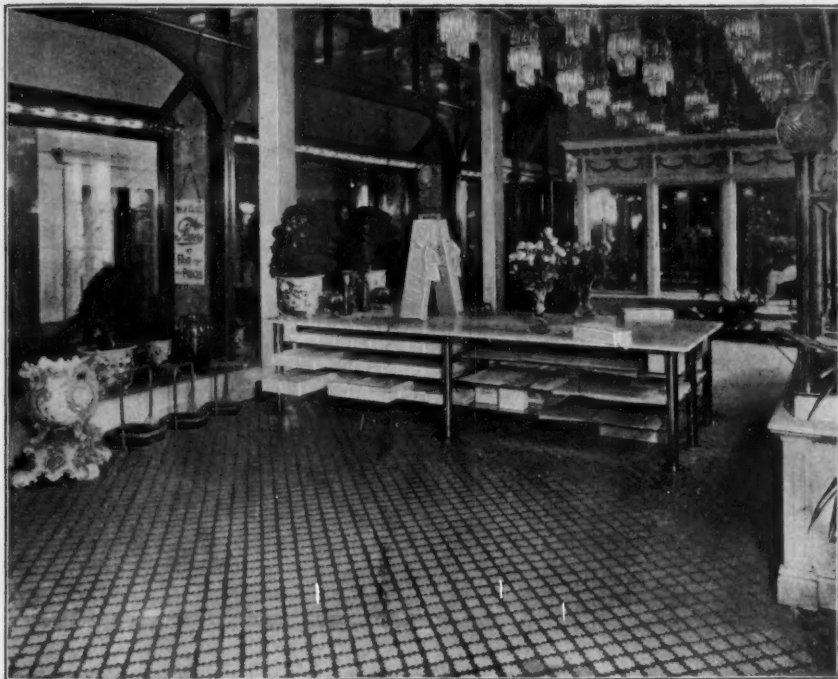
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stone residence for Dr. J. Swan Taylor; cost, \$12,000.

The Knoxville Cotton Mills Co., recently organized here will erect a factory here to cost \$10,000, work to begin at once.

Louisville, Ky.—Clarke & Loomis, architects, have designed a four-story brick and stone addition for the Norton Memorial Infirmary; cost, \$50,000.

Madison, O.—Rev. Louis E. Durr, pastor of St. Matthew's Episcopal Church, has taken preliminary steps toward tearing down the present place of worship of this congregation and erecting in its place a Gothic church.

Madison, Wis.—Architect L. F. Porter, has prepared plans for a three-story pressed brick and stone business block, 44' x 80', for George Soelch; cost, \$8,000.

Marshfield, Wis.—F. Deming is having plans prepared by Architects Van Ryn & De Gelleke, of Milwaukee, for a brick business building to be erected here. It will cost \$9,000.

Milwaukee, Wis.—Architects Van Ryn & De Gelleke are preparing plans for a frame flat building for Mrs. Bause, to be erected on 27th and Grand Ave.; cost, \$9,000.

Minneapolis, Minn.—E. P. Overmire, architect, has prepared plans for a residence to be erected on Park Ave. and 28th St., for Robert W. Turnbull. The building will be 39' x 64', two and a half stories and basement, of Roman pressed brick veneering; cost, \$15,000.

E. P. Overmire, architect, has plans for a residence to be erected on 26th St. and Portland Ave., for W. J. Jennison. It will be 40' x 54', two stories, attic and basement, Roman pressed brick veneered, Kasota stone. There will also be a barn of the same style, 26' x 40'; cost, \$18,000.

E. S. Stebbins, architect, is preparing plans for a high school building to be erected in Chariton, Ia. It will be 77' x 111', two stories and high basement, of pressed brick, terra-cotta and Bedford cut stone; cost, \$28,000.

New Albany, Ind.—Adolph Hollenberg, Louisville, Ky., has prepared plans for the remodeling of the German Evangelical Church; cost, about \$35,000.

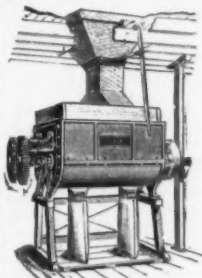
Newport, Tenn.—W. C. Hoffmeister, Bristol, is preparing plans for an opera-house to be built for Robert Jones. It will be constructed of pressed brick and stone, and will cost about \$12,000.

