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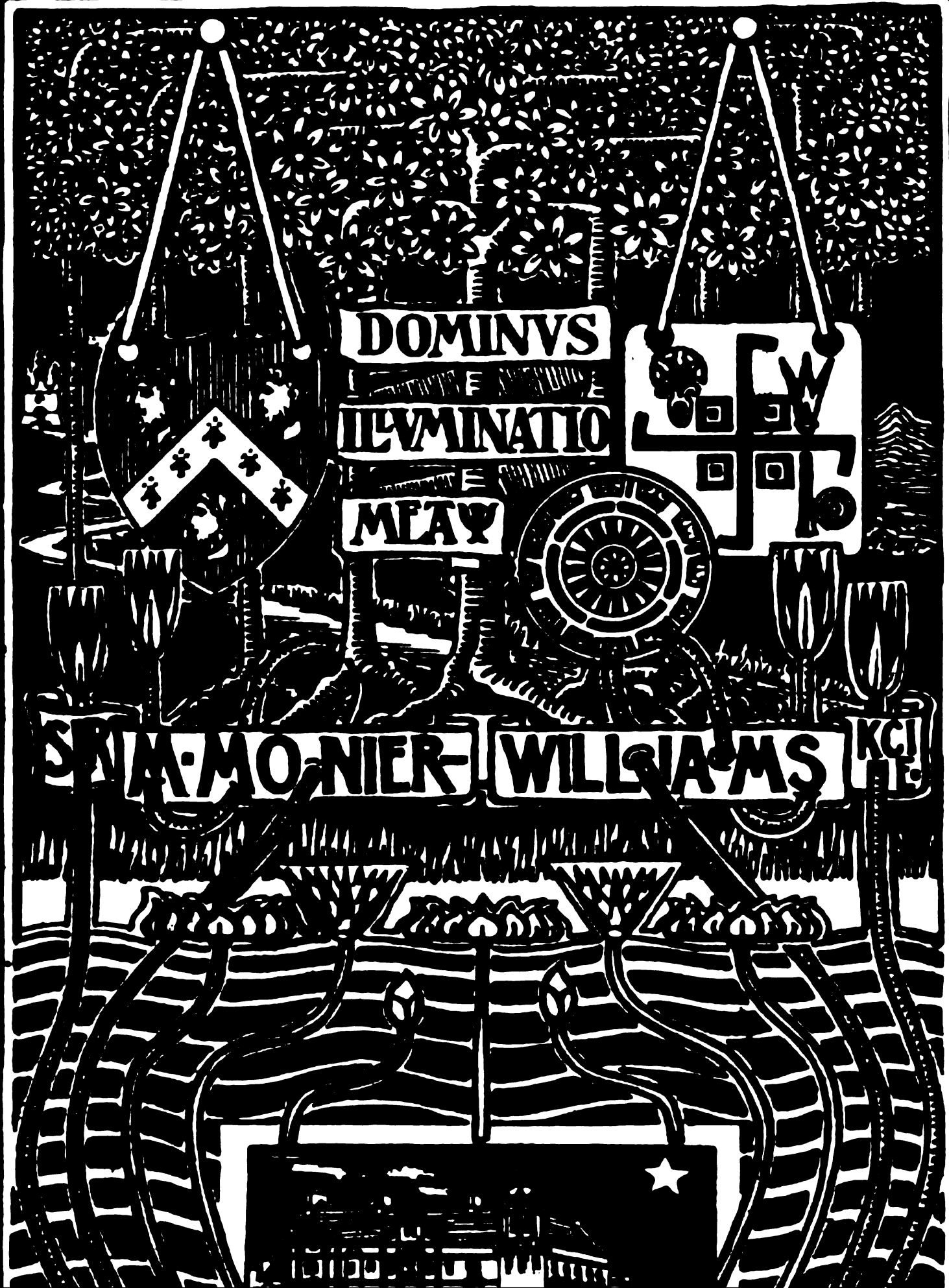
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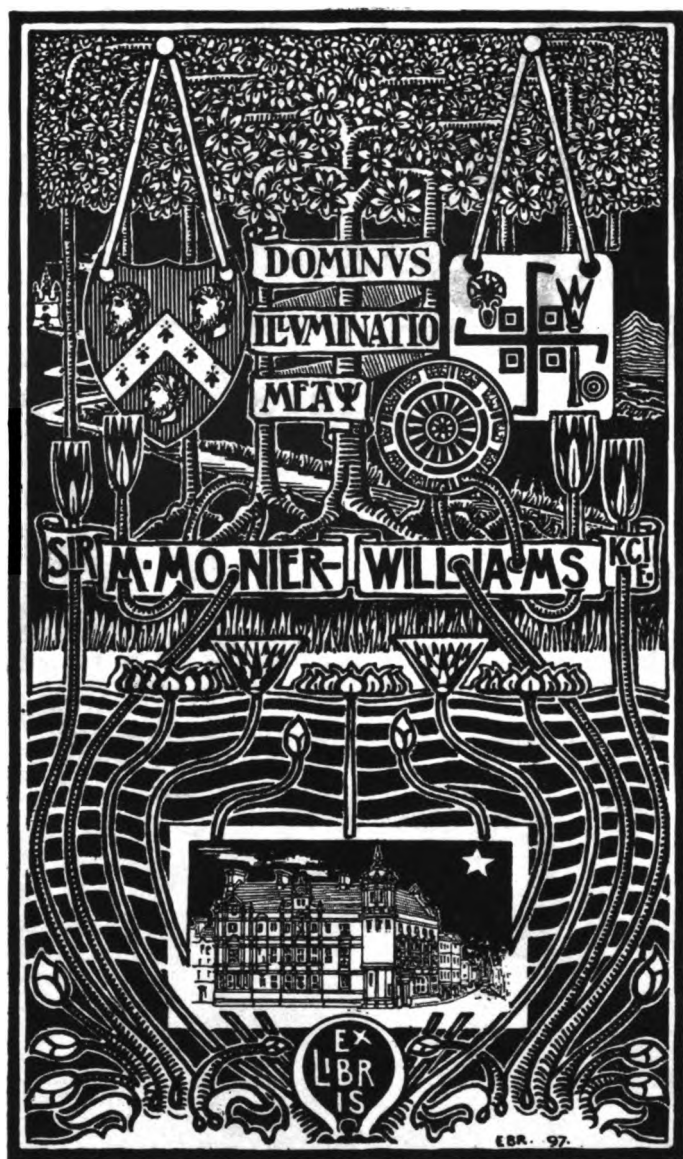
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*REPORT TO THE SECRETARY
OF STATE FOR INDIA IN ...*

