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THE Trustees of Cornell University have decided upon an important remodelling of their course in Architecture, giving more prominence than ever before to artistic studies, and devoting two years to the study of pure architectural design. This part of the course is to be modelled on the plan of that pursued at the School of Fine Arts in Paris. According to the newspaper accounts, the study of construction is to be completed within the first two years of the course, as is also the practice in drawing from life and the antique, and in modelling. To most architects we imagine that this will seem like a very short time to devote to construction, as well as to outside artistic studies. There is no doubt that architectural design is best learned by practising architectural design,—not, as has been too often supposed, by studying nearly everything else; but pure architectural design is too intense a mental exercise to be carried on continuously, and, more than that, in order to design with real inspiration instead of merely throwing cleverly together bits of familiar detail, the imagination must be fed from the great source of beautiful conceptions,—Nature. We are disposed to think that the incontestable superiority of American students of architecture, when matched on equal terms with French students, in the poetry and artistic feeling of their designs, is due to their better understanding of nature. With us, a person who proposes to devote himself to architecture as a fine art is still something of an anomaly. His friends doubt whether he will ever find employment, and he is very likely to be a little uncertain himself whether he may not have to paint pictures, or do modelling, for a living. This leads him naturally to a certain familiarity with painting and sculpture, and, if he does not practise them himself, he is likely to know enough about them to be led through them to study the natural appearances which they portray, and so store his mind with ideas of composition, of light and shade, and of line and color, which come to his aid most effectively, although perhaps unconsciously, in his subsequent designing of architecture; while the French student, with a much clearer notion before him of the end that he wishes to reach, and the means of attaining it, is less likely to interest himself in outside studies.

FOR this reason, particularly, we should be sorry to see at Cornell too close an imitation of the French curriculum, and still more sorry to see the nourishing studies of drawing, painting and modelling dropped at the end of the second year. It is hardly necessary to say that nothing more than the rudiments of any of these could be acquired in two years, while their greatest usefulness, as instruments in the development of the imagination, comes only when they can be used

with a certain freedom. It is said that the new scheme of instruction has been considered, and approved by the Fine Arts Society of New York, and, undoubtedly, it will be put in effect at the beginning of the next academic year. At the end of the four-years' course, the degree of Bachelor of Architecture will be conferred upon graduates.

ACCORDING to the newspapers, an extraordinary piece of construction is being carried out on the site of the old Herald Building, at the corner of Broadway and Ann Street in New York, now owned by Mr. Havemeyer. On this small plot is to be erected a building twenty-six stories high, the top of which is to be three hundred and seven feet above the sidewalk. Instead of carrying the foundations of the structure down to the underlying rock, as is done with all the other lofty buildings in the city, the footings rest on the ordinary sand subsoil. This is covered, we are told, with concrete, and on the concrete, exposed to full view in the cellar of the building, are set independent bases, of steel plates and angles, in pairs. On top of each pair of bases is a short platform of rolled beams bolted together, and on this platform stands one of the main columns of the building, or, in the case of the walls adjoining other property, probably short columns, carrying cantilever girders. So far, there is nothing very remarkable about the affair, but a singular addition is made to the combination, in the shape of a hydraulic press, which stands vertically between the bases of each pair, with its piston applied to the underside of the platform of rolled beams, exactly in the axis of the steel columns standing on top of the platform. It is obvious enough that power enough can easily be obtained in the press, from a hand-pump which is placed conveniently near, to lift the column over it, with its load; and the theory of the scheme is said to be that, by setting one of these hydraulic presses under each column, it will be practicable to lift any or all of the columns, in case of unequal settlements, which, as the structure rests only on wet sand, might be expected to occur, and by putting "shimming-plates" between the platform of rolled beams, and the bases under it, to level up the structure as required.

WHETHER the saving of money secured by this construction, which must have been considerable, is sufficient to counterbalance the disadvantages, is a question upon which every architect will have his own opinion. If we remember rightly, the rock, in this part of Broadway, is about forty feet below the surface, so that a really solid foundation would have been an expensive affair. It seems, however, as if a foundation could have been obtained with concrete which would not be subject to unequal settlements, and the mode of application of the hydraulic jacks, as illustrated in the New York papers, is not very satisfactory. As shown, the jack rests directly on the concrete, on a circular base, small enough to go easily between the column bases of each pair; so that, if the two bases belonging to each column cover, together, an area of one hundred square feet of concrete, which seems to be approximately what was intended, the base of the hydraulic jack covers, as shown, about six square feet. It is evident that, when the column is lifted off its base by the hydraulic jack, its weight, with that of its load, comes on the base of the jack, with, undoubtedly, a large additional strain, due to the resistance of the joints and masonry above to the distortion incident to the lifting of the columns. Now, if an area of concrete of six square feet is sufficient to carry all this load, with the extra incidental pressure, an area of one hundred square feet, under the main bases, is unnecessarily large for carrying the dead load only; and, conversely, if the bases have been properly calculated for carrying the dead load, the operation of throwing this, and a good deal more besides, on a new base of one-seventeenth the area, is likely to be a tolerably hazardous one, so far as can be judged from the newspaper accounts, although, of course, precautions may have been taken for meeting this problem which these accounts do not indicate. Another contingency is, we suppose, also provided for in some way of which we are not informed. If we are not mistaken, the foundation walls of one or more buildings in the immediate neighborhood extend to the rock, forty feet below. Supposing

this to be twenty feet lower than the footings of the new building, it is evident that the lower portion of these deep foundations is exposed to the thrust of a bank of sand twenty feet high, loaded with a building which, according to the newspapers, will weigh thirty million pounds. Strictly, the effect that this thrust may have upon the foundations of neighboring buildings concerns, we suppose, only their owners, but a sudden yielding of the cellar walls of an adjoining building, followed by a copious irruption of sand from under the concrete footings of the new one might cause a settlement of a portion of the latter much too rapid and violent for hydraulic jacks to cope with.

AN interesting proposition has been made to the Legislature of Massachusetts by the Mayor of Boston, speaking for the Transit Commission, with the support of the various railroad companies which now own stations in the southern part of the city, looking to the construction, at the foot of Summer Street, of an immense Union Station. Plans for this building have already been made, and, when completed, it will be the largest railway station in the world, containing thirty-three tracks under one roof. This station will accommodate the Boston & Albany, the Old Colony, the Boston & Providence, and the New England roads, and will concentrate at a very central point, the traffic which has been divided among four stations. Of the stations now existing, that belonging to the New England road will be absorbed in the new one: the Boston & Providence Station will be discontinued, and the Boston & Albany Company will take the Old Colony Station, which nearly adjoins its own, and incorporate the two in an immense freight and express station. To accommodate the passengers having business in the western part of the city, who now use the present Providence Station, or two small stations, near by, on the line of the Boston & Albany road, it is proposed to build, in the neighborhood of Dartmouth Street, a "Back Bay Station," at the present intersection of the Boston & Albany and Boston & Providence tracks, which will accommodate passengers by both these lines, and then to discontinue the Boston & Providence tracks between this point and the present station, taking the Providence trains to the new main Union Station over the Boston & Albany tracks.

AS the present Providence station is only a few rods from the subway, which is now in vigorous course of construction, and which has its northern terminus close to the North Union Station, which accommodates all the roads entering the northern part of the city, and as the Providence tracks which it is proposed to discontinue lead in a straight line, and at a low grade, to the proposed Back Bay Station, it has naturally occurred to the public that it would be desirable to take the discontinued Providence tracks as an extension of the subway, connecting them with the present subway by a short tunnel under Boylston Street. As the location of the Providence road is lined with buildings which take light and air from it, there would be insuperable difficulties in the way of utilizing it for anything but a street; and, as this street has already a double track laid in it, at a level quite suitable for a subway, it certainly seems the part of prudence to take advantage of the opportunity to acquire it for the purpose. With direct subway communication between the new Back Bay Station and the North Union Station, the transit between the latter and the Back Bay Station would be much quicker than it would be between the North Union Station and the new one at Summer Street by walking, or by the surface cars, which would be the only ones available, as the subway does not pass anywhere near the foot of Summer Street; and the Back Bay Station would become the regular station for transferring passengers from the northern to the southern roads. This would probably be an advantage to the railroads, as it would separate a certain special class of business from the rest, and it would certainly be so for the passengers, who would only have to step across a platform, in a quiet way-station, to be transported in a few minutes to the door of the North Union Station, and *vice versa*, instead of being deposited in the confusion of an enormous station, and left to find their way, as best they could, a mile or so to the North Station. If arrangements could be made to detach cars containing through passengers at the Back Bay Station, and draw them by elec-

tricity, with their baggage, through the subway to the North Station, the case would be even better, and this could readily be done, greatly to the convenience of passengers. How highly people who do not travel much appreciate this sort of transfer, is shown by the readiness with which they pay a dollar or so extra, in the price of a through ticket, for the sake of being transported in a ferry-boat or omnibus through or around the large cities, even if they have no baggage with them, simply to save themselves the trouble and anxiety of shifting for themselves. A small fraction of this sum would make it profitable for the railway companies to provide regular transfer through the subway, and the City of Boston would probably not be unwilling to have another customer in prospect for the use of the costly tunnel which it is now constructing.

IT has long been known that there was once an inscription, in bronze letters, on the eastern architrave of the Parthenon.

The holes in which were inserted the nails which held the letters are still visible, and many attempts have been made to guess at the letters, from the disposition of the nail-holes. This year, a courageous student of the American School at Athens, Mr. Eugene P. Andrews, by having himself lowered with a rope from the top of the ruin, succeeded in making paper "squeezes" of all the nail-holes, and in deciphering the whole of the inscription, with the exception of two proper names. There was sufficient difficulty in reconstituting the other words from the three little nail-holes which alone represented each letter; but, by careful comparison, this work was effected with certainty, and the missing names, which are those of the priestess of Athene and her father, will undoubtedly, soon be deciphered. The inscription is a dedication by the Council of the Areopagus and the Commonalty of Athens of something, probably a statue, to Nero Germanicus Caesar, in the eighth year of the lawgiver Novius, and in the incumbency of the priestess —, the daughter of —. As the date of the administration of Novius is known, the inscription must have been set up in the year 61 A. D.

M. ELISÉE RÉCLUS, the celebrated geographer, thinks that one of the attractions of the Paris Exposition of 1900 should be an enormous terrestrial globe, at a linear scale of one to one hundred thousand. There was a globe of this sort at the Exposition of 1889, but it was at a scale of only one to one million, and M. Réclus thinks that this is too small to be of much practical use. The one that he proposes would be about four hundred feet in diameter, and, as he wishes to have it in relief, it would show Mont Blanc, for instance, projecting to a height of two inches from the general surface. One result of the careful study of the reliefs would be that photographic maps might be made of any part of the sphere, which would give at a glance a much clearer notion of the topography of a country than could be obtained by long study of ordinary maps. Whether the globe will ever be constructed is doubtful. Unquestionably, a steel skeleton might be made, and filled-in with panels of plaster, but it would be necessary to protect the structure from the weather by an outside globe, larger than the other, which must be supported separately, and made weatherproof. M. Réclus and his engineers estimate that the two globes could be built, not including the relief work on the inner globe, for about twenty million francs. What the relief work would cost, no one pretends to guess; but, as there would be about twelve acres of surface to cover, it may be presumed that it would be considerable.

A CURIOUS example of the peculiar personalities of the German technical press is to be found in a recent number of the *Deutsche Bauzeitung*, in which a certain architect warns his professional brethren against a deceiver. "A week or two ago," he says, "on recommendations from the firm of L— & Co., in Elberfeld, I engaged a draughtsman, named X. Y. from B. The following Friday, this person broke open my writing-desk, stole about ninety marks, and disappeared, taking with him also an old cylinder watch and a box of drawing instruments." In order that X. Y. may be prevented from repeating elsewhere these reprehensible actions, all brother architects are put on their guard against him, and are requested, if a tall person, about thirty-two years old with healthy color and a black beard, presents himself, with a request for employment, to send word at once to the victim of his villainy.

EVERY-DAY ITALY.¹—IV.

VICENZA, VERONA, MANTUA.



Vicenza.

VICENZA is preëminently Palladio's city, more even than Mantua is Giulio Romano's: almost every palace of importance, except a few in Venetian Gothic style, was designed by him, or shows his influence, and the theatre, the civic museum and the town-hall

(its visible part at least) are his also. The last named building, called the Basilica Palladiana, though one of his earliest, is, according to Symonds, his greatest work. It reminds one somewhat of Sansovino's Library in Venice, since both exhibit two stories of engaged columns with a Palladian feature introduced between. In point of mere beauty and sumptuous elegance the Library is easily superior, but there is a Roman simplicity and grandeur about Palladio's creation which Sansovino's lacks, due, in part no doubt, to the high, whale-like roof. In nothing did Palladio exhibit his peculiar genius more completely than in some of the palace courts in Vicenza. The scale employed was uniformly grand, and the proportions always just and noble. No public buildings in America can compare with these private ones in severe dignity. Although they won my admiration for their architectural qualities, I do not like to think of having to live in those grim and stately palaces. One would find it hard to "live up" to them, I should imagine. I would much prefer to take my daily airing underneath such delicate arcaded courts as one finds in Bologna and Ferrara. In the same way, I have an immense admiration for Wagner, but if I had to hear an opera every night, I would choose Gilbert and Sullivan without a moment's hesitation.