New York, N. Y.—The plans of Ward & Davis have been adopted for the new Alexander Ave. Baptist Church. The building will be of gray mottled brick, trimmed with Indiana limestone. The auditorium will be octagonal in form; cost, \$60,000.

Ottumwa, Ia.—Frank McIntire has had plans prepared by Architect R. B. Teeter for a two-story and basement frame residence; cost, \$9,000.

Philadelphia, Pa.—St. Elizabeth's Catholic Church has purchased a building site on the east side of 23d St. which will be utilized in the near future for a parochial school and parish hall.

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Architect Jas. H. Windrim for a four-story brick, stone and steel store building to replace the building on the triangular lot at Ridge Ave., Green and 13th Sts., which was destroyed by fire.

Pittsfield, Mass.—Architect Lucius L. Bridge has completed plans for the hotel and theatre building to be erected on Summer St., by C. A. and B. J. Burbank. The building is expected to be ready for occupancy in the early fall.

The Stanley Electric Mfg. Co. has secured a site of about 30 acres near the east shore of Silver Lake, where they will shortly begin the construction of a new plant.

Pittsburgh, Pa.—Andrew Carnegie has promised the Carnegie Library and Institute \$3,000,000 to be used for the extension and enlargement of the building. The new building will be nearly six times as large as the present one. It will be 500' x 700' in size and cover between six and seven acres of ground.

Portland, Me.—At a meeting of the influential Hebrews of this city and vicinity held recently, steps were taken which will ultimately result in the erection of a large synagogue here.

Providence, R. I.—Plans have been selected for the immense repair shops to be erected by the Union R. R. Co. on Cranston St. The building will be of brick and steel with granite trimmings, and ornamental in design. It will be 55' in height, and 300' x 400', covering an area of nearly three acres; cost, \$250,000.

Press reports state that Alfred M. Coates, son of the wealthy thread manufacturer, will erect a winter residence on Brown St.

Norcross Bros., contractors, will soon begin the work of razing the Curry & Richard's Building at the corner of Westminster and Durrance Sts., on which site will be erected an eleven-story building for the Union Trust Co. It will be constructed of handsome and costly material, the first two stories to be of white granite from North Jay, Me., the remaining stories of brick with white marble trimmings from Georgia.

Renville, Minn.—Pardee & Pardee, 2715 Lyndale Ave. S., Minneapolis, are preparing plans for an

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

addition to be made to the high school. It will be 60' x 74', two stories and basement, brick and cut stone; cost, \$8,000.

Sharon, Pa.—Architects S. W. Foulk & Son, New Castle, have prepared plans for a stone residence for John Stevenson, Jr.; cost, \$40,000.

Sheridan, Wyo.—The First National Bank has had plans prepared by J. C. Stitt, architect, of Norfolk, Neb., for a two-story brick bank building, 22' x 55', to cost \$8,000.

St. Paul, Minn.—J. Walter Stevens, architect, is preparing plans for the guard's building at the St. Cloud reformatory. It will be a granite, iron and steel building, 100' x 100', and 100' high, fireproof, with slate roof; cost, \$125,000.

Sulphur Springs, Tex.—Architects J. Riely Gordon Co., Dallas, have prepared plans for a two-story brick and stone bank building for the First National Bank; cost, \$12,000.

Toledo, O.—Architect L. G. Welker, 932 Spitzer Building, has prepared plans for a brick residence to be erected on Broadway, near Walbridge Park, for Edward Grasser; cost, \$10,000.

Wabash, Ind.—Architect G. R. Laidlaw is preparing plans for a three-story pressed brick, stone and terra-cotta, fireproof store building for Bradley Bros.; cost, \$12,000.

Wabasha, Minn.—Clarence H. Johnston, St. Paul, is drawing plans for a stone memorial church to be erected for the Episcopal Society; cost, \$10,000.

Wallace, Idaho.—Preuss & Zittle, Spokane, Wash., have drawn plans for White & Bender for remodeling their store and building a new warehouse; cost, \$15,000.

Wells, Minn.—H. Fahlburch, W. L. Altenburg and others have had plans prepared by Pan & Schippel, of Mankato, for a row of brick stores, offices and residences to be built here; cost, \$16,000.

