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A SOAP-FACTORY, in process of completion in New York, collapsed the other day, killing two men. There is likely to be an interesting controversy as to the cause of the accident, and we hope that good results may follow the discussion. The deputy-inspector of buildings is said to have expressed his astonishment at the collapse, saying that the building was "one of the best constructed he ever saw," and an ingenious explanation has been offered, to the effect that the water-tanks, of which two, holding twenty thousand gallons each, were placed on the upper floors, "were being filled for testing, and their weight may have caused the fall," while another, which also lays the catastrophe to the tanks, asserts that the "bands" around the tanks had "swelled," and "pushed out the wall." That the tanks were instrumental in causing the collapse is undoubted, as both of them fell to the basement, but the practical man will inquire why a building intended to contain tanks should not be made strong enough to sustain their weight when full of water, and to resist the pressure caused by the "swelling" of their bands. The real cause of the trouble is unquestionably indicated in an editorial in the *Engineering Record*, which points out that all the columns in the building were of cast-iron, joined with the usual flanges and bolts, and supporting the girders on brackets. The *Engineering Record* observes that the connections of beams and girders were made with "loose bolts," instead of being riveted, and, as it says, "There was thus cobbled up a vertical series or tier of cast-iron column-sections four stories high, essentially unbraced laterally, with joints practically without stiffness; with the load mainly at the top, and actually all load applied with great eccentricity entirely on one side of the tier from top to bottom"; and, it continues, "Failure was thus actually designed into the structure."

UPON this showing, the *Tribune* says various severe things about the architect, the iron contractors and the Inspector of Buildings, which are natural enough for a layman after reading the expert opinion of the *Engineering Record*, but which seem to us too harsh under the circumstances. While we, personally, fully agree with the *Engineering Record* in regard to the use of cast-iron columns, joined in the ordinary manner, in building, as well as in regard to the employment of bolts instead of rivets for girder connections, and we think that a soap-factory, with its concentrated loads, was about the last structure in which such a system ought to have been employed, the *Engineering Record* must know that cast-iron columns are used in very many of the most recent office-buildings in New York, not on account of their cheapness, but because a large number of persons believe them to be safer and more enduring

than wrought-iron or steel, when built into masonry. Among these persons are the officers of the Underwriters' Association, who offer a reward to owners for the use of cast-iron for columns, in the shape of a substantial reduction in insurance rates where they are used. We have often had something to say in regard to the great, and not always salutary, influence exerted by the insurance companies upon building methods, and many an architect has, we are sure, spoken with disapproval of this particular whim of the underwriters; but architects are at least justified in supposing that the underwriters have some ground for the preferences which they express so positively, and if the owner wishes to have his building conform to these preferences, it cannot be said that, under the circumstances, the architect is bound to refuse compliance. Bolted joints, again, while objected to by many architects, are very extensively used in building work, under the direction of engineers of high repute, and, although our own opinion is that buildings need the stiffness which riveted joints give, even more than the bridges for which such joints are still in universal use, the practice of men of great eminence sanctions the other system. Although, therefore, we agree with the *Engineering Record* in its judgment that the weak connections of the soap-factory frame, under the terrible stress caused by the heavy and eccentric loading, did about what ought to have been expected of them, it should be remembered that the conditions were very abnormal, and that professional skill is not expected to extend to circumstances far outside the range of current experience.

THE Report of the New York Superintendent of Buildings gives some interesting statistics in regard to the kind of structures erected in the city last year. Of dwelling-houses costing more than fifty thousand dollars, only two were built during the whole year, and the total cost of these two was only one hundred and fifteen thousand dollars. Cheaper dwellings, from twenty to fifty thousand dollars, were more in demand, one hundred and seven having been completed; and three hundred and fifty-eight houses costing less than twenty thousand dollars were erected. Flats, costing more than fifteen thousand dollars apiece, were popular, eight hundred and twenty-one having been built, at a cost of more than twenty-two million dollars; and nine hundred and thirty-four frame dwellings were erected in suburban districts, at a total cost of about three million dollars, which does not indicate a very high average of elegance. Forty-eight office-buildings were completed, at a cost of about thirteen million dollars; and stores to the value of about nine millions. Five small churches were built, at an average cost of thirty-two thousand dollars, and seventeen school-houses, averaging about ninety thousand. Seventy-three hotels and boarding-houses were completed, at an average cost of nearly one hundred and twenty thousand dollars; and seventy-five factories, at about fifty thousand dollars each.

THE Report of the Forestry Committee of the National Academy of Sciences on the preservation of the forest possessions of the United States seems to have excited great public interest, and there seems to be reason to believe that some of its recommendations may be adopted by Congress. It advises, among other things, an annual appropriation of about two hundred and fifty thousand dollars, to pay the cost of keeping something like an adequate guard over the national forests which still remain. A few months ago, when a similar suggestion was made, it was said that Congress would never consent to spend any money for forest conservation, but public opinion has been educated since then, and the Committee's report, which shows how the property belonging to all the citizens of the Republic is stolen and destroyed by the selfish sheep-herders of the Northwest, will do much to add emphasis to the popular demand for a change. To put briefly the Committee's conclusions, fire and sheep are the two agents which are rapidly converting the Northwestern States into deserts. To a certain extent, the two are related, for the sheep-herders, after their flocks have gnawed and nibbled everything green within their reach, set fire, at the end of the season, to the remaining stubble, for the express purpose of clearing the territory for the next year's operations. It is hardly necessary to say that the mountain forests soon disappear under this treatment, and with them vanishes the fertility of farms, perhaps a thousand miles away, lying in the valleys of streams

formerly fed by these forests. It is a proverb that Americans can never learn anything from the experience of others, but if an agricultural nation like ours must wait until almost the whole country west of the Mississippi has been, like Western France, and Southern Russia, converted into a desert, before making up its mind to take the first steps in the process by which alone, at the price of centuries of labor, its fertility can be restored, our children have, indeed, trouble in store for them.

M. PAUL BLONDEL, one of the most noted of the younger Parisian architects, died recently, at the age of fifty. The career of M. Blondel is, perhaps, an almost perfect type of that which a young French architect regards as most desirable. Entering the School of Fine-Arts at the age of seventeen, he took two medals in the second class, and ten in the first class, besides the Rougevin, Blouet and Leclère prizes; in his first struggle for the Prize of Rome he won first-second grand-prize; and his second attempt brought him victory, after twelve years spent in the school. While at Rome, he won one third medal, and two first medals at the *Salon*, for his studies of antique work, and, on his return to Paris, he established a very popular and successful *atelier*, which is well known to Americans. Besides his work in teaching, he carried on an extensive practice, and was, not long ago, appointed architect to the Palaces of the Louvre and Tuileries. He was a member of the principal professional societies, of the Society of French Artists, and had received several decorations.

THE admission of girls to the Paris School of Fine Arts has been followed by a disturbance of a highly discreditable character. No sooner had some girls, too poor to pay for private instruction, and anxious to avail themselves of the unrivalled advantages which the French Government offers freely to deserving applicants, presented themselves at the school, than the male students in the *ateliers* of painting, sculpture and engraving raised an outcry, and when the young women came out of the classes, the men pursued them in a body through the streets, yelling and hooting, until the poor girls took refuge in some neighboring shops, and the police appeared, and marched the most noisy of the men off to the station-house. The Director of the School, M. Dubois, on learning of the demonstration, immediately ordered all the *ateliers* whose members took part in it to be closed. None of the students in architecture were implicated. The *Builder* attributes this simply to the fact that their classes did not happen to be dismissed in time for them to join the mob; but M. Antony Wable, who is himself the "*patron*" of an architectural *atelier*, and who ought to know something of the subject, thinks that they would hardly have been disposed to do so in any case, and that, even among the students in painting and sculpture, only a comparatively small number actually took part in the riot. However that may be, it is fortunate for the architects that they kept out of it, for the punishment in store for the leaders is said to be summary expulsion, which means, for a Frenchman, lifelong disgrace. The excuse which the culprits have thought of to offer in extenuation of their conduct is more ingenious than convincing. It seems that the award of the School medal carries with it a considerable reduction of the period of compulsory military service. Under the new regulations, women are admitted to compete for these medals, and their male rivals have reflected, as they say, that, as women are not liable to military service, every medal won by a woman imposes military service upon some man who would otherwise be exempt. One might suppose that a remedy for this grievance would be attained with more certainty by suitable representations to the Minister of Fine Arts than by chasing the poor girls through the streets, but the students apparently thought otherwise.

THE Archæological Institute of America has made an arrangement with the *American Journal of Archaeology*, by which the latter becomes the regular publication of the Institute, appearing six times a year, and containing all the papers, reports and other documents hitherto published separately by the Institute, in addition to its own special material. The advantage to the Institute, in securing greater regularity and uniformity in the publication of its papers, seems considerable, while subscribers to the *Journal* will enjoy the advantage of receiving the Institute papers without additional expense. The Macmillan Company, 66 Fifth Avenue, New York, will publish the *Journal* in New York and London, and furnish

such former publications of the Institute as are not out of print. The subscription price will remain unchanged, at five dollars a year, and members of the Institute will be entitled to receive it without charge.

IN view of the reported success of a navigable balloon at the Tennessee Centennial Exhibition, it is interesting to speculate a little on the consequences of an invention by which an air-ship can be navigated in any direction at will, at speed and carrying cargo. We have already suggested that such an invention would have the political effect of putting an end to wars, for the reason that any nation, with an air-ship and a few barrels of nitro-glycerine, could in half a day exterminate the members of any Government which should show an unfriendly spirit; but the matter has an important economic aspect also, which may be illustrated by the case of our own country. The people of the United States consume annually, for example, about four hundred million dollars' worth of woollen goods. About fifty million dollars' worth of these are imported, paying an average duty of perhaps fifty per cent, or sixteen million dollars; and the price of the domestic goods is kept up nearly to the cost of importing foreign ones. Supposing, then, that it were easy to load a craft with woollen goods at any point in Canada, and deliver them within a few hours at any point in the United States, the Canadian Finance Minister would undoubtedly reflect that if duties on such goods, imported into Canada, were made to average twenty-five per cent, a large business would soon spring up in foreign woollens, brought into Canadian ports. After their shipment thence to the interior, it would not be his duty to inquire what became of them, and the temptation to transfer the imports of woollen goods for the continent from New York and Boston to Montreal, employing Canadian steamships and railways, and bringing eight million dollars annually into the Canadian treasury, would be too strong for any Finance Minister to resist. Moreover, the profit in the operation would probably be far larger than this, for if dry-goods dealers in the United States could, by a mysterious dispensation of Providence, have cases of foreign goods regularly laid down at their doors during the night, in accordance with orders previously sent to Montreal, at a price much lower than that demanded for domestic goods of similar quality, importations into Canada would increase rapidly, to the further satisfaction of the Dominion Minister and railway and steamship managers. That indirect importation of foreign goods into the United States, by way of Canada and Mexico, would take place to an enormous extent, if favored by the tariffs of these two countries, as soon as a practical way was found for transporting them unobserved across the border, cannot be doubted, as the profits of the operation would be too great for human cupidity to resist. An air-ship, sixty feet long, of the sort that has been described in the newspaper reports, could be built, after the work had become familiar, for something like a thousand dollars. Supposing the average value of manufactured woollen goods to be a dollar a pound, which is not very far from the truth, a craft conveying a thousand pounds of them at a trip, and travelling at the rate of a hundred and fifty miles an hour between a secluded place on the St. Lawrence River and the cities in the northern range of States, would pay its cost in a few days, and it would be impossible to interfere effectually with its business. Of course, we have no idea of suggesting to our fellow-citizens methods for the sinful violation of the revenue laws of their country, and, indeed, the activity and intelligence of Satan would render any such suggestions on our part quite superfluous; but the best way to meet a probable or possible trouble is to provide against it beforehand, and if the stories about the new air-ship are true, the framers of tariffs will do well to consider it in their plans.

