Of course that we cannot show you know that we cannot show the beauties of our artistic hardware in an advertisement like this, but the goods speak for themselves. Sargent's Artistic Hardware is largely used and so are Sargent's Easy Spring Locks. They give satisfaction because we put into them careful workmanship and good materials. They are correct in design and properly proportioned. Our Easy Spring adds much to the value of Door Locks and prolongs their life.

Of course that we cannot show the beauties of our artistic hardware in an advertisement like this, but the goods speak for themselves. Sargent's Artistic Hardware is largely used and so are Sargent's Easy Spring Locks. They give satisfaction because we put into them careful workmanship and good materials. They are correct in design and properly proportioned. Our Easy Spring adds much to the value of Door Locks and prolongs their life.

Sargent & Company,
Makers of Fine Locks and Artistic Hardware, New Haven, Conn., New York, Philadelphia and Boston.
A NEW system of fireproof floor and roof construction is finding favor in Germany, especially in Hanover, where it has become so common that it is known generally in Germany as the Hanoverian floor. The floor is formed with light iron beams, set about three feet apart, and either between or upon these beams is laid a course of hollow bricks, or tiles, about ten inches long, five inches wide, and four inches thick, formed with a tongue on one edge and a groove on the other. As soon as the beams are in place these tiles are laid over or between them, giving a smooth floor, upon which the men can carry off rain-water. Where the blocks are set between beams of the beams a separate ceiling is necessary. The blocks until the roof is on, suitable holes must be left in the floor to be delayed without risk of very great injury to the undertaking, and French agitators are just as quick as our walking-delegates and French, who conceive the first floor of a house, over the German and Austrian builders.

The Forestry Division of the United States Department of Agriculture is at present busily employed, and designed man large buildings, both in Chicago and other cities, the last important work was the Illinois State Building at the Exposition of 1893. The strikes in the building trades in Paris, where eighty thousand men are said to have left their work, stopping operations on the buildings for the Exposition of 1900, and other important structures, are happily over, and matters seem to have settled back into their ordinary condition. Complaint, as usual, is made of dissatisfaction on the part of some of the workmen, but the affair has had from the first very much the look of a political manceuvre. Of course, work on the Exposition buildings, as well as on the new railway-stations at the Champ de Mars, the Alexander Bridge, and the other structures to be used in connection with the Exposition, cannot be delayed without risk of very great injury to the entire undertaking. French and French agitators are just as quick as our walking-delegates to see an opportunity for distressing innocent people, and are, if possible, more unscrupulous in taking advantage of it. In the present instance, the French public, having been somewhat excited and alarmed by the revelation of the iniquities of high military officials, might be presumed to be still further excited, in the hope that some precipitate action would be taken, which might be turned to the advantage of the owner of the lands so that the result of his operations, so far as its general aspect is concerned, may be of benefit to owners of other forest lands in a similar situation. In addition to this admirable work of the Government, many of the States have now either a Board of Health or Board of Agriculture, established by the public authority, or Forestry Associations consisting of corporations of private individuals, devoted to the work of assisting, by advice or in other ways, in the utilization of lands worthless for agriculture, by the proper management of the forests now existing on them, or by replanting them, where the original forest growth has been destroyed. Every American citizen must wish success to this new movement, and those who can assist in it will deserve well of their country by doing so. The seeming remark made not long ago on the subject by a newspaper, which gave the area of the forests still existing about Archangel, in Northern Russia, demonstrates forcibly the necessity for immediate and vigorous action in this country. It is hardly necessary to say that timber at Archangel might as well be growing in the moon, so far as its probable uselessness to inhabitants of our Mississippi Valley is concerned, and we may take it for granted that, except on the immediate seacoast, American citizens must depend, for lumber and firewood, on American forests.

It would be worth while for amateurs of the smaller fine-arts to get some banker or money-broker to procure for them specimens of the new French coinage. The coins are not yet in general circulation in France, but are sold in the shops in Paris as curiosities, at a trifling premium, and there would be no difficulty in obtaining, at an outlay of twenty-five or fifty cents, a very beautiful piece of work, which would have endeared itself to being from the mint, an advantage of considerable importance, as some of the details of the coins are so delicate as to be obscured or confused by even slight scratches. The design of the new coins is the work of M. Oscar Roty, a member of the Institute, and one of the most distinguished medal-engravers in Europe. The artist has in- tended to carry out the propositions of a French law of great interest. In the first place, what we may call the background of each face of the coins, instead of being flat, is hollow or "dished." In this way greater relief can be given to the device on the coin, with- out making it project beyond the rim, which protects it from wear; and M. Roty has taken advantage of this innovation to adorn the principal face of his coin with a very beautiful fall- length figure, in a relief resembling that of the antique coins, rather than the flat, cut-paper modelling of most modern coin- age. This figure advances with charming grace and nobility of movement; but pieces of one franc and fifty centimes are also to be congratulated that even this cruel scheme has come to nothing, apparently through the good sense of the workmen themselves.