Wheeling, W. Va.—Architects Giesey & Faris have prepared plans for Spear & Riddle for a brick machine shop, to be equipped with machinery necessary in the manufacture of axle-making machines; cost, \$15,000.

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APARTMENT-HOUSES.

Chicago, Ill. — Buena Ave., cor. Kenmore Ave., three-sty st. & bk. aparts., 125' x 125', comp. roof, steam; \$75,000; o., Hamilton & Hood; a., Albert S. Hecht.

N. Ashland Ave., four-st'y & base. bk. aparts., 26' x 117', comp. roof, gas; \$20,000; o., Mathew Mix; a., Joseph H. Wilkowski.

Milwaukee, Wis. — Scott and Greenfield Aves., three-st'y bk. aparts., 32' x 62', shingle roof, furnace; \$6,000; o., Captain Cochran; a., A. E. Eschweiler.

New York, N. Y. — Fifth Ave., nr. 127th St., seven-st'y bk. & st. flat, 50' x 90'; \$85,000; o., T. P. Sinnott, 647 Columbus Ave.; a., Edw. Wenz, 1491 Third Ave. St. Nicholas Ave., cor. 115th St., seven-st'y bk. flat & store, 95' 11" x 110' 11"; \$250,000; o., Richard Neville, 124 E. 114th St.; a., Neville & Bagge, 217 W. 125th St.

Bleeker St., No. 190, seven-st'y bk. flat, 25' x 84'; \$35,000; o., L. Wallerstein, 246 E. 15th St. Perry St., Nos. 96-98, six-st'y bk. flat, 38' 7" x 84' 11"; \$30,000; o., G. F. Losche, on premises.

CLUB-HOUSES.

New York, N. Y. — Forest Ave., n. Cedar Pl., two-st'y bk. hall & lodge rooms, 25' x 68'; \$8,000; o., Mrs. Stellwagen, Forest Ave. a e cor. Cedar Pl.; a., Gustav Schwarz, 554 E. 158th St.

EDUCATIONAL.

Macon, Miss. — Two-st'y bk. & st. school, 60' x 75', slate roof, hot air; \$80,000; o., City; a., Andrew J. Bryan Co., Atlanta, Ga.

Westfield, N. J. — Bk. & st. public school; \$40,000; o., Board of Education; a., Ingie, Almirall & McKenzie, 10 E. 23d St., New York City.

BUILDING INTELLIGENCE.

FACTORIES.

Chicago, Ill. — Twenty-first St., nr. Western Ave., three-st'y bk. factory building, 103' x 315', comp. roof, steam; \$75,000; o., L. Sonnenschein; a., Theodore Lewandowski.

Kenosha, Wis. — Two-st'y bk. factory building, 48' x 187', asbestos roof, steam; \$8,000; o., A. D. Melselbach; a., H. Messmer & Son.

Monongahela, Pa. — Five-st'y bk. & st. brewery & ice plant, 100' x 126', gravel roof, steam; \$75,000; o., Anton Brewing Co.; a., H. J. Lohman.

New York, N. Y. — E. Sixteenth St., No. 13, eight-st'y bk. factory & store, 25' x 87', 92', asphalt roof; \$80,000; o., R. J. Blake, 515 Lenox Ave.; a., G. Robinson, 215 W. 125th St. Bowery, No. 161, seven-st'y bk. factory & store, 23' 4" x 103' 8"; \$40,000; o., N. U. Tompkins estate, 23 Warren St.; a., Wm. J. Dilthey, 1 Union Sq.

HOSPITALS.

Brooklyn, N. Y. — Albany Ave., cor. Tulip St., two-st'y bk. hospital, 37' x 51' 6", steam; \$17,000; o., City of New York; a., Horgan & Slattery, 1 Madison Ave., New York.

Clarkson St., n. s. 380' w Albany Ave., three-st'y bk. nurses' home, 38' x 108', steam; \$28,000; o., City of New York; a., L. H. Voss, 65 De Kalb Ave.

HOUSES.

Boston, Mass. — Harold St., nr. Harrishof St., 3 three-st'y fr. dwells., 24' x 50', flat roofs, furnaces; \$15,000; o., a. & b., Boyd & Berry.

Whitely Terrace, nr. Pleasant St., two 2½-st'y dwells., 30' x 46', pitch roofs, furnaces; \$12,000; o., Chas. M. Ward; b., Herman Drake; a., W. H. Besar.

