PAVILION OF THE REPUBLIC OF CHILI AT THE PARIS EXPOSITION OF 1889.

Since the opening of the preparatory period of the Universal Exposition of 1889, a large number of foreign countries, desirous of participating in it brilliantly by the erection of structures worthy of the part that they are to play, have decided to put their projects out to competition in order to utilize the capacity of the most renowned specialists, and, by skillful selection, reach as perfect results as possible. Among the most remarkable competitions may be mentioned the one opened by Chili for the erection of its pavilion. There were three French firms of builders who obtained the rewards offered by that republic, and, of these, Messrs. Moisant, Laurent, Savery & Co. obtained the first prize and were awarded the work.

The location accorded to the Chilian government consists of a quadrilateral of 65 by 80 feet, situated at the angle of the small park of the Champ de Mars to the right of the Eiffel tower with respect to a visitor standing upon the bank of the Seine and turning his back to the Trocadero.

The conditions of the competition were particularly severe, and, in order to show how they were carried out by the successful architects, we present herewith, from *Le Genie Civil*, a view of the front of the adopted plan

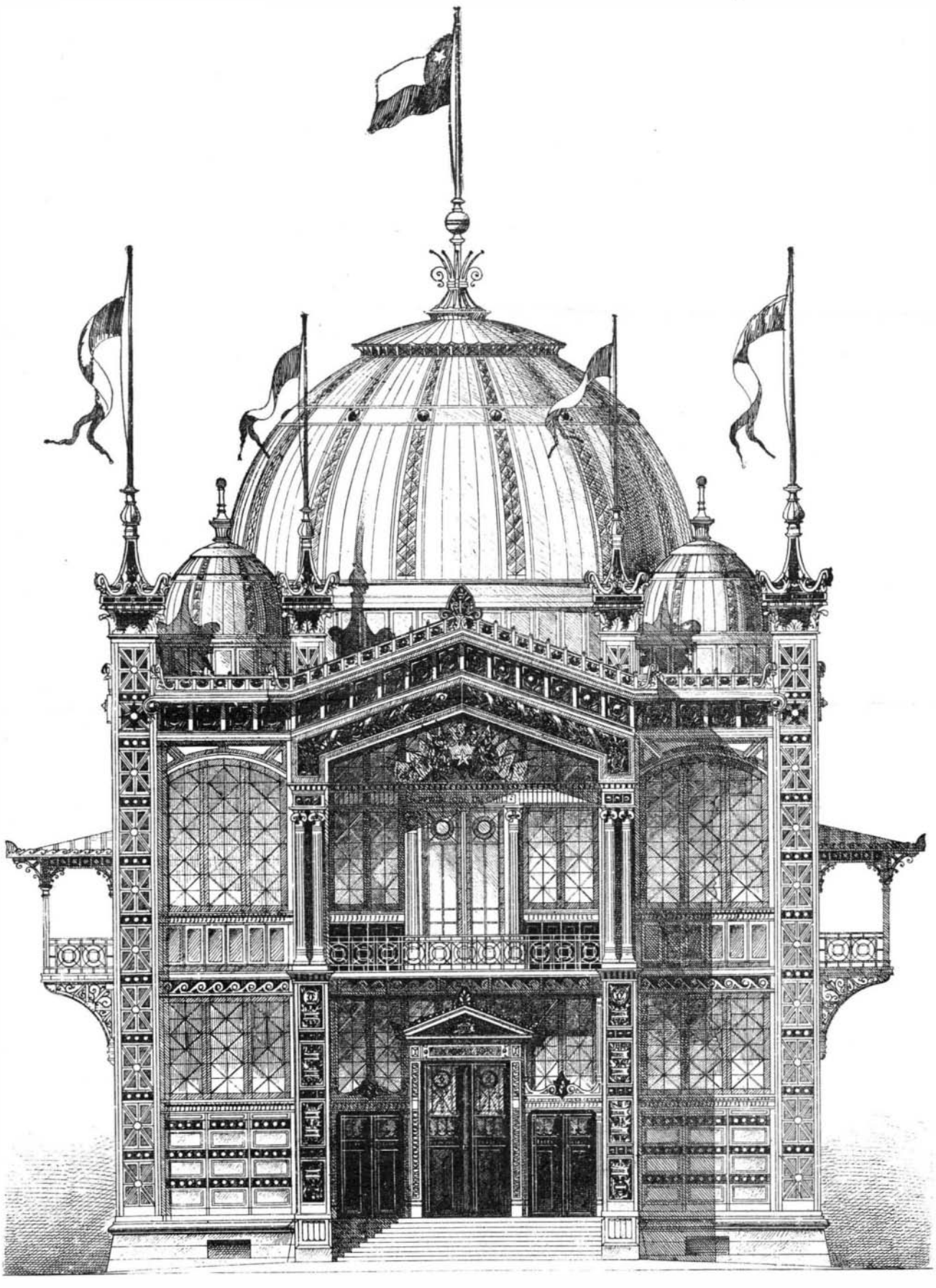
The building consists of a central structure surmounted by a dome and flanked by four rectangular towers, surmounted by small domes which are surrounded by decorative capitals placed upon the uprights of the towers, which themselves consist of metallic caissons whose faces are provided with terra cotta panels.