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REPORT
TO
THE SECRETARY OF STATE FOR INDIA IN COUNCIL
ON
RAILWAYS IN INDIA,
TO THE END OF THE YEAR
1859.

BY JULAND DANVERS, ESQ.,
SECRETARY, RAILWAY DEPARTMENT, INDIA OFFICE.

Presented to both Houses of Parliament by Command of Her Majesty.



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1860.

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REPORT.

To the Right Honourable Sir CHARLES WOOD, Bart., G.C.B., M.P., Secretary of State for India.

Railway and Telegraph Department, India Office,
12th March 1860.

SIR,

I HAVE the honour, in compliance with your desire, to submit the following Report upon the subject of Railways in India. Being the first Annual Report of the kind, it is perhaps desirable, before noticing the progress which has been made in these undertakings, and before examining the results of those sections which have been brought into operation, to describe briefly the principles upon which a system of railways has been introduced into India, and the plan which has been adopted for their management.

System under which railways have been introduced into India.

2. Two private associations, under the designation of the "East Indian" and the "Great Indian Peninsula" Railway Companies, were formed in the year 1845, but the projectors found it impossible to raise the necessary funds for their proposed schemes, without the assistance of Government. The application for this assistance led to a protracted discussion, which ended in the determination of the late Court of Directors of the East India Company to grant pecuniary assistance, in the shape of guaranteeing interest upon the Railway Capital.

3. Railways are, accordingly, being constructed in India under what is popularly termed the "guarantee" system, *i. e.*, through the instrumentality of Companies, who receive from the Government the guarantee of a certain rate of interest upon the capital expended, with the approval of Government, upon their undertakings. The direct pecuniary interest which, under this arrangement, the Government have in the success of each railway, involved the necessity of some supervision and control, which is provided for in the contracts with the several Companies. The land required for the railway and works connected therewith is also given to the Companies, free of expense, by the Government.

4. A form of agreement, embodying the various provisions of the contracts entered into by the Railway Companies and the Government, is appended. It will be sufficient here to state the principal conditions:—

Terms of the guarantee.

The guarantee, which is for a term of 99 years, applies to all monies paid into the Government Treasury, and expended with the sanction and approval of the Government. When the capital account, which consists of expenditure so sanctioned, is closed, such portion of the subscribed capital as shall not have been required for the purposes of the undertakings is to be returned to the Companies.

The Railway Companies repay the amount advanced by Government on account of the guarantee from the profits of the railways, and the following arrangement is made for the application of those profits. The net receipts from the railways are paid into the Government Treasury. If they amount to less than the sum due for guaranteed interest, such an addition is made to them from the revenues of India as makes up that sum; if they amount to more, half the excess is added to the dividend of the shareholders, and the other half is applied to the repayment of the sums previously paid by Government on account of guaranteed interest; if the receipts should not reach the amount paid for working and maintaining the railway, the deficiency is chargeable against the guaranteed interest. If at any time the whole of the monies paid by the Government for interest (with simple interest thereon) shall have been repaid and discharged, the Companies are entitled, so long as this is the case, to the whole of the profits.

For example, if the railway, upon completion, yields a net profit of 4 per cent., the Government would have to add 1 per cent. (supposing the guarantee to be 5 per cent.) to make up the rate of interest guaranteed; if it yields a profit of 7 per cent., the Government would then pay nothing, but would receive 1 per cent., and the remaining 6 per cent. would be paid as dividend to the shareholders; and when by this process the whole of the sums previously advanced by Government (with interest) is repaid, the shareholders would receive a dividend of 7 per cent. If, on the other hand, the following should be the result of

Terms of the guarantee.

a year's traffic operations, viz., that the working expenses were 100,000L., and the receipts only 90,000L., 10,000L. of the sum paid by Government on account of the guaranteed interest would go to make up the deficiency, and the dividend to shareholders would be rateably reduced.

The Railway Companies have the power of surrendering the works, at any time after any portion of the line has been opened for a period of three months, upon giving six months' notice to the Government, who would have to repay the whole amount that has been expended, with their sanction, on the undertaking.

Government has the power, within six months after the expiration of twenty-five or fifty years respectively from the date of the contracts, of purchasing the Railway at the mean market value in London of the shares during the three previous years.

Government is entitled, in the event of the Railway Companies failing to complete the railroads, or to work them satisfactorily, to take possession of them, repaying, within six months, the sums which have been properly expended.

At the expiration of 99 years the land reverts to Government, and, if the Railway Companies have not availed themselves of the power of surrendering before that period arrives, the works also lapse to the Government, who would have to purchase the stock of engines, carriages, &c. at a valuation.

In any case in which, under these provisions, the Government becomes bound to repay the capital, or to purchase the railway, works and stock, it can, instead of paying the gross sum, declare its option to pay an annuity, to be reckoned from the time when the gross payment would be payable, and to continue during the residue of the 99 years, the rate of interest used in calculating such annuity being determined by the average rate of interest during the preceding two years received in London upon securities of the Indian Government.