AS the enactment of a new tariff law will have an important effect upon building interests, architects and contractors, as well as owners, may with profit study the debates of Congress. At present, the prospect is that the new law will nearly double the price of plate-glass, by imposing a duty of eighty per cent, in place of the present rate of twenty-five per cent; lumber will rise about ten per cent, as a consequence of the imposition of a duty of two dollars per thousand, and manufactures of lumber will rise still more, through the protective duty which is to be laid upon them; hardware, nails and screws will also receive a protective duty, and plumbers' pottery will be greatly enhanced in price, for the same reason.

THE REGISTRATION OF ARCHITECTS.



Monument to Brustolon, at Toldo, Italy, by Besarel.

WHERE is more of simple sound common-sense in the following extract from the annual address of Dr. Rowand Anderson, retiring president, to the Edinburgh Architectural Association, than we have found elsewhere in the voluminous discussions of that vexed question, the "registration of architects":

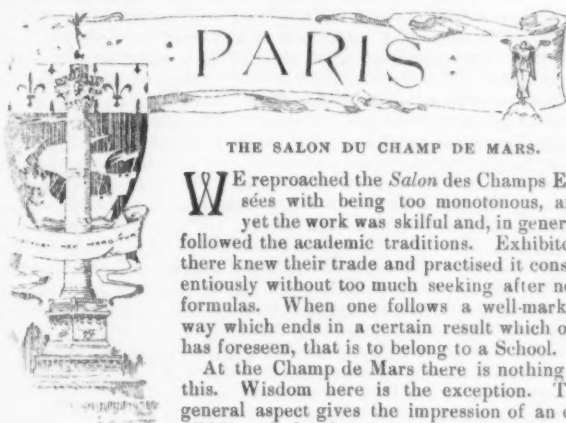
"When I took office two years ago, one of the questions prominently before the profession was that of education, combined with efforts to make our occupation a close one. I explained my views fully to you, and I have heard nothing on the other side since to lead me to think differently. At the bottom of this controversy lies a *misconception of the nature of our business*, as compared with the professions of divinity, law and medicine. The divine has to subscribe to a creed, his historical and philosophical knowledge of which must be tested. The lawyer has to administer the laws of the country, according to the fixed principles and form of those laws, and his qualifying knowledge of such must be ascertained. The physician or surgeon has to deal with disease in all its forms, and none can be successful unless he has acquired an intimate knowledge of the anatomy and functions of the body and all its parts, as also of the experience of the past and the various methods used in combating disease. They have not to provide what the public wants, in the same sense as a picture-painter or dealer, or as an architect in designing a house or other building has to meet the individual wants and desires of a client.

"You go to men of the professions I have named for what they are certified to possess and to be able to do, and not to dictate to them in what manner you are to be spiritually consoled, or to have the law administered or modified in the settlement of your affairs, or to have your physical troubles alleviated, so that in each case your own wishes may be met. The public deal with us on a totally different footing. While it is true that a client may go to one architect rather than to another, because he is known, or believed to be a better educated man in his work than others, yet, taken generally, the architect is but the interpreter of the public idea of art at any given time, and he has to provide what the public wants and is prepared to pay for. No compulsory examination or diploma can alter this. The law cannot and will not protect the public from bad art, because the public can and must at all times protect itself, and if it gets bad art it gets what it wanted, and the only thing it is able to appreciate. The one hope for art, and I speak of art in its widest sense, is an educated public. When the public are able to distinguish good from bad, and when they come to look at art not as a question of mere ornament and as a thing apart from structural and functional truth, then the bad architect will naturally disappear, and no artificial aid will perpetuate his kind or find work for him. . . .

"The State cannot protect the public from the incompetent tradesman unless it controls both parties to the contract, that is to say, the work and the price to be paid for it. To attempt to do this would, of course, be an absurdity. . . .

"But the State can do, and is doing much that is already bearing good fruit in improving everything that concerns public health and structures of all kinds, by the appointment of public health officers, the passing of Public Health and Police Acts, and by the powers conferred on health officers, borough engineers and sanitary inspectors. The enforcement by law of these Acts, alike against the public, the plumber and the architect, is the true and only way of bringing about a better state of things.

"While I am entirely opposed to all artificial distinctions of hall-marking of a man because he has undergone an examination on subjects which are admittedly not those that test the real qualifications that fit a man for his calling, I am all in favor of education. Give every young man a fair opportunity of equipping himself for his life's work, then let him swim or sink on his own merits or want of them. The young man who has good stuff in him will educate himself up to the standard of his time, because he knows that to do so is the only passport to success."



THE SALON DU CHAMP DE MARS.

WE reproached the *Salon des Champs-Élysées* with being too monotonous, and yet the work was skilful and, in general, followed the academic traditions. Exhibitors there knew their trade and practised it conscientiously without too much seeking after new formulas. When one follows a well-marked way which ends in a certain result which one has foreseen, that is to belong to a School.

At the Champ de Mars there is nothing of this. Wisdom here is the exception. The general aspect gives the impression of an exhibition of sketches, some few of which are very interesting because of the experiments their authors make outside of the bounds fixed by known formulas. But these experimental essays make no progress. For eight years they have been going on and we do not yet perceive whither they are going to lead us. The artists of the Champ de Mars despise tradition and they will be quite right in doing so when they succeed in showing us something else that is better. Now, setting aside the academists, we find here mainly copyists and imitators—imitators of MM. Puviss de Chavannes, Besnard, Carrière. We find reversion even to the primitives, and this is not a grievous reproach to bring against artists who are willing still to take some pains with drawing in all its expressive details.

We have no intention of rating these two exhibitions and proclaiming that one is better than the other. That would be absurd. We still regret the rupture which stands in the way of making a comparison, side by side, between the monotonies of the one and the exuberances of the other. But for eight years the *Salon du Champ de Mars* has existed and it was founded in order to initiate us into new sensations in art, and yet these progressists keep turning about in the same circle and each year serve up the same dishes seasoned with the same sauces.

The amusing thing about this show is that the most important canvas, as to size at least, is an official painting!—official! that is far worse than academic! M. Gervex, in fact, consecrates an immense canvas to recording the bestowal at the Palais de l'Industrie of the recompenses won at the Exposition of 1889. This documentary work is evidently intended for the Palace of Versailles. It shows, at the left, the official tribune, before which all nationalities defile, coming down the long nave of the palace with banners flying, between the ranks of invited guests. M. Gervex has selected the moment when the Algerians are passing before the President of the Republic: this affords an opportunity to group the fine costumes and display two enormous standards which so happily cut athwart the sombre line of dark official costumes. There is much talent shown in this great painting; the perspective of the palace is very ably drawn, and the grouping is very happy. The artist might easily have happened on a photographic effect, but he has known how to avoid that mischance, and he is to be congratulated that he has succeeded in imbuing with some feeling so official a work as this.

Decorative painting is represented by a few interesting but rather characterless works, in which the influence of Puviss de Chavannes can be more or less detected.

M. Prouvé shows a pretty decorative frieze for the staircase of the *mairie* at Issy. It depicts "Life" in all that is gay and happy: all these young men and women and children are enjoying a calm happiness though amid a landscape whose verdure is somewhat dingy. We ought to be grateful to the artist for not having introduced the slightest touch of that melancholy which is so much in favor nowadays. M. Fourié, however, provides this note in a triptych called "Les poèmes des Champs," and we cannot find fault with him for doing so, for the work is full of feeling: in the left-hand valve the "Joys" are shown, somewhat brutally, as red-cheeked peasant girls

at a village festival hugged by their robust lovers, somewhat recalling at a larger scale the "Kermess" of Rubens; in the centre "Labor" is depicted by harvesters loading a cart with grain. This is the best portion of the three: the sun, gilding the stalks, gives the whole a fine warm tonality. In the right valve we have a graveyard, near the village church, in which is a family group come to visit the resting-place of one of their own members. The artist has been able to create the very sadness of death itself, and quite simply, without having recourse to the material representation of any funeral ceremonial. Independent of its good qualities as a composition, the work is solidly and honestly painted.

We can say as much for the door-head decorations by M. Georges Bertrand for the *salle à manger des fêtes* of the Hôtel de Ville in continuation of the three painted ceilings. Like the ceilings, these decorations typify the Earth and represent either field or marine scenes, very simply modelled. M. Dubufe has sought a less material subject for his ceiling for the library of the Sorbonne: a naked youth symbolizes the new generation. "Truth" holds out to him her classic mirror, while "Science" tries to tear away the cloak in which she is concealed. But above "Truth" and "Science" hovers "Faith"; touching with her hand the helmet on the head of "Science," she says, "Thou shalt be Poetry, too, to shield and guard the soul of this young man." This signification is clearly enough expressed and the work is painted with great grace and freshness. Passing M. La Touche's allegorical "Peace," intended for the *mairie* of St. Cloud, a composition which is spoiled by a mass of autumnal verdure upon which the figures are poorly disposed, we will next mention the decorative panel for the Palais de l'Union Française, at Constantinople, by M. Montenard. It depicts the roadstead of Marseilles, seen from a high terrace through a trellis. The sea, of intense blue, stretches far into the distance; the sun scatters its rays through and upon the leafage of the vines. It is gay and warm like everything done by this artist, who pursues the sun even to the falling of his last autumnal rays, which light another panel of smaller size, "The Garden of the Tuileries," intended for the Hôtel de Ville.

Besides the great painting by Gervex, we find at the Champ de Mars other documentary works and souvenirs of the Russian fêtes. The approach of the Czar to the roadstead at Cherbourg, by M. Dauphin, is one of the best of these and is said to have been bought by the President of the Republic, and M. Edelfelt shows a standing portrait of the Czar, in military costume, which belongs to the University of Finland.

Every morning at the Halles a crowd of poor wretches gather about the peddlers of hot soup, and one can see in the midst of heaps of provisions these poor starvings warming their stomachs with a few sous' worth of soup, while others who are unable to pay for even this meagre meal look on in envy. It is such a scene, lighted by the rosy tinge of dawn, that M. J. Jacques Rousseau sets before us in a great canvas, skilfully and solidly painted and full of truth. It is one of the good pictures shown.