Palladio came just as the Renaissance was ripening to decay, and there is that pomposity and sham about his buildings which belonged to the age; but his genius was original, his sense of proportion was well-nigh perfect, and he conspicuously refrained from using the debased and even debauched architectural ornament with which many of his contemporaries, following in the footsteps of Michael Angelo, disfigured their constructions. That he was a force in his time and after it, is proved by the fact that the whole English Renaissance was cast in moulds he fashioned. He was of all the Italian architects the most classic in spirit, and most nearly approached the Roman ideal; but, though he seemed not to have known it, the spirit of the Renaissance was far other than that of Imperial Rome, and the more slavishly he followed the Vitruvian forms and methods the farther he wandered into those infertile paths in which the Renaissance lost itself at last.

The window of my hotel in Verona overlooked a little stone-paved court, flanked on three sides by buildings whose busy inner life was always half visible through many quaint Venetian Gothic windows, and shut off from the crowded and noisy Via Nuova by a high wall pierced by an entrance arch, and two windows about it opening from nowhere into nowhere, as in a scene in a theatre. Up the inside face of this wall shambled a narrow iron staircase, stopping to rest on top of the little shop which opened on the street, and



Vicenza.

the floor of which must have been lower than the level of the court itself, since persons standing at the window in the rear appeared like hopeless cripples who had lost both feet. The staircase was continued in a narrow balcony in the second story, giving ingress to a little tailor-shop out of which a wide door opened.

Below it was the entrance to the hotel stables, and above were

¹ Continued from No. 1056, page 130.

the Gothic windows, in three stories, out of which leaned at all hours pudgy children and frowsy-headed women, who screamed long conversations to each other and to their friends in the court below. In the very highest story was traceable the remains of a lovely loggia of five small arches supported upon marble columns. The arches had been bricked-up, as usual in such cases, and two mean, meaningless windows took their place. The side of the court opposite the



Villa Rotonda Palladiana, near Vicenza.

street contained, in the first story, the entrance to the hotel and the café, and in the second the *table d'hôte* dining-room, its snowy linen and sparkling glass visible through the long row of windows made in imitation of those in palaces of Venice. The third side, from which my window looked out, was lower and meaner than the others and was evidently built at a later time. In the angle formed by the rear of the little shop and the stairway was a lovely old carved well, like so many that adorn the squares of Venice, but of the cherry-red marble of which one sees so much in Verona. On one side, its festoons and lions' heads had been worn smooth and bright by the friction of the bodies of generations of water-carriers, and the rope had worn deep shining grooves in the rim. While admiring the outside of this well one day I took the fancy to look in it, and I there met with a delightful surprise, for all around the inside near the top grew a fringe of bright green foliage; then there was a long, dark hollow cylinder of stone, and far at the bottom the clear fresh water shone like a new silver dollar.

The court-yard was a very busy place at any hour of the day. The clumsy-footed horses were led into it to be watered. The omnibus drove to and from the trains; the *maitre d'hôtel* and his snowy-bosomed aids welcomed and sped the coming and departing guests, and there always seemed to be some one filling copper kettles with water at the old well. Towards evening the tables were set out for dinner, and from six o'clock till midnight people came and ate and drank and chattered, while waiters rushed to and fro with savory smelling dishes. The talk, the laughter, the popping of corks, the rattle of knives and forks, the clatter of the officers' swords, all mingled in one heterogenous and not unpleasant sound, but it was better when a hush fell, and the noise gave place to the music of a troupe of wandering musicians, men and women, who played the operatic airs the people love, on guitar, flute and violin, as only Italians can.

And whenever, day or evening, I looked into the court-yard upon this scene of pleasant busyness, I thought involuntarily of the deep, still well of living water there in the corner, with its vestment of green foliage and its corselet of red stone. I liked to think of its cool, quiet depths; it seemed the symbol of a human heart which

hid some sweet, wise secret amid all the bustle and distraction of a worldly life.

Mantua rises flat and solid, like the back of a turtle, out of desolate and unwholesome lakes and marshes. One marvels at the fortitude of her early settlers in choosing such a place for a city, and of her later ones, in so enriching and adorning it. There are colossal churches and imposing palaces, and not Rome itself boasts of a statelier pleasure-house



Palazzo Ottolini, Verona.

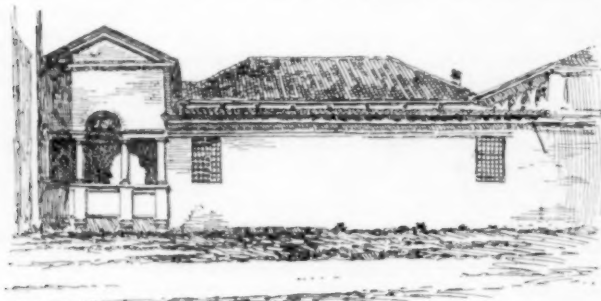
than the Palazzo del Te, which Giulio Romano built for Frederico Gonzaga.

It was principally to see this building, so often referred to by Symonds in his "*History of the Renaissance in Italy*," that I made an excursion from Verona to Mantua. I found it just outside the city walls. The first sight of it was very disappointing. The long low façade, designed in a clumsy Roman manner, of a dirty yellow

color, showed through a meagre grove of sickly-looking trees, and was continued in a high blank, meaningless garden wall. A shallow loggia in the centre of this front admitted to the interior, and to a large, square, unkempt court, around which the main edifice is built. This court communicated with the garden through another larger loggia, which is justly considered one of the finest features of the palace. It is simple in its main lines, and elaborate in its details. The ornament is all formed of stucco, picked out with gold and color in the manner which Raphael introduced. The garden front, of which this loggia forms the axis, is further diversified by Palladian features forming shallow balconies, onto which the windows of the various rooms open. These overlook what were once two large ponds, but the bottoms of which are now used for tomato beds. Beyond these lies the garden, flanked on one side by the once famous stables, and on the other by the wall before mentioned, and on the third side, opposite the palace, by a great arcade, arranged in a semicircle, beyond which stretches a long straight road, lined with trees, leading I know not where. In one angle of the garden is the exquisite little Casino della Grotta, a sort of bachelor's apartment, consisting of a miniature court surrounded by a wall, a grotto, and a suite of rooms decorated with exquisite art in painted stucco in something of that Pompeian manner which the genius of Raphael made his own, in the loggie of the Vatican.

Nothing could be more depressing than the present aspect of this Villa. I failed to find in it much of architectural merit. The whole seemed to me squat, ugly and illy-proportioned, and the dirty yellow of the stucco, the weed-grown court and garden, and the thirsty ponds made the whole seem like some noisome emanation from the swamp by which it is engirt. It was with relief, therefore, that I turned my attention to the interior. It is upon this that the reputation of the palace chiefly rests, and very justly.

Room succeeds room, in each of which so profuse is the ornament, it seems as though the invention of the artist must have been exhausted, yet fresh surprises await one beyond every door. The ceiling paintings of Giulio Romano show what a mastery was his of every resource of the painter's art. Michael Angelo himself attempted nothing more daring in the matter of drawing and foreshortening



Outside of the Casino della Grotta, Palazzo del Te, Mantua.

than did Romano in some of these panels. Very different and to me more pleasing were many of the friezes and ceilings modelled in stucco, in relief. Color was here made to define and relieve form most cleverly, and I could not but think how charming would be a modern theatre or ball-room done by such artists, in such a manner. Of one room, on the walls of which is the myth of Psyche done by Giulio Romano's pupils, the less said the better, for it is sheer obscenity undignified even by art. The show-room of the palace, the hall of the giants, so-called, is quite naturally the most hideous of all. The walls and ceilings are completely covered with enormous, contorted figures of men painted in crude, harsh colors, much as a country scene-painter might have done it.

The whole place leaves one richer by the memory of much beauty, poorer by the memory of much impurity, and melancholy from having visited a house filled with the vestiges of bygone pleasure.

On quitting the place I was filled with weariness and disappointment. It was all very fine, certainly, but how far inferior to the early Renaissance. Here was brutality in place of strength, and effeminate grace in place of chaste refinement. Over all was the mark of the beast. The Palazzo del Te is certainly great in that it mirrors the age in which it arose. In it one sees the Renaissance debauched, but noble still, like a drunken man who is not yet a sot.

From Mantua I went back to Verona and then to Milan, spending my last day in Italy most aptly at the Certosa di Pavia, where is Italian art and architecture from first to last, in a nutshell. It is hard not to be sentimental about leaving Italy, so, lest I relapse into the merely literary, I will bring these dull notes of a delightful journey to a somewhat abrupt close. CLAUDE FAYETTE BRAGDON.

NEW BRONZE STATUE OF BUDDHA.—In commemoration of the victories won by the Japanese troops in China the Buddhists of Kioto, Japan, will erect a gigantic bronze statue of Buddha in that city. It will be 120 feet in height, and the cannon captured by the Japanese during the war are to be used in making the image.—*Philadelphia Telegraph.*

ART IN THE MODERN CHURCH.¹—XII.

HELPS TO CHRISTIAN BUILDING.

SOME of the chief elements that go to make Christian architecture may now be briefly grouped together and summarized. Most of them have already been foreshadowed. First is spirit; for the strength of Christian architecture is the spirit put into it, the soul of the architect and his faith speaking through the materials he has woven together in his design. One must know a language before one can speak in it; know the words, that is, and at least hints of grammar before even the first faltering attempt at speech is made. And as one's knowledge increases the surer the progress, the more direct and intelligible the spoken thought.

It is the same with Christian architecture. A Christian church cannot be built in a haphazard way, or a design tossed off in a moment of time. The building of God's house is too sacred a task to be treated in a light and thoughtless manner. Intended for religious uses, a religious spirit must penetrate every part of it, shine forth in the walls and roof, speak in the colored windows, and show in the sculptured ornament and painted decoration. This necessity recognized, the first step and the most important one has been made in the creation of Christian buildings.

The Christian feeling may be helped in many ways. Christian architecture is not that riotous and splendid art in which men may properly find environment for their human pleasures. It is, rather, a calm, peaceful, simple architecture; a strong, noble, steadfast architecture; a pure, elevated, refined architecture; a reflection of the Christian spirit, humbleness and faith. The Christian's state of mind is one of calm peace and joy, of faith, of hope, of charity. It is the business of the architect of the church to translate these qualities into architectural form; it is the business of those concerned with church building to see that these qualities are translated, and the whole work a pious one.

And so a Christian church will be a simple one. We cannot bring false gifts to the altar, and a truly Christian building, therefore, calls for the employment of the highest architectural talent. And is there a nobler purpose in the realm of architectural art than building to the glory of God? Can God-given talents be consecrated to grander uses than in building to His honor? So the very humblest of churches calls for the same skill, the same thought, the same refined treatment that would be expended upon the most pretentious. And verily this is the more needed in our own day than in any other; not only because so few of our churches illustrate this consecrated art, but because so few modern buildings are refined and pure, although it is true enough there are signs of progress in this direction.

The age of cathedral-building is long since gone; but these great monuments of Christian building still teach many practical lessons that we may learn and profit by to this day. The very largest of Gothic cathedrals is nothing more than an enlargement and multiplication of a few simple elements. Within we have the columns, the vaults, the windows, with a minimum of wall; without we have the walls, the windows, the buttresses. The towers, the ornamental balustrades, the panels, the decorative sculpture within and without are only adjuncts to the elementary materials that are at once the foundation and the larger part of the design. Every student of architectural history knows that all the parts of the cathedral fabric, the buttresses and the flying-buttresses, the pinnacles, the columns, the vaults, the high-pitched roofs, the balustrades, the gargoyles, have a structural and utilitarian purpose that has been refined in the hands of most skilled artists.

I need not stop to enter into these details; it is sufficient to point out that the most sumptuous Christian art the world has known is, in its essence, simple and elementary, utilitarian and purposeful. It is true, that to this the fervor of a deeply religious age and the spirit of a widely distributed artistic spirit has added a rich and splendid decoration that is part and parcel of the architecture. But even this, save when debasement began to appear in Christian monuments, is limited in its application, is confined to the capitals of the columns, to the bosses of the vault, to the string-courses of the walls, or, more elaborately and splendidly, to the majestic and sumptuous doorways, through which the faithful must pass to gain the sanctuary, and where, most rightly, they could see the King of Kings glorified, with the angels of heaven, with hand extended in benediction upon the pilgrim and the wayfarer below.

The lesson these churches teach in the manner of building is not less important because our modern churches; and particularly our modern American churches, are mostly small and inexpensive edifices, lacking both in the size and cost which make the greater buildings of the Middle Ages so splendid and so overpowering in their effect. It is sufficient that they tell us how to design a Christian church.

I. First, it must be simple. The art of architecture is not the art of decoration or of decorated building. In its rudest form a building is an arrangement of four walls, a door, perhaps a window or two, and a roof. All architecture is evolved from this elementary form. With no more than this we can produce most sumptuous monuments. We may take our walls and panel them; line them

¹Although the author of this paper has drawn the greater part of his illustrations from designs that have appeared in this journal, he and we are under obligations for the remainder to the *Inland Architect*, the *Northwestern Architect* and to *Architecture and Building*. Continued from No. 1057, page 142.

with a colonnade; place decorated window-frames within them; erect a columned and pedimented entrance-porch before the door; and convert the roof into a dome. So great a transformation may be made, that the form of our starting-point may be completely lost. Yet, in all this expensive and elaborate work we have done nothing more than provide a cover and enclosure for the original area. We have added all sorts of ornaments to our building, but we have done nothing to increase its value as a shelter, nor have we added to its stability.