Supervision.

5. It is not, perhaps, necessary to explain the grounds upon which this system of assistance was made, further than by observing that, as it was decided that private enterprise and capital should be employed on the introduction of railways in India, the Government was obliged to grant the aid requisite to bring that agency into force. Having given such assistance, it was necessary that Government should make arrangements for protecting its own interests, and for providing against the ill effects of failure on the part of the Railway Companies to carry out their undertakings. Hence, in addition to the powers above described, that of supervising the expenditure and all proceedings of the Companies (with the exception of communications with their law officers), as well as the right of selecting the line, was reserved to Government.

6. The supervision is exercised by the Government both in this country and in India. An Official Director is appointed, who attends each Board of the Railway Companies in London, and possesses, under the Deed of Contract, a power of veto on all the proceedings of the Directors. This power has never yet been put into force, a circumstance which a Parliamentary Committee on Indian Railways attributed to "the judgment and discretion exercised by the Official Director on all occasions, and to the respect shown to his opinion." The office is filled by Sir James C. Melvill, K.C.B. At the same time, questions involving expenditure, which have not been considered by the local Governments in India, and all matters of importance, are referred to the Secretary of State for India in Council, with whom also the financial arrangements of the Companies are made.

7. The supervision in India is exercised by the Government, principally through officers appointed for the purpose, the following Rules having been established with the view of preventing delay and collision :—

- 1st. All questions of general importance shall be referred to Government for decision.
- 2d. Under the above will be included the general direction of all lines of railway, the position of stations, the general arrangements of the more important stations and works; but after the general sanction of the Government has been given to any project, all questions of detail may be disposed of, within the limit of the original sanction, by the Consulting Engineer.
- 3d All matters of routine, or payments, or acts in accordance with rule, precedent, or special agreement duly sanctioned, or undisputed contingent expenditure, may be dealt with by the Consulting Engineer without reference to Government.

4th. All designs, estimates, and indents, whether for works or for establishments, for carrying into effect objects already generally sanctioned by Government, may also be disposed of finally by the Consulting Engineer. Supervision.

5th. The Consulting Engineer may, without reference to Government, reduce the amounts of indents, or direct designs or proposed operations to be modified, if he thinks it necessary; but the Agent in such cases, if dissatisfied with the decision of the Consulting Engineer, may always request that the matter may be referred for the final orders of the Government.

6th. In all cases in which the Consulting Engineer has any doubt as to the decision to which he should come, the question should be referred to the Government for orders.

7th. When the sanction of the Consulting Engineer is given to any proposals of the Agent, in which both of these officers concur, excepting in those matters of great importance specially excepted above, the sanction so given shall, so far as the Government is concerned, be considered final.

8th. The Consulting Engineer shall submit to the Secretary of the Government a weekly schedule of his proceedings, in the usual form, in which shall be explained concisely the nature of all sanctions or directions given under the authority now granted to him.

These powers have since been conferred upon every Chief Government Railway Officer in each of the local Administrations.

8. With regard to the regulation of fares, they are, in the first instance, fixed with the approval of Government, and alterations in them can only be made by the Railway Companies with the concurrence of the same authority. In the event of the profits exceeding ten per cent., the Government can order a reduction in the rates, but not to such an extent as to bring the net receipts below ten per cent. upon the capital expended. Fares and rates.

9. The Railway Companies are also bound, under the contracts, to convey the Mails and Post Office servants free of charge, to take Military Officers in first class carriages at second class fares and soldiers when on duty in second class carriages at the lowest fares; also horses, guns, waggons, and military stores, &c., at the lowest rate for the time being chargeable for the carriage of such animals, goods, &c.

10. As a rule, the roads are constructed, in the first instance, for a single line of rails, the bridges, tunnels, and cuttings being made suitable for a second line. The gauge of all the railways is required by Government to be five feet six inches, which was considered best calculated to embrace the twofold advantages of economy and speed. Arrangements have also been made for preserving uniformity in all points where it is desirable, such as the distance between tracks, height of over openings above rails, breadth of buffers, size of passenger carriages, &c. Gauge, &c.

11. Before proceeding to give a separate account of each undertaking, I would advert briefly to the complaints which have been made of the delay in the commencement and construction of these works. So much importance was attached to these allegations, that a Committee of the House of Commons was appointed in 1858 "to inquire into the causes that have led to the delay." The Committee sat from the 3d May to the 8th July. They classified the causes of delays into four distinct heads, viz.,— Parliamentary inquiry into complaints of delay.

1st. Those arising from Government supervision at home and in India.

2d. Those incidental to the execution of extensive and complicated public works, under such circumstances, in a distant country.

3d. Those produced by political causes, such as insurrection and mutiny.

4th. Those arising from the natural difficulties which the face of the country presents.

The Committee came to the conclusion that "though some cases have been cited in which the Government superintendence has been productive of vexation and annoyance to the railway officials," "no very material delay in the construction of the various lines appears to have resulted therefrom." They believed "that the progress of railroads under construction in India will bear favourable com-

Parliamentary
inquiry into com-
plaints of delay.

parison with that of English lines." They considered that the main impediments to progress consisted in the necessity of transporting the materials from this country, the difficulties of conveying them to their destination when they reached India, the effect of the climate upon European constitutions, the failure of contractors, and the lengthy correspondence between the Directors in London, and their agents in India, and the various Government Departments. They showed that the Sonthal rebellion in 1855, and the subsequent mutiny, were productive of most serious delays; and that the natural features of the country

* These are described hereafter. present formidable difficulties, and involve the construction of vast works,* which necessarily postponed the completion of the whole lines.