The portrait-painters are divided into two distinct groups: those who copy their models, seeking only character and life, and those who seek to interpret nature with more or less of complicated and decorative symbolism. For instance, M. Alexander does not show a woman seated simply, but makes her throw herself back in her chair in a most impossible pose: all his figures are given the lie by the elementary laws of equilibrium. When M. Aman Jan wants to paint the portrait of a woman, he makes his model the central portion of a triptych and completes the composition with two other figures, the one on the right personifying "Beauty," while the one on the left stands for "Poetry," while to all three he gives green eyes as round as wafers. M. Carolus Duran, on the other hand, copies his models. His portrait of Mme. G. Feydeau and her children is superb and attractive. One feels that the artist was pleased with his subject, which is easily to be understood when we remember that Mme. Feydeau is his own daughter. For her sake he has put forth all the skill of his best days. But why will M. Carolus Duran meddle with landscape and still-life? He exhibits a duck, hung by one foot, which adds nothing to his fame.

Each year M. Weerts sends a group of small portraits in astonishing relief. This year he adds a Revolutionary scene: "Robespierre resisting the advice of Saint Just, Couthon and Coffinhal on the night of the 9th and 10th Thermidor."

We have often criticised the peculiar bent of M. Carrière, who seems to see everything through a cloud of soot. He makes you see his figures through a haze which deprives them of all human and material qualities and gives them the air of supernatural apparitions. These faults, as they are when he deals with certain subjects, have this year served him admirably in his "Christ on the Cross." It is with real emotion that one gazes upon this immaterial vision clothed in human form. The crucified Christ seems to emerge from the shadows which seek to enclose His earthly form, while Mary weeps at the foot of the cross. The scene is inspired with poignant feeling and is wholly inartificial.

Here at the Champ de Mars we meet with several artists, who by their complicated compositions and by their drawing, carried to the extreme of nice detail, approach somewhat the manner of the *primitifs*. M. J. Leempoels is one of the most curious of these men. His painting, "Destiny and Humanity," is not luminously clear: hands, the hands of all mankind, stretch out in supplication or threat towards the head of a deity — rather a commonplace deity — which emerges from the shadows; from the background radiate sheaves o.

rays, illuminating all these hands, none of which lacks the smallest wrinkle or wart. Another canvas by the same artist, "Friendship," shows two men seated, portraits, hand clasped in hand, but stiff beyond expression. The minuteness of execution recalls Holbein, Dürer and Cranach.

Mlle. Roederstein also exhibits portraits carried to the extreme of painstaking detail, works which deserve to be classed amongst the "*primitifs modernes*." But we cannot mention the many other portrait-painters whose works are held to be interesting; it would be only to make a catalogue as little interesting as that of the landscapists who, year after year, exhibit pretty much the same sort of thing.

People greatly admire, and the State has just bought, a painting by a Belgian artist, M. Brangwyn, styled "*Les Moqueurs*." The scene is laid in an Eastern country and shows a man tied to a stake and undergoing the insults of the attending crowd. We do not ourselves greatly admire this painting, though the handling is individual and interesting, and the coloring not brutal; but it is gaudy and lacks atmosphere and a proper regard for the planes of perspective. It looks like a large mosaic whose fragments are all too large. A certain critic declares that it looks like a piece of nougat, and there is some truth in what he says.

As in former years, so this, we have a little personal exhibition: after MM. Tissot, Renouard, Carries and Dubufe, we have now M. Boutet de Manvel, who absorbs to himself an entire room, and we make no complaint that he does so. M. Boutet de Manvel is one of our cleverest illustrators; his child-life scenes are absolutely charming, with all the amusing and moving charm that belongs to the naïve and natural little beings. The drawing, much simplified and often reduced to mere silhouette emphasized with flat tints, has a sharpness and clearness which would often be harsh were it not for the humor which is expressed. All these little bodies live and think: these little men and smaller women are proud, vain, mischievous, naughty, laughing, sulking, idle, mocking or merely natural. The artist shows he has watched this little world closely and derived very accurate impressions of it.

Sculpture is not much in evidence at the Champ de Mars, but we find a few works of high merit. In the front rank is M. Saint Marcéaux's magnificent monument to Alexandre Dumas *fils*. In consonance with the expressed wish of the illustrious writer, the sculptor has modelled his subject as a reclining figure, clad in his ordinary work-robe, with folded hands and bare feet. The dressing-gown, girdled snug to the waist, gives Dumas the air of a monk, but the head and the laurel crown just behind it quite neutralize this impression, which is wholly out of character with the man himself. The sculpture, executed in marble, is superb and by its grand and calm simplicity exhales the impressiveness of death itself.

But how lacking in simplicity is the plaster sketch that M. Rodin shows of his monument to Victor Hugo! The poet, with torso nude, sits on a rock, listening to the voice of the deep according to some, or that of inspiration as others declare. No matter which it may be, he is listening, wrapped in thought, but about to speak. All this is well, but rather theatrically expressed by the poet's attitude. The figures which surround him are, however, rather more enigmatical, and besides, they are so unfinished that it is well to leave all comment to a later day. It really looks as if M. Rodin, who has been loudly accused of neglecting this work which he accepted long ago, had hastily thrown this sketch into such shape as he has, merely to prove that the commission was not altogether forgotten.

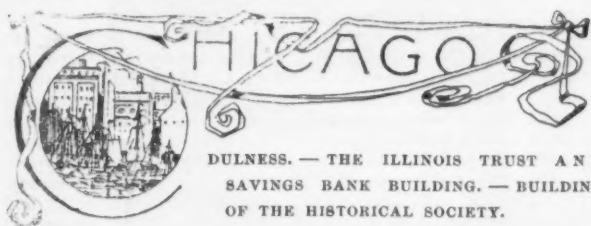
At the *Salon* of 1895, M. Bartholomé exhibited his composition for the "Monument aux Morts" for the cemetery of Père Lachaise, and at that time we expressed our admiration for a work so grandly full of feeling. This year he shows a fragment of the composition as finally executed in stone. It shows he has preserved all the feeling that made the original study so effective. It seems very clear that our sculptors are more successful in expressing feeling than are our painters.

M. Dalou is less successful with his "Triumph of Silenus," a bronze group that is to be placed in the garden of the Luxembourg. Keeping with difficulty his seat upon his donkey, the joyous Silenus is supported by a band of teasing bacchanals. The grouping is confused, which is all the more disadvantageous, since the material is bronze: it is regrettable that the matter of economy prevented the execution of the group in marble.

At the Champs Elysées in 1889, M. Alexandre Charpentier exhibited a plaster bas-relief showing bakers nude to the waist, thrusting their loaves into the oven, and called "Bread." This year we find the same subject here, but executed in glazed brickwork in imitation of the frieze found by M. Dieulafoye at Susa. The enamelled colors are not very bright, but the experiment is an interesting one from the decorative point of view. But as the scheme seems not to have been studied with the necessary jointing in mind, it has resulted that the figures are cut athwart by joints in the most random fashion. Moreover, the joints are so wide that when seen at a short distance the effect is most deplorable. The composition is to decorate the Maison du Peuple which the Socialist Party is building at Brussels. It is quite possible that when set in place and in company with the stronger architectural lines of the building, the defects we speak of may not be observed.

The collection of *objets d'art* here shown is very important but we cannot examine it in detail, but will only observe that pewter and pottery hold important places.

As for architecture, plans and drawings are few, but on the other hand there are many models and fragments of interior work in which clay products have been utilized around mantels, in panels, wainscots, etc. The tendency of certain architects to seek eccentric originality in their designs cannot be too deeply deplored. Imperfectly appreciating a style which they dub "English," they exert themselves to give to their furnishings the most complicated and *baroque* of forms, and often, particularly in decorative work, form does not exist at all: numberless are the friezes which show nothing but lines meandering aimlessly about over the background without once falling into a composition. Such work is sheer incoherence. They impress one as would the declaration of a quidnunc who, tired of making hoops round, declares that henceforward he will make them square, "because that will not be banal." These things are not banal, they are absurd.



WHILE reports are coming from other cities of an improvement in the condition of the building interests, affairs in this class of work in Chicago are as bad, if not much worse, than they ever were before. Universal dulness prevails in all the architectural offices, and absolute quiet in many. The City Building Department reports fewer permits issued within the last few months than at any time during the last ten years, and the force in the office has been materially lessened that expenses may be reduced.

Chicago, aside from the general hard times, seems to be suffering from the after-results of a "boom," but there is no question of her rising above the influence before long. She is not made of the material of so many boom-inflated western towns.

Quite recently the Illinois Trust and Savings Bank has taken up its abode in its new quarters, the low Classic building, modelled on the idea of the building of the Bank of England, and about which there has been so much discussion. The building was built on ground owned by the Northwestern University and rented to the Illinois Trust and Savings Bank for ninety-nine years. The building, on the outside, is two-storied, the two stories of the interior running around the outer sides, while the central portion of the building consists of one story extending from the ground-floor to the roof. The building was designed by D. H. Burnham & Co., and is faced entirely of granite, a corner pavilion with Corinthian pilasters being a principal feature of the side walls, as well as a noticeable element in the composition of the chief façade. In the western or front elevation a recessed portico 100 feet long with a peristyle of eight monolithic Corinthian columns cannot fail to give dignity to the edifice as a whole. The portico extends through two stories. It, as well as the whole building, is surmounted by a plain unornamented balustrade, carried on a somewhat elaborate cornice. It remains for the band-course between the first and second story to furnish another architectural feature, though the mouldings of this can hardly be said to be entirely satisfactory. The portico of the front, with its fluted Corinthian columns, is a very beautiful feature, but the mouldings and ornamental details on the rest of the building do not bespeak that careful study and refinement of taste which would make them worthy companions of the really noble portico. The general plan of the building is one of extreme simplicity. One enters directly from the portico into the interior, no entrance-hall having been provided, if one excepts the bronze grille-work box, forming a vestibule and elevator-shaft, which has been built in the front portion of the bank proper. In this way double doors are arranged for, but it would seem, on account of their swinging hinges, that against the western winds of winter they would be small protection for the desks of the various officers and clerks only a few feet away from them.

The whole scheme of decoration of the interior is one of a good deal of gorgeousness. The plan is such that it certainly offers an opportunity for much ornamental effect, but the color-scheme does not appear to every one entirely satisfactory. Red Numidian marble rests upon a dark-green marble, while a yellowish Vermont variety is further introduced for the tops of counters, etc. Bronze-plated iron grilles enclose the desks of the working force of the bank and give a yellowish tone to the metalwork, which is further carried out in the yellow of the rest of the decoration. As said before, the central portion of the structure is one storied, the two-storied portion being in the form of balconies, a Roman Doric being the order of the columns used on the first floor, while a Composite order is that of the columns of the second. All these columns, which are the supports of the metal framework, are of steel and finished in excellent imitation of marble, if the mistake had not been made in having them colored all exactly alike. The order seems to have gone forth for some thirty or forty marble shafts, all exactly alike, rich warm brown at the base, mottled off at about two-thirds their height into a light-yellow or buff. The result of this order

seems to have been crowned with a greater success than was wont to crown the efforts of the workers in the old quarries in the days of actual marble halls, and the result is somewhat startling. Above the second gallery and below the skylight is a cove divided into panels, whose decoration is Italian Renaissance in character. Below this is a cornice with a frieze with a decorative design of garlands. At the back of the arched second gallery ventilators of bronze grille-work are introduced into the scheme of decoration. Much bronzework is used as an ornamental feature around the doors, and though generally accepted as something fine, it certainly does just miss that touch of genius in the matter of its composition and design which should mark it as a work of art now and in times to come. All the designs in the metalwork have this same characteristic and certainly lack that refinement which one would hope to see in a building of this chaste and formal style. They, moreover, are certainly not worthy the reputation of the firm which did the work.

