

ridge to Panama, was surveyed in 1848. In 1850 the first clearance was made on the Island of Manzanilla, where Aspinwall now stands: in 1855 the road was opened from end to end. But the mortality which attended its construction through the morasses of the Atlantic coast was such that a life, it is said, was sacrificed to every pile driven into the treacherous bog. The cost of the road was nevertheless only \$7,407,553, somewhat under the average cost of a good English road of the same length, and not much more than the cost of the "Victoria Bridge," over the St. Lawrence at Montreal,—which was \$6,300,000.

Until the Union Pacific R. R. was built, which tapped the Californian and the Asiatic trade, and until, almost contemporaneously, the Pacific Steam Navigation Co. put on a line of boats to run direct from Peru and Chili to England by the straits of Magellan, and thus diverted from the Isthmus all the freight of the west coast of South America, south of Callao, the enterprise was remunerative, paying from 12–15 per cent. Unfortunately in order to maintain a monopoly of railroad traffic across the Isthmus, the Company obtained, just previous to the occurrence of the two above-mentioned untoward causes of decline, an extension of their privilege from the New Grenada Government, but on terms so onerous that the road is probably now returning small profits to its owners. Under the old contract the Company paid the Government, in return for the exclusive right of spanning the Isthmus by a road, for abolishing all custom dues, and for the large and useless land grant,  $3\frac{1}{2}$  per cent. of the net revenue. Under the new contract the Company pays a fixed sum of \$250,000, but the traffic has so fallen off that  $3\frac{1}{2}$  per cent. of the present receipts would now not much exceed \$18,000, or a little less than 7 per cent. of the stipulated tax. The road would have the Chinese freight, brought by the U. S. Pacific Mail

S. S. Company to San Francisco, and which would be sent by the same Company's boats to New York, via Panama, did not the Central and Union Pacific R. R. take it almost forcibly at San Francisco, by threatening to establish an opposition line to Japan unless allowed to carry the steamship company's through freight thence to the Atlantic. But, at any rate, Panama lies too far south of the circle that runs through Yokohama to expect to compete successfully with more northern roads. Yet the Isthmus road will never cease to be a line of great importance, for it carries to the west coast of South America the freight of no less than four lines of large Atlantic steamers, and carries back, to freight them on their return voyages, well nigh the whole of the productions of New Grenada, Ecuador, and the Isthmian Republics.

Another railroad, to be built across the Isthmus of Tehuantepec, is even less likely to obtain a share in the eastern trade than that of Panama, as the Atlantic terminus is so inaccessible, in the hollow of the Gulf of Mexico, and the Pacific terminus little better than an open roadstead.

But the next road, as we proceed northward, if built, will be a more formidable antagonist to rival competitors, viz.: the Texas and Pacific R. R. Before the Confederate war, it was proposed to build a road from sea to sea, in the almost tropical zone of Texas, New Mexico, Arizona and Lower California: where, beside enjoying freedom from severe frost and heavy snow, the road would have to ascend, in spanning the Rocky Mountains, a much lower and gentler slope than that which interrupts the Union Pacific. Before the war and since its close the rivalries of contending applicants have prevented the realization of the design: but last year, Congress passed an Act granting the necessary powers to the Texas and Pacific R. R. Company to build and equip a line of railway between the Mississippi valley and the Pacific coast, and, until the