12. In conclusion, they stated, "your Committee are of opinion, first, that the Government has acted wisely in committing to private enterprise the execution of these great public works; secondly, that a guaranteed interest on the requisite capital was indispensable, to induce the public to invest their money in undertakings of this magnitude and novelty; and thirdly, that, in order to protect the Indian revenue from undue expenditure, Government control over the railway operations is requisite, and even valuable to the interests of the shareholders themselves. At the same time, your Committee would observe that, under a system complicated in its character, and necessarily somewhat cumbrous in its machinery, a system, moreover, the greatest defect of which is the facility it affords for the evasion of responsibility, a clear and distinct definition of the duties, responsibilities, and extent of jurisdiction of all heads of Departments, and those under them, is essentially requisite for its smooth and successful working; always assuming that due care be taken to entrust discretionary power only to men who are to be relied on as competent to distinguish an effective general control from too minute an interference in details. By a judicious adherence to the spirit rather than the letter of the contract, your Committee feel assured that arrangements may be simplified, united action for one common object secured, and railway enterprise in India may before long assume proportions commensurate with the vast commercial, agricultural, and mineral resources of that country."

13. I now propose,—

- 1st. To describe each undertaking and its objects separately;
- 2dly. To exhibit the results of the traffic on those sections which have been worked;
- 3dly. To show the financial position of the Railway Companies and the Government in respect to them; and,
- 4thly. To take a general view of the prospects of these undertakings.

EAST INDIAN RAILWAY.

East Indian Rail-
way.

14. The East Indian Railway embraces a line from Calcutta to Delhi, with branches to Raneegunge, the Barrackur River, and the Singarron Valley, and a line from Allahabad to Jubbulpore, where it joins the trans-peninsula line from Bombay. Its whole length is 1,338 miles, being 1,138 miles to Delhi, including branches, and about 200 miles for the Jubbulpore line.

15. The main line, after starting from the right bank of the Hooghly at Calcutta, proceeds in a westerly direction to Burdwan, and then on to Rajmahal. From this place to Allahabad it follows the course of the Ganges, in some places touching its right bank, and in others running at a distance of seven or eight miles from it. At Allahabad, where the Ganges and Jumna join, the line crosses the latter river, and then proceeds along the right bank of the former to Cawnpore, where it strikes across the Dooab to within twenty miles of Agra, which place is connected with the main line by a branch. It then proceeds to Allyghur, a town in the centre of the Dooab, and on to its terminus at Delhi. At this point a bridge will be constructed to connect the East Indian with the Punjab line.

16. The object of the main line is to provide a great highway, for political and commercial purposes, from the capital of the Empire to its North-Western Provinces.

The line to Raneegunge, which branches off at Burdwan, was constructed with the view of affording a ready means for the conveyance to Calcutta of the coal which abounds in the neighbourhood, as well as to assist in the development of the mineral resources of the whole of the district. East Indian Railway.

17. The line to Jubbulpore strikes off at Allahabad and forms a junction with the Great Indian Peninsula Railway, thereby connecting Bombay with Calcutta and Delhi.

18. The first operations of the Company were confined to the line between Calcutta and Raneegunge, a distance of 121 miles, and the contract for executing it was entered into between the East India Company and the Railway Company in August 1849. First operations.

19. The Railway Company had previously been formed by a deed of settlement dated in June 1845, and was incorporated by an Act of Parliament on the 1st August 1849. The engineers obtained possession of the first portion of the land in January 1851, and commenced the work on the lower section of the line in that year. The upper portion was commenced in 1852. In September 1854, 37½ miles were finished and opened for traffic; and in February 1855 the 121 miles to Raneegunge were opened. Thus, in about four years, a line of railway equal in length to the Great Western from London to Bristol was completed, notwithstanding that the engineers, mechanics, and all skilled labourers, as well as the materials, were sent from this country.

20. But the operations of the Company were soon to be greatly extended. In 1853, the Marquis of Dalhousie submitted, for the consideration of the Home Authorities, a general system of trunk railways for India, and the line above described, to Agra and Delhi, was offered to the East Indian Railway Company. Upon their undertaking to construct it, another contract was entered into, and a minimum guarantee of 4½ per cent, on the requisite capital, which was then estimated at 12,000,000*l.* for a single line, was granted by the East India Company. On every occasion on which portions of this capital have been raised by shares, it has been found necessary to increase the rate of interest to 5 per cent. Extended operations.

21. The most formidable obstacles which occur in the course of the line are the rivers, the chief being the Soane and Jumna. The others are the Adjai, More, Keeul, Hulohur, and Tonse. Some of the districts in Lower Bengal present also difficulties in consequence of the inundations which take place there in certain seasons. There is only one tunnel, and that is 900 feet in length, through a rocky hill of quartz in the neighbourhood of Monghyr. Bridges.

22. The bridges have been constructed chiefly with a brick or stone foundation and a wrought iron superstructure. The difficulty in obtaining a sufficient supply of bricks led to the adoption of this plan, which was recommended, moreover, on the ground of economy and expedition, by Mr. M. Rendel, the Consulting Engineer of the Railway Company. The bridges over the Soane and Jumna were designed by Messrs. Rendel. The former consists of 28 spans of 150 feet each, and will be finished, for a single line as far as the superstructure is concerned, about the end of 1863. The latter consists of 15 spans of 200 feet. The rails will be laid upon the top of the girders, the space beneath being made available for an ordinary carriage road eleven feet in width. They will form two of the finest structures of the kind in the world. Among the smaller bridges are those

over the river Adjai, consisting of 32 spans of 50 feet each.