To an educated foreigner the interior of this building would, without doubt, appear "American." Comfortable and luxurious beyond any criticism, it yet would lack that bit of inspiration in matters of design which would lift it to the level of true art.

This practical American side, which is always so admirable and, when combined with the truly artistic, above all things desirable, is especially noticeable in the vault system of the place. These vaults are said to be finer than those of any similar institution in the world. Five large book-vaults for the banking department, five large storage-vaults in the basement, with the three heavy chrome-steel vaults for money and valuables, comprise the entire number of vaults in the building. Especially planned to withstand fire, dynamite or nitroglycerine are the three last-mentioned vaults. One of them is located in the basement and contains six thousand private boxes for safety-deposit purposes, one on the main floor for the banking department, and one on the second for the trust department. The vaults are provided with two entrances, which afford ventilation and also avoid the possibility of a lock-out. There are two doors at each entrance, the outer door containing the mechanism being fifteen inches thick, while the inner one is seven inches. Each door weighs about ten tons, but is so arranged on ball-bearings, that its weight is not perceptible in opening and shutting. An hydraulic pressure of 2,000 pounds to the square inch was applied to the joint of the door to test its air-tight quality. No hole for locks, spindles, etc., goes through the doors, they being of one solid piece of steel. If by the use of any explosives the time-lock should be jarred, by its very displacement a lever would be caused to fall which would prevent the bolts from slipping back. The doors, in which are placed the mechanism of the vaults, are beautiful pieces of work.

The building will contain no fire, as all the steam for heating comes from an adjoining building, the Rookery. The ventilating-fans, ice-machines for cooling the air in summer, and the air-compressors for the pneumatic system of conveying papers, are all operated by electric-motors, the source of supply for all power being the Edison Company's system of underground wire, which supplies currents for lighting. In the basement, for the use of the clerks, there are dressing-rooms, gymnasium, shower-baths, smoking and reading rooms.

Within the last month the building of the Historical Society has been formally opened. The exterior has been spoken of before in these letters, but the interior has remained veiled from the public gaze until recently. One of the most attractive features of the building is the fine entrance-hall, with a staircase leading to a second-story balcony, which extends around the hall. The plan is simple, but good in design, and has several features peculiarly fitting to the special use to which the building is to be put. One is the large well-designed open fireplace, made of stones taken from several of the old ante-fire Chicago structures, the material in itself being of especial interest historically to Chicagoans. On the stairway several excellent bronze bas-reliefs are introduced, chiefly of American Indians, the work of Mr. McNeil, a man who has already established for himself a reputation in this special line. The rooms opening off of the entrance-hall are of pleasing proportion and simple design, but when one turns to the north and enters the lecture-hall, this criticism no longer holds, for more unsatisfactory combinations of furnishing and finishing could not easily be imagined.

The building is aggressively fireproof, even the chairs in the little auditorium being uncomfortably, uncompromisingly metal, while even the window and door casings are of cement.

THE PAINTING OF METALLIC STRUCTURES.

THE painting of bridges and other metallic structures is an expensive business, and by no means satisfactory in its results. In spite of all care, corrosion takes place, and each time the protective covering is renewed a great amount of rust has first to be removed. It seems to be impossible to prevent iron — and more particularly steel — from rusting, even when the greatest care is spent in the selection of painting-materials and in their application. When painting is managed on the principle of accepting the lowest tender, its effect is usually very short-lived, and the corrosion, temporarily checked, soon regains its former sway.

Engineers, as a rule, know little of the chemical aspects of paints, and have to rely on their practical experience to guide them. Paint

manufacturers usually preserve an air of mystery as to their goods, except in relation to their merits, about which they are explicit enough; and although they know what ingredients they use, it is not often they have sufficient chemical knowledge to understand the effect they may have on one another in the course of time. It requires a highly skilled chemist even to guess all the changes which take place in a coat of paint, although it is quite possible to foresee some of them, especially if unsuitable materials be employed. Recently, in America, Mr. A. H. Sabin, formerly professor of chemistry in the University of Vermont, has been enlightening engineers as to the constitution of paints, and has further given the results of some very important experiments he has been making for Messrs. Edward Smith & Co., a firm of paint manufacturers in New York. There was a time, he says, when nearly all the bridges in America were painted with powdered pigment, usually a metallic oxide or carbonate, suspended in linseed oil. These paints are durable on wood, but experience shows that the oxide acts as a carrier of oxygen to the underlying iron, causing it to rust. Further, linseed oil makes a porous coating through which moisture can penetrate, and is also easily attacked by sulphur compounds. Hence, this class of paint has been mostly abandoned for structural work, particularly when it contains iron oxide. Iron oxide for paint is usually either a mixture of iron oxide with 30 to 70 per cent of clay, or it is granular ore which may be ground to a powder without much difficulty. These soft ores contain hydrated oxide, which is identical with the principal constituent of iron-rust, and it is believed that the particles form centres of rusting to the surface to which they are applied.

The chemical problems involved in the use of paints having white or red lead as pigments are, as Mr. Sabin tells us, very obscure. The lead probably combines with the oil to form a soap, the acid of the oil uniting with the lead of the oxide to form a salt. The addition of lead compounds to oil increases its rate of drying, whether heat be used to combine them or not. Is this lead soap a better binder than ordinary oxidized oil? asks Mr. Sabin. He does not give a decided reply, but he deems it to be very improbable that it is so, even when red-lead is used; white-lead is notoriously converted into a crumbling soap which is washed off.

Carbon, usually as graphite, is used to some extent as a pigment for anti-rust paints. It, however, cannot be ground fine economically, and therefore it cannot efficiently fill up the pores or interstices left in the film of oil, as it dries by oxidation, which is one of the chief uses of a pigment. The quality of a paint depends greatly on the oil. The best quality of linseed oil is obtained from pure seed by pressure at not a very high temperature. The oil thus obtained is mixed with some watery and vegetable matters, from which it separates on standing. If it be stored in a warm place from one to three months, a considerable sediment settles out, leaving the oil bright and clear. Often the linseed contains a large proportion of foreign seeds, and thus the nominally pure oil is a mixture at the commencement. Boiled oil, Mr. Sabin tells us, does not mean anything definite. The old practice was to put linseed oil in a kettle, and heat it to 400 degrees or 500 degrees. The heat was only sufficient to attack the foreign vegetable matters in the oil, and at that point some lead and manganese compounds were added; these combined with the oil, making it darker in color, heavier in body, and much more active in drying. All such oils are, we are told, inferior in durability to pure raw oils, for every bit of drier added to oil lessens its permanence. It is supposed that the oxides act as carriers of oxygen, enabling the oxygen of the air to combine with the oil; and their injurious effect is due to their enabling the oxygen to continue its action on the oil after the latter has absorbed the normal amount. "Boiled oil is now commonly made by adding a few gallons of liquid japan drier to every barrel of raw oil." In the way of adulteration 30 to 50 per cent of fish oil, liberally treated with driers, is used, and sometimes a mixture of mineral oil, resin, and driers equal to one-third to one-half of the whole.

Another class of paint consists of asphalt or other bitumen dissolved in turpentine, benzine, or other fluid. Asphalt is a class of minerals intermediate between the petroleum oils and bituminous coal, and seems to shade off gradually into both. Such paints often contain resin, which is added to improve their appearance and also make them cheaper; but it is detrimental in every other way. Some of these are true oil varnishes, in which the asphalt acts as a sort of mineral resin, and frequently is compounded with fossil resins, and properly combined with linseed oil, and these are very durable. But a solution of any of the bitumens alone in a solvent is certain to undergo decomposition by the evaporation of the solvent when exposed in a thin film to the weather. In these cases greater comparative durability is reached by employing a soft bitumen, such as maltha, or pit-asphalt, because the heavy mineral oil in it is removed somewhat slowly; its disintegration is, however, steady and certain. The fossil resins known as "copal," such as the New Zealand kauri, when added to asphalt varnishes, improve their durability. This is partly owing to the fact that such compounds are of greater density. Therefore, Mr. Sabin holds that the maximum of durability is only to be reached by a compound of hard asphaltum, copal gum and linseed oil, thinned, if necessary, with pure turpentine. The oil must be pure, and should be so refined as to have its non-drying constituents removed, so as to avoid, as much as possible, the use of driers. This is important, because asphalt destroys the drying quality of oil, by reason of its viscosity closing the pores of the oil against the entrance of air.

Such a compound as the above, Mr. Sabin says, satisfies very well the requirements of a paint for metallic surfaces. These are, (1) that it should have a toughness which does not depend on a perishable ingredient, and is, therefore, not affected by age; (2) its elasticity should not be lessened by cold; (3) it should not soften, but rather harden, by heat; (4) it should contain no solvent except turpentine, which experience has shown to be neither disagreeable nor dangerous in its usual application; (5) it should contain nothing which will have a corrosive effect on iron, or act as a go-between to carry oxygen from the air to the metal. Of course, the asphalt compound is not a paint; it is a varnish. Under favorable circumstances it dries in 10 hours, but ordinarily it takes 24 to 36 hours, and it continues to harden for at least a week, except in very hot weather, when it dries more rapidly. Two coats should be applied, with an interval of not less than three days between them. One gallon will cover 400 square feet of smooth iron, and 250 feet on old and badly corroded bridgework.

Every one knows that a coated metal surface can be vastly improved by baking or "stoving" it. Familiar examples of this are to be found in iron bedsteads and in bicycles. The paint, or varnish, becomes hardened into a glass-like surface which resists hard usage and the effect of weather in a wonderful manner. Of course, the process is not applicable to bridgework, but it has been applied in America to large steel water-pipes, and although a lengthy experience has not yet been gained, yet the results are most promising. In 1893 a 38-inch steel pipe was being laid at Rochester, N. Y., and as the coating applied to it at the works suffered badly in transport and laying, it was necessary to find some more satisfactory application. Messrs. Smith & Co. advised that it should be japanned. They supplied a special baking japan, and an oven 35 feet in height was built to allow the sections to be put in vertically, so that they might drip properly. The sections were baked at 400 degrees to 600 degrees for several hours. The oven accommodated twelve 28-foot sections of pipe, each weighing 2½ tons, and two charges were got out per day. The coating formed was very thin; it was absolutely continuous, protecting iron from muriatic acid for weeks; it was adherent, not scaling off even under the blow of a hammer, and the pipes stood transportation without abrasion. Of course, the final rivets could not be baked, and these were painted with asphalt varnish. Several other pipe-lines, up to 60 inches in diameter, and many miles in length, have since been treated in the same way, and with satisfactory results. The Americans have ventured on steel pipes far more than we have done, the question of corrosion having deterred engineers here from making such experiments. Possibly this plan of japanning each length inside and outside may remove the risk, which at the present is very real, especially in view of the great extension of electric tramway which is coming.