Mellen St., nr. Ocean St., 2½-st'y fr. dwell., 28' x

BUILDING INTELLIGENCE.

(Houses Continued.)

30', pitch roof, furnace; \$5,000; o., Serena Sundberg; a. & b., J. A. Sundberg.

Homestead St., nr. Walnut Ave., 2½-st'y fr. dwell., 32' x 48', pitch roof, furnace; \$8,000; o., W. J. Hurd; a. & b., J. A. Eisonor.

Blue Hill Ave., No. 690, 2½-st'y fr. dwell., 25' x 30' x 50', pitch roof, furnace; \$6,000; o. & b., William Donaldson; a., S. Rantin & Son.

Boylston St., nr. Jersey St., 9 three-st'y bk. dwells., 27' x 73', flat roofs, furnaces; \$100,000; o., F. M. & A. G. Frost; b., M. G. & G. N. Miller; a., G. M. Brown.

Blue Hill Ave., nr. Devon St., 2 three-st'y bk. dwells., 22' x 53', flat roofs; \$12,000; o., James Mulloy; b., E. Fernald; a., S. Rantin & Son.

Huntington Ave., nr. Ruggles St., three-st'y bk. dwell., 26' x 40', flat roof, furnace; \$12,000; o., Ottram Bangs; b., Ira G. Hersey; a., Wheelwright & Hoven.

Northern Ave., nr. Washington St., 2½-st'y fr. dwell., 31' x 47', pitch roof, furnace; \$7,000; o., Mary J. Boden; a. & b., Henry J. Boden.

Brooklyn, N. Y. — E. Eleventh St., nr. Hineckley Pl., two-st'y & attic fr. dwell., 35' x 38', shingle roof, hot air; \$6,000; o., G. T. Moore, 758 Ocean Ave.

W. Eighth St., nr. Surf Ave., two-st'y fr. post-office & dwell., 25' x 64' 6", felt roof; \$5,000; o., John W. Pierce, on premises; a., H. D. Whipple.

E. Thirty-first St., nr. Avenue G, two-st'y & attic fr. dwell., 25' x 49' 10", shingle roof, steam; \$5,000; o., Benjamin Blasius, 177 Hopkins St.

Degraw St., nr. Nostrand Ave., 6 two & three-st'y bk. dwells., 20' x 46', gravel roof; \$33,000; o. & a., F. L. Hine, 757 Nostrand Ave.

Broadway, nr. Rockaway Ave., 2 three-st'y bk. stores & dwells., 20' x 60'; \$12,000, o., A. Voltz, 593 Bainbridge St.; a., W. B. Willis, 17 Troutman St.

E. Fifteenth St., nr. Albemarle Road, 2½-st'y fr. dwell., 23' 4" x 72' 2", shingle roof; \$10,000; o., C. M. Stillwell, 164 St. John's Pl.; a., W. Leeming, 111 Fifth Ave., New York.

Grantwood, N. J. — 2½-st'y fr. dwell., 20' x 45'; \$5,000; o., Ralph Buckley, care architect; a., Fred. C. Browne, 143 W. 125th St., New York City.

New York, N. Y. — One Hundredth St., nr. West End Ave., 6 five-st'y bk. dwells., 19' x 57' 6"; \$150,000; o., Jas. Livingston, 108 W. 84th St.; a., James & Leo, 2585 Broadway.

One Hundred and Sixty-eighth St., nr. Union Ave., 7 three-st'y bk. & limest. dwells., 17' x 17' 6" x 42'; \$45,500; o., W. Rohtzek, 1046 E. 169th St.; a., P. C. Hunter, 1046 E. 169th St.

One Hundred and Tenth St., 200' w Amsterdam Ave., two-st'y bk. dwell. & store, 25' x 64', 70' 11", plastic slate roof; \$6,000; o., F. J. Schnugg, 1 E. 94th St.

Morris Ave., cor. 160th St., 3 two-st'y bk. dwells., 20' x 30' x 42', 50'; \$23,000; o. & a., Wm. G. Pigueron, 531 E. 161st St.

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(Houses Continued.)

