

San Francisco, Oakland and Alameda, and the San Joaquin Valley railroads, which, together with the leased lines, make a total mileage operated by the company of two thousand and thirty-seven and one-half miles. The amount of stock subscribed in the Central Pacific Railroad Company of California is \$62,608,800, of which \$54,275,500 has been paid up. The receipts for the year ending June 30, 1877, from transportation of passengers, \$5,363,870.07; of freights, \$10,095,349.87; and from other sources, \$1,326,706.72; total \$16,985,926.66. The operating expenses for the year were \$8,326,614.21, leaving net earnings to the amount of \$8,659,312.45, the proportion of operating expenses to gross receipts being forty-nine per cent. The indebtedness of the company at the close of said year amounted to \$91,953,224.16, of which there is due to the United States \$27,855,680. The value of the road, including its lands, steamers, rolling stock, machine shops, and all appurtenances, is estimated at \$185,047,754.38. During the year ten passenger cars have been converted into sleeping cars, and other additions to rolling stock as follows: Eleven second-class passenger cars, four hundred and twenty-seven box freight, and two hundred and sixteen platform cars. The number of first-class passenger cars is one hundred and five; second-class, eighty-three; sleeping cars, forty-one; baggage, express, and mail, thirty-nine; caboose, seventy-three; box freight, two thousand five hundred and fifty-one; and platform cars, one thousand seven hundred and eleven—making a total of four thousand six hundred and three cars on the road.

THE SOUTHERN PACIFIC RAILROAD Co. is a consolidation (April 12, 1870) of the following companies: Southern Pacific, chartered December 2, 1865; San Francisco and San Jose, chartered April 7, 1870; Santa Clara and Pajaro Valley, chartered January 2, 1868; and California Southern, chartered January 22, 1870.

The Southern Pacific Branch Railroad Co., chartered December 23, 1872, was consolidated in the Southern Pacific August 19, 1873; and the Los Angeles and San Pedro Railroad Co., chartered February 18, 1868, was consolidated therein December 18, 1874. The total length of all these lines forming the Southern Pacific Railroad, as now constructed and in progress, is one thousand two hundred and twenty-three and one-quarter miles.

By the Act of Congress passed March 3, 1871, to incorporate the Texas and Pacific Railroad Co., the Southern Pacific Railroad Co. was authorized to connect with the latter road at Fort Yuma, so as to provide a through line to San Francisco, public lands being granted in aid thereof. At the last session of Congress, a bill amending the former, and allowing the Southern Pacific Railroad Co. to continue its line eastward, across Arizona and New Mexico, about five hundred miles, to a point one hundred miles west of El Paso, and fixing that as the point of junction of the two roads, was reported, each company to acquire the lands and franchises for so much as it constructed. The bill also proposed a guarantee by the United States of the interest on the five per cent. bonds of the companies, at the rate of \$35,000 per mile, for the term of fifty years. Final action is yet to be taken upon it. In the meantime, to complete at the earliest practicable day the through connection by the thirty-second parallel, the Southern Pacific Railroad Co. has obtained legislative authority from Arizona to construct its road through that Territory.

The last rail connecting Los Angeles and San Francisco was laid September 2, 1876. In the construction of this road great engineering difficulties were encountered, and at the Tehachapi Pass, where the Coast Range and the Sierra Madre form a junction, there are seventeen tunnels in less than nineteen miles, the aggregate length thereof being seven thousand six hundred and eighty-three and three-quarters feet; and at San Fernando there is a single tunnel in length six thousand nine hundred and sixty-six and one-half feet. These tunnels, at the bottom, are fourteen feet in the clear, and sixteen and one-half feet in excavation, and in height twenty-two feet, the shoulders at the springing of the arch being eighteen feet four inches above the floor. The work on the San Fernando tunnel was commenced March 27, 1875; the headings met July 14, 1876; and the timbering was completed August 9, 1876. It is built on a slope of thirty-seven feet to the mile.

The road was opened to Fort Yuma (seven hundred and twenty miles distant from San Francisco, via Lathrop and Goshen) on May 5, 1877. The Sierra Nevada Range is crossed at an elevation of two thousand nine hundred and sixty-four feet above tide; the Sierra Madre at Alpina, at two thousand eight hundred and twenty-two feet; and the Sierra Madre recrossed at San Geronio Pass, at two thousand five hundred and sixty feet above tide. The Company also own and run a line of steamers to points on the Colorado River, viz: Castle Dome, thirty-five miles; Ehrenberg, one hundred and twenty-five miles; Aubrey Landing, two hundred and twenty miles; Chimahueris Ranch, two hundred and forty miles; Camp Mohave, three hundred miles; and Hardyville, three hundred and twelve miles from Yuma.

Under the Acts of Congress approved July 27, 1866, and March 3, 1871, the Southern Pacific Railroad Co. acquired the right of way (two hundred feet wide) through the public lands, and twenty alternate sections for each mile of road completed and equipped. These grants cover about nine hundred and thirty-two miles.

The mileage of this Company in operation January 1, 1878, was as follows: From San Francisco to Tres Pinos, one hundred and fifty one-hundredths miles; Caruadero Junction to Soledad, sixty and forty one-hundredths miles; Huron to Colorado River, five hundred and twenty-eight and eighty one-hundredths miles; and from Los Angeles to Wilmington, twenty-