M. OCCAS ROTY, the designer of the new coinage of France, is not only an artist of the highest rank, but is noted for his benevolent energy. He was himself a poor boy, but has raised himself by his industry and talent from the ignorance and squallor of Montmartre to membership in the Ins- titute of France, the most distinguished position that the world has to offer as a reward for intellectual attainment; and now he endeavours to help other poor boys in ways of which he knows the value. With this end, he, in connection with some brother artists of similar disposition, among whom was M. Paul Nénot, the architect of the Sorbonne, who is himself a member of the Institute, and one of the most brilliant and distinguished archi- tects in France, founded, five years ago, the "Fraternité Ar-
tistique," the object of which should be to provide for the education, between the ages of two and eighteen, of the sons of artists, whom the death of their parents, or other unavoidable calamity, might deprive of support. Some provision has al- ready been made for furniture brocades and hangings, where a brilliant lustre, with a low price, is desirable. Until recently, the cost of the artificial silk has been nearly as great as that of the natural product, but the manufacture has been simplified in operation on a larger scale, and it is now considerably cheaper. The Chardonnet process, which is the one used in practice, consists in converting cotton into pyroxyline, or gun-cotton, by treatment with nitro-sulphuric acid, dissolving it in alcohol and ether, filtering it, and then forming it into fibres by subjecting it to a pressure of about seven hundred pounds to the square inch, in a steel cylinder, from which it issues through glass tubes, drawn down to a calibre at the point of about one three-thousandth of an inch. The fibres thus produced are cylindri-
cal, strong and lustrous, and are immediately wound on bobbins, and must be returned, properly filled out, on or before Thurs- day, December 8, 1888.

The American Architect and Building News, [Vol. LXII.—No. 1191. the efforts of M. Roty and his associates, a beginning has been made toward taking care of them, and the Fraternité promises to be a great blessings to the undertaking, the young son of an architect recently de- ceased, has already been placed in a good school, the Société Centrale assisting by a special subscription. Of course, funds are needed for carrying on the work, but the corporation has been properly organized, and many subscriptions have been received from the leaders of the trades-unions, and from a large number of the citizens of Paris. The Fraternité hopes to obtain money enough to purchase a house of its own, in which its protégés can be brought up to- gether, its aim being, as its Annuaire says, to keep the chil- dren in a sort of, respectable, mansion, where the memory of their parents will be carefully preserved, rather than to supply simply their material wants. This idea, which is also that of Mme. Laurens' "Orphelinat" for girls, is quite characteristic of French delicacy of feeling, and it is to be hoped that the "Fraternité" will be able to carry it out. Meanwhile, it is hardly necessary to say that further subscriptions are very much needed. Two forms of participation in the work are provided. By one, ten francs is subscribed annually; and by the other a sum of one hundred and fifty francs or more is made over ranking as a "benefactor" or "donor," while the annual subscribers are simply members of the Fraternité. We suppose that, in order to help economical ends, in these dull times, the government has much surplus income left at the end of the year, after taking care of their own children; but there may be some who would like to have their names connected with so excellent a cause. The annual subscription of two dollars a year, and the Fraternité of Architects is perhaps rich enough to permit itself the pleasure of a gracical act of professional courtesy, in placing itself on record of benefactors. Subscription blanks may be obtained from M. Oscar Roty, at the Palais de l'Institut, Paris, or to M. Aug. Patey, Hôtel des Monnaies.