W. Fifty-second St., Nos. 31-33, six-sty st. & bk. fireproof dwell., 41' x 100'; \$140,000; o. Raymond Hoagland; a. C. P. H. Gilbert, 1123 Broadway.
Fifth Ave., nr. 80th St., five-sty bk. & st. dwell., 25' x 100'; \$75,000; J. T. & J. A. Farley, 253 Columbus Ave.

Philadelphia, Pa.—Sixty-fourth St. and Sherwood Road, three-sty st. dwell., 34' x 100' x 56' 9"; \$10,000; o. Wendell & Smith; b. M. W. Young; a. Keen & Mead.

PUBLIC BUILDINGS.

Hackensack, N. J.—Main St., two-sty bk. & st. library, 51' x 70'; \$35,000; o. Town of Hackensack; a. Rosseter & Wright, 95 Liberty St., New York City.

STORES.

Boston, Mass.—Sullivan St., three-sty bk. stores & dwell., 28' x 34', flat roof; \$9,000; o. & b. A. Gutterman; a. C. A. Halstrom.

Chicago, Ill.—Leavitt and Hamburg Sts., three-sty bk. & st. store & flats, 25' x 100', comp. roof, gas; \$20,000; o. John A. Okonski; a. Joseph A. Wilkowski.

Galveston, Tex.—Tremont and Winnie Sts., three-sty bk. store building, 46' x 65', comp. roof; \$10,000; o. B. G. Tort; a. N. J. Clayton.

New York, N. Y.—W. Forty-first St., No. 135, six-sty bk. store building, 25' x 98' 9"; \$21,000; o. Lewis Conger, 130 W. 42d St.; a. Wm. E. Bloodgood, Jr., 148 Broadway.

Broadway, No. 781, six-sty bk. & st. flats & stores, 23' 11" x 97' 87", plastic roof; \$30,000; o. Archibald J. C. Anderson, 127 Water St.

TENEMENT-HOUSES.

Brooklyn, N. Y.—Madison St., nr. Throop Ave., 5 three-sty bk. tenements, 27' x 65'; \$35,000; o. Julius Strauss, 597 Willoughby Ave.

Knickerbocker Ave., nr. Palmetto St., three-sty bk. tenement, 25' x 65'; \$5,500; o. Sebastian Holt, 860 Bushwick Ave.; a. Louis Berger & Co., 300 St. Nicholas Ave.

De Kalb Ave., nr. Knickerbocker Ave., 3 three-sty bk. flats, 25' x 65'; \$18,000; o. Nicolaus Bounlaender, 1477 De Kalb Ave.

New York, N. Y.—Two Hundredth St., nr. Decatur Ave., three-sty fr. tenement & store, 40' 3" x 65', 70' 11"; \$11,000; o. T. W. Miles, Bedford Park.

Broome St., No. 257, cor. Orchard St., six-sty bk., st. & terra-cotta store & tenement, 22' x 60'; \$16,000; o. Louis A. Berney.

THEATRES AND HALLS.

New Kensington, Pa.—Fifth Ave., four-sty opera house & lodge building, 102' x 120', slate roof, steam; \$32,000; a. B. H. Ellis.

Sandusky, O.—Wayne St., seven-sty steel, st., bk. & terra-cotta opera-house & business building, 68' x 198', flat fireproof roof, steam & fan; \$140,000; o. Sandusky Opera House Building Co.; a. Geo. J. Hardway & Co.

WAREHOUSES.

New York, N. Y.—York St., No. 3, six-sty bk. storage, 22' 11" x 62' 6"; \$15,000; o. Stuart Duncan, 9 E. 6th St.; a. John Downey, 410 W. 34th St.

MISCELLANEOUS.

Ithaca, N. Y.—Sandst. fireproof anatomical laboratory, tile roof, steam; \$8,000; o. Cornell University; a. W. H. Miller.

New York, N. Y.—Seventy-fourth St., nr. Avenue A, three-sty bk. & st. power station, 205' 11" x 413' 11" & 394' 10"; \$750,000; o. & a. Manhattan Railway Co., 195 Broadway.

W. Fifty-seventh St., No. 219, one-sty bk. riding ring, 50' x 100' 5"; \$20,000; o. Frank J. Gould, 579 Fifth Ave.; a. York & Sawyer, 156 Fifth Ave.

BUILDING INTELLIGENCE.

(Miscellaneous Continued.)