„	More,	„	24	„	50	„
„	Dwarka,	„	7	„	60	„
„	Branimee,	„	9	„	60	„
„	Keeul,	„	9	„	150	„
„	Hulohur,	„	4	„	150	„
„	Poon-Poon,	„	9	„	40	„
„	Tonse,	„	7	„	150	„

Some idea may be conveyed of the extent of these bridge works, when it is stated that the waterway of the Jumna, the Tonse, the Keeul, and the Hulohur bridges is 9,150 feet, or twice that of all the bridges over the Thames between London and Westminster bridges, inclusive.

East Indian Rail-
way.

Extent open.

23. The following statement will show the length of this railway, now open for traffic, and the periods when the different sections were finished :—

From.	To.	When opened.	No. of Miles.	Length to be finished.
Howrah - -	Hooghly - -	15th August 1854 - -	14½	Total 292½. About 1,050 miles.
Hooghly - -	Pundooah - -	1st September 1854 - -	23	
Pundooah - -	Raneegunge - -	1st February 1855 - -	82	
Burdwan - -	River Adjai - -	1st October 1858 - -	23	
River Adjai - -	Cynthea - -	28th August 1859 - -	24	
Allahabad - -	Cawnpore - -	{ 1857, for Government purposes 1859, for general traffic }	126	

Other portions of the line, the execution of which have been greatly interrupted by the Sonthal rebellion and the mutinies, will, it is expected, be finished in the following order :—

Between Cynthea and Rajmahal, 84 miles, in June 1860.

„ Rajmahal and Benares, 333 „ 1861 (with the exception of the Soane Bridge, which will not be finished until 1863).

Between Benares and Allahabad, 95 miles, in 1861 (with the exception of the bridge over the Jumna).

Between Cawnpore and Agra, 147 miles, in 1862.

„ Agra and Delhi, 142 „ 1862.

Persons employed
on open sections.

24. A return of the number of persons employed on the completed sections in Bengal only, on the 1st October last, shows there were 3,051 in all, of whom 261 were Europeans, and 2,790 natives. The details will be found in the Appendix.

European staff.

25. The following statement gives the strength of the European staff in each year, from the commencement of operations, and the mortality among it :—

Year.	Number of Covenanted Servants in each Year.	Number of Deaths in each Year.	Percentage of Deaths.	
1850	6	—	—	N.B.—In the “Return of Deaths,” those caused by the Mutiny are not included. In the return of “Covenanted Servants” for the years 1858–59, those engaged in India are included in the total number.
1851	12	1	8·33	
1852	29	—	—	
1853	67	—	—	
1854	130	—	—	
1855	183	8	4·37	
1856	247	10	4·05	
1857	297	18	6·06	
1858	494	11	2·22	
1859	526	17	3·23	

26. The cost of the portions which have been finished is calculated at about 3,700,500*l.*; viz. :—

Bengal portion - - - £ 2,314,500
North-West portion - - - 1,386,000

Capital.

27. The capital required for the whole undertaking, including the Jubbulpore line, is estimated at 19,000,000*l.*, but, until more accurate estimates are received from India, authority has only been given for raising 14,000,000*l.* Of this, 11,808,480*l.* had been spent on the 31st December last, and 1,803,182*l.* remained in the Treasury of this office, leaving 383,338*l.* to be raised. Of the sum already subscribed, 13,372,644*l.* was raised in England, and 239,213*l.* in India. On the 31st December last there were 5,857 shareholders, of whom 2,672 were holders of stock or shares of the value of 1,000*l.* and upwards. The expenditure in England for materials, &c., has been 4,293,205*l.*, and in India, for construction 7,515,275*l.*

28. Before leaving the question of cost, it is, perhaps, right to allude to the effects of the Mutiny upon the operations of the Railway Company. It has been calculated that, after taking into consideration the destruction of the works which took place,

the delay in their construction, and the enhancement of the price of labour and material which followed the Mutiny, 3,000,000*l.* will have been added to the total cost of the railway by that event. East Indian Railway.

29. The materials supplied from England consist of iron rails, sleepers, girders for bridges, locomotives, and other rolling stock, turntables, machinery, &c. The tonnage engaged in each year for the conveyance to India of these articles was as follows :— Materials supplied from England.

1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.
Tons. 40,000					Tons. 58,000	Tons. 65,000	Tons. 48,000	Tons. 35,126	Tons. 32,094

30. In the case of this Company, the first opportunity which Government will have, under Clause 23 of the Contract, of purchasing the railway at its market value, will be in February 1874, as regards the line to Delhi; and in April 1883, as regards the line to Jubbulpore. Period when Government can purchase the line.

31. The existing fares are :—

Fares.

PASSENGERS.

1st Class.	2d Class.	3d Class.
1½ annas, or 2¼ <i>d.</i> per mile.	9 pies, or 1¼ <i>d.</i> per mile.	3 pies, or ¾ <i>ths</i> of 1 <i>d.</i> per mile.
Or from Calcutta to Raneegunge, a distance of 121 miles,		
Rs. 11. 5. 6., or 1 <i>l.</i> 2 <i>s.</i> 6 <i>d.</i>	Rs. 5. 10. 9., or 11 <i>s.</i> 4 <i>d.</i>	Rs. 1. 14. 6., or 3 <i>s.</i> 10 <i>d.</i>

GOODS.

1st class goods	-	-	-	-	1 of a pie per maund* per mile.
2d "	"	"	"	"	"
3d "	"	"	"	"	"
4th "	"	"	"	"	1 pie per maund
5th "	"	"	"	"	2 pies

See Appendix.

*The maund is equal to about 82 lbs.

32. The amount paid by Government on account of guaranteed interest, in each official year (ending 30th April), is shown below :— Amount paid for guaranteed interest.