Now the art of architecture, in many of its phases, is concerned with just such ornamental additions; such a system, however, suffers from the misfortune of being unlogical; for a higher form of the art is where the design is built up out of its structure, directly, simply and effectively. Such is the system on which Gothic architecture has been developed; and on similarly logical grounds, though in a different way, the Doric art of the Greek temple was evolved.

So in the Christian church building, the architect does not need the help of extraneous ornament and manufactured devices to give character to his work, or render it suitable for its consecrated use. If a wall is needed, let it be a wall. If a window, let it be a window and nothing else. As in all true architecture the design should be made by the building itself, not by false and foreign substances strung along its walls or applied to its openings. Mere simplicity alone will not make a piece of architecture Christian, but it will contribute much towards the securing of a Christian effect.

II. The building must be refined. Much can be accomplished with a refined and chastened spirit speaking through the harsh substances of structure. A well-cut moulding, a carefully modelled capital, refined workmanship in every part adds to the beauty of the work and helps in an expression of reverence. It is hard for a thoughtful and cultured designer to build ill or badly, and many a sin in composition and much lack of genius have been glossed over by refinement in detail and care in workmanship. If, therefore, refinement can accomplish this in the hands of less-accomplished architects, what might it not accomplish with the man of genius?

No architecture was ever so refined as the Greek. We do not find in it those peculiar qualities of adoration and of faith which are the distinguishing marks of the purest Christian architecture, but at least we may learn from it how far the utmost refinement of every part, the subtle meaning of curves in horizontal and vertical lines, the chasteness of logical carving, will help in expressing a pure and elevated thought. Greek architecture was subtle and refined, delicate and chaste; all these were qualities of its structure, integral parts of its design, inherent features of its workmanship. Its effect upon the spectator was, as a direct and natural consequence, noble and inspiring; it spoke of thoughtful architects, of wise and appreciative people who would thus encourage such workmanship for their greatest monuments; it showed — and this is the lesson I would draw from it — how superb an art refinement alone can give to harsh unyielding stone.

We see the same spirit again reappearing in many churches of the Italian Renaissance. The beauty of many of these structures is not dependent upon their painted and sculptured decoration, not upon the elaborateness of their appointments, but upon the refinement of their architectural detail, the beauty of their structural parts, the care, the scholarship, the thought expended upon the fabric of their being. There is much akin to Christian feeling in this refinement, for it expresses a love for the work, an interest in its minutest parts, an anxious regard for the completed work that, so far as it goes, is much the same spirit the Christian architect must put into his work. The Christian designer must go farther; the creation of God's house must call for nobler gifts than the mere refinement of a bit of ornament. But this refined expression, this care for detail, this thought, this genuine feeling of the artist is all part, and a necessary part, of the equipment of the Christian architect. He is spurred on by greater thoughts than the chastening of a bit of ornament for pure beauty's sake; but he must have that spirit of loving care for his work and interest in it, else failure will attend his labors.

III. The building must be expressive. The church must seem to be a church and speak of God and of man's faith. So much of these chapters have already been given up to insisting on this point that it is unneedful to reopen the question again. But it is not useless to group this thought with others in summarizing the qualities of Christian architecture. How this expression may be obtained, and what artistic elements must be avoided to obtain it have been discussed at length. It is sufficient for the present purpose that it be remembered as a cardinal element in Christian design, standing at the foundation of the structure, the base upon which it rests.

IV. The art of the church must be a living art. The sepulchre cannot be the home of the living; the art of the modern church cannot be the art of the past.

Much of modern architecture is composed of the reproduction of the architecture of previous times. Originality is so little called upon that many older designs are more thought of by architects for their value as models, or their availability for copying than as illustrations of the sublimest of human arts. This is the spirit that underlies the larger part of modern architecture, and it has a certain sense of right in it, in so far that many of those who strive to be original only become eccentric and vulgar, stupid and debased. An architect, unfortunately, is not necessarily a man of genius. Much building, moreover, secular and religious, is not done by the archi-

tect at all, but by the builder or contractor, to whom the meaning of refinement, of ability, of scholarship, of thought, are as foreign as to the wild beast of the forest, or the fish of the deep sea. Just why all our architects are members of that lofty profession is a secret lodged in the breasts of its individual members; certainly, in many, many cases, it is not for great power to design nor for marked ability. In considering the problem of modern architecture, therefore, it is necessary to remember that we have to do with a body of designers, many of whom are indifferent to the refinements of their calling, and who are in it perhaps more from accident than from deliberate choice. The ranks of modern architects include few men of genius in the proper sense of the word, though the history of the art in America includes many who have produced a vast quantity of buildings, and who have grown famous and rich in the pursuit of their calling.

Under such conditions it is obviously easier to have a reproductive art than a creative one. Only a man of the highest ability can create architecture; while many an insignificant and incompetent man can compile, copy, appropriate and steal the designs of previous times and serve them up, directly, or in fresh editions, as it were, for modern uses. And so, it being easier to copy than to originate, almost the entire bulk of modern architecture is a reproduction of older buildings and their detail.

On the morality of such procedure I need not stop to speak; but we have an example of its debasing and misleading results in the failure of that phase of modern architecture known as the Victorian Gothic. The echoes of this movement have not yet passed away in England and perhaps they never will; but in America an imaginary fondness for the Gothic and appreciation of it has given way to the most profound contempt and condemnation. That this movement was a failure in America is true enough, and in so far it is deserving of all the contempt that has been put upon it. But it is a mistake to fasten the burden of this failure upon the Gothic as a style. It failed, not because the style was mediæval and of the past, nor because it belonged to a by-gone generation or an outgrown church, but because neither the meaning nor the scope of Gothic architecture was understood by its would-be revivers. It was not the Gothic that was to blame, but its modern users.

The Gothic revival failed because its spirit and meaning were not understood. It was taken as a reproductive art, pure and simple, and it was supposed that when a building had been set off with Pointed windows, with buttresses, with gables, pinnacles, vaults and spired towers, that everything needful to secure a true Gothic building had been done, and the structure was judged by the skill with which this collection of various parts was put together. Now, as a matter of fact, Gothic architecture is as logical in its structure as the Greek; it was thoughtfully and carefully evolved and the various parts, so glibly copied by the revivalists, had a meaning and origin in purpose of which these were entirely ignorant. When the real meaning of Gothic architecture, and, in truth, the real meaning of all architecture, finally broke upon the architects of America, the strength of the Gothic revival had gone; the fickle taste of the people, and the misguided sympathies of the architect had passed to other directions.

Here was an architecture that failed, and failed ingloriously for two reasons, namely: because the spirit of the art was misunderstood, and because the forms were directly copied without reference to their structural and logical signification. We have in this, therefore, a costly warning against a reproductive art that depends on the past and does not live in the present.

The conditions of modern architecture, its historical position, that is to say, are such that it must depend for a starting-point upon the architecture of the past. But this does not mean, though time and again it has been taken to mean it, that our modern art must be concerned with the simple reproduction of ancient forms, whose single novelty shall be their new combination. On the contrary, the redemption of modern art, whether it be secular or sacred it does not matter, depends on the living spirit put into the forms of the past. In other words, modern architecture to be redeemed from the crime of copying, must settle upon some phase of architecture already developed in the past — since architectural styles are developed, not made to order — and then work within it, developing, studying, expanding with a real and modern interest. Then, in truth, we may have a modern architecture that will not be old, but new, will no longer be the art of copying, but a living and true art, an adornment to our age, a satisfaction to our people, an expression of our thoughts, our habits, our environment.

The architect of the modern church does not need to be an archaeologist to erect a Christian building. A Gothic church that would be archaeologically exact would, indeed, be an advance on the guideless copying of the Victorian Gothic. But it would not be a living church built in a living art, and properly consecrated to the purposes of the living God. The most notable modern Gothic churches are those built by Mr. John L. Pearson in England. They contain all the elements which make architecture Christian in the true sense of the word. They are Gothic, but they are not archaeological Gothic. On the contrary, they are designed with a real modern spirit, in which the forms of the older art have been properly employed for modern uses. Other architects in England have felt the same spirit, and put the same living art into their work, and the success of their buildings as noble and Christian monuments is chiefly due to this fact.

Eccentricity, a pandering to the taste of the day, a seeking after novelty, a striving to be original without reference to developed forms, will not make the art of the church real or living. A spirit of life must be put into our church designs; not the harsh, cold, sordid life of modern business and commerce; but that spirit of piety and faith, of gentleness and of religion, that is the boast of our time and the glory of our civilization. Archæology is the science of dead art; architecture is the culture of the living; and a church is properly a work of architecture.

V. The church must be beautiful. God cannot be worshipped in an ugly building, for sin is hideous in His sight, and an ugly structure is to be avoided as incompatible with Christian ideas. One cannot lay down rules for the production of the beautiful, nor issue directions for obtaining the chief end of all art. If an architect cannot design a beautiful church, he is unworthy of the noble calling he is striving to make his own. If beauty is absent from his soul, he cannot make his church a delight to the eye, or an expression of that pure thought of which beauty is the chief adornment.

A church may be beautiful without being Christian; for we have beautiful secular structures that bear no hint of religious association. So, also, we can have a richly decorated and ornamental church that is not Christian. Beauty and ornament, therefore, stand below that nobler, higher quality of Christianity that must be the chief note in every church building. Conversely, the Christian church must be beautiful, else it be unacceptable to God.

And so, with simplicity of structure, with refinement, in a living architecture expressive of the holy uses of the Christian church, speaking in a beautiful language, decorated in a Christian manner, always working for the Christian ends of his building and thinking of them, the Christian architect will be well equipped to undertake such consecrated work as may fall to his lot. He will not gloss over one work because it is too small, that he may build more sumptuously in a greater instance. He will not despise the humble chapel that he may give full swing to his genius in the great cathedral. It is his duty, and it should be his pleasure, to give his best gifts to God in every opportunity that presents itself, rejoicing in the advantages offered to him, and glad of such powers as he may have in his hand.

And so with the people. The architect is the servant of his employers, and he will give them, in most cases, just that art they are capable of appreciating. But he stands on a different plane; he should not be led by his clients, but should lead them. His constant thought is of architecture and its production; it is his business to bring to his work the utmost knowledge and the utmost skill. If the value and the necessity of a Christian art in the church building is not understood by the people, the architect must make it his duty to teach its lessons.

Stateliness, majesty, sublimity, grandeur are qualities often found in the noblest monuments of Christian building. All these qualities—perhaps it were better to speak of them as one, for they are but different phases of the same thing—are chiefly developed through size and mass. That is to say, we would never speak of a small church as having a majestic interior, or a sublime effect, while we might so describe a great cathedral or vast abbey church. But Christian architecture is not only the architecture of large churches, but of small ones as well, and these qualities are, therefore, not essential Christian elements in building since they cannot be present in all.

They are qualities so dependent on size and form that they can only be considered as secondary. A church may be Christian in the manner of its building without being majestic, sublime, stately or grand; and it may be Christian and contain these very elements as the chief note in its effect.

On the other hand, a church may have a certain grandeur of aspect, it may produce a certain effect of stateliness, perhaps of majesty, and yet be without that Christian feeling or spirit that is the essence of Christian architecture. To take a conspicuous example: the interior of Trinity Church in Boston is certainly stately, perhaps grand, and almost majestic in the impression it makes on the average spectator. So far, it is good; for a building that impresses the average mind often accomplishes more for the betterment of archi-

tecture than one which appeals only to the super-cultivated or highly trained. But no one could for a moment describe this interior as Christian. Its designer thought only of its forms, their arrangement and their combination. Of the spirit of Christianity, of sentiment in building, he knew nothing at all. Trinity Church is a remarkable edifice in itself, it is adorned with many artistic memorials that make it one of the most notable churches in America; yet its architectural parts are cold and formal; it is the builder that speaks in this edifice, not the Christian.

It is important to remember that we may have present in our churches certain of the qualities that help to produce a Christian effect without a Christian result. It is so with all of them. A church may be beautiful, it may be picturesque, it may be refined, it may be a splendid type of building, or a skillful application of constructive ability, but it may not, even though these qualities are developed to the utmost, be Christian or religious in the highest sense. We cannot build God's house properly and well, unless we know we are building it. We may employ the necessary materials for such work, but unless we use them rightly and in the true spirit, we only perform exercises in building that might better be carried out on secular structures.

That there is need of a widespread appreciation of the Christian value of church-building must, I am sure, be admitted by all. The larger part of the illustrations that have accompanied the earlier chapters of this series must make that very clear, and every student of modern religious architecture can readily supplement them by examples almost countless in number and quite as depressing in effect. Many modern churches show a considerable improvement in

design over the formless structures that once were deemed sufficient; but there is little of the true Christian feeling in them, little of the real Christian spirit. Let us put into our church designs something of the pure and consecrated nature of Christianity, and the result cannot but be a betterment in architecture, an improvement in sentiment, and added glory to man's faith in his creator.

It is time I had finished. There are many aspects of church architecture which might be profitably discussed in this connection which may be left for abler hands to undertake. Much of my space has been consumed with showing what Christian

architecture is not, for of such is the larger part of our church-building. Of planning and arrangement, of interior fittings, of liturgic uses and differences, I have said nothing at all. It is not so important that our churches shall show in their art that they are Roman Catholic or Episcopalian, Baptist or Methodist, Presbyterian or Reformed, or used by any one of the one hundred and twenty-six denominations represented in the Christian world of America, as it is that they show a spirit of genuine piety and love for God. They should be Christian before they are denominational; and the recognition of this fact is more important than the recognition of minor differences or of personal preferences.

