

and substantial character of the works and the heavy rails and materials used, account also for the rest of the outlay upon what is often erroneously regarded as a single line. Deducting the exceptional expense above described, which cannot be taken at less than £4,000,000, the cost per mile of single line would amount to \$12,250. A comparison between the circumstances of India now and 20 years ago, the greater knowledge and experience which have been gained in the interval, and the practice at present in vogue of carrying out railway works on a light system, will help to explain the difference between the cost of the lines originally undertaken and those now being executed. The recent examples of the Wudwan and Patree branches in Western India encourage the expectation that in districts tolerably easy for railway operations, even with the 5ft. 6in. gauge, single lines may be constructed at a cost of from £6,000 to £3,500 a mile." The revenue derived from the railways during the past year was slightly in excess of the previous year, but the increase is not sufficient to reduce by any appreciable amount the difference between the net earnings and the sum paid for guaranteed interest, which is this year of course, greater than last year. In 1872 the revenue was £2,869,223. In 1871 it was \$2,686,250. In 1872 the gross receipts were £6,351,617, and the expenditure amounted to £3,482,394. In the previous year the gross receipts were £6,146,130, and the expenditure £3,459,870. The passenger and miscellaneous receipts in 1872 were \$2,387,003, compared with £2,120,821 in 1871. The goods receipts were £3,964,614 in 1872, and £4,025,309 in 1871. The guaranteed interest advanced by the Government during the year 1872 amounted to £4,600,883, so that a sum of £1,734,000 had to be charged upon the revenues of the country. Last year there was a similar charge of £1,740,720. "Although," says Mr. Danvers, "such a result was expected at the commencement of the year, it is no less to be deplored. But it should be borne in mind that some of the guaranteed capital has been raised for and expended upon lines which are not completed or open for traffic. A sum of £6,000,000 may in this way be regarded as unremunerative, so that about £300,000 may be properly deducted from the deficit when it is referred to as illustrating the deficiencies of the present railway system. The last few years are not, it is hoped, a fair criterion of the future. The fluctuations of trade will, no doubt, always produce corresponding effects upon the traffic, but a gradual development is taking place, which will become more rapid as new roads and feeders are made to the existing lines, and new districts are thus opened to the advantages of railway communication." The passenger traffic last year produced £2,085,940, as compared with £1,941,571 in the previous year. The difference of £144,369 was principally made up by the increase in the receipts from third and fourth class passengers which amounted to £91,385. These classes contributed £1,496,610, or 77 per cent of the whole. The number of passengers increased from 18,940,585 to 20,332,823. The first and second classes declined. The third class rose from 14,113,426 to 15,126,824, and the fourth, or coolie class, from 3,516,549 to 3,911,429. The increase in numbers, which took place chiefly on the East Indian, the Madras, and the Bombay, Baroda, and Central India Railways, has partly been produced by a reduction in fares, which has not yet had time to yield a corresponding increase in the receipts. The third and fourth classes constituted 93.63 per cent of the whole number. The receipts per mile in 1872 were £400, compared with £394 of the previous year. The receipts from the goods and mineral traffic were last year £3,964,614, compared with £4,022,615 in 1871, showing a decline of £58,000. A large amount of tonnage was, however, carried, 2,929,637 tons having been conveyed in 1872, compared with 2,615,966 in 1871. The falling off in receipts occurred on the Great Indian Peninsula Railway, which shows a decline of £156,000 in receipts and 82,143 tons in weight. In cotton and grain alone

there was a falling off of 35,500 and 24,000 tons respectively. The number of trains run was 155,594, compared with 131,260 of the previous year. The train mileage was 14,543,862, compared with 14,080,064. The train mileage receipts averaged 8.63s, being just about the same as last year. The highest receipts per train mile were on the Bombay, Baroda, and Central India Railway, where they amounted to 12.51s. The mileage receipts on the Eastern Bengal were 99.0s., and on the East India, 9.33s. The lowest were on the Calcutta and South-Eastern, being 4.9s. Turning to the expenses it will be seen that the total expenditure for maintaining and working the railways was £3,328,644 in 1872, compared with £3,251,725 in 1871. On the Indus Flotilla it was £53,034 in 1872, compared with £50,325 in the previous year. The expenses per train mile were the same in both years—viz, 4.50s. The proportion of working expenses to gross receipts was on the average 58 per cent. This varied, however, considerably on the different lines. On the East Indian Main Line the expenses were only 41 per cent of the gross receipts; on the Great Indian Peninsula 60, on the Scinde, Punjab, and Delhi, 86. After alluding to the effect upon the traffic of certain reductions which had been made in the rates, and to the probability of the immediate loss being soon converted into a gain, Mr. Danvers explains the principle upon which he thinks a tariff should be settled. "A suitable scale of railway charges depends," he says, "upon various circumstances, but principally upon the cost of production—i. e., of conveyance. There must necessarily be a margin between such cost and the sum paid by the customer, but it by no means follows that the greater the difference the more will be the aggregate profit. In a country like India, especially, where the population is large and poor, it would be unwise to attempt to impose such rates for the conveyance of passengers as would remove the power of traveling from the great majority of the people. The true policy would seem to be to fix a rate, which, while leaving a margin for profit on the cost of conveyance, would tempt the largest number to travel. If this is the correct view, it can well be understood how, as is often asserted, the interests of railways and of the community coincide. The same remarks will apply to charges for goods, and often with greater force, as, for example, in those cases where water carriage can compete with the railway, and where large tracts of land are kept out of cultivation, or mineral districts are unworked, in consequence of the cost of conveyance to a market raising the price of commodities beyond the consumer's means. Allowance must, of course, be made for variability of trade, as the average cost of conveyance will in some measure be regulated by the amount carried; but this may be covered in the long run by a moderate margin. The first point to be ascertained, therefore, is what is the cost of conveyance; and this can be arrived at only after a careful examination of the working expenses of a line for a sufficient period to cover different seasons and to include those influences on traffic which would enable a fair average to be taken. A suitable tariff," he adds, "however important, is by no means all that is required to insure success in railway enterprise. There is no commercial undertaking which requires more careful study and more intelligent and energetic management than a railway."

General B. H. Bristow, of Kentucky, has resigned the presidency of the California and Texas Railroad Construction Company, which is now building the Texas Pacific Railway, and is succeeded in that position by John McManus, of Reading Pa.

The track is laid on about sixteen miles of the Ware River Railroad extension, and two gangs of track layers are speeding the work, which is to be done, if possible, by the first of December.

The Indianapolis Belt Railway company are constructing a double track road entirely around the city of Indianapolis, for transferring through freight between roads terminating there. The *Telegrapher* says that all the railroads centering at Indianapolis, are fully committed to the enterprise, and the project is very heartily endorsed by the citizens generally, and will, no doubt, prove a success.

It is stated that the Central Vermont Railroad Company have accepted the resignation of Gyles Merrill as General Superintendent of the Central and connecting roads, and that John W. Hobart, General Freight Agent and Master of Transportation, has been appointed in his place.

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SEALED PROPOSALS will be received at the office of the Chief Engineer, No. 23 Fifth Avenue, in the city of New York, until noon of Wednesday, September 10, for Grading and Bridging all that portion of this Company's Road, between the Missouri and Yellowstone rivers, 205 miles. Proposals will be received for the whole distance, or for sections of about 25 miles each. For further information apply at the office of the Chief Engineer in New York, or to General T. L. Rosser, Division Engineer, Minneapolis, Minn. W. MILNOR ROBERTS, Chief Engineer. New York, August 15, 1873.

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