ARTISTS should not forget the coming exhibition of the Pennsylvania Academy of the Fine-Arts, which opens January 16, 1890, closing February 25th. A considerable sum of the Temple Trust Fund, which now produces about eighteen hundred dollars annually, is available for the purchase of works of modern or modernistic art. The Chardonnet medal may be awarded for work of conspicuous excellence. The Walter Lippincott prize, of three hundred dollars, will be awarded to the best figure-drawing in oil by an American citizen, and the Mary Smith prize, of one hundred dollars, will be awarded for the best work in oil or water-color by a resi-
dent woman artist. As we have already mentioned, the Archi-
tectural Department of the Exhibition will be under the charge of the T-Square Club. Entry-blanks may be obtained from the Secretary, at the Academy of the Fine-Arts, Philadelphia, and must be returned, properly filled out, on or before Thurs-
day, December 8, 1888.

The artificial silk made from collodion is slowly finding its way into commerce, and is said to be particularly adapted for furniture brocades and hangings, where a brilliant lustre, with a low price, is desirable. Until recently, the cost of the artificial silk has been nearly as great as that of the natural product, but the manufacture has been simplified in operation on a larger scale, and it is now considerably cheaper. Great care must be taken in all stages of the process, and the manu-
ufacture of the glass drawing-tubes requires trained workmen; but these difficulties are soon overcome in a large establish-
ment. In Switzerland, and a third is in process of equipment at Wolston, England. At present, the total production is about three hundred and thirty pounds per day, and the silk finds a ready sale at two dollars a pound, or less. It is very light, the finest fibres measuring more than sixty miles in length to the pound.
THE AMERICAN ARCHITECT AND BUILDING NEWS.

OCTOBER 22, 1888.

PARKWAYS AND BOULEVARDS IN AMERICAN CITY PLANNING

The great parkway and boulevard systems of Boston offer the most complete and comprehensive examples of meeting the problems of metropolitan development on broad lines of public and private convenience yet realized by an American city. They provide pleasant routes to and from the various sections of the city, form agreeable approaches to the city in various directions, facilitate quick transit by electric railways, and furnish great trunk routes for vehicular transit that will gain enormously increased importance with the approaching era of the motor-carriage. These thoroughfares may be divided into two main classes: those that were laid out primarily with reference to their use for pleasure purposes, and those whose main object is the accommodation of general traffic, but which have been given a parkway character through the enhanced facilities both in their facilitation of rapid transit and in their subsidiary use for pleasure purposes.

The great Boston and Brookline Parkway is a unique example of the picturesque type of parkway and is one of the masterpieces of the urban parkway characters of the United States. It is a part of the magnificent tract where, in the Arnold Arboretum, a great scientific and formal urban conditions to the purely rural scenery of Somerville to two entrances of the Middlesex Fells, in Malden and Medford, respectively. This parkway, mainly formal in character and partly picturesque, forms a great trunk thoroughfare for a large part of the north metropolitan pleasure-way. The plan provides for connecting them with the urban centres of Medford, Somerville, and Winchester along the shore of the beautiful Mystic Lakes and to their use for pleasure purposes, and those whose main object is the accommodation of general traffic, but which have been given a parkway character through the enhanced facilities both in their facilitation of rapid transit and in their subsidiary use for pleasure purposes.

The great Boston and Brookline Parkway is a unique example of the picturesque type of parkway and is one of the masterpieces of the urban parkway characters of the United States. It is a part of the magnificent tract where, in the Arnold Arboretum, a great scientific and formal urban conditions to the purely rural scenery of Somerville to two entrances of the Middlesex Fells, in Malden and Medford, respectively. This parkway, mainly formal in character and partly picturesque, forms a great trunk thoroughfare for a large part of the north metropolitan pleasure-way. The plan provides for connecting them with the urban centres of Medford, Somerville, and Winchester along the shore of the beautiful Mystic Lakes and to their use for pleasure purposes, and those whose main object is the accommodation of general traffic, but which have been given a parkway character through the enhanced facilities both in their facilitation of rapid transit and in their subsidiary use for pleasure purposes.
made possible by the existence here of large country-seats since the close of the war days. Studies for the continuation of this Mystic Valley Parkway call for its connection with Middlesex Fells, its ex- tension southward to connect with the river through the connecting line across the Charles River and a union with the Boston municipal system by way of Fresh Pond in Cambridge.

The improvement of the Neponset River valley comes next in order. The Neponset is a beautiful stream, with a distinct character of its own. A portion of the river-banks has been acquired, and the studies made call for some form of parkway route along the river from Hyde Park through Milton and Boston to Dorchester Bay and the Quincy shore, where several miles of the sea-front are intended for a waterside drive. The exigencies of the case do not call for the realization of the entire improvement at so early a day as that of the other two rivers, and the matter may rest for some years with the acquisition of the necessary lands.