In the cost of painting a structure, such as a bridge, the actual paint is seldom the largest item. The scaffolding, scraping and labor make up the rest, and, therefore, it is poor economy to use inferior paint. We do not think that any of our great corporations, like railway companies, ever knowingly use impure materials in their paint, but there is always the possibility of selecting others with more resistant qualities. There is certainly much to be said for that class advocated by Mr. Sabin, and no doubt they will receive a fair trial here, for the present paints leave much to be desired.—*Engineering.*

BICYCLE REGULATIONS IN EUROPE.

FRANCE.—Americans arriving in France with a cycle, not for sale, but with the view of cycling through the country, are required to deposit the same amount [about 25 cents per pound, dead weight] as if they were for sale. This deposit is returned, however, when the traveller leaves French territory. When the deposit is made, a lead seal is attached to the cycle, with the custom-house mark stamped on it. A tourist can leave the country by any frontier and reclaim the deposit. It is not necessary to inform the original customs bureau of the intention of leaving the country.

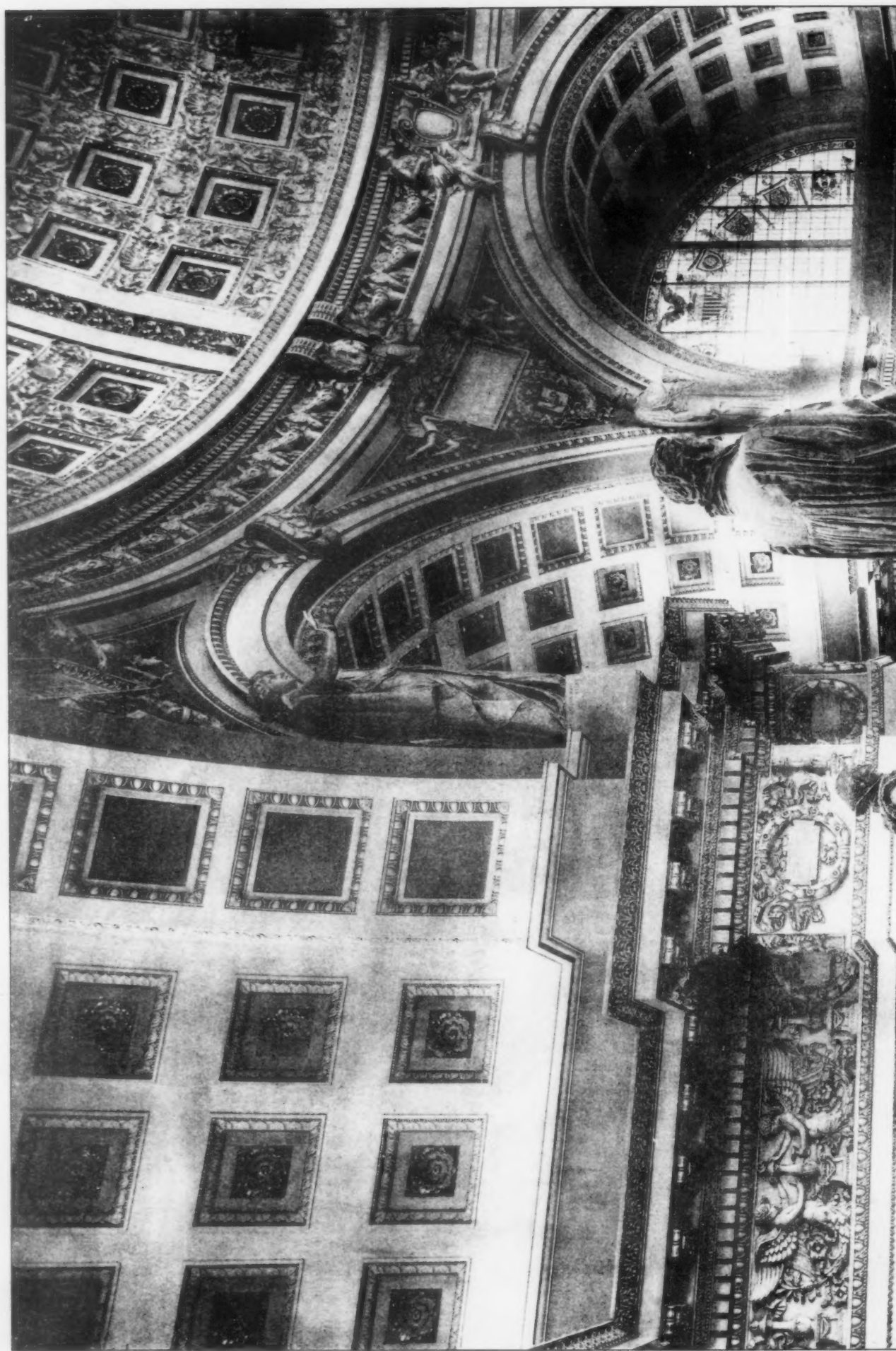
All French railroads transport cycles as baggage and are responsible for any damage. The amount of indemnity depends in which class (first, second, or third) the cyclist is travelling.

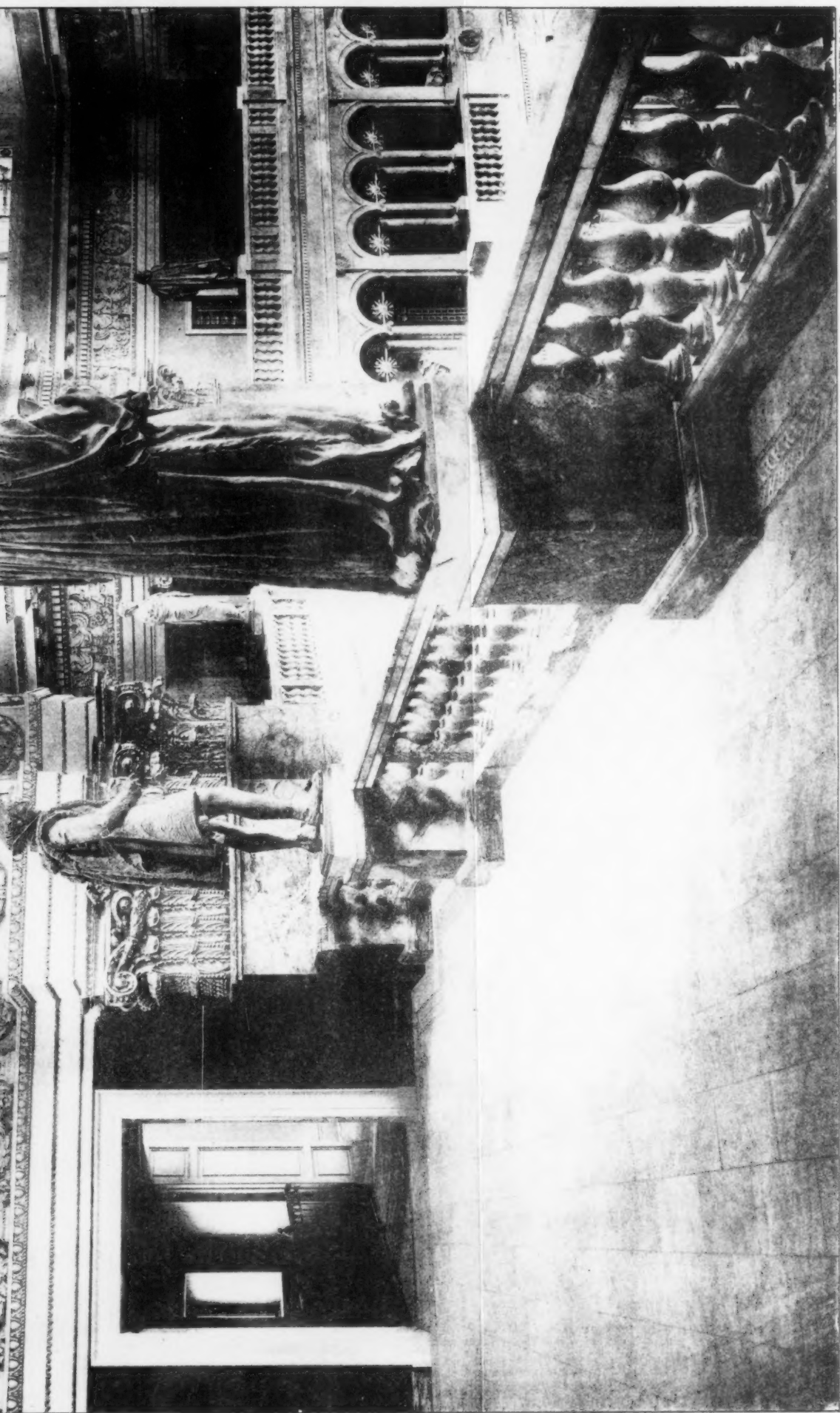
Germany.—No restrictions are placed on tourists and no deposit is required.

Austria.—Ten dollars must be deposited by the tourists at the custom-house. They are also required to make and swear to a declaration that the wheel in their possession is not for sale and that it is their intention to remain only temporarily in Austria. When leaving the country, this deposit will be refunded.

Belgium.—Tourists are required, on reaching Belgian territory, to make a deposit at the custom-house of a sum equivalent to 12 per cent *ad valorem*. This amount will be refunded when they leave the country. Members of the Touring Club de France are exempt from this deposit, provided that they do not remain in the country over six months.