Every church must speak directly and in no uncertain voice, as the house of God, and that is the beginning and the end of the whole matter.

BARR FERRELL.

A NATIONAL ART COMMISSION.

THE recently-organized Public Art League is only the normal result of the growth of the American people in true civilization.

For it is an accepted principle that organization is the first step in the development of civil life, and every advancement in true civil culture means the organization of some element or force that has hitherto been allowed to run to waste. Organization is not the mere bringing together of forces of a certain kind, but their intelligent direction. It is a worn-out saying that the American people have too much love for the "mighty dollar" to devote any time or money to art. Hardly could anything be more untrue or contrary to existing facts! The truth of the matter is, that probably no people have spent money so lavishly and so unwisely and so wastefully for art as our generous-hearted and well-meaning American men of wealth and our public legislators. The art poverty of our people, and especially



"Gateway"
Aberdare Hall, Cardiff, Wales.
Herbert C. Mills, Architect.

of our Government, has not been in disposition or in money, but in culture and in wise direction. These deficiencies in themselves are no disgrace to a people and to legislators occupied as ours have been during the past century with great material concerns and the rough-hewing of a nation out of the elements at hand. The Government has always been ready to vote away millions for public buildings and to appropriate thousands for the purchase of a picture or a statue, but as for giving time to the question of artistic merit in either case, or attempting to pass judgment of this kind, this is just what our public men have found themselves unable to do. The main question has been the appropriation, the cost; the kind of art thus put before the public eye for generations to come, whether true and pure and elevating, or monstrous, or even ludicrous, has not been seriously considered, simply because the parties concerned did not know that this was really a matter of importance. Our catalogues and guide-books were careful to give the cost of statues and buildings; the name of the architect or sculptor was left out as of no interest.

But things are different now. An American family of wealth building themselves a new home in one of our large cities, whether east or west, would not think of regarding the house as complete when the walls were up, and then employ a dozen or more different parties to pile up the decorations and furniture according to the favorite notions of each, or they might, by eloquent pleading, prevail on the chief contractor to give one or another something to do. The owner, being a man of affairs, is unable to attend to so many details; or, better still, while knowing that he wants an elegant and artistic home and willing to spend lavishly for it, yet he knows equally well his own inability to wisely direct the work and to secure this result. Accordingly he employs a decorator and a furnisher of established reputation, and instead of a pretentious monument to his own crudeness and conceit, he has a home truly beautiful and refreshing in the artistic unity and completeness that pervades it everywhere. Nations, when advanced beyond the raw-material stage of civilization, all exhibit the same wisdom and prudence, for they find that undirected and unsystematized art patronage by a Government is the most wasteful extravagance possible, and that the need of professional advice, and, therefore, of a well-qualified Art Commission or bureau, is one of the great demands of public economy. The financial evidences of this wastefulness of ignorance, caused by allowing public legislators, as such, to pronounce on things which should only be determined by expert judgment, are what will first strike the public attention. We are just in this stage of experience now in regard to the erection of Government buildings.

It is being demonstrated beyond dispute that vast numbers of the buildings for which the Government has been voting millions upon millions of the people's money have been badly designed and wastefully constructed, owing to the prevalence of political over artistic and professional control in the conduct of our public building. It is absurd to say that the reason why our public buildings and monuments throughout the country are not as attractive in their artistic beauty of form and adornment as those of other countries, is because America is stingy in art matters. America is never stingy. In art she has been like a too-lavish parent; she has given, even to squandering the public money on things palmed off upon her ignorance as desirable, when she was too ignorant to refuse them and too proud to admit her ignorance. But the nation has grown to a worthier kind of pride. She knows that in paying for the best the people deserve to have the best, and that this can be secured only by employing the best judgment, that of experts, in determining the kind of buildings and monuments to be erected for the people. The idea that a Senator or Congressman, or head of a department is, by virtue of his office, a competent art critic, and, therefore, qualified to determine without advice the kind of art our people shall enjoy in their public buildings, statues, coins, etc., is one worthy of the dark ages of the past. Every competent legislator knows and is glad to recognize the absolute necessity in these days of expert testimony and expert skill in executing any great public trust. In the matter of art, the old principle of *noblesse oblige* is one that will bear with especial force on the generous and frank instincts of our American public men. They have just too much respect for art to pretend to be able to pass upon it when their judgment is to affect their people! They would leave it to those who know, provided they can only be assured that the judges are really qualified for their duties.

The object of the Public Art League in securing the appointment by the Government of a permanent Fine-Art Commission of duly qualified judges, with duties similar to those of the Commission of Fine Arts of the French Republic, and of which we have precedents in this country in the Fine Arts Commission of Massachusetts, of New York City and Philadelphia, is simply to secure justice to all our people, in having money which is employed in artistic directions economically spent for good art, instead of being wasted for the bogus article. It recognizes the fact that our public legislatures and executive chiefs are not *ex-officio* the true expert judges in art matters, and that Congressional enactments in art appropriations are sure to be wasteful, and so unlawful, if not guided by some well-accredited professional counsel.

The only feature of the movement now in hand which may seem open to objection, is an implication it carries that Congress is only to be prevailed upon by persistent and long-continued effort to yield to this demand for a National Commission of Fine Arts. There would not seem to be any warrant in the past behavior of Congress for this pre-supposition.

In all matters of really grave importance connected with the moral and intellectual advancement of the people, Congress has come liberally and manfully up to its duty when the demand has been intelligently and earnestly put—witness the building of the new Library of Congress, the passing of the international copyright law, and, greatest of all, the reform in the method of civil service appointments. Of similar nature and similar importance is this matter of a National Art Commission as an avenue of popular education, patriotism and high moral influence. The people have a right to demand of the Government that the available public spaces and sites for monuments at the capital be not dealt out recklessly to the first-comer, regardless of all the pressing demands that the future may have when our blunders are too late to remedy; and they have a right to demand that these places shall be occupied only by statuary or other works of art which will stand on an artistic level with the highest art standards of the world, and not be something to be ashamed of when they get their eyes opened—as the people are doing—to what art really is. We could never plead poverty of means for doing anything the people want and really need in America; and now we can no longer plead poverty of knowledge, for we have learned the greatest secret of wisdom—to give up the conceit that “we know it all ourselves.” We are beginning, as a people, to respect organized effort and special qualifications for special duties, and to realize that so important an element as the art culture of a great nation like ours should not be trifled with by the misdirected, even though well-intentioned, acts of disqualified parties. That Congress will be slow to see this at the present stage of our public culture there would seem to be no good reason for believing, and there can be no doubt that the Congress that passes the bill now proposed will do an illustrious service to our nation's highest interest, and will win for itself the people's lasting gratitude.—Frank Sewall, in the *Washington Star*.



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

HOUSE OF MRS. MARIE L. GREVE, 445 SUMMIT AVENUE, ST. PAUL, MINN. MR. L. S. BUFFINGTON, ARCHITECT, MINNEAPOLIS, MINN.

[Heliochrome issued with the International and Imperial Editions only.]

THE lower story of this house, built about a dozen years ago, is of Kasota stone; the upper story is of half-timber work with rough-coat panels.

MISCELLANEOUS WROUGHT-IRON WORK: SIX PLATES.

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

MISCELLANEOUS WROUGHT-IRON WORK: FOUR PLATES.

[Additional Illustrations in the International Edition.]

HOUSE OF R. W. PATTERSON, ESQ., BURTON PLACE, CHICAGO, ILL. MESSRS. MCKIM, MEAD & WHITE, ARCHITECTS, NEW YORK, N. Y.

[Gelatine Print.]

PALAZZO SAN CATALDO, PALERMO, SICILY.

[Gelatine Print.]

This modern building lies on the southeast side of the Piazza Maria, opposite the Garibaldi Garden. At the rear is the old palace of the same name.

THE DINING-ROOM: WEST DEAN PARK, SINGLETON, NEAR CHESTER, ENG. MESSRS. ERNEST GEORGE & PETO, ARCHITECTS.

STAIRCASE IN THE SAME HOUSE.

BUNGALOW FOR COLONEL SIR HENRY COLVILLE, K. C. M. G., C. B. MR. R. A. BRIGGS, F. R. I. B. A., ARCHITECT.

This is an illustration of a bungalow about to be erected at Light-water, near Bagshot. The walls are of stud-work covered with weather-boarding. The roofs will be covered with shingles. Under the stud walls there will be brick dwarf walls on concrete. Inside, the walls are match-boarded. The whole of the boarding and shingles will be oiled, stained and varnished, and the doors and windows, veranda, etc., will be painted white. The drawing from which this illustration was taken was made by the architect.



[The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.]

"SIGNED" BUILDINGS.

A FIRM of architects, who have won for themselves an enviable position, write as follows:

"We noticed an editorial in your issue of March 14th, in relation to the architect's signature on buildings, and we also noticed in your issue of March 21st, a reply by 'Mercator.'

"It may interest you to know that we have made a practice of signing all of our buildings of any importance. In the case of private residences we have not yet adopted this rule, as we have not always found it the best policy, but even in this direction we have signed some of our work.

"We wish that architects could be made to sign their work, and to assume at least moral responsibility for the same. They would then get credit for good work, as well as bad, which would be, perhaps, only fair to the community as well as to the architect. We doubt whether many of the architects now in practice would receive commissions, if they had to be in this way responsible for all of their sins."



BALTIMORE, MD.—The Walters Art Gallery will be open to the public on all Wednesdays and Saturdays in April, and on Easter Monday.

BOSTON, MASS.—Paintings recently purchased; the Martin Brimmer and R. Hall McCormick Pictures; Japanese Paintings; Etchings by Seymour Haden: at the Museum of Fine Arts.

Paintings by New England Artists: at the Jordan Art Gallery, 450 Washington St., until June 1.

Ninth Exhibition of Boston Society of Water-color Painters: at Williams and Everett's Gallery, 190 Boylston St., March 23 to April 4.

Pictures and Sketches by Edward W. Emerson: at Chase's Gallery, 346 Boylston St., March 30 to April 11.

Paintings by Frank Wilbert Stokes: at the St. Botolph Club, March 30 to April 18.

Fifty-fourth Exhibition, Water-colors, Pastels, Works in Black and White, and Sculpture: at the Boston Art Club, April 10 to May 2.

Paintings by William T. Richards; also, Studies in Clovelly, by Miss Anna M. Richards: at Doll & Richards's Gallery, 2 Park St., March 27 to April 8.

Exhibition of Photographic Work: at the Boston Camera Club, 50 Bromfield St., opens April 8.

BUFFALO, N. Y.—Fifth Annual Exhibition of the Buffalo Society of Artists: March 23 to April 11.

CHICAGO, ILL.—Ninth Annual Exhibition of the Chicago Architectural Club: at the Art Institute, March 31 to April 11.

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

Seventy-first Annual Exhibition of the National Academy of Design: March 30 to May 16.

Eighteenth Annual Exhibition of the Society of American Artists: at the Fine-Arts Building, 215 West 57th St., March 27 to May 2.

Du Maurier's Studies for the "Trilby" Drawings: at the Avery Galleries, 368 Fifth Ave., March 30 to April 15.

PHILADELPHIA, PA.—Sixth Annual Exhibition of Water-colors and Pastels: at the Art Club, March 23 to April 19.

Pictures of the Glasgow School, and Burnt-wood Work by J. William Fosdick: at the Pennsylvania Academy of Fine-Arts.

PROVIDENCE, R. I.—Exhibition of the Providence Water-Color Club: at the Art Club, opened April 1.

WASHINGTON, D. C.—The Art Gallery of Thomas E. Waggaman will be open to the public on Thursdays during April.