Oberlin, O.—Two-sty st. gymnasium, 60' x 150', tile roof, steam; \$40,000; o. Trustees Oberlin College; a. Patton, Fisher & Miller.

Seabright, N. J.—One-sty bk. & st. passenger station, 30' x 80', with platform 300'; \$9,000; o. Central R. R. of New Jersey; a. Hill & Turner, 150 Fifth Ave.

COMPETITIONS.

SCHOOL-HOUSE.

[At Holyoke, Mass.]

Plans and specifications will be received until May 4th, for the new Elmwood School-house. BOARD OF PUBLIC WORKS. 1270

PROPOSALS.

Treasury Department, Office Supervising Architect, Washington, D. C., April 14, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 12th day of May, 1900, and then opened, for the boiler plant and steam heating and ventilating apparatus, etc., for the U. S. Mint Building at Philadelphia, Pa., in accordance with drawings and specification, which will be furnished at the discretion of the Supervising Architect on application at this office or at the office of the Superintendent of the building at Philadelphia, Pa. JAMES KNOX TAYLOR, Supervising Architect. 1271

Treasury Department, Office Supervising Architect, Washington, D. C., April 14th, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 12th day of May, 1900, and then opened, for the water-supply, plumbing and interior finish of toilet-rooms for the U. S. Mint Building at Philadelphia, Pa., in accordance with drawings and specification, which will be furnished at the discretion of the Supervising Architect at this office or at the office of the Superintendent of the building at Philadelphia, Pa. JAMES KNOX TAYLOR, Supervising Architect. 1271

COURT-HOUSE.

[At Crookston, Minn.]

Sealed bids will be received until May 10th, for the erection of a court-house. JOHN GLEASON, County Auditor. 1271

CHURCH.

[At Winnebago City, Minn.]

Sealed bids will be received until May 10th, for the erection of a church by the Board of Trustees of the Presbyterian Church. C. H. GARNSEY, Clerk Board of Trustees. 1271

CANNING FACTORY.

[At La Porte City, Ia.]

Sealed proposals will be received by the La Porte City Canning Co. for the erection and construction of a canning factory. GEORGE BANGER, JR., sec. 1270

ASYLUM.

[At Eau Claire, Wis.]

Sealed proposals will be received until April 30th, for building an insane asylum. S. H. WILCOX, chairman. 1270

ASPHALT FLOOR.

[At East Cambridge, Mass.]

Sealed proposals will be received until May 4th, for asphaltting the jail yard of the House of Correction at East Cambridge. LEVI S. GOULD, S. O. UPHAM, FRANCIS BIGELOW, Com's of Middlesex Co. 1270

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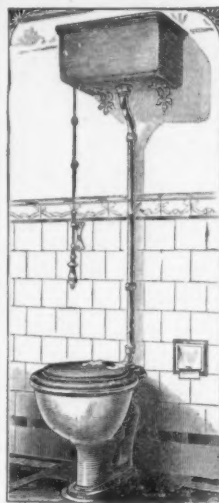
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PROPOSALS.

SCHOOL-HOUSE.

[At West Liberty, O.]

Sealed proposals will be received until May 4, for the erection of a school building. C. H. NEEL, Clerk Board of Education. 1270

SCHOOL BUILDING.

[At Harlem, Mont.]

Sealed proposals will be received at the Indian office until May 2d, for furnishing all materials and labor necessary in the erection of a brick school building on the Fort Belknap Reservation. W. A. JONES, com. 1270

HEADSTONES.

[At Boston, Mass.]

Sealed proposals, in triplicate, will be received until May 16th, for supplying 10,000 white marble headstones in slabs. MAJ. J. E. SAWYER, Depot Quartermaster, Boston. 1272

FACTORY BUILDING.

[At McComb City, Miss.]

Sealed proposals will be received until May 7th, for the erection of a factory building for the McComb City Cotton Mills. J. J. WHITE, pres. 1271

SCHOOL-HOUSE.

[At Glenville, O.]

Sealed proposals will be received until May 9, for a brick school. CHESTER L. ARTHUR, Clk. Bd. Educ. 1271

SCHOOL-HOUSE.

[At Gravity, Ia.]

Sealed proposals will be received until May 1st, for the erection of a school-building. WM. WELLINGTON, sec. 1270

JAIL.