The entrance, which is formed of a projecting portico extending to the top of the building, gives the latter the truly monumental character required by the specifications. A flight of steps of the whole width of the portico leads to the peristyle upon which open the bays, giving direct access to the interior of the edifice. These bays are three in number, one large central one and two small ones all having folding doors to prevent entrance and exit from being impeded. The side opposite the entrance has a projection representing a large winter garden, intersected midway by a balcony communicating with the gallery of the first story. Balconies, in fact, exist on every side, for the portico likewise has one, as well as the sides of the pavilion, but these latter ones project from the facade, and each has a roof and supporting columns, giving it the aspect of a veranda.

In addition to iron, the use of which was made obligatory, and which the builders have used not only as a framework, but also for decorative purposes, in various parts of the edifice, the materials that enter into the structure are terra cotta, compressed beton, bricks, tiles, slabs of plaster, and wood, the latter in very small proportion and only where the use of it was indispensable. Naturally, all these materials are employed either in panels or in portions of very definite form, in order to render the taking down of the structure in France and its re-erection in Chili as rapid as possible.

In order to give the structure great stability, as well as great rigidity, and at the same time save material, the architects have made their framework double walled, with an intermediate space. This system has also the advantage of protecting the interior of the halls against the differences (often excessive) that the external temperature is subject to.

It is to be hoped the United States will not be backward in providing a suitable national pavilion. We believe no steps have yet been taken. If anything is to be done, it should have immediate attention.



PAVILION OF THE REPUBLIC OF CHILI AT THE PARIS EXPOSITION OF 1889.

Idaho Streams that Vanish.

One of the peculiar features of Idaho scenery is the frequent occurrence of dark rocky chasms and channels of lava into which streams and rivers plunge and are apparently forever lost.

These fissures are supposed to be old lava beds. The outside of the molten mass cooled and formed a roof, the fiery stream below became exhausted, leaving an empty chamber. A break in this roof having occurred, an opening was formed into which the river or stream now disappears, to reappear as a mysterious lake, basin or spring on some distant mountain or plain.

On the banks of the Snake River one of these streams reappears, gushing from a high cliff in a cataract to the waters below.

The Practical Limit of Speed.

The highest speed practically attainable in daily service with passenger trains has always been a point on which much discussion has been raised. The recent race between London and Edinburgh seems, however, to afford a tolerably complete solution of the problem. The official figures, giving the actual time and load for each day of the run, when analyzed, give the following average results for the London and Northwestern route from Aug. 6 to Aug. 31 inclusive. During this time the schedule time was 8 hours for the 400 miles, and the train arrived in Edinburgh ahead of schedule time on 22 days and was 37 minutes late on one day only, owing to a flue on the locomotive collapsing. With this exception, the running was remarkably regular, the trains arriving within 1 minute for 11 days in succession. The average speed for the whole period was a fraction over 50 miles per hour including stops, and slightly under 55 miles per hour excluding stops. The average time occupied in the three stops was 40 minutes, one stop being for dinner. The train consisted of four eight-wheel cars, with F. W. Webb's radiating axles. The cars were each 42 ft. long over bodies and weighed 42,500 lb. each. Three different classes of engines, weighing respectively 61,000, 76,000, and 94,000 lb. in working order, were employed on different portions of the route, the lightest engine running over the lightest grades. The minimum weight of engine, tender, and train was 287,000 lb. and the maximum 339,000 lb., the average being 305,000 lb. The grades varied considerably, the worst being one 9½ miles long averaging 67 ft. per mile, and another 4¼ miles long of 70 ft. per mile. The best performance over the section containing the former grade was 101 miles in 104 minutes (which was done on three occasions), and over the latter 90 miles in 90 minutes, in both cases from start to stop. The fastest run over the more level portion was 158 miles in 166 minutes, start to stop, or 14 minutes under schedule time. The feat appears to have been so easily performed that on the Northwestern it was not considered necessary to employ the compound engines, and the fast running was done with comparatively old engines of far less weight and power than the compounds, which were reserved for the heavier trains. These facts merely emphasize what has repeatedly been urged in these columns—the importance of good signals, which aid fast running far more effectually than heavy engines.

It will thus be seen that with a light train, stoppages averaging 100 miles apart, good permanent way, and somewhat severe grades on the northern portion of the journey, a speed of 50 miles per hour, including stops, was maintained with ease. This certainly marks a considerable advance on previous practice, and shows that where sufficient inducement offers, modern railroad appliances are capable of approaching very closely to the apparent limit of a mile a minute.—*Railroad Gazette.*