QUEEN VICTORIA'S REAL ESTATE.—The announcement that Queen Victoria is to leave, by will, Osborne House to one daughter, the lease of Abergeldie House to another, and Balmoral, the royal residence in the Highlands, to the Duke of Connaught, recalls the fact that the man who would devour this particular widow's houses must make an uncommonly full meal. It was discovered a few years since that the queen owned six hundred houses in various parts of England, not

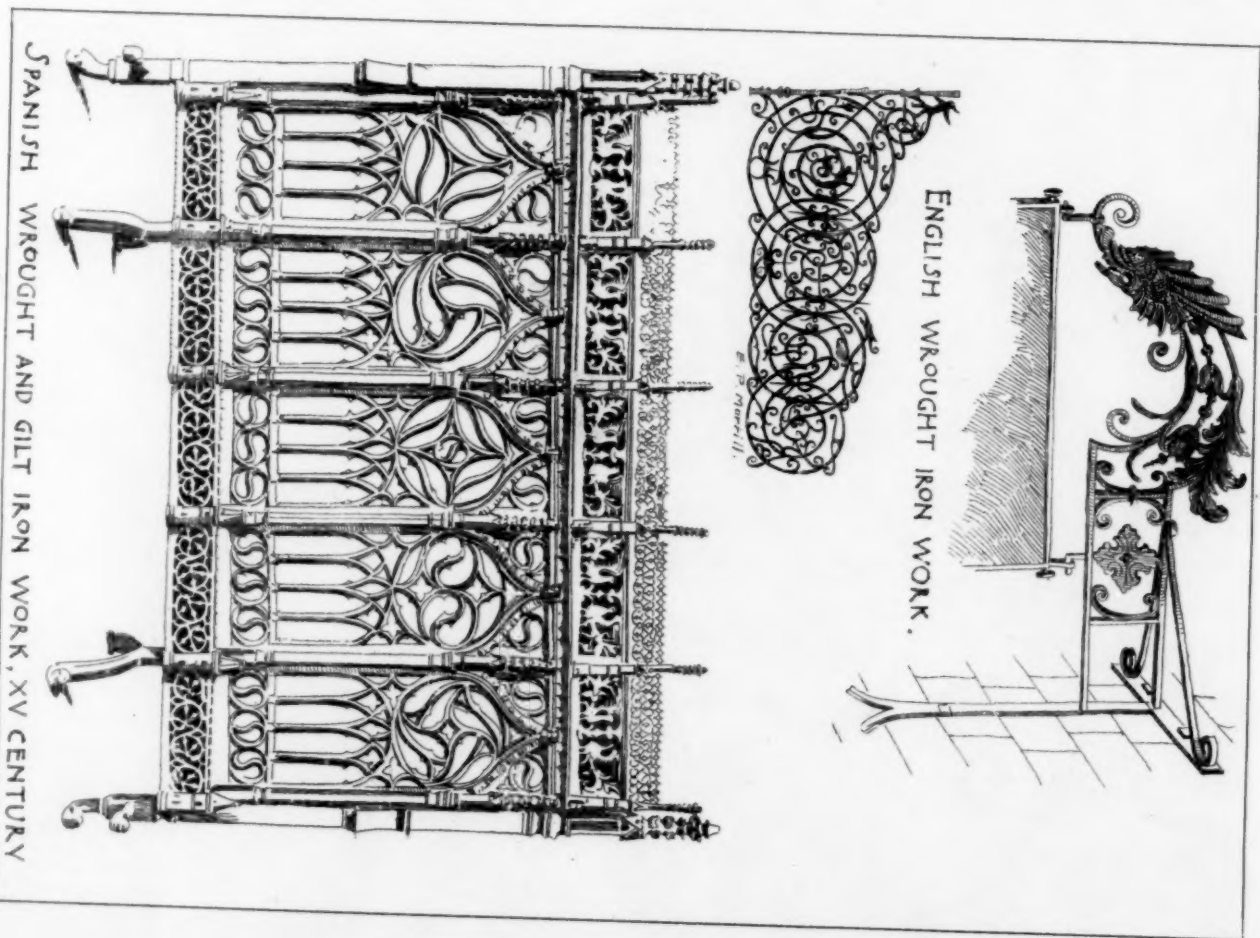
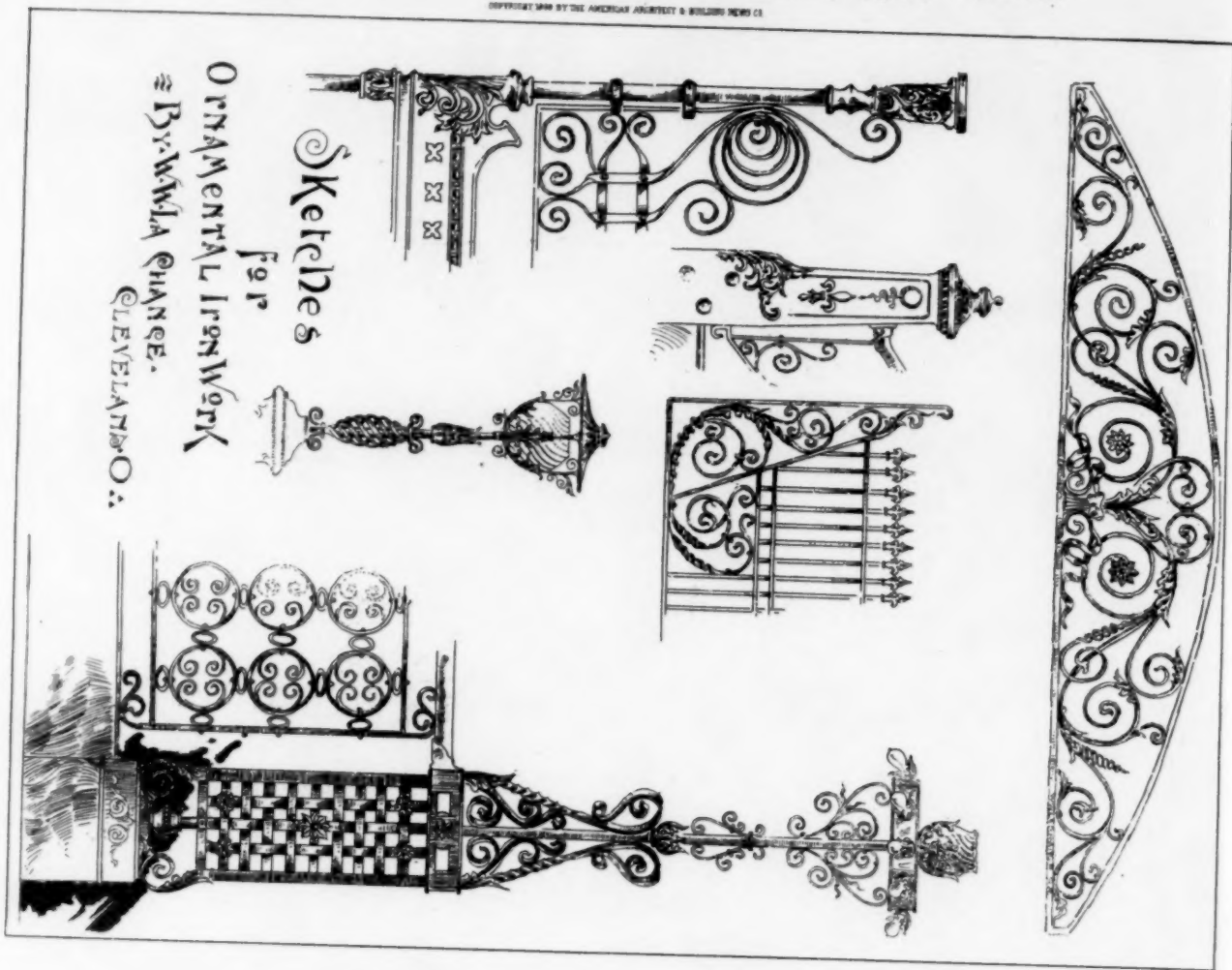
royal residences, but rent-yielding property, and that about six thousand houses had been built by crown lessees on building leaseholds held of the queen. She then had also rents from markets and tolls from ferries, besides the proceeds of mines and other works upon her property or the crown property. She had large estates in Yorkshire, Oxfordshire and Berks, valuable lands in the Isle of Man and in Alderney, Scotland, Ireland and Wales. Of the New Forest there are two thousand acres of absolute and sixty-three acres of contingent crown property. Her Majesty enjoys income from the Forest of Dean, from several other forests, and from rich properties in and about London. Osborne, on the Isle of Wight and Balmoral, in the Highlands, are the private property of the queen, and are maintained out of her own income. But she has the use of a few royal palaces besides, and these are maintained by the nation at an annual expenditure ranging from \$2,500 to \$50,000. The queen is in the occupancy of Buckingham Palace, Windsor Castle, the White Lodge at Richmond Park, and part of St. James's Palace. The remainder of the last-named palace is occupied by other members of the royal family. Other royal palaces maintained as such, although not in the occupancy of the queen, are Kensington Palace, Hampton Court—which, according to a recent estimate based on the statistics of eight or ten years, costs the nation on the average over \$70,000 a year—Kew Palace, Pembroke Lodge, the Thatched Cottage and Sheen Cottage, Richmond Park, Bushy House in Bushy Park, and Holyrood Palace. When she visits the Continent, she has one great house or another, with whatever repairs and re-furnishing are necessary to fit it for a temporary royal occupant, although for all this she pays out of her own income. Bagshot House, Gloucester House and Clarence House are palatial dwellings, occupied by various members of the royal family. The queen has four rather old-fashioned yachts, on which she makes her sea journeys, although the oldest of them probably is used seldom or never. The four cost originally about \$1,375,000. — *Boston Transcript*.

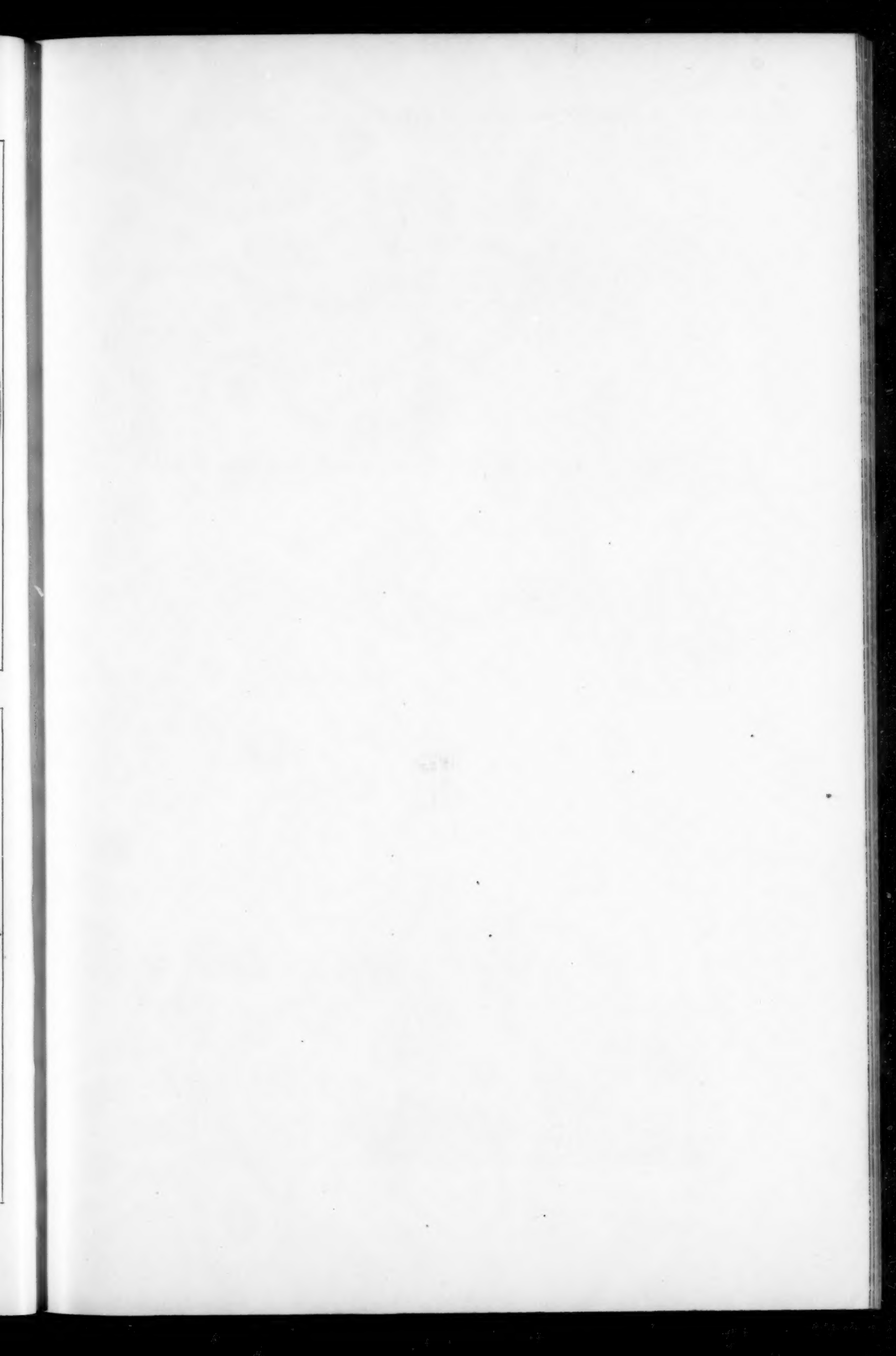
HOW LOUIS XVIII TRIED TO KEEP THE STOLEN PAINTINGS.—Although there may be a desire in France for an alliance with England, it is astonishing how glibly the newspaper writers can recount historical fallacies which are unfavorable to this country. A few days ago, in speaking of the harsh conduct of the Prussian troops in 1815 and their contemplated pillage of the St. Germain and St. Antoine quarters of Paris, a writer goes on to recount how the English were no less indifferent to the laws of civilized warfare. As an example, the redistribution of the pictures in the Louvre is introduced. From England it is said no artistic spoils were derived; nevertheless, English statesmen claimed and carried off a portion of the works. It is needless to say the writer is unacquainted with the circumstances of the case, of which the following is an abstract: Although royalty was restored to France, Louis XVIII grudgingly parted with the spoils brought to France by the Republican armies. He declared them to be national property. The weaker powers were disregarded. The King of the Netherlands found it impossible to recover the Flemish and Dutch examples taken from his cities. His Minister then appealed to Lord Castlereagh, who entrusted to the Duke of Wellington the duty of seeing justice done. As commander-in-chief of the allied armies he controlled the Netherlands troops. After negotiations with Talleyrand, the Duke found there was no chance of getting back the pictures unless by the exercise of armed force. He informed Denon, the conservator, of his conclusion. Seeing the Duke's resolution, the Government yielded, and the pictures were restored to the King of the Netherlands. The employment of the allied troops was restricted to the taking down and packing by a few soldiers. England's interference was entirely disinterested. Louis XVIII having said the right to the pictures was of the most sacred kind, they could not be obtained peacefully, and many a commander in Wellington's position would have inflicted chastisement for the delay in returning the stolen property. — *The Architect*.