On leaving Belgium, do so through a frontier town where there is a custom-house; present the receipt and the money deposited will be refunded. If leaving Belgium for France by railway, two or three days before doing so write to the custom-house officer at Quévy (frontier town and custom-house), inclose your receipt, and inform him on what train you expect to pass through Quévy. He will stamp the receipt and after assuring himself that the cycle

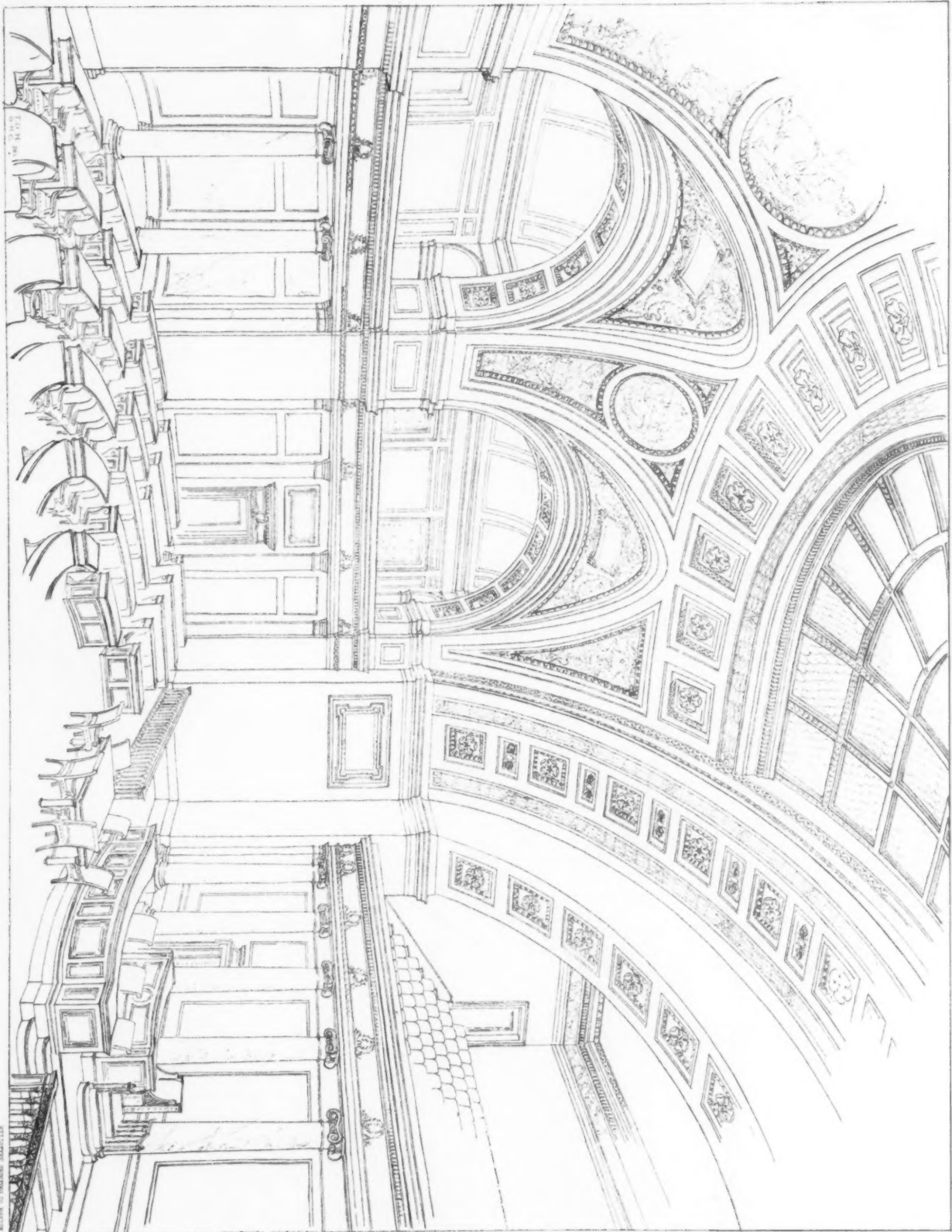




THE ROTUNDA GALLERY: LIBRARY OF CONGRESS, WASHINGTON, D. C.

ARCHITECTS SMITHMEYER & PELZ - P. J. PELZ - E. P. CASEY.

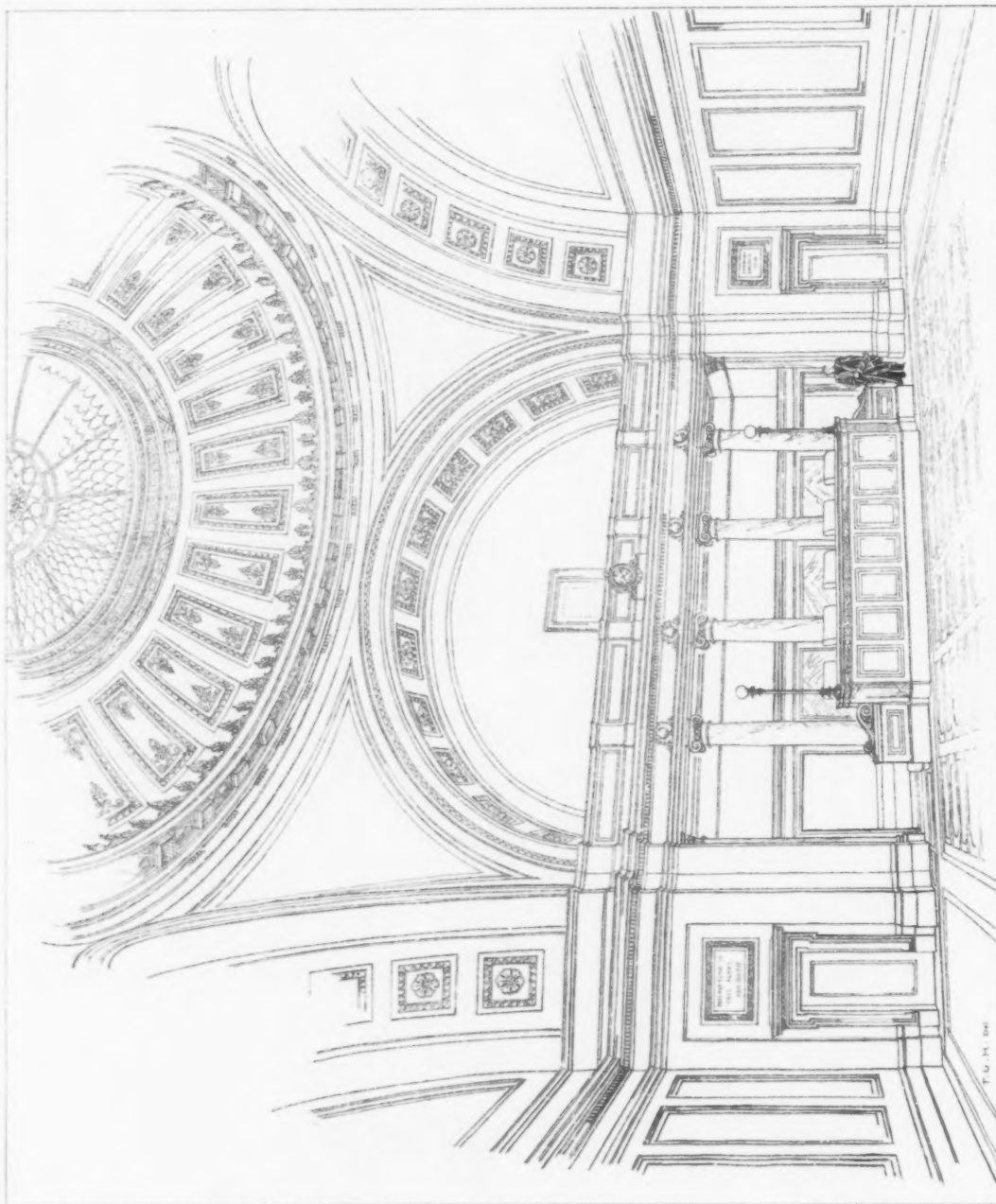
NEGATIVE BY H. W. SUDMAN, NEW YORK.



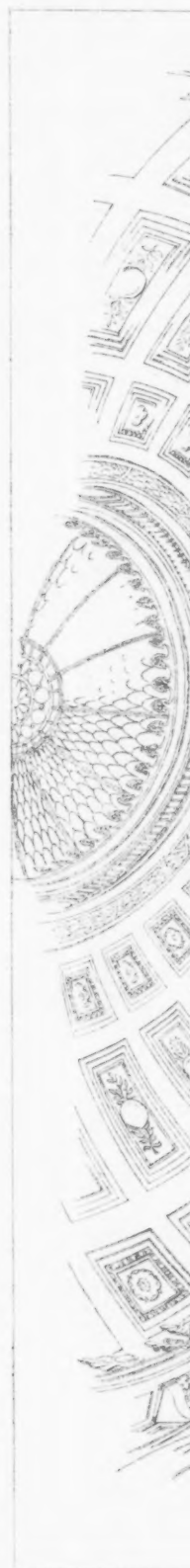
HOUSE OF REPRESENTATIVES: MINNESOTA STATE-HOUSE, ST. PAUL, MINN.