Year.		Amount.		
		£	s.	d.
1849-50	-	5,601	17	1
1850-51	-	17,471	2	10
1851-52	-	37,184	14	7
1852-53	-	45,233	14	4
1853-54	-	52,071	10	4
1854-55	-	88,884	3	1
1855-56	-	195,730	0	2
1856-57	-	297,890	3	7
1857-58	-	354,510	14	5
1858-59	-	433,967	17	11
Total	-	£1,528,045	18	4

The net profits paid by the Railway Company to 30th June 1859 is 325,405*l.* 3*s.* 4*d.*, viz. :— Profits.

Year ending 30th June		Amount.		
		£	s.	d.
1855	-	10,631	1	7
1856	-	48,412	14	6
1857	-	69,484	3	7
1858	-	87,724	19	4
1859	-	109,403	17	5
Total	-	£325,656	16	5

GREAT INDIAN PENINSULA RAILWAY.

Great Indian
Peninsula Railway.

33. The Great Indian Peninsula Railway commences in the island of Bombay, and proceeds inland a distance of 33 miles to the town of Callian, where it branches off in north-easterly and south-easterly directions. The first line is carried over the Thull Ghat to Asseerghur, and by the valley of the Nerbudda to Jubbulpore, where it joins the Allahabad line of the East Indian Railway. The second is taken over the Bhore Ghat to Poonah, and on by Sholapore towards Madras, the line from which place joins it in the Raichore Dooab. There is an important branch which diverges from the North-East main line at Bhosawul, near Nusseerabad, and passes through the great cotton district of Oomrawuttee to Nagpore. There is also a small branch of one mile and three quarters, close to Bombay, connecting that town with Mahim, and a temporary one, of seven miles length, from Padusdhurree, where the main line commences the ascent of the Bhore Ghat, to Campoolie, a village on the old road from Bombay to Poonah.

Extent of line.

34. The entire length of these lines is 1,266 miles, being

34 $\frac{1}{4}$	miles from Bombay to Callian, and branch to Mahim.
572 $\frac{1}{4}$	„ Callian to Jubbulpore.
389	„ Callian to junction with Madras line.
263	„ Nagpore Branch.
7 $\frac{1}{2}$	„ Campoolie Branch.

35. The objects of this undertaking are to assist in establishing a permanent and speedy means of communication, for political and commercial purposes, between the three Presidency towns, and to connect the great cotton growing districts of Central India with the seaport of Bombay.

First operations.

36. As in the case of the East Indian Railway, the first operations of the Company were very limited, being confined to a railway from Bombay to Callian. A contract for the construction of this line was entered into by the Railway Company and the East India Company in August 1849. They obtained their Act of Incorporation in the same month. The works were commenced in India in October 1850, and finished in May 1854. In August 1853 another contract was entered into with the Railway Company to continue the line to Shawpoor, a place sixteen miles nearer the Thull Ghat, and to employ upon this additional length that portion of the 500,000*l.* which had not been expended upon the first section. This sum, however, did not prove to be sufficient.

37. In November 1854, the Company engaged to execute the extension lines above described, a *minimum* interest of four and a half per cent. being guaranteed upon the capital required for the works. This rate has been increased to five per cent. whenever shares have been issued.

Physical difficulties.

38. The great physical difficulties which occur in the course of the railway are the mountains which separate Bombay from the Deccan, the ascent of which involves works of extraordinary magnitude and interest. Running parallel to the sea for many miles, this range has always formed a great barrier to the communication between the rich producing countries of the interior and the Port of Bombay. They will now be surmounted by the railway in its route both to the North-East and South-East. The former line crossing by the Thull Ghat, at an elevation of 1,912 feet above the level of the sea, the latter by the Bhore Ghat, at an elevation of 2,037 feet.

39. The incline up the Thull Ghat is nine miles in length; the total elevation is 972 feet; the steepest gradient is 1 in 37 for 4 miles 44 chains; the sharpest curve is 15 chains radius for 20 chains 50 links; the length of tunnelling is 1,962 yards, and the estimated cost 49,988*l.* per mile. The Bhore Ghat incline is 14 miles in length. Its total elevation is 1,831 feet; average gradient 1 in 48; its steepest gradients are 1 in 37 for 1 mile 38 chains, and 1 in 40 for 8 miles 6 chains; its sharpest curves being 1 of 15 and 2 of 20 chains radius. Length of tunnelling 1 mile 44 chains. The estimated cost per mile is about 48,188*l.*

40. Besides these works, there are several bridges of considerable magnitude, including the viaduct over the Tannah estuary, which is carried on masonry arches of 30 feet span. This viaduct is divided, one portion consisting of nine arches, another of 14, and between the two is an iron girder opening of 84 feet span. The other important bridges are those over the rivers Taptee, Nerbudda, Wangoon,

and Bola on the North-East line ; and the Beema, Seena, and Moola on the South- Great Indian East line. One source of difficulty which has been experienced in the construction Peninsula Railway. of bridges on railways in other parts of India is not felt in these works, as most of them are built on good rock foundations.

41. The following statement will show the extent of this railway open for Extent open. traffic on the 31st December, and the periods when the different sections were finished :—

Bombay to Tannah, and } 22½ miles, was opened 18th April 1853.			
Branch to Mahim - }			
Tannah to Callian - -	12½	" "	1st May 1854.
Callian to Wassind - -	16½	" "	1st Oct. 1855.
Callian to Campoolie - -	37½	" "	12th May 1856.
(The Ghat incline intervenes between Campoolie and Khandalla.)			
Khandalla to Poonah - -	41½	" "	14th June 1858.
Poonah to Decksal - -	64½	" "	15th Dec. 1858.
Decksal to Barsee Road -	50½	" "	24th Oct. 1859.
Total 245½ miles.			

