

THE ILLINOIS STATE BUILDING AT THE WORLD'S FAIR.

The Illinois State Building at the World's Fair will be located at Jackson Park, near where the boat house now stands on the artificial lake. A broad channel is to be extended from the southeast portion of the park to this lake, and the Illinois building is to front this waterway.

The structure is to be placed on a terrace four or five feet high, and in front of the entrances there will be stone terraces with railings, statues, and stone steps leading down to the roadway. The main features will be the terraces north and south, the south more important of the two, as from this point may be viewed the panorama of all the magnificent fair buildings, as well as the waterway.

The building is to be embellished with fine carving and statuary, the material to be cast blocks of some approved composition. It is to be thoroughly lighted, first from the side windows, which are placed about fourteen feet above the floor to permit cases to be placed against the walls; second, with skylights placed in the flat roof of the side aisles; and, third, with continuous skylights on the ridge of a pitched roof or nave. Ventilation is provided for through windows placed a story above the flat aisle roof and the foot of the sloping roof over the nave.

Coal Tar Pitch.

At a recent meeting of New England Association of Gas Engineers, held at Boston, Mass., Mr. G. Shepard Page, of New York, said that many companies in the United States are receiving for the tar and ammonia almost the entire cost of the coal they are carbonizing. As much as \$1.50 per ton of coal carbonized is being received by some companies in the West, and I think by some three, four or five companies, and perhaps more, in the East, for the tar alone.

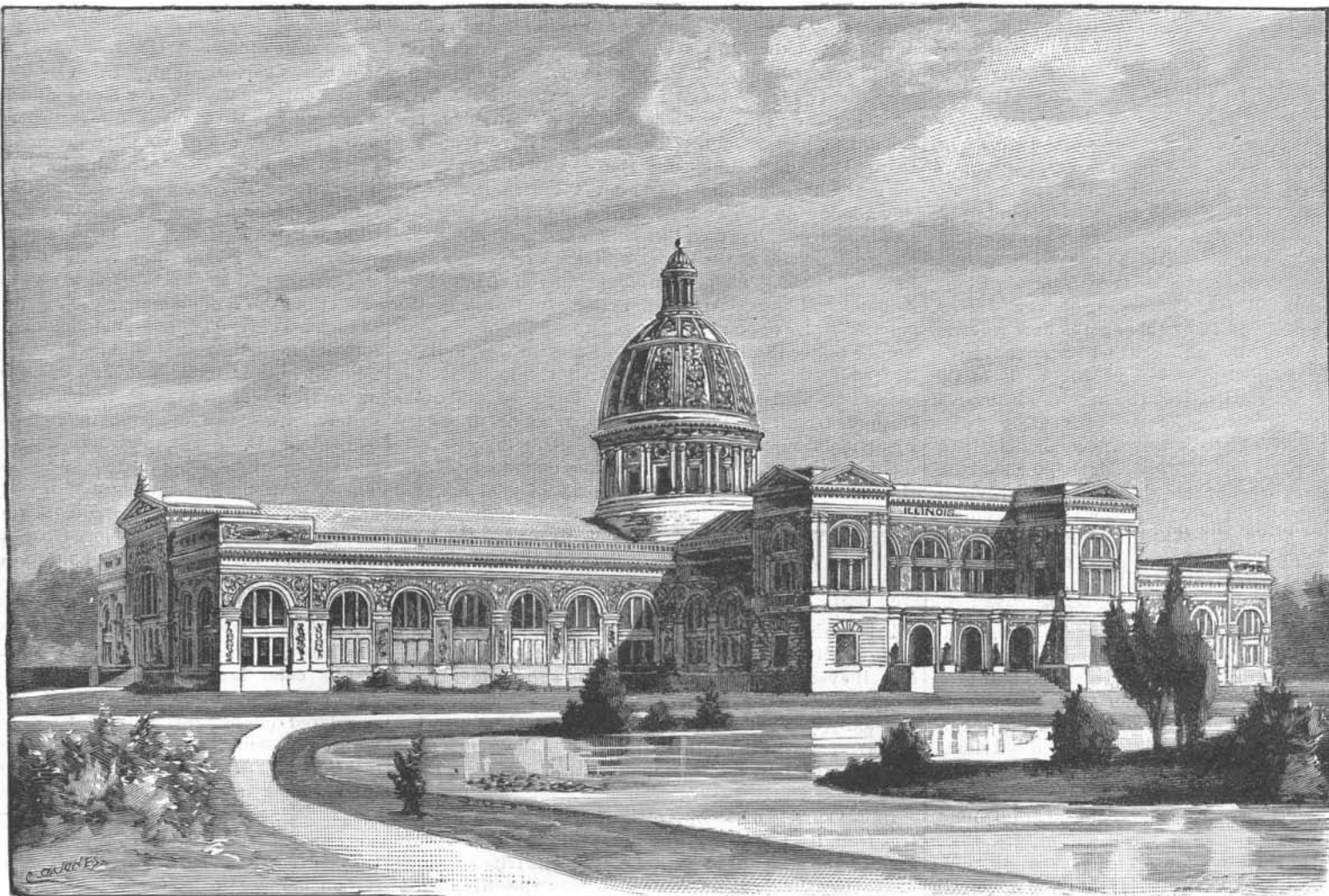
While there has not been anywhere near this advance in value of the ammoniacal liquor, yet certainly a company that has not received twenty cents per ton of coal carbonized is not getting what the ammonia in the coal, if it is all properly obtained in commercial form, should bring them. The value of ammonia, however, is limited, and will continue to be limited, by the foreign market price of sulphate of ammonia. That can be laid down here for simply the commission, the freight, and the import duty from the other side, at a figure not far from $3\frac{1}{4}$ cents per pound. That, therefore, fixes beyond any question the value of the ammoniacal liquor.