[At Luverne, Minn.]

Sealed proposals will be received until May 4, 1900, by the Board of County Commissioners for the erection of a jail and sheriff's residence. C. S. BRUCE, county auditor. 1270

SCHOOL-HOUSE.

[At Mandon, N. D.]

Sealed proposals will be received until May 7th, for the erection of a brick school-house. T. WILKINSON, clerk. 1271

LIBRARY.

[At Atlanta, Ga.]

Sealed proposals are wanted until April 30, for the erection of the Carnegie Library. T. H. MARTIN, chairman building committee. 1270

COLLEGE BUILDING.

[At Ravenswood, W. Va.]

Sealed proposals will be received until April 28, for the construction of new college building. F. P. HARRIS, President Board of Trustees, Ohio Valley College, Ravenswood. 1270

Treasury Department, Office Supervising Architect, Washington, D. C., April 14, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 12th day of May, 1900, and then opened, for the completion (except heating apparatus, plumbing, elevators, electric wiring and conduits) of the U. S. Mint, Philadelphia, Pa., in accordance with the drawings and specification, copies of which may be had at the discretion of the Supervising Architect at this office or at the office of the Superintendent at Philadelphia, Pa. JAMES KNOX TAYLOR, Supervising Architect. 1270

Treasury Department, Office Supervising Architect, Washington, D. C., April 11, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 18th day of May, 1900, and then opened, for extension, etc., of steam heating and ventilating apparatus for the U. S. Custom-house and Post-office building at Dubuque, Iowa, in accordance with the drawings and specification, which will be furnished at the discretion of the Supervising Architect on application at this office, or at the office of the Superintendent at Dubuque, Ia. JAMES KNOX TAYLOR, Supervising Architect. 1270

Treasury Department, Office Supervising Architect, Washington, D. C., April 11, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 17th day of May, 1900, and then opened, for the completion of the interior finish, plumbing, gas-piping, etc., for the U. S. Post-office, Court-house and Custom-house at St. Paul, Minn., in accordance with the drawings and specification, which will be furnished at the discretion of the Supervising Architect on application at this office or at the office of the Superintendent at St. Paul, Minn. JAMES KNOX TAYLOR, Supervising Architect. 1270

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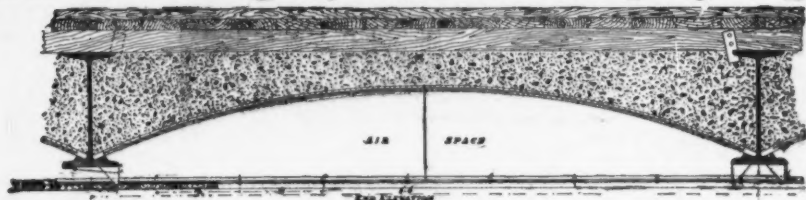


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SECTION 1. No Member should enter into
partnership, in any form or degree, with any
builder, contractor, or manufacturer.

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

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

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

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

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

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tions of a building designed by another archi-
tect, within ten years of its completion,
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to employ the original designer, or, in event
of the property having changed hands, with-
out due notice to the said designer.

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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.

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is employed to draw up the "conditions" and
assist in the award.

SECTION 11. No Member should submit draw-
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duly instituted competition, or attempt to
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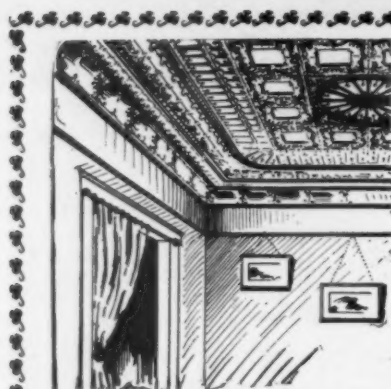
SECTION 12. The American Institute of Archi-
tects' "schedule of charges" represents mini-
mum rates for full, faithful and competent
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than to accept work to which he cannot give
proper personal attention.

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
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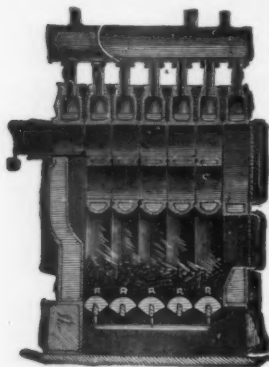
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