42. The section from Barsee Road to Mohole, 28 miles, was opened on the 2d January 1860. The remaining portions of the line will, it is estimated, be finished by the periods specified below, viz. :—

- From Mohole to Sholapore, 25 miles, in March 1860.
- „ Sholapore to the junction with the Madras line, 136 miles, in 1862.
- „ Wassind to foot of Thull Ghat, 25 miles, in August 1860.
- The Bhore Ghat Incline, 13½ miles, in April 1862.
- „ Thull Ghat Incline, nine miles, in 1861.
- From the summit of the Thull Ghat to Munmar, 77 miles, in July 1860.
- „ Munmar to Bhosawal, 113 miles, in 1861.
- „ Bhosawal to Jubbulpore, 332 miles, in 1862.
- From Bhosawal to Oomrawuttee, 143 miles, in September 1862.
- From Oomrawuttee to Nagpore, 120 miles, in April 1863.

The number of persons employed on the open portion of the line on the 1st October last was 2,598, consisting of 255 Europeans and 2,343 natives. Persons employed on open portion.

43. The number of Europeans employed in the construction of the line, and the mortality amongst them, has been as follows :— European staff.

Year.	Number of European Staff.	Deaths.	Deaths per Cent.
1850	11	1	9.09
1851	11	—	—
1852	23	—	—
1853	31	—	—
1854	44	2	4.54
1855	51	1	1.96
1856	80	3	3.75
1857	117	2	1.70
1858	153	6	3.92
1859	212	5	2.35
10 Years -	733	20	—
Average per annum - }	73.3	2	2.72

44. The total cost of the undertaking is estimated at 12,000,000£ ; of this Capital. 5,641,634£. had been raised on the 31st December last, 5,308,334£. by shares, and 333,300£. by debentures, upon the whole of which five per cent. has been guaranteed. The amount raised in this country was 5,298,044£. ; in India, 343,590£. The number of shareholders on the 31st December, was 3,860, of whom 1,660 held shares or stock of more than 1,000£. value. The expenditure of the Company, up to the 31st December, has been 4,915,943£. of which 2,510,850£. was spent in this country, and 2,405,093£. in India.

45. The first period at which Government can exercise its right of purchase will be in August 1874. Government right of purchase. /8

Great Indian
Peninsula Railway.

Tonnage for materials.

46. The following statement shows the amount of tonnage engaged by the Company in each year from the commencement of its operations :—

1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.
Tons. 927	Tons. 6,584	Tons. 4,925	Tons. 6,132	Tons. 3,850	Tons. 12,870	Tons. 26,668	Tons. 33,117	Tons. 63,032	Tons. 50,228

Fares.

47. The existing fares are :—

PASSENGERS.

1st class, $1\frac{1}{2}$ annas, or $2\frac{1}{4}d.$ per mile ;
2d „ 6 pies, or $\frac{3}{4}d.$ per mile ;
3d „ 3 pies, or $\frac{3}{8}d.$ per mile ;

or from Bombay to Tannah, a distance of about $20\frac{1}{2}$ miles,

		Rs.	an.	p.		s.	d.
1st class	-	-	-	1 15 6	or rather less than	2	0
2d „	-	-	-	0 10 6	or about	-	1 4
3d „	-	-	-	0 5 3	or about	-	0 8

GOODS.

1st class 10 pies, or $1\frac{1}{8}d.$ per ton per mile.

2d „ 14 „ $1\frac{3}{4}d.$ „ „

3d „ 18 „ $2\frac{1}{4}d.$ „ „

4th „ 22 „ $2\frac{3}{4}d.$ „ „

5th „ 30 „ $3\frac{1}{2}d.$ „ „

See Appendix.

Profits.

48. The amount paid by this Company, in liquidation of the Government guarantee, up to the 31st December last, was 181,698*l.* 7*s.* 9*d.*, being

In the Year ending 30th June

	£	s.	d.
1854	-	-	-
1855	-	-	-
1856	-	-	-
1857	-	-	-
1858	-	-	-
1859	-	-	-
Total	-	-	-

- £ 181,698 7 9

Amount paid for
guaranteed interest.

The amount of guaranteed interest received by the Company in each year, on capital raised in England and in India, is as under :—

Year ending 30th April	England.	India.
	£	£
1850	3,063	—
1851	6,319	—
1852	11,972	4,338
1853	17,787	5,038
1854	19,301	5,701
1855	28,859	6,400
1856	52,286	8,084
1857	102,181	14,431
1858	159,243	16,046
1859	171,985	16,870
	£567,996	£76,908
Total -	-	-

- £ 644,904

MADRAS RAILWAY.

Madras Railway.

49. The Madras Railway commences at Madras, and proceeds in a westerly direction as far as a place called Arconum, where it bifurcates, one line taking a south-westerly direction, and terminating at Beypore on the western coast, the other proceeding in a north-westerly direction, through Cuddapah and Bellary, and ultimately joining the railway from Bombay. Two branches strike off from the South-Western line, viz., one to Bangalore and another to the foot of the Neilgherries. These lines were sanctioned chiefly with the view of developing the resources of this part of the country, and of securing those political and social advantages which may be expected from the connexion with the Presidency of

two such important military and sanatorial stations as Bangalore and Ootacamund. Madras Railway.
The North-West line forms a part of that system of railways which was designed to connect the seats of the Governments of the three Presidencies, and is intended to answer important commercial purposes, by affording a ready means of transit for the produce of the Cuddapah and Bellary Provinces.

50. The length of these several lines is as under :—

Extent.

Madras to Beypore	-	-	-	-	405 miles.
Bangalore Branch	-	-	-	-	85 „
Branch to the Neilgherry Hills	-	-	-	-	30 „
Arconum to Cuddapah	-	-	-	122	} 330 „
Cuddapah to Bellary	-	-	-	149	
Bellary to the Point Junction with the line from Bombay	-	-	-	59	
Total					850 miles.