The cause of the advance in coal tar is due, first, to the larger percentage of gas making by the water gas process; and, second, to the enormous advance and increase in consumption of coal tar products. There

exists in our own coal tar, and which is required here by our dyers. Works will unquestionably be established.

Another great industry is becoming well established in the United States—the creosoting of wood for preservation from decay, and destruction by the marine worm. At the present time $\frac{1}{8}$ of the heavy oil of coal tar is used for wood preservation, and large quantities are being imported from the other side. Creosote oil is being shipped from London, around Cape Horn, for use on the Pacific Coast.

The use of the liquid or semi-fluid coal tar for stone pavements which have become so general—putting it in the crevices between the blocks to cement gravel—induces a very large consumption of tar, and in many of the concrete pavements coal tar is used. I know of one company, east of Boston, whose coal tar is going west to Chicago, to be used almost exclusively for that purpose. The consumption of tarred paper, under slate roofs and under weatherboarding, and in a thousand different ways, requires an enormous quantity of coal tar for saturation. Coal tar is being carried 1,200 miles in tank cars, and then used for saturating paper, finding its market then in the West. In the manufacture of the two-ply and the three-ply roofing, two layers of tarred paper are caused to adhere by using melted pitch. It is an entirely new industry within the past



APPROVED DESIGN FOR THE ILLINOIS STATE BUILDING AT THE WORLD'S FAIR.

There will be three entrances—the prominent one to the south, one to the west facing the Midway Plaisance, and the other on the north end of the Memorial Hall, from the boat landing or the edge of the lagoon.

The building in the main is 160 feet wide by 450 feet long, with the school house, about 75×60 feet, taken out of the east end and within the building. The dome will be seventy-two feet in diameter and about 200 feet high, with a lookout about 80 feet high and another in the lantern about 175 feet high. The side walls are 47 feet high, while the center wing on the south will be 72 feet high, and both ends 54 feet, with a still higher projection in the center.

On the north the Memorial Hall will form a wing 50×75 feet, while on the south will be placed the executive offices in a wing 75×123 feet, carried up three stories, with a public hall in the third story. In addition to these offices, there are to be others in each of the four corners for the departmental officers.—*The Graphic, Chicago.*

Launch of a Steel Steamer on Lake Michigan.

The launch of the Minnesota Steamship Co.'s steel steamer Marina took place March 14 from the yards of the Chicago Ship Building Company, at 101st Street and Calumet River. Every vessel in winter quarters in the vicinity of the yards carried its streamers of bunting. More than 8,000 people witnessed the launch. The Marina is the first steel vessel ever built on Lake Michigan. Her length is 308 feet, keel 292 feet 6 inches, beam 40 feet, and depth 24 feet 6 inches. Her keel was laid last July. The Marina is designed for the ore trade.

are already several establishments using pitch for making briquettes—the artificial fuel. There are large bodies of coal in the West and Southwest which when brought to the surface and exposed to the air very quickly become slack. They are very useful for steam purposes, and even for gas making, if they can be held in solid form. They can be put into that condition only by the use of coal tar pitch. Other materials can be used, but coal tar pitch is the best, because it will make steam when combined with the culm or slack. Several American railroads have erected artificial fuel plants; so that a demand has been created for a product which has heretofore been used to a very limited extent on this side; while on the other side nearly all the pitch that is made is used in that way. Certainly over 1,000,000 tons of pitch per annum are used in making fuel briquettes. Many of the railroads in Europe use almost exclusively fuel that is made in this way. They are thus able to utilize the slack, which they could do in no other way so advantageously. But all pitch that is being used for that purpose in this country is now being imported from Liverpool and London. No hard pitch is made here, because no anthracene is being produced here now. Furthermore, when distilling tar for pitch, it is difficult to “cut” it back with the oil and obtain a product that is durable for the uses to which most of the pitch is put here, and that is for gravel roofing. However, I am looking forward to a time when the anthracene and the alizarine business will be established here. I have no doubt it is to be located here. We will not continue to pay from five to six million dollars per year to England, France, Germany, Switzerland, and Belgium for a product which

seven or eight years, and it will continue to use increasing quantities of coal tar. It makes the cheapest roof that can be put upon a house. A large proportion of the roofing in the West, and even to a limited extent in the Eastern and Middle States, is made in that manner. A man can buy the two-ply or the three-ply paper, and five or ten gallons of the liquid cement (which is also coal tar with the lighter oil and a part of the heavy oil taken out), and he can find the gravel, or ashes, or cinders near by; and with a brush he can make a roof at a cost of from two to four cents per square foot, and one that will last from three to ten years. Therefore, that industry must continue. One of the largest uses of ammoniacal liquor is for artificial ice making. That industry was not born in this country, but it took root here earliest, and has now become of vast importance.

Cleaning Sheets of Wrought Iron, etc.

Wrought iron plates are pickled in hot dilute sulphuric acid in the ordinary way, commercial oil of vitriol diluted with 10 volumes of water being preferably used at a temperature of 200° F. The improvement consists in allowing the contents of the pickling tank when sufficiently concentrated to flow slowly through a long cooling channel and there deposit the greater part of the dissolved sulphate of iron, the mother-liquor passing into a vessel from which it is continually pumped back into the pickling tank, vitriol and water being added till it is of the proper strength. The process is continuous after being fairly started. Cylindrical pickling tanks are used for cleaning wire.—*E. P. Peyton, Birmingham.*