THE STRENGTH OF ICE.—The army rules, says *Engineering Mechanics*, are that 2-inch ice will sustain a man or properly spaced infantry; 4-inch ice will carry a man on horseback, or cavalry, or light guns; 6-inch ice, heavy field-guns, such as 80-pounders; 8-inch, a battery of artillery, with carriages and horses, but not over 1,000 pounds per square foot on sledges; and 10-inch ice sustains an army or an innumerable multitude. On 15-inch ice, railroad tracks are often laid and operated for months, and ice two feet thick withstood the impact of a loaded passenger car, after a 60-foot fall (or perhaps, 1,500 foot tons), but broke under that of the locomotive and tender (or, perhaps, 3,000 foot tons). Trautwine gives the crushing strength of firm ice as 167,250 pounds per square inch. Col. Ludlow, in his experiments in 1881, on 6 12-inch cubes, found 292,889 pounds for pure hard ice, and 222,820 pounds for inferior grades, and on the Delaware River, 700 pounds for clear ice, and 400 pounds or less for ice near the mouth, where it is more or less disintegrated by the action of salt water, etc. Experiments of Gzowski gave 208 pounds: those of others, 310 to 320 pounds. The tensile strength was found by German experiments to be 142,223 pounds per square inch. The shearing strength has been given as 75,119 pounds per square inch. The average specific-gravity of ice is 0.92.

SIR WALTER SCOTT AND WESTMINSTER ABBEY.—As regards a memorial to Scott in Westminster Abbey, the matter, it appears, stands thus: A committee collected subscriptions to the amount of £171, and Sir John Steell was intrusted with the execution of a medallion, which he completed in 1887. Although the subscribers admired and approved the completed design, Mr. J. L. Pearson, R. A., the Abbey architect, pronounced it "out of scale, and that it would be undesirable to put it in the Abbey." Dean Bradley coincided in this view, so the medallion has lain in charge of the Clerk of Works, Westminster, ever since. We are glad to hear, however, that the matter, thanks to a strong memorial, is likely to be satisfactorily arranged. — *Chambers's Journal*.

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LOUIS XVI PARK GATE BY JEAN FRANÇOIS DE NEUFVILLE

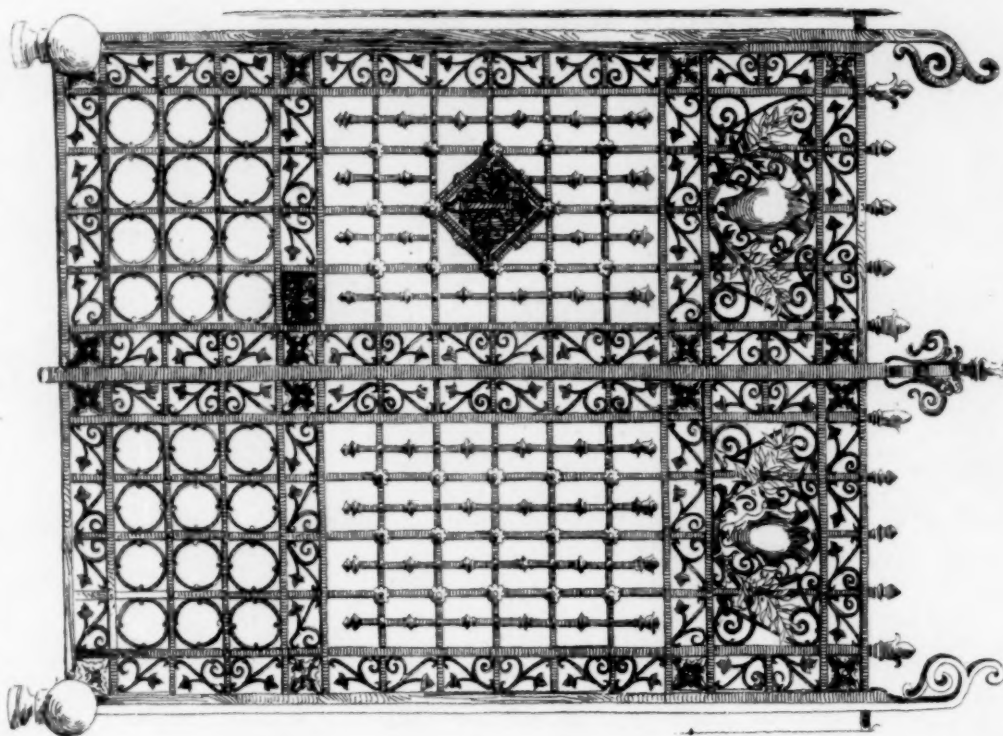


ENGLISH WORK

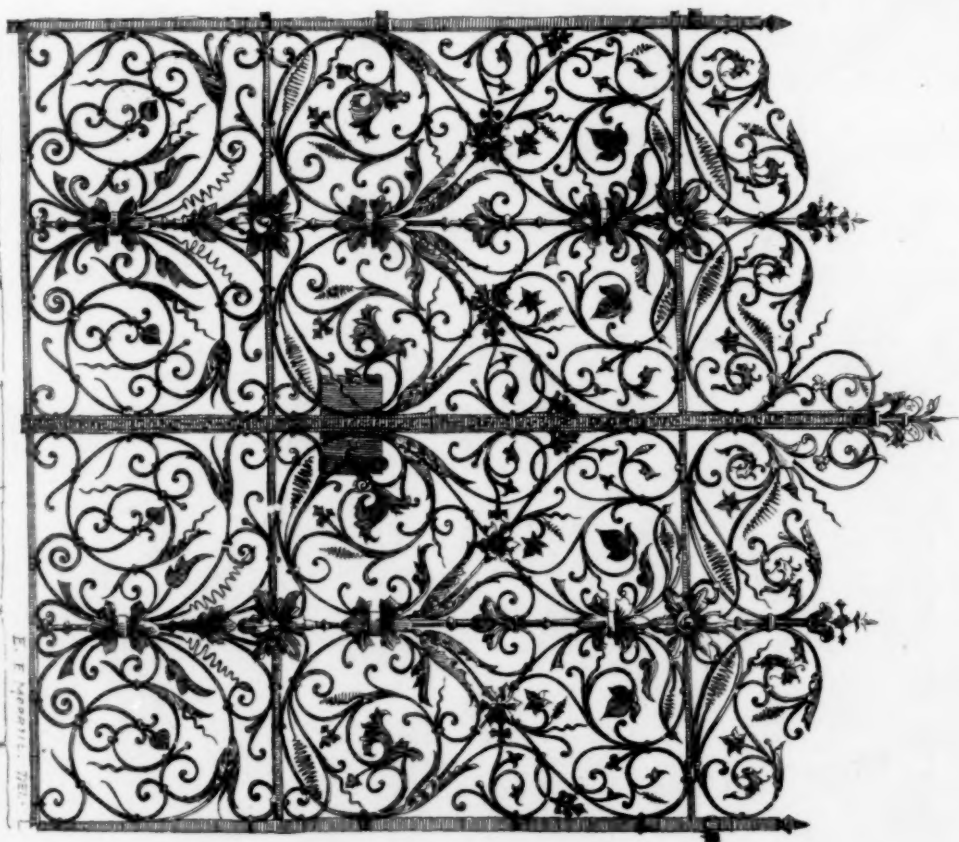


LOUIS XVI PARK GATE BY JEAN FRANÇOIS DE NEUFVILLE

WROUGHT IRON GATES.



HOTEL AVENUE DE VILLIERS - M. MAGNE - ARCHT.

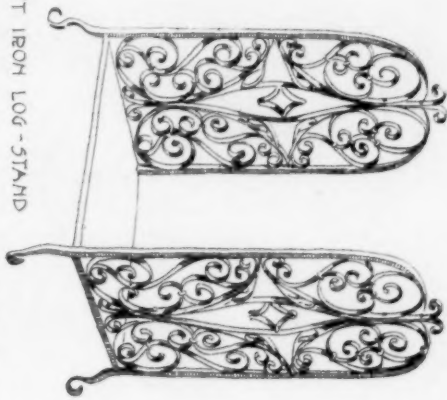


GARDEN-GATE - ELBERFELD - PRIV551A.

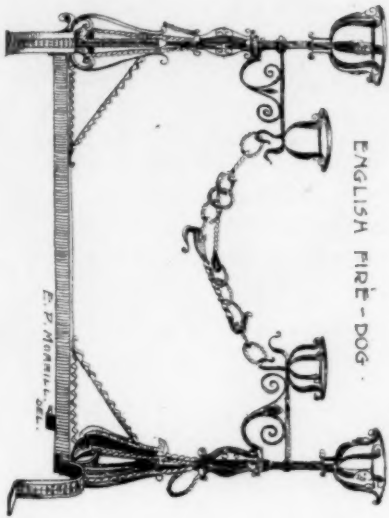
E. F. MERRILL, DESIG.

WROT IRON LOG-STAND

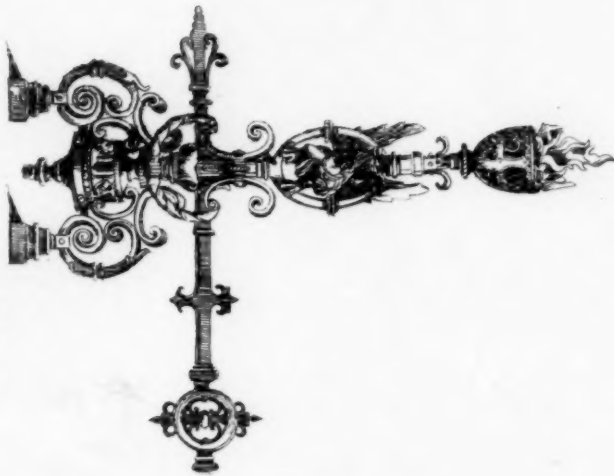
DES. BY A. R. H. THE PRINCESS OF WALES.



ENGLISH FIRE-DOG

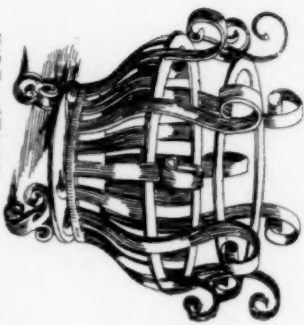


FIRE-DOG BY M. CHACHOIN.

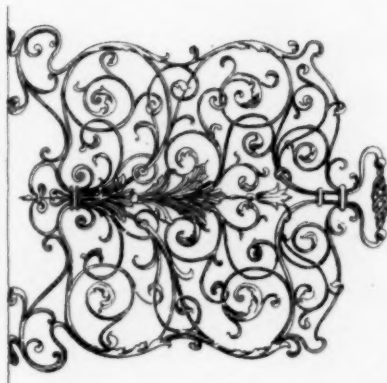


FIRE-STAND

DES. BY A. R. H. THE PRINCESS OF WALES.



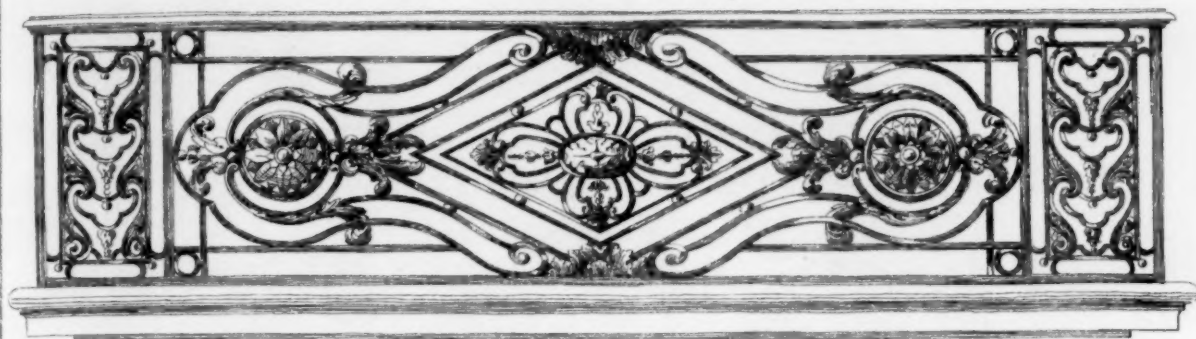
WROT IRON SCREEN



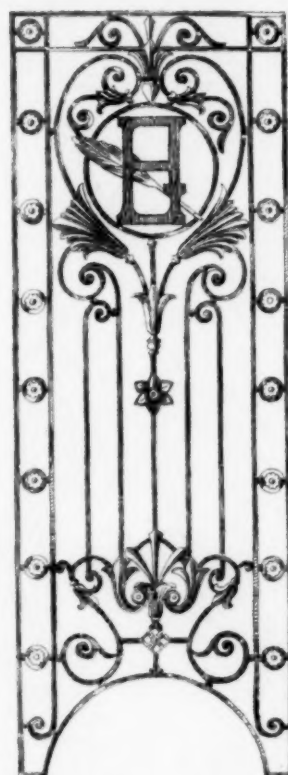
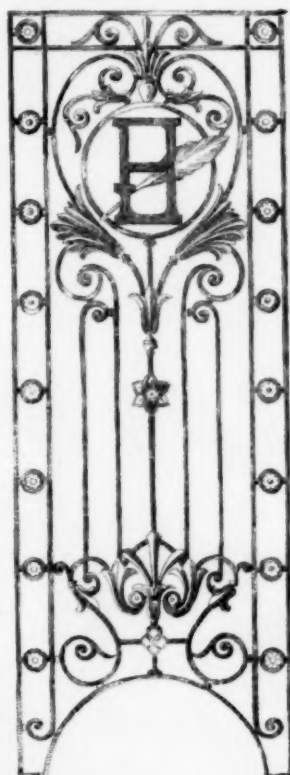
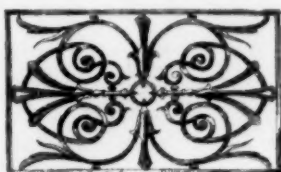
FIRE-DOG

DES. BY M. CHACHOIN.

