a subsidy of $7,500 per kilometer. This grant was revoked in 1882, owing to failure to complete the road in the time specified in the contract; only 35 kilometers being finished. The Government settled with the company, taking over all the property on the Isthmus, and paying $125,000 in Mexican silver dollars, and $1,500 in United States gold. The Republic then placed the making of the railroad in the hands of a Mexican citizen, Don Delfin Sanchez, with a subsidy of $25,000 per kilometer of road built; but the progress made was miserable, so this contract was abrogated also, on April 25th, 1888; the Government paying $562,910 for material furnished and work done; also, $170,225—the equivalent of contractor's profits. The Government—authorized by Congress to build the road,—issued 5 per cent. gold bonds, the total issue being $13,500,000, which were sold to a German syndicate of banks at 70 per cent. of their face value. With the finances all in good shape, a contract was made February 27th, 1892, with Messrs Stanhope, Hampson and Corthell (an American firm of railroad contractors) to spend the $2,000,000 which remained from the issue of bonds—in an attempt

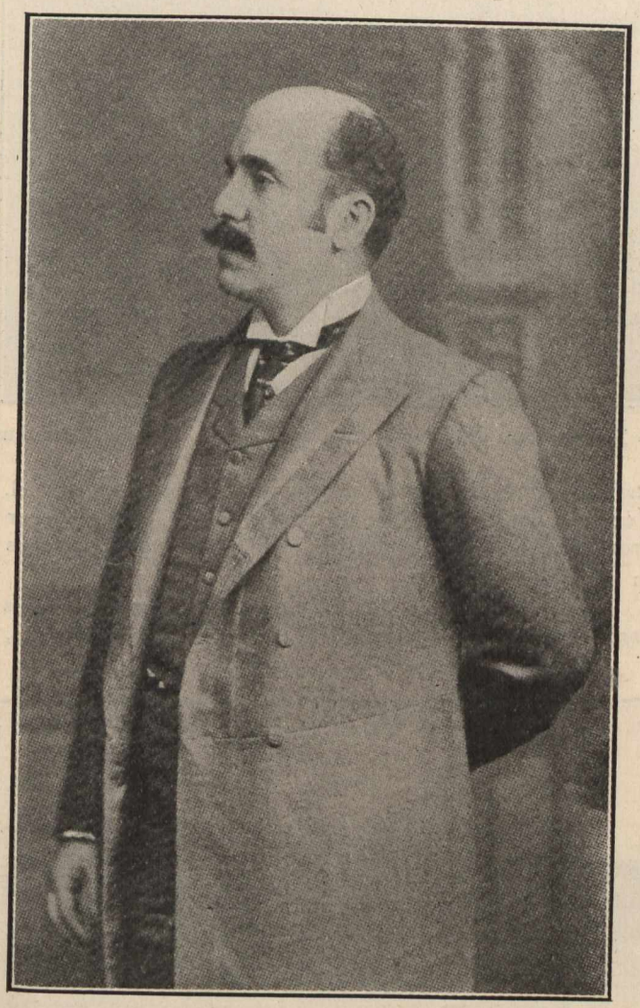

Fig. 2.—Sir Weetman D. Pearson, Bart., President of the Tehuantepec Railway of Mexico.

to unite the rails; for Learned had worked from the Atlantic, while Sanchez had started from the Pacific. By the year 1895 they had succeeded in closing the gap between the "ends of steel," and completed the railway right across the Isthmus, at a cost of $1,111,035.

It was soon found, however, that without terminal harbors of magnitude and proper appliances for handling heavy inter-oceanic traffic, the railroad would be a failure; hence the enterprizing Mexican Government, entered into a 51 years' partnership contract (dating from 1902), with a renowned firm of British contractors, viz., S. Pearson & Son, Limited, of London, for the complete reconstruction of the railway. Commenced in 1898, the work has now been practically completed, and the railroad is in active operation, transporting merchandise and the products of industry generally, across the narrow neck which connects North and South America.

Part Record of the Builders.

Prior to entering upon this great work, Messrs. Pearson, had executed for the Mexican Government a canal system for draining the valley of Mexico, and were at the time constructing a large harbor at Vera Cruz. Their successful building of the celebrated tunnel under the River Thames Blackwall, London, is one of the triumphs in constructive engineering, that men who take a pride in their profession, point out with pleasure to this day. And it is not to be wondered at, that the Pennsylvania Railroad Company—when they decided to connect their system at New York with Long Island City, by means of a series of 19-ft. subaqueous tunnels 3,900 feet long under the East River; probably the most formidable piece of underground engineering ever attempted by man—went out of the United States to England in 1904, and placed the contract in the hands of the engineers who have built the Tehuantepec Railway.

Geography, and Physical Conditions.

The Isthmus of Tehuantepec is situated in the southern part of the Republic of Mexico, in the States of Vera Cruz and Oaxaca. It is some 500 miles north, and 900 miles west of the Isthmus of Panama: geographically between 16° and 18° north latitude, and 94° and 95° longtitude west of Greenwich. The distance across from ocean to ocean as the crow flies, being about 125 miles; whereas the Panama Isthmus is only 45 miles. A noted topographical feature is, the comparatively level character of the land. The rise from the Atlantic or Gulf side is quite gradual, culminating in the Chivela Pass at a height of only 730 feet, from whence the descent to the Pacific is somewhat abrupt. This elevated land is part of the Sierra Madra Mountain range—an extension of the Rocky Mountains of the United States on one side, and of the Andes of South America on the other. This range which forms a rocky backbone to the continent, extending the whole length of the Mexican territory, with an altitude of from 5,000 to 8,000 feet, is here depressed to an altitude of only 924 feet above sea level. This gap of about 50 miles wide, and which marks the topographical boundaries of the Isthmus, is an instance of the manner in which Nature often co-operates with the designs of man.

Climate.

Although the Tehuantepec Isthmus is well within the Tropics, being in about the same parallel of latitude as Southern Arabia, and Southern India, hence might seem to indicate an extremely hot climate, it is in reality nothing near so torrid as we might reasonably expect; probably due to its location in such close proximity to the two oceans; but more especially to the fact that it lies within the gap between them, through which a light ozone breeze is constantly blowing, mitigating the tropic heat, and producing a mild, humid, agreeable climate.

While it is warm in the sun, it is always cool in the shade, the temperature in the three climatic zones, varying from 60° to 100° Fahrenheit. Observant travellers declare, that in this Isthmus as great a change of climate and native products may be obtained in a few hours trip, as would be possible in a journey of a thousand miles in any part of North America. The profile map, Fig. 3, shows that from the Gulf of Mexico to the top of the plateau or watershed where the second zone begins, the distance is not over 90 miles; across the summit of the pass it measures some 10 miles; and it is about 25 miles from the southern edge of the latter zone to the Pacific Ocean: a distance of 125 miles in all. If we were

Commercial Possibilities.

to look down from the wing of a heron in its flight over these three zones, we should see a wonderful difference in the character and color of the vegetation which marks each