Besides the parkways and pure streets, Boston has a system of great avenues that have been planned with reference to both ordi- nary traffic and properly arranged for parks. Park Street from its junction with Commonwealth Avenue to the Chestnut Hill Reservoir furnished the pioneer example in this class. The street is thoroughly adapted to a secondary highway to a minor avenue of the boulevard type, with two roads, one narrow, for local use, and the other broad, together with a saddle-path of soft gravel, joining a similar path in the Boston and Brookline Parkway. Between the two roads is a planted space, shaded by trees and with electrified rails for street cars, and this has been extremely adopted in other parts of the country. The road-bed of similar character is not of equal value to the eye but adds to the comfort of electric-car transit by deadening noise and preventing dust, while permitting greatly accelerated speed.

Subsequently, the continuation of Commonwealth Avenue to the Chestnut Hill Reservoir to give a similar character, barring the saddle-path. Commonwealth Avenue has been extended from the Reservoir, on the same plan, through the City of Newton to the Chestnut Hill Avenue of that municipality. From the Public Garden to the river Commonwealth Avenue has a length of nine miles.

Huntington Avenue, from Copley Square nearly to Brookline, has also been reconstructed upon a similar plan. This avenue originally had broad planted spaces, with terraces, between the sidewalks and the road, but these proved not to be impracticable in an urban thorough- fare largely devoted to traffic and destined to business occupancy at a great rental. The present plan is therefore to change the centre of the avenue, with car-tracks laid in the turf, greatly to the advantage of an important transit route. This avenue is mostly paved with asphalt. The extension of this boulevard improve- ment to the Chestnut Hill Reservoir, along the line of Boylston Street in nonexistent, is, in some degree, making the third great avenue of the kind coming together at the Reservoir.

To the same system of boulevards belongs Columbia Road and Blue Hill Avenue, already considered in connection with the more strictly parkways routes. Metropolitan Boston has thus a remark- able group of Scioto plazas and pleasure-grounds on all sides from the more densely populated centre. Some of the most important of these squares are adapted to ordinary traffic uses and also facilitate local transit by electric-car routes to a very considerable material extent. In this system should also be included the marginal pleasure-grounds or avenues of Back Bay and the Quincy shingle flats, and likewise the transverse route presented by Massachusetts Avenue, running across Boston from Dorchester Five Corners to the Charles River. It should also be noted that Newton has adopted an admirable policy in utilizing, so far as practicable, the courses of the minor streams within its limits by taking advantage of the lines of natural surface-drainage thus presented. The banks of the watercourses are treated in a picturesque manner with trees, shrubbery and turf, and on either side roads are laid out. The abutting lands are thereby made desirable for residential purposes and the municipali- ty secures the necessary lines of surface-drainage at low construc- tion cost. Two tributaries of the Charles River—Chester-Cake Brook and the Neck River—have been converted into parkways through the Metropolitan District from Dedham down, something like half of which has already been acquired; and the Neck River is about to be turned into service as a water-park- way. The estimate, however, is based on estimates of routes and not on that of roads; including neither the length of double roads in the parkways and boulevards, nor the connecting-roads through public parks. Neither does it include the total length of roads in the picturesque character of the line itself, through Back Bay and the Boston and Brookline system. The grand total would be increased to consid- erably more than a hundred miles by including various lines that are considered only as the continuation and completion of existing and determined routes.

SYLVESTER BAXTER.

[To be continued.]
architect, so that I felt that I could follow his mental processes in designing it. I also found that making full-size working drawings of Roman and Italian architecture, the understanding of the actual work in terms of working-drawings will prove, I hope, of great assistance to me in my work as a practical architect.