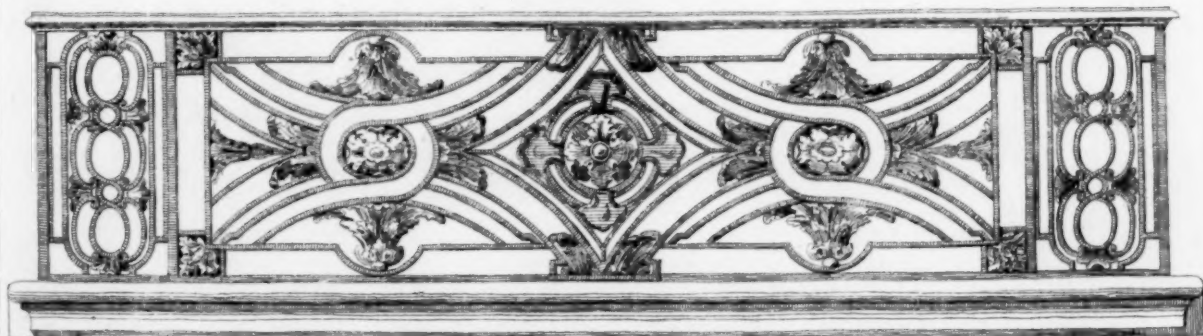




LOUIS XVI BALCONY GRILLE by JEAN FRANÇOIS FORTY

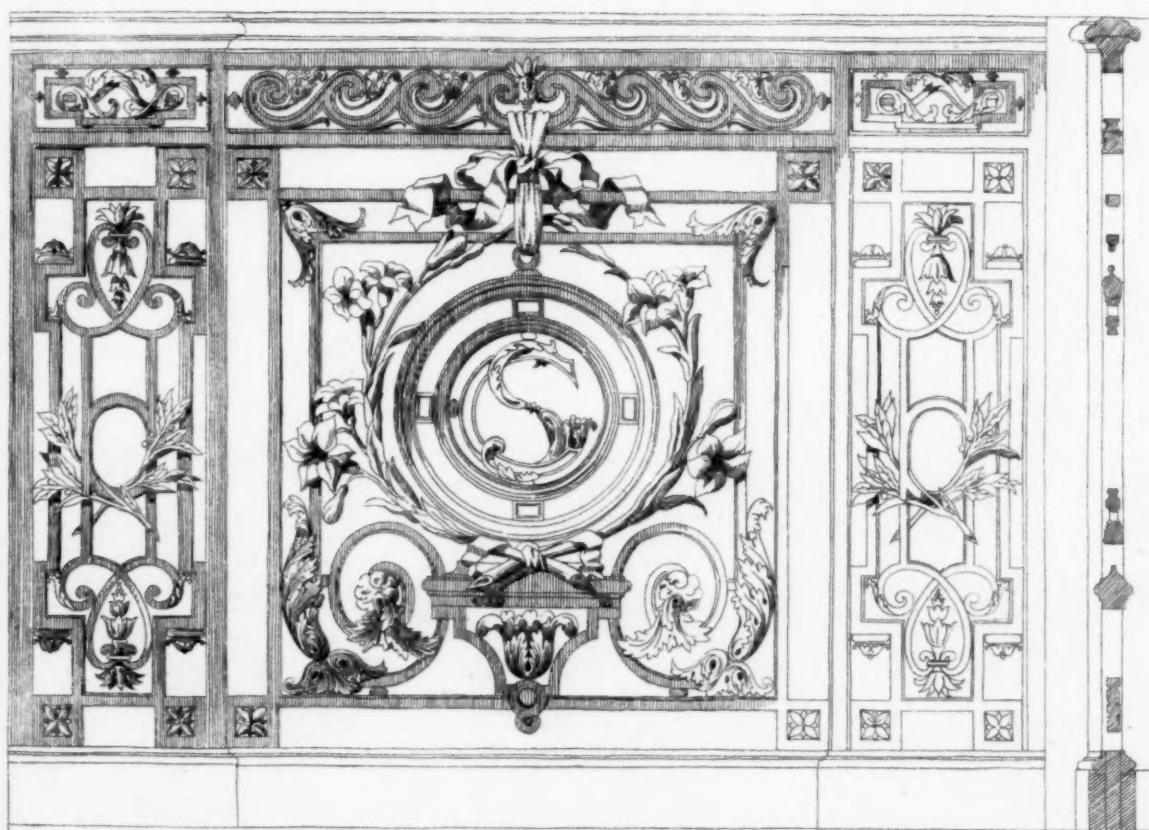
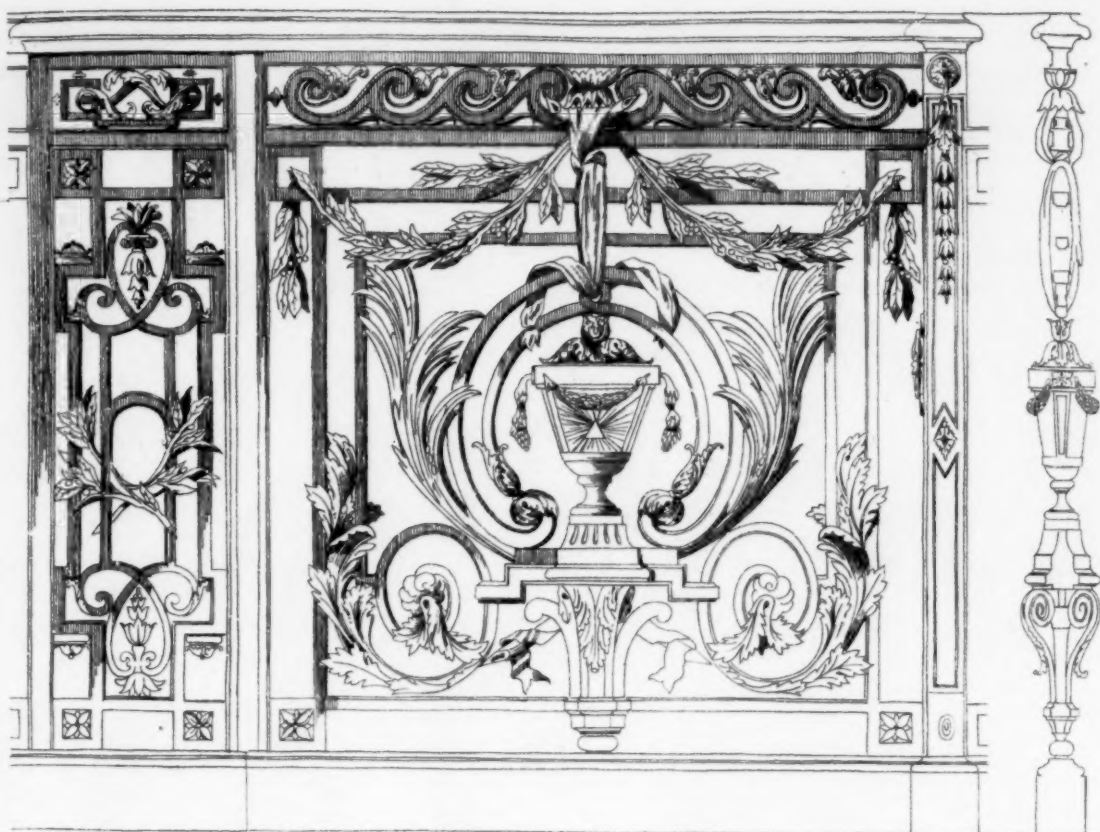


DETAIL OF PORTE COCHÈRE - HOTEL DU PETIT JOURNAL -
M. A. LEROUX. ARCHITECT.



LOUIS XVI BALCONY GRILLE by JEAN FRANÇOIS FORTY

E. P. MORRILL. DES.



E. P. MORRILL. DEL.

WROUGHT-IRON RAILINGS · ST GERMAIN L'AVXERROIS · PARIS

They should not be laid until interior finish

has been put in place and the decorators have finished their work. Floors should be finished as soon as they are laid.

Floors should be very carefully dressed and smoothed after they are laid; if this is not done, waves and planer marks will show when the finish is applied.

The beauty of hardwood floors may be increased by using Parquetry Borders made in such designs and woods as will be appropriate. Our borders and parquets are made in all thicknesses.

For finishing new floors after they are laid and smoothed, apply Johnson's Wood Filler. This Filler is prepared especially for floors and will not show white in the grain of the wood. No more filler should be applied than can be cleaned off before hardening. The filler should be very thoroughly cleaned off and then allowed to dry eight or twelve hours. The material is put up ready for use in two, five and ten-pound cans; full directions for applying on each can. Filler is in paste form and should be thinned with turpentine to the consistency of flowing varnish.

When floors have been properly filled, apply two coats of Johnson's Prepared Wax. Our Wax should be put on with a woolen cloth and allowed to dry for about an hour. Be careful to spread the Wax just as thinly as

with soap and water; always use Johnson's Restorer. By using this article your floors will always look beautiful.

Wax is very easily applied; it is not expensive; it will not darken the wood and grow sticky like oil; it will not show scratches and heel-marks like shellac, varnish or hard oil.

Floors finished with Johnson's Wax are very easily kept clean.

The finish in front of doorways will wear off quicker than other parts of the floor, and there is no finish but our Wax that can be applied to these spots only.

It is the only finish in Europe, where parquetry has been known for hundreds of years.

Hardwood floors should be polished and not simply coated with varnish, shellac, etc.

Johnson's Restorer should be used for cleaning all hardwood floors. Will revive the finish of those that have been finished in wax, shellac or varnish. With the use of our Restorer a floor will always look bright and clean.

It is put up in liquid form in quart bottles ready for use and is applied with a cloth.

One quart of Restorer will keep an ordinary sized floor in good condition for one year.

Johnson's Reviver is suitable for finishing

Turpentine should not be used for cleaning waxed floors as it will remove the wax.

S. C. JOHNSON,
RACINE, WIS.

ENAMELLED BRICK.

We take pleasure in calling attention to our department of Enamelled Brick. These bricks are made in English ($9 \times 3 \times 4\frac{1}{2}$ inches) and American ($8\frac{1}{2} \times 2\frac{1}{4} \times 4$ inches) sizes of all shades and various shapes, including Roman ($12 \times 1\frac{1}{2} \times 4$ inches) and are guaranteed to be equal in quality to the best English, and superior to them in some respects.

Stretchers, quoins, octagon, round end, splay and soap. Radius and special shapes made to order on reasonable notice. Our works being under cover, orders can be gotten out at any time. Full scale-drawings required for special shapes.

The use of white, ivory, cream, buff, brown, chocolate, blue, green, granite, etc., Enamelled Brick is rapidly increasing in railway stations, (for inside and outside work) subways, tunnels, courts, alley-ways, light-shafts, natatoriums, elevator-shafts, vestibules, hallways, basements, cellars, kitchens, laundries, stable interiors, markets, engine and boiler rooms, conservatories, hospitals, cemetery vaults, etc.,—in fact, wherever light and cleanliness are essential.

With Enamelled Brick, harmonious blending of colors and beautiful designs are obtainable, in exterior as well as interior effects, and the unsightly white efflorescence disfiguring so many buildings, is avoided by their use. Being impervious to moisture, of unchanging color, superior durability and cleanliness, they are especially adapted for fine fronts.

We wish it to be specially noted that our bricks are not glazed, but are thoroughly enamelled, the enamel forming a complete and inseparable union with the bricks, which will stand for inside or outside work in any climate.

The following letter from Mr. Dankmar Adler, the well-known architect, is appended:

CHICAGO, March 22, 1894.

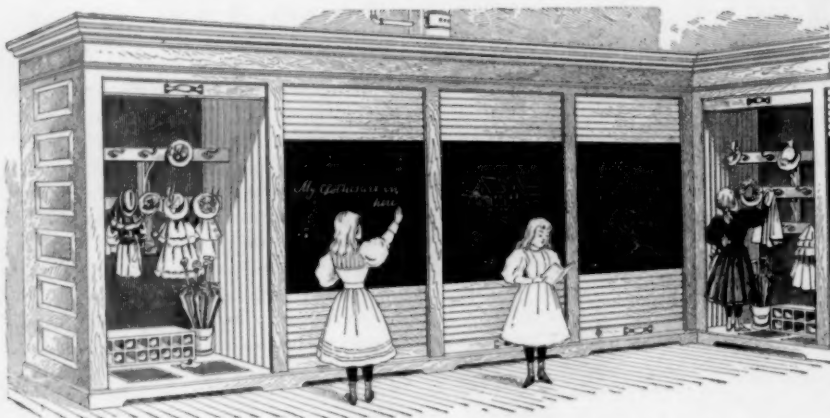
TIFFANY PRESSED BRICK CO.

Dear Sirs,—At your request I have instituted a very thorough test of a number of Enamelled Bricks, of your manufacture, for the purpose of determining the ability of the enamel to resist the rigors of Chicago climate. I endeavored to concentrate into the period of the test the same total of the destructive agency of the many changes of atmospheric moisture and temperature to which these bricks, if used in a building at Chicago, would be subjected in the course of three or four winters.