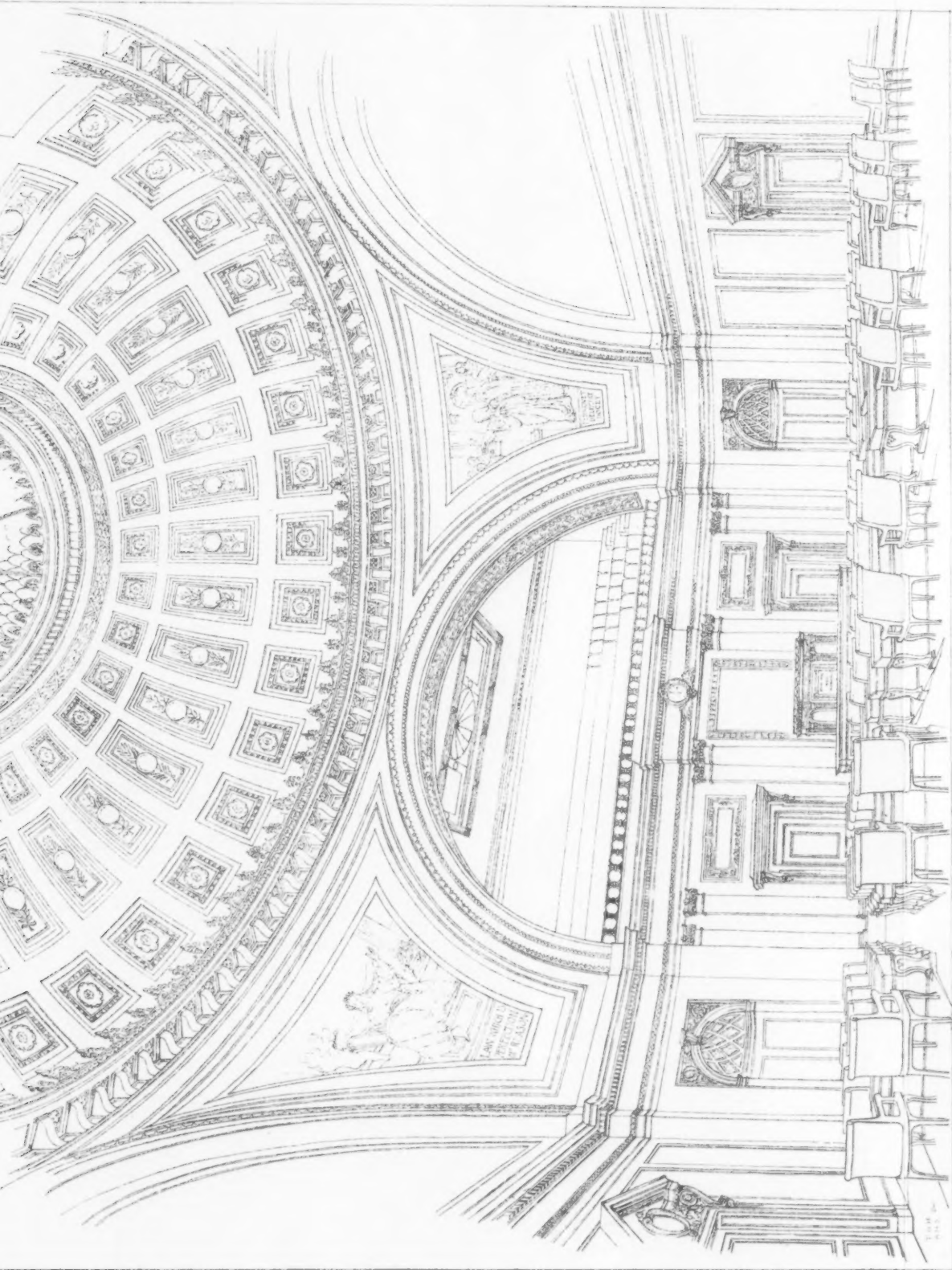
CASS GILBERT, Architect

REPRODUCED BY PERMISSION OF THE ARCHITECT



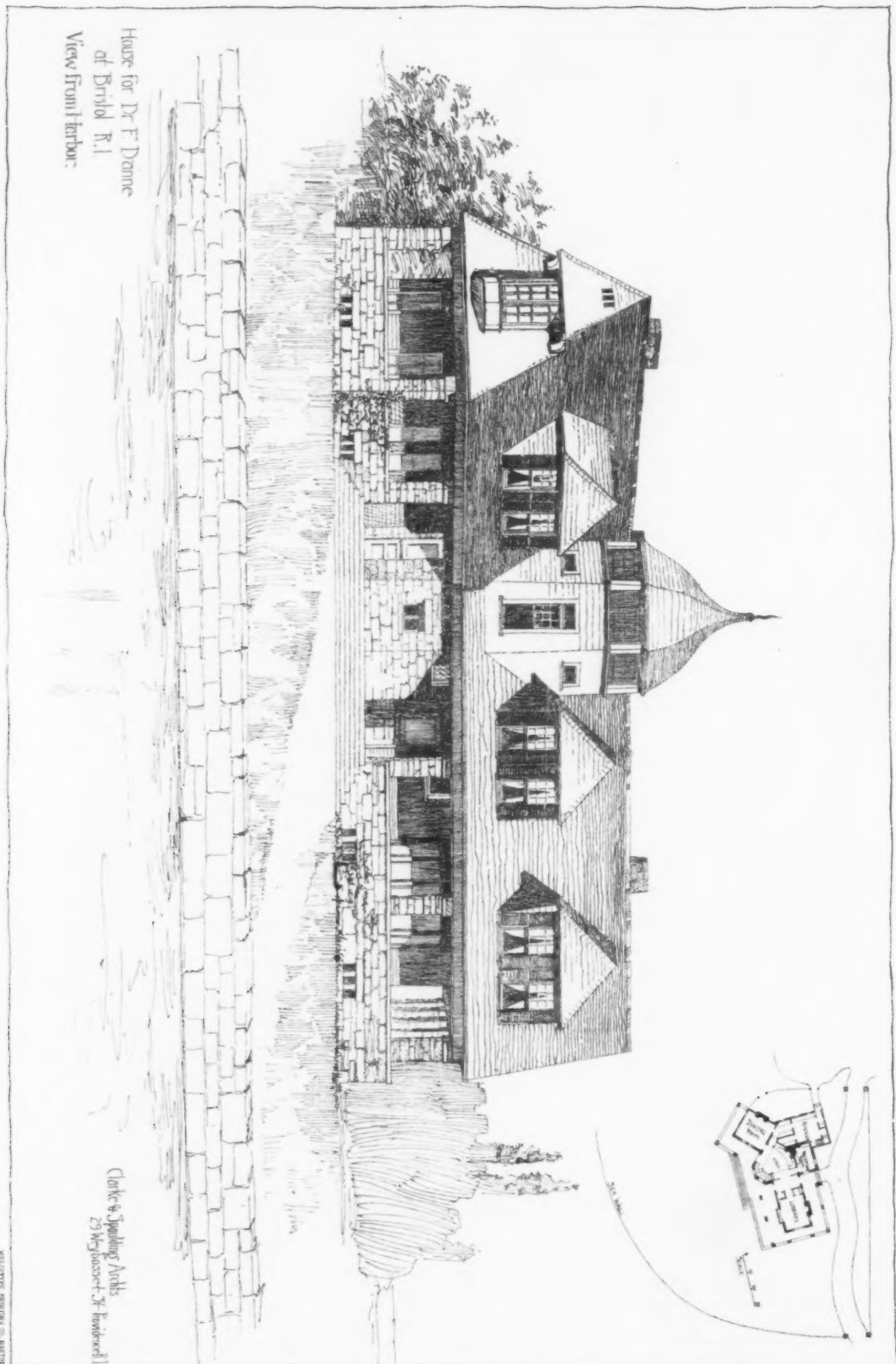
SUPREME COURT ROOM.





SENATE CHAMBER.

MINNESOTA STATE-HOUSE, ST. PAUL, MINN.
CASS GILBERT, ARCHITECT.



mentioned in the receipt is in the baggage-van, he will refund the amount of the deposit. This is necessary, as the train only stops at Quévy a few minutes. The same formality is to be observed when leaving Belgium for Paris via Erquennes.

Denmark.—Tourists must make a deposit at the custom-house equal to 10 per cent *ad valorem* as a guaranty that the wheel is not for sale. See that custom-house officials place a lead seal on cycle. Amount of deposit is refunded only at the custom-house where entry was made, unless a special permit is obtained allowing the cyclist to leave via another customs bureau.

Egypt.—Same formality as in Denmark. Do not fail to get receipt for money deposited. Only 7 per cent will be refunded.

England.—No duty.

Greece.—Cyclists are required to pay, first, an *octroi* duty of 40 cents, payable at bureau of entry and reimbursable; second, duty of \$2. This will, however, be refunded, less \$1 for expenses, and also a small supplement if the cyclist does not leave the country by the same custom-house.

Italy.—Tourists are required to deposit \$8.11 as a guaranty that the wheel is not for sale. The money is refunded on leaving the country. Members of the Touring Club de France are, however, exempt from any duty or deposit. On presentation of card of membership, a free pass will be delivered. On leaving Italy, however, it will be necessary to inform the custom-house officials, who will require the member to deliver his pass. If a member of the Touring Club de France fails to do this, he will become responsible for the amount of duty.

Luxemburg.—A deposit is required. Members of the Touring Club de France are exempt.

Netherlands.—Tourists enter without having to make a deposit or pay duty.

Portugal.—Same as in Denmark. Can leave country, however, by another frontier station.

Roumania.—Same as in Portugal and Denmark.

Russia.—Same as in Portugal and Denmark.

Spain.—The tourist entering Spain will be given a temporary pass of six months' duration, for which 20 cents is charged, besides the regular deposit of duty (about 6 cents a pound). This deposit will be refunded on leaving the country.

The importation of cycles gives rise to many obnoxious and worrying formalities. It is, therefore, wise to obtain the services of a commissionaire on the frontier or an international custom-house broker at Hendaye or at Cerbère (frontier towns). This will save much trouble. If a mistake is made in the declaration, the amount of duty will be forfeited and a fine imposed.

Sweden.—Cyclists have to make a deposit of a sum equivalent to 15 per cent *ad valorem*. In estimating this duty, packing, insurance, and freight charges are taken into account. When the cyclist enters Sweden via the customs bureaux of Stockholm, Gothenburg, Malmö, Landskrona, Helsingborg, Stonstad, Charlottenberg, or Storlim, there are no special formalities to be observed. If, however, he enters by any other customs bureau, a letter will have to be addressed to the Director-general of Customs, asking permission to enter. In order to have the deposit refunded in this case, the cyclist will have to leave the country by port of entry. In other cases, the deposit will be refunded by one of the above-mentioned custom-houses. If the tourist remains over sixty days, the deposit is forfeited.

Switzerland.—A deposit is required. Members of the Touring Club de France are exempt. The conditions are the same as in Italy.

Turkey.—Same formalities as in Egypt.

Miscellaneous.—It would be greatly to the advantage of American cyclists coming to France to join the Touring Club de France. This organization is similar to cycling societies in America. The advantages to members are numerous. The most important consideration is that a member can enter this and other European countries without obstruction from the customs officials. By simply exhibiting a card of membership, all annoying formalities are avoided. A large discount is given at certain hotels, especially in the provinces. The same applies to repair-shops and dealers in cycling goods. By wearing the badge, one is assured of courteous treatment everywhere. The subscription is \$1 per year and 20 cents extra for an official guide, giving names of hotels, repair-shops, etc., where liberal (generally 10 per cent) discounts are allowed. The membership to-day numbers 40,000.

The Touring Club de France has done more since its foundation for the encouragement of cycling in France than any one other organization. The money derived from the subscriptions is expended in repairing the departmental roadways and placing notices (danger signals) on the crest of all dangerous and rapid descents. In all the towns and cities in France a representative is to be found who will willingly give advice to strangers and aid them in trouble. The headquarters of the Touring Club de France are situated in Paris, Rue Coy-Héron 5, at which place application can be made for membership. Ladies are eligible to membership.

PHILIP S. CHANCELLOR, Deputy U. S. Consul at Havre.

STATUE TO DE LESSEPS.—The shareholders of the Suez Canal Company, on the motion of the Prince of Arenberg, have decided to erect an heroic statue to the late Count de Lesseps, the engineer of the canal, at Port Said, the entrance of that waterway. The cost of the monument will be about 250,000 francs. — *N. Y. Tribune.*

ILLUSTRATIONS

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

EAST CORRIDOR: LIBRARY OF CONGRESS, WASHINGTON, D. C. ARCHITECTS, MESSRS. SMITHMEYER & PELZ; P. J. PELZ; E. P. CASEY.

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

THE two lunettes at the end of the hall contain decorations by Mr. John W. Alexander.

THE ROTUNDA GALLERY: LIBRARY OF CONGRESS, WASHINGTON, D. C. ARCHITECTS, MESSRS. SMITHMEYER & PELZ; P. J. PELZ; E. P. CASEY.

SENATE CHAMBER: MINNESOTA STATE-HOUSE, ST. PAUL, MINN. MR. CASS GILBERT, ARCHITECT, ST. PAUL, MINN.

HALL OF REPRESENTATIVES IN SAME BUILDING.

SUPREME COURT ROOM IN SAME BUILDING.

HOUSE FOR DR. F. DANNE, BRISTOL, R. I. MESSRS. CLARKE & SPAULDING, ARCHITECTS, PROVIDENCE, R. I.

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

A GROUP OF ITALIAN CHURCHES.

A GROUP OF PORCHES.

[Additional Illustrations in the International Edition.]

WESTERN GATE-TOWER ON THE KARLSBRÜCKE, PRAGUE, BOHEMIA. PETER VON GMÜND AND OTTLIN, ARCHITECTS.

[Gelatin Print.]