In April I went to Naples and from there to Sicily. I had of course planned to go to Greece, but the war with Turkey came at the last moment and prevented me from going. On my return to Paris and Italy, notwithstanding the possibility of being blocked out by the "Powers," it would be very unwise of me to do anything. However, I was overtaken by events, and there was a crisis in my country. I was quite in the regular line. I tried to study planning especially, and the relations of the parts to the whole in the Italian Renaissance. When I did not think accurate information necessary, or where it could not be obtained, I was content with such a work as seemed to me desirable to know about accurately, and my practice was to make measured surveys and full notes of such work as seemed to me desirable to know about accurately; I spent several months in Rome, one month in Perugia, six weeks, in all, in general my practice was to make measured surveys and full notes of such work as seemed to me desirable to know about accurately, and my practice was to make measured surveys and full notes of such work as seemed to me desirable to know about accurately; in the same way, and from the visible artistic manifestations, I found some very interesting material in the reliefs and marbles of the process of Mino da Fiore and I was able to measure and record them and in Florence, quite a number of them. They represent in a very interesting phase of the artis- tocratic and sequestered period in Florence. Stopping a day at Cortona and getting there a most delightful and characteristic impression of the Umbrian valley, I stayed among the Umbrians, looking for, and visiting the galleries, and then went north to Pietroja, Bologna, Ravenna, Ferrara and then to Venice. I have not yet lost the feeling of keen delight which the coral and well repays careful study. A great part of its charm lies in the color, which, incredibly rich in its present faded state, would be almost unbelievable. Returning from Palermo to Naples, I spent several months in that beautiful city, and then went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable. Returning from Palermo to Naples, I spent several months there, and from there I went to Rome, where I was most anxious to visit. Sicily with its grandeur and its charm, its magnificent monuments and its wonderful landscape, would be almost unbelievable.
of the merchants, the authorities, and the insurance offices. Does one not see anomalous?
The principle of construction, i.e., that of light lattice ironwork, was adopted practically in the whole of the warehouses built at the time by the great Warehouse Company, which had leased the ground from the Hamburg authorities, and carried out the work under the direction of its Hanseatic architect. Irrespective of the same method and the ironwork that were employed in the various private warehouses built at the time.

To obtain some idea of the extent to which this method was adopted, I would add, that in those warehouses the being like 33,989 square metres of grounds were covered with warehouse buildings in this district, giving a superficial area of 43,000 square metres. The section of Figure 66, which I have shown explains the methods of construction adopted, but Figures 74 and 75, showing to a larger scale sections through a block and Figures 76, giving section of flooring, explain more plainly the method in which the girder and the lattice work stand in combination.

The area of the warehouse district is somewhat irregular, and this naturally prevented the identical repetition of any one warehouse design. But it was observed that the same principle and the same arrangement were employed in the various warehouses. This uniformity in principle is also observable in plan; thus the staircases, though mostly inclosed in brick walls, are uniformly so placed as, on the one hand, to be a collapse, and, on the other, to afford the fire to get through from one block to another, should by any mischance the protective doors be open, or the doors themselves give way. No consideration has been given to the fact that the fireman should be able to attack a warehouse fire from two points of view. Thus, after the blame was discovered in one staircase, it was allowed in two for important blocks, such as in the case in most of the Hamburg warehouses. We have cases at Hamburg, where one staircase has on the one side a warehouse of 40 metres' frontage, or over 120 feet, and on the other a warehouse with 30 metres' frontage, or over 90 feet. The distance between these two warehouses floor were supposed to be by a party-wall, the staircase, with its flights only about 3 feet wide, almost invites a fire breaking out in one warehouse to jump across, thus allowing of a spread to the neigh-

A combined risk of something close on to 250 feet frontage, with a height of perhaps 75 feet, is a very considerable one, and one which also would lead to the destruction of further adjoining property should, by any mischance, the Hamburg Fire-brigade be prevented, for any reason, from entering the warehouse, in the case of a fire.

But, as I have said, so far the Hamburg Fire-brigade has always been able to attend promptly in good fires with its large number of fireboats, besides its ordinary equipment of steam fire-engines; and it has, further, had the advantage of a high-pressure water-supply. In other words, what with the position of these warehouses and the means at the disposal of the fire-brigade, the risk is considerably lessened. But to repeat, given the same buildings in the metropolis, we could not expect no more from them than we could of the warehouses in the Hamburg warehouses. We have cases at Hamburg, where one staircase has on the one side a warehouse of 40 metres' frontage, or over 120 feet, and on the other a warehouse with 30 metres' frontage, or over 90 feet. The distance between these two warehouses floor were supposed to be by a party-wall, the staircase, with its flights only about 3 feet wide, almost invites a fire breaking out in one warehouse to jump across, thus allowing of a spread to the neigh-

A combined risk of something close on to 250 feet frontage, with a height of perhaps 75 feet, is a very considerable one, and one which also would lead to the destruction of further adjoining property should, by any mischance, the Hamburg Fire-brigade be prevented, for any reason, from entering the warehouse, in the case of a fire.