With this end in view, these bricks were sent to the "Produce Cold-storage Exchange," with the following letter of instructions:

"The 'Tiffany Pressed Brick Co.' will send you a number of Enamelled Bricks, which I shall mark, for purposes of identification, when I call at your office to-morrow morning. It is my wish that they be subjected to a treatment, as follows:

"That they be carefully weighed, and their weight noted. That they be then immersed in hot water (about 150° Fahrenheit) for one hour, wiped moderately dry, and the weight noted. That they be then placed in the coldest freezing-room in the house, its temperature noted, and kept there for one hour. That they be then taken out of the freezing-room, again immersed in hot water for one hour, and returned to the freezing-room, and so on continuously, during the working hours of three days—the brick being kept in the freezing-room through the three corresponding nights of the test. At the end of the three-days' treatment, the bricks are to be rubbed off clean and dry, weighed and their weights noted."



Wilson's School Wardrobes: Style No. 3.

possible. One pound of Wax should cover 300 square feet and no more than this quantity should be used.

Floors should be finished with Filler and one coat of Wax as soon as they are laid. The second coat of Wax should be put on just before the rooms are to be used.

To polish floors use one of our Brushes. Rub across the grain first and with the grain afterwards. To give the finishing gloss, place a piece of carpet or felt under the brush.

Johnson's Wax is put up in one, two and four-pound cans ready for use. Full directions for applying on each can.

Never use floor varnish or oil of any kind. Varnish or shellac leaves a coating of gum on the surface and when the spirits that are used in dissolving these gums have evaporated, the coating becomes brittle and is soon ground up by nails in boots, the particles are soon swept away, and the wood is left bare.

Many floors are ruined by trying experiments. Never use beeswax, for this does not harden readily and will also soften in warm weather.

Never use any finish that contains oil, for this will in time darken the wood. The beauty of a floor is in preserving the natural colors of the woods.

Hardwood floors should never be cleaned

kitchen floors. These are the only floors that should ever be cleaned with soap and water.

Weighted brushes are quite a necessity for keeping floors in good condition. With one of these any person however unskilled can keep a waxed floor in perfect condition. Our Brush weighs 22 pounds. The servant should use the brush every week. It is not necessary to use Wax each time, as enough remains on the brush.

In polishing floors, always rub across the grain first and with the grain afterwards.

For finishing gloss, place a piece of carpet under brush.

Every one who has a hardwood floor should have one of our weighted brushes.

If a floor has been treated with oil or varnish, and has been allowed to become very dirty and rough, the old finish should be removed with our steel shavings. With these shavings every particle of the old finish can be removed. The floor should then be finished as a new floor.

If the floor is not in very bad condition and has received some care, it should be cleaned lightly with our No. 1 steel shavings, then with our Restorer and two coats of Wax applied.

Kitchen floors should be given a coat of Johnson's Reviver every three months.

Cathedral of St. John the Divine.

New York, N. Y.

WE offer the illustrations of the competitive designs for the great Protestant Episcopal Cathedral, now building on Bloomingdale Heights, New York, submitted by the following Architects:

CARRÈRE & HASTINGS	NEW YORK, N. Y.	CRAM & WENTWORTH	BOSTON, MASS.
EDWARD P. CASEY	" " "	JOHN LYMAN FAXON	" "
HENRY M. CONGDON	" " "	PEABODY & STEARNS	" "
ROBERT W. GIBSON	" " "	*	*
B. G. GOODHUE	" " "	STEPHEN C. EARLE	WORCESTER, MASS.
HEINS & LAFARGE	" " "	*	*
HUSS & BUCK	" " "	T. P. CHANDLER, JR.	PHILADELPHIA, PA.
W. A. POTTER & R. H. ROBERTSON	" " "	COPE & STEWARDSON	" "
RENWICK, ASPINWALL & RUSSELL	" " "	*	*
FREDERICK C. WITHERS	" " "	W. S. FRAZER	PITTSBURGH, PA.
*	*	*	*
PARFITT BROTHERS	BROOKLYN, N. Y.	L. S. BUFFINGTON	MINNEAPOLIS, MINN.
*	*	*	*
W. HALSEY WOOD	NEWARK, N. J.	VAN BRUNT & HOWE	KANSAS CITY, MO.
*	*	*	*

In all, fifty-seven plates [loose], 14 x 20 inches, printed on plate-paper.

PRICE, \$2.50 PER SET.

AMERICAN ARCHITECT AND BUILDING NEWS COMPANY,

211 TREMONT STREET,
BOSTON, MASS., U.S.A.

The result of this treatment has been to show that the enamel is stronger than the brick itself. While the saturation with water was so great that several of the bricks were bodily disrupted by the freezing process, yet in every instance, the breakage began in the body of the brick, and not in the enamel, and with the exception of one brick out of the five, there is none in which there has been any indication of a tendency of the enamel to fracture independently of the body of the brick. In none of the bricks has there been observed any tendency of the enamel to separate from the body of the brick.

I am, therefore, disposed to believe that your Enamelled Bricks are well fitted for use in the most exposed situations.

Very truly yours,

DANKMAR ADLER.

The comparative cost laid in wall of Terra Cotta, Pressed Brick and Enamelled Brick, is about as follows, at current prices in Chicago:

Terra Cotta (plain), \$.75 to \$1.25 per super. foot.
Enamelled Brick, .65 to .75 " " "
Pressed Brick, .30 to .40 " " "

It should be noted that while $7\frac{1}{2}$ bricks of the ordinary (American) size, are required per superficial foot of wall, only $5\frac{1}{2}$ are needed in the English size, a difference of about $33\frac{1}{2}$ per cent in favor of the latter, which with the saving in laying and materials, makes the larger brick cheaper to the contractor at, say, \$90 per M. than the smaller brick at \$70 per M.

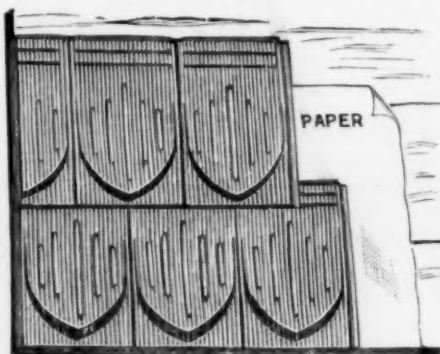
TIFFANY PRESSED BRICK CO.,
CHICAGO, ILL.

METAL "GOTHIC" SHINGLE.

THE accompanying illustration shows a very neat design of Metal "Gothic" Shingle which we have recently placed upon the market, and will no doubt meet with general favor amongst architects and builders, as well as roofers, on account of the superior merits to the average ordinary metal shingles on the market.

An important feature in these shingles, aside from the fact that they are storm-proof, is that the sheets of which they are made are first crimped, giving to the shingles strength and rigidity such as is possessed by no other; prevents rattling and enables the roofer to handle and apply them readily. They are very easily laid and there are two sizes, viz., 10" x 14" and 14" x 20", and the manufacturers are in a position to supply the requirements for the average roof where shingles are wanted.

These shingles are made of various brands of tin manufactured by us, including our



High Grade Roofing Plates, also of galvanized steel and copper, of any ounce desired.

This new design of shingle will add to the already large and important trade which this concern are doing in their Metal "Spanish" Tiles, which is evidenced from a new and handsome book of colored illustrations recently published by them in the interest of Metal "Spanish" Tiles, in which is shown a number of prominent buildings in various sections of the country covered with their Metal "Spanish" Tiles, aggregating, it is said, some 225,000 square feet of surface, to say nothing of the many hundreds of other buildings for

which these tiles have been supplied, which speaks well of the products of this well-known concern.

MERCHANT & CO.,
PHILADELPHIA, PA.

REMOVAL.

CHICAGO, ILL., March 26, 1896.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—We shall remove our Chicago office, April 1st., to permanent quarters at 186 Van Buren Street.

Respectfully yours,

FLUSH TANK COMPANY.

STEEL SINKS.

SINCE putting the "Columbus" and "New Era" Wrought Steel Sinks upon the market some years ago, the trade for same has almost doubled each year until the past ample facilities of the Kilbourne & Jacobs Mfg. Co., who are the exclusive manufacturers of these Wrought Steel Sinks, were found to be insufficient, and owing to the large increased demand for them, they have consequently just completed a new warehouse, 100' x 145', to be used entirely for these goods.

THE KILBOURNE & JACOBS MFG. CO.,
COLUMBUS, OHIO.

BEATEN METAL WORK.

WITH such a standing advertisement as the Statue of Liberty in New York Harbor to show what can be accomplished by the use of beaten metal, it is small wonder that it has been possible to create a great and substantial industry that stands ready to hammer out any work of sculptured art that architect or sculptor choose to demand.

How great an industry it is and how real

ALSEN'S PORTLAND CEMENT

the strongest and most serviceable Cement made, and will permit the admixture of a larger amount of sand or gravel with less loss of strength than any other brand; it is therefore the most economical. It is the finest ground cement made, and has the largest bulk to the barrel.

The following test, made in actual work, by Col. D. C. Houston, Corps of Engineers, U. S. A., at the sea wall around Governor's Island, New York Harbor, has never been equalled by any other cement. It is as follows: Tensile strength per square inch, one day, 384 pounds; seven days, 600 pounds; thirty days, 818 pounds.

For Sidewalks it gives the best color, and the most endurable wearing surface. Most of the prominent Railroad Bridges and the large Office Buildings of the country stand upon a foundation of concrete made of ALSEN'S CEMENT.

Alsen's Portland Cement Works, New York Office, 143 Liberty Street.

an art result it produces, few could guess, and the catalogue of W. H. Mullins of Salem, Ohio, would be a revelation to the unsuspecting. Words are not wasted by the manufacturer, for the ever-truthful camera saves him all trouble and at once declares the magnitude of the work by showing the great figure of Hermann, thirty-two feet high, at New Ulm, Minn., and the truthfulness of the result by showing, side by side, photographic reproduction of a group of lions from the plaster model and from the finished copper. To such work as is here shown, it is rather unfair to apply the word "manufacture": it would not be used in speaking of a bronze statue cast in the mould, and yet the word is precisely fitted to the work of these workers in one of the side paths of high art, for the work of the cunning hand enters into it from first to last. It is hard for a careless workman to spoil a bronze casting by an unskilful "pour," but it must be an easy thing for a heedless man to mar one of these beaten statues.

Not many people realize — we, at least, did not — how much and how good work was turned out of this once far-western shop. Besides the great figure of "Hermann" the catalogue shows reproductions of erected statues of "Dr. Chenier" at Montreal, 6 feet high; of "Hidalgo" at Monterey, Mexico, 12 feet high; of "Christopher Columbus," at Columbus, Ohio, 9 feet high; of the "Angel Moroni," for the dome of the Mormon Temple, at Salt Lake City, Utah, 16 feet high; of "Maj. Winston" on the battle-ground of Guilford Court-house, Greensboro, N. C., 6 feet high, and sundry others.

Besides these there are single figures of saints and virtues, many from 6 to 18 feet in height, which now form attributes of sundry special buildings, amongst them the great statue of "Diana," 13 feet high, that crowns the tower of Madison Square Garden and its larger sister, 18 feet high, displaced and sent to adorn the dome of the Agricultural Building at Chicago, where, we believe, it perished in the flames.

These and many more works of sculptured art are shown in this interesting catalogue, and all in addition to the great and varied assortment of stamped and modelled metal work — for cornices, ceilings, trimmings or what not — that other makers might possibly parallel.

When we saw the work of this same concern at the Centennial Exhibition twenty years ago, we could not have believed that in so short a time it could have achieved the position of a real "art industry" and that its product would be so truly commendable.

BROOKS, SHOOBRIDGE & Co.

ARE MAKING THE . . .

Finest Ground Portland Cement

Imported into the United States.

Quick or Slow-Setting as Required.

WORKS:
GRAYS, ESSEX, ENGLAND.

NEW YORK OFFICE: 7 BOWLING GREEN.

CHARLES J. STEVENS, Agent.

CHARLES I DEMANDING THE FIVE IMPEACHED MEMBERS.

From the painting by

JOHN SINGLETON COPLEY, R.A.,

IN THE BOSTON PUBLIC LIBRARY.

A few copies of the excellent heliotype made of this fine historical picture, 11 x 16 inches, printed on heavy plate paper, 22 x 28 inches, with key to the portraits, are for sale.

Price . . . \$3.00 each.

Sent carefully wrapped and postpaid, on receipt of price.

WALTER ROWLANDS,
211 Tremont Street, BOSTON.

NOTES.

"Slate Roofs" is the title of a neat little book published by the Bangor Excelsior Slate Company and which contains just the information needed by parties who are about to build. We advise every one intending to build a house, a stable or a barn, or any other building, to get this book and read it before deciding on the kind of roof they will use. Copies will be sent free on application to the Bangor Excelsior Slate Company: Office, Drake Building, Easton, Northampton Co., Pa.

THE Art Gallery in the mansion of Mr. Chas. T. Yerkes, New York, has been perfectly lighted with a series of Reflectors and Electroliers combined, which thoroughly light the pictures from one circuit, and the gallery from the other. The fixtures were designed and installed by the well-known house of I. P. Frink, 551 Pearl Street, New York.

CRANE ELEVATOR COMPANY.

The Crane Elevator Company wishes to call particular attention to its improved vertical elevator machines of the

*Plunger Type,
geared only
two to one,
even for the
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These machines occupy no more space than the counterweights of ordinary elevator machines.

For economy of operation they are unparalleled by the elevators of any other make or motive power.

In ease and certainty of control, and smoothness of operation, they are superior even to the best hydraulic elevators heretofore made.

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