IN 1342 the old bridge over the river Moldau, at the capital of Bohemia, built under the reign of Queen Judith, was destroyed by a flood. A temporary wooden bridge was first erected to replace it. Fifteen years later, the Emperor, Charles IV, commanded Peter von Gmünd, the architect of the Prague cathedral, to build a new bridge of stone. After Peter's death in 1372, the work was continued under the charge of Master Ottlin, another great architect of that time. The Karlsbrücke suffered serious damage by floods in 1367, and again in 1432, when five of the arches were carried away. On Sept. 4, 1890, three of the arches, with the statuary crowning the pier-bays, were destroyed, but have since been replaced. The bridge is 33 feet wide and has a total length of 1,630 feet, consisting of fifteen arches which connect the gate-towers at each end, while a sixteenth spans the mill-race at the eastern end. The piers are lavishly decorated with groups of statuary of the saints, foremost among which is the statue of St. John of Nepomuk, the patron saint of Bohemia.

The two gate-towers at the west end of the bridge, shown in our plate, have been repaired at different times. This fact accounts for the difference in style of the two towers, one showing Gothic forms, while the other belongs to the Renaissance period. In the background looms up the imposing dome of the Jesuit church of St. Nicholas.

PIA CASA DELLA FRATERNITÀ DEI LAICI, AREZZO, ITALY.

THIS plate, copied from *Architektonische Rundschau*, shows a picturesque example of transitional architecture, which Vasari attributes to Niccolò di Piero (1383), but probably only the lower story is of his designing.

CHURCH OF ST. PETER, HORNSEY, ENG. MESSRS. JAMES BROOKS & SON, ARCHITECTS.

THIS plate is copied from *Building News*.

ADDITIONS TO THE RANLEIGH CLUB, ENG. MR. ALFRED BURR, ARCHITECT.

THIS plate is copied from the *British Architect*.

NEW BUILDINGS AT LIVERPOOL, ENG. MESSRS. R. NORMAN SHAW
AND J. F. DOYLE, ARCHITECTS.

This plate is copied from the *Builder*.

TOWER AND WEST FRONT: MUNICIPAL BUILDING, SHEFFIELD,
ENG. MR. E. W. MOUNTFORD, ARCHITECT.

RECEPTION AND DINING ROOM IN THE SAME BUILDING.



WATER-SUPPLY OF NORTH CAROLINA CITIES.—An investigation conducted by the members of the North Carolina Board of Health into the water-supply of the cities of the State has resulted in a report of a disquieting nature to the inhabitants of many of the cities. Investigation was made in thirteen cities. In five of them the water was found to be infected with intestinal bacilli, in three others the condition of the water was suspicious, to say the least, while the samples from the remaining cities were reported to be more or less good. The Board had no authority to compel the water-companies to improve the character of the supply, but determined to examine the water, and if the companies would not "remedy the trouble, to bring the pressure of public opinion to bear by having the results of the investigation, setting forth the character of the water, published in the local newspapers."—*New York Evening Post*.

THE ROYAL PALACE AT AMSTERDAM.—Elaborate preparations are already being made for the grand ceremony of the coronation of Queen Wilhelmina of the Netherlands, which is to signalize the termination of her minority, and her assumption of the reins of government next year. It is expected that the function will take place at Amsterdam rather than at The Hague, although the latter is the national capital, the Royal Palace at Amsterdam, as well as the so-called New Church there offering far better accommodations than the edifices of the same kind at The Hague. Indeed, the Royal Palace at Amsterdam is one of the noblest structures of the kind in Europe. It is erected on a foundation of over 13,000 piles, is 300 feet in length, 250 in depth and 150 feet high. It was built nearly 300 years ago, but curiously enough has never been used as headquarters by any Dutch monarch, except King Louis Bonaparte.—*Marquise de Fontenoy in the Philadelphia Press*.

PETRIFITE.—Report is made in the chemical journals of a new kind of cement compound which has been introduced in Europe with very satisfactory results. This substance, to which the name of "petrified" is given, is intended to be used for the conversion of organic or inorganic matter—whether it be waste, wet or dry, pure or mixed—into a hard, durable mass, impervious to water, of great strength, and free from all atmospheric influences. The composition employed is not stated, but it is in the form of a white powder, and the statement is made that, mixed with sand, it produces a sandstone of durable quality; with sawdust a body similar to hard wood, but indestructible, while with slate waste the result is an agreeable marble. According to the *Chemical Trade Journal*, the most reliable chemical authorities who have examined and experimented with this product have expressed very favorable opinions as to its value, and Professor Bauschinger of the Munich Laboratory, who is one of the leading experts in all such matters, states that the wearing quality of this new substance, with sawdust, is equal to the best granite and basalt.—*Boston Transcript*.

ACCIDENT AT THE YERKES OBSERVATORY.—The Yerkes Observatory of the University of Chicago, at Williams Bay, Wis., will be closed for the summer on account of an accident which occurred on May 29. The great movable floor of the great dome fell 45 feet and rested at an angle of 45 degrees, with one edge of the floor against the bottom of the pit and the other edge 3 feet below the top gallery, against the guides which carry the great counterweights. It appears from an examination made by an engineer, that one of the cables was torn from its weight. This unbalanced the floor, which fell to the bottom of the pit. In its fall it carried away the winding stairway and crushed the electric apparatus underneath it. The floor is said to be a complete wreck. There was no one in the building at the time of the accident. Professor Barnard and Professor Ellerman had been working all night at observations, but they had stopped at daylight, so that, fortunately, no one was injured. Director Hale at once locked the building, and sent to the University officers to come to the building and commence an investigation. "The cause of the accident," said Major Rust, Comptroller of the University, "has not been decided, and probably will not until representatives of all the parties interested are on the ground. The big telescope was not injured in the falling of the floor in the least, and the damage is confined to the floor itself and the machinery immediately connected with it. As to how the accident occurred we have not come to a conclusion. I think the floor will be again in position inside of sixty days." The results of the official investigation will be looked for with interest.—*Scientific American*.

ASBESTOS AND ASBESTIC.—In a very interesting lecture recently delivered before the Society of Arts, by Mr. R. H. Jones, we find an account of the remarkable discovery of asbestos at Danville, in Lower Canada. A mine had long been worked at this point, and, like other mines in the neighborhood, gave a small percentage of asbestos and a large one of

apparently worthless rock. Owing to mismanagement, the works were closed, but shortly afterwards fell into the hands of a Mr. Boas, who was a purely business man, and totally unacquainted with either mineralogy or with asbestos. Nevertheless, he was struck by the peculiar appearance of the rejected material, and on further examination found that it consisted of rather more than 90 per cent of pure asbestos compacted together. Special plant was then erected, and by means of disintegrators, rocking-tables, and similar appliances, he has succeeded in recovering nearly the whole of the valuable material in the form of pure asbestos fibre. The effect of this discovery has been most marked. Most of the neighboring mines have felt it necessary to shut down, as the small proportion of payable material obtainable per ton of rock in their cases rendered competition with Danville impossible, the peculiar formation of the mother-rock being apparently confined to the latter mine. An important use for this rock, now known as asbestic, apart from the production of fibrous asbestos, has recently been developed in America in the shape of wall-plaster, for which it appears to be peculiarly adapted. Being naturally fibrous, it requires the addition of neither hair nor sand, and is, moreover, fireproof and a non-conductor of heat and sound. Nails may be driven into it as readily as into a deal board, and it is not liable to crack from the settlement of walls or floors. In addition, it is stated to be cheap and to take a good polish.—*Engineering*.

DIVINATION VS. GEOLOGY.—At the annual audit of the accounts of the Urban District Council of Amphyll, Bedfordshire, which was completed on Friday last by Mr. W. A. Casson, the Local Government auditor for the county, several ratepayers raised objections to an expenditure incurred in the employment of Mr. Leicester Gataker, a "water diviner." They produced geological plans and sections to show that, if the diviner's recommendations were acted on, the Council would be boring into a stratum of Oxford clay, the depth of which had not been fathomed as yet, although a boring had been made to 700 feet and no water obtained. The district council had applied to the Local Government Board for a loan to carry out boring experiments to test Mr. Gataker's recommendations. The Board ordered a water-supply to be procured within a limited time, leaving the council a free hand how they went to work, and they unanimously resolved to employ Mr. Gataker. In reply to the auditor, the chairman said that Mr. Gataker did undoubtedly hold out that he had a mysterious power of discovering water. His method was to start with his arms spread out and walk slowly over the ground. Suddenly he would stop as though he felt a shock, and it was there that he "located" a spring. He would then step backwards and forwards to ascertain the depth of the spring and the volume of water. In his report he named a number of springs in one field, and the total of the water there was more than ample for the town. The auditor, in announcing his decision, stated that in seeking for water the district council had disregarded the reports of experts and had gone for guidance to a man who had a reputation for discovering water by some unusual and peculiar method not possible to ordinary persons, and the question he had to settle was whether this was legal or not. He noted that Mr. Gataker took the trouble to do what ordinary professional men would not think of doing, namely, to state, "I guarantee my business to be genuine," whilst no guarantee whatever in the legal sense was given that water would be found where it was located. Money might properly be spent on experimental borings under proper advice, but it had not been proved that this man had any greater power than any one else. The district council were in the position of trustees of public moneys and must not spend them in a speculative manner. In the only case that had come before the courts which bore upon this matter the judges had held that "the pretence of power, whether moral, physical, or supernatural, with intent to obtain money was sufficient to constitute an offence within the meaning of the law," and he (the auditor) thought that, as Mr. Gataker claimed to exercise some such power, his employment was clearly illegal, and the amount of his fee would therefore be disallowed, and the gentlemen who authorized the payment surcharged with it. They could appeal either to the Queen's Bench Division or to the Local Government Board against the surcharge.—*The Architect*.

A DANGEROUS RELIC OF THE SIEGE OF PARIS.—Extremely complicated is the situation created by the discovery of a shell which found a lodging years ago, possibly during the war of 1870, in the masonry of a house on the Boulevard Montparnasse, and is now so firmly fixed that its removal promises to be a matter of some difficulty, not to say of danger as well, inasmuch as it is intact, and may prove to be still very lively if not handled with scrupulous care. This unwelcome tenant was revealed to view as the building was undergoing repair, and when the landlord reported the affair to the Prefecture of Police, and M. Lépine, on his side, politely requested the officer in command of the artillery of the Paris garrison to send a few soldiers down to extract and take possession of the shell, no one who was in the secret had the slightest suspicion that a very thorny question had thus been raised. Soon, however, it became evident that the matter was not to be settled in this free-and-easy manner. The officer referred to quietly replied that his men were not journeymen masons, and therefore could not extract the shell from its hiding-place, and when the Artillery Department at the War Office was appealed to, no answer was vouchsafed. To make things worse, the workmen who were engaged on the repairs have deserted their scaffolding, and have given the structure a wide berth, as they are unwilling to run the risk of being blown to pieces, while the lodgers, panic-stricken at the idea that an explosion may occur at any moment, converting the house into a pile of ruins, have informed the distracted landlord of their determination to leave at once if full and complete satisfaction be not accorded to them. As for the neighbors, they are also in a state of mind which can scarcely be described as enviable, for that unlucky shell looms above like a veritable sword of Damocles, threatening destruction to the adjoining buildings.—*Paris Correspondence London Daily Telegraph*.