But, as I have said, so far the Hamburg Fire-brigade has always been able to attend promptly in good fires with its large number of fireboats, besides its ordinary equipment of steam fire-engines; and it has, further, had the advantage of a high-pressure water-supply. In other words, what with the position of these warehouses and the means at the disposal of the fire-brigade, the risk is considerably lessened. But to repeat, given the same buildings in the metropolis, we could not expect no more from them than we could of the warehouses in the Hamburg warehouses. We have cases at Hamburg, where one staircase has on the one side a warehouse of 40 metres' frontage, or over 120 feet, and on the other a warehouse with 30 metres' frontage, or over 90 feet. The distance between these two warehouses floor were supposed to be by a party-wall, the staircase, with its flights only about 3 feet wide, almost invites a fire breaking out in one warehouse to jump across, thus allowing of a spread to the neigh-

A combined risk of something close on to 250 feet frontage, with a height of perhaps 75 feet, is a very considerable one, and one which also would lead to the destruction of further adjoining property should, by any mischance, the Hamburg Fire-brigade be prevented, for any reason, from entering the warehouse, in the case of a fire.

But, as I have said, so far the Hamburg Fire-brigade has always been able to attend promptly in good fires with its large number of fireboats, besides its ordinary equipment of steam fire-engines; and it has, further, had the advantage of a high-pressure water-supply. In other words, what with the position of these warehouses and the means at the disposal of the fire-brigade, the risk is considerably lessened. But to repeat, given the same buildings in the metropolis, we could not expect no more from them than we could of the warehouses in the Hamburg warehouses. We have cases at Hamburg, where one staircase has on the one side a warehouse of 40 metres' frontage, or over 120 feet, and on the other a warehouse with 30 metres' frontage, or over 90 feet. The distance between these two warehouses floor were supposed to be by a party-wall, the staircase, with its flights only about 3 feet wide, almost invites a fire breaking out in one warehouse to jump across, thus allowing of a spread to the neigh-

A combined risk of something close on to 250 feet frontage, with a height of perhaps 75 feet, is a very considerable one, and one which also would lead to the destruction of further adjoining property should, by any mischance, the Hamburg Fire-brigade be prevented, for any reason, from entering the warehouse, in the case of a fire.

But, as I have said, so far the Hamburg Fire-brigade has always been able to attend promptly in good fires with its large number of fireboats, besides its ordinary equipment of steam fire-engines; and it has, further, had the advantage of a high-pressure water-supply. In other words, what with the position of these warehouses and the means at the disposal of the fire-brigade, the risk is considerably lessened. But to repeat, given the same buildings in the metropolis, we could not expect no more from them than we could of the warehouses in the Hamburg warehouses. We have cases at Hamburg, where one staircase has on the one side a warehouse of 40 metres' frontage, or over 120 feet, and on the other a warehouse with 30 metres' frontage, or over 90 feet. The distance between these two warehouses floor were supposed to be by a party-wall, the staircase, with its flights only about 3 feet wide, almost invites a fire breaking out in one warehouse to jump across, thus allowing of a spread to the neigh-

A combined risk of something close on to 250 feet frontage, with a height of perhaps 75 feet, is a very considerable one, and one which also would lead to the destruction of further adjoining property should, by any mischance, the Hamburg Fire-brigade be prevented, for any reason, from entering the warehouse, in the case of a fire.

But, as I have said, so far the Hamburg Fire-brigade has always been able to attend promptly in good fires with its large number of fireboats, besides its ordinary equipment of steam fire-engines; and it has, further, had the advantage of a high-pressure water-supply.
PILE-RINGS AND METHOD OF PROTECTING PILE-HEADS IN DRIVING.

committee of the Association of Railway Superintendents of Bridges and Buildings makes the following report on Pile-Rings and Method of Protecting Pile-Heads in Driving:

First. — We find that the best way to protect the pile-head is to use a 4' x 14" ring, made out of the best iron that can be obtained at the place where used. We recommend, where a railroad company have a steam-hammer in their shops, that they make their pile-rings out of hammered-iron from old car-axles. The cost of a 1' x 3" — 14" diameter ring is $1.75, while the same size ring made out of best bar-iron costs $2.00. A pile-ring made out of hammer-iron will last to drive 75 oak piles and at least 360 cedar piles. The rings made out of best bar-iron usually last to drive 50 oak piles and 200 cedar piles; in fact, one of your committee had 50 pile-rings made out of old car-axles four years ago, and since that time has driven 250 oak piles and 6,000 cedar piles without any renewal of pile-rings.

A pile-driver should carry on the tool-car 50 pile-rings, 10 pile-rings 15', 30 — 14", 10 — 13½", and 10 — 13" in diameter.

The 14" diameter are the ones most used, 14" being the width of caps used by most roads. It is not necessary to have the pile-head larger in diameter than the cap is wide.

Second. — In fitting the pile-ring, the pile should be neatly shammed off square; the pile should be neatly chamfered down at least 5' from the end, so the ring will just catch on and let the pile-hammer do the rest. This is a little hard on rings, but in this way you are sure to get a fair fit of the ring and the pile-head is best protected. The pile should be kept to a depth of 1½" in the centre, and run out to nothing 2' from outside of the hammer. If the pile-ring is not driven very tightly over the edge of the ring and a neat fit at the hammer, and if the piles are kept exactly under the hammer there is very little danger in fracturing the pile. The best way is to use old arch-bar iron, welding four pieces together and making it out of best bar-iron. The height of the blow should not exceed 1½" in driving cedar piles, and 2½" in driving oak piles. It will be found that strong quick blows will drive the pile as quickly as long blows, and are less liable to injure the pile. The pile should be neatly prepared before driving in; the knots should be neatly trimmed off, and the pile sharpened to a 4" square point for hard driving, the point to be made as much lighter with the pile than the pile-ring.

Third. — We find that the best weight of a pile-hammer is 3,300 pounds. A pile-hammer 3,300 pounds is strong enough to drive 20' in length, and with the patent cap they will not need to be over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work. The ring head should be kept exactly under the hammer, and not over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.

The best weight of a pile-hammer is 3,300 pounds. A pile-hammer 3,300 pounds is strong enough to drive 20' in length, and with the patent cap they will not need to be over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.

The ring head should be kept exactly under the hammer, and not over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.

The ring head should be kept exactly under the hammer, and not over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.

The ring head should be kept exactly under the hammer, and not over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.

The ring head should be kept exactly under the hammer, and not over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.

The ring head should be kept exactly under the hammer, and not over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.

The ring head should be kept exactly under the hammer, and not over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.

The ring head should be kept exactly under the hammer, and not over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.

The ring head should be kept exactly under the hammer, and not over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.

The ring head should be kept exactly under the hammer, and not over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.

The ring head should be kept exactly under the hammer, and not over-driven. When a pile does not go over 1" at a fall of 10' with a 3,300-pound hammer, the blow should be shortened to 6', and the pile carefully driven until it stops going or driven down 2" over 1' below the surface. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work.
eral only works in a very half-hearted way till the breakfast hour. That a workman coming in cold, sleepy, and hungry at 6 a.M. in gen-
and following every break, so that it is advantageous to reduce the
image. We have known men retire morning and in our own experience we have known men retire morning.
serious matter, as the earning power is correspondingly diminished,
man per annum is more than with the old system, and the production
sity, the ten-hour day is in vogue, which suffices to prove that it is not
the turpentine merchant," says a writer of forestry, "in whose wake
receipt it later. distilled in its turn furnishes wood-vinegar, creosote,
other buildings in Teckcham are built of very light wooden material.
was given twelve months to remove his buildings and belongings.
other buildings in Teckcham are built of very light wooden material.
several thousand apartments large and small. A corridor, about 1,000 feet long, joins the Palace to the build-
called "Belvedere," which serves as a museum. About half-way up
the Vatican. — The assemblage of buildings called by the name of
it contains 280,000 volumes and 21,000 MVS, of which 10,000 are in
3,000 in the Oriental languages. Partial catalogues of many of the books, in Latin, French, and
Marinai, Mai, and other librarians. The museum or collection of works of art comprises the pictures of Raphael, Thomas
THE PORT OF HAMBURG.

WAREHOUSES AS CONSTRUCTED IN 1897.
WAREHOUSES AT HAMBURG CONSTRUCTED IN 1897. HERZ GUSTAV SCHRADER, ARCHITECT.
DESIGN FOR PEOPLES BANK
BROADWAY AND GREENE AV.
BROOKLYN, N.Y.
St. Paul's Ev. Lutheran Church
East 156th St. - N.Y. City

Dodge & Morrison
Architects
46 Wall St. - N.Y. City
DESIGN FOR THE PEOPLE'S BANK, BROOKLYN, N. Y.

J. J. Glover AND H. C. Carrell, Architects.