51. The Madras Railway Company was established by a deed of settlement, bearing date the 26th of July 1852, and was incorporated in 1853 by an Act of Parliament, 16 Viet. c. xlv. The first contract between the Government and the Railway Company, which is dated 22d December 1852, was for the construction of an experimental line, at an estimated cost of 500,000*l.*, to commence at or near Madras, and to take a direction towards the western coast. The line selected by the local Government was from Madras to Menil, fifty miles in length, and the first sod was turned on the 9th June 1853. Before much progress was made, it was agreed that the line should be extended to the western coast, and a contract for the purpose was executed in December 1855. A further contract for the construction of the North-West line was entered into in August 1858. Constitution of Company.

52. The first section of the railway, viz., from Madras to Arcot, a distance of sixty-five miles, was opened to the public on the 1st July 1856, three years after the commencement of operations, the Governor General (Lord Canning) and his staff having made an experimental trip four months earlier. The following statement shows when the sections, which constituted the line open in 1859, were severally finished :— Extent open.

—	Length of Section.	When opened for Traffic.	Note.—Since the 1st January, 1860, 41 miles more have been opened, making 137 miles in all.
Madras to Arcot - -	64 miles	1st July 1856.	
Arcot to Vellore - -	17 „	7th May 1857.	
Vellore to Goriattum - -	15 „	11th May 1858.	
Total - -	96 miles.		

53. The country through which the line to the western coast passes is generally favourable for railway operations, the only difficulties being the rivers, the principal of which are the Poiney, the Gorriattum, the Palar, the Cauvery, the Thootha, and the Kuddulhoondy. These are, in most cases, crossed by bridges of masonry, formed of arches of thirty feet span. The superstructures of some, however, viz., those over the Palar, the Cauvery, and the Thootha, will consist in whole or in part of iron. Physical difficulties.

54. The line to Bellary and Moodgul, where it joins that from Bombay, is not so free from difficulties as the South-West line. It is intersected by twelve rivers, requiring upwards of three miles of bridging, and is crossed by two ranges of hills, one of which can only be surmounted by resorting to comparatively severe gradients.

55. The portion of the South-West line which is in course of construction is so far progressed, that it is expected that the whole of the railway to the western coast will be ready for traffic during the current year. Little more has been done on the Bellary and Bangalore lines than setting them out, and the Neilgherry branch has not yet been commenced.

56. The number of individuals employed on the open section on the 1st October 1859 was :— Persons employed on open line.

Europeans	-	-	-	74
East Indians	-	-	-	147
Natives	-	-	-	2,575
Total				2,796

Madras Railway.
European staff.

57. The following is a statement of the strength of the European Staff of Engineers, &c., appointed from this country during each year, from the commencement of operations, and the mortality amongst it :—

Year.	Number of European Staff.	Deaths.	Deaths. per cent.
1853	11	—	—
1854	25	—	—
1855	57	1	1·75
1856	84	—	—
1857	107	2	1·86
1858	118	2	1·69
1859	123	2	1·62
7 years -	525	7	—
Average per annum - }	75	1	1·33

Capital.

58. The estimated amount of capital required to complete the works is 8,500,000*l.* Of the sum (5,000,000*l.*) which has been already authorized, 3,898,427*l.* (including 347,900*l.* raised by means of debentures), the whole of which has been subscribed in England, was paid up on the 31st December. Half a million of share capital has been issued at a guaranteed interest of four and a half per cent., one million at four and three quarters per cent., and the remainder at five per cent., which latter rate is that guaranteed for loans on debentures. On the 31st December last, the capital was held by 2,056 shareholders, of whom 1,033 were holders of stock or shares above the value of 1,000*l.*

59. The expenditure in England for materials, management, &c., from the commencement to the 31st December last, has been 1,505,462*l.*, and in India for construction 2,292,989*l.*

Supplies from England.

60. The materials supplied from England are similar to those sent out by the East Indian Railway Company. The tonnage engaged in each year for their conveyance was as follows :—

1853.	1854.	1855.	1856.	1857.	1858.	1859.
Tons. 1,415	Tons. 13,367	Tons. 40,772	Tons. 23,727	Tons. 5,877	Tons. 13,989	Tons. 37,407

Period at which Government can purchase line.

61. In the case of this Company, the first opportunity which the Government will have of purchasing the railway at the market value of the shares will be, so far as the line to the western coast is concerned, in December 1880, and as regards the line to Bellary, in August 1883.

Amount paid for guaranteed interest.

62. The amount paid by Government on account of guaranteed interest is shown below :—

Year ending 30th April	Amount.
1854	£ 9,703
1855	18,115
1856	42,510
1857	81,139
1858	109,267
1859	131,001
Total -	391,735

Profits.

The precise sum paid by the Railway in liquidation of the Government claim on account of guaranteed interest cannot as yet be given, as certain charges remain to be adjusted, but up to 30th June 1859 it probably amounted in round numbers to 46,500*l.*

63. The rates and fares at present in use are,—

PASSENGERS.				
1st Class -	-	-	-	1 anna, or 1½d. per mile.
2d " -	-	-	-	6 pies, or ¾d. " "
3d " -	-	-	-	2 " or ½d. " "
GOODS.				
1st Class -	-	-	-	8 pies, or 1d. per ton per mile.
2d " -	-	-	-	10 " or 1¼d. " "
3d " -	-	-	-	1 anna, or 1½d. " "

Madras Railway.

Fares.

See Appendix.

SIND RAILWAY COMPANY.

64. The Sind Railway Company was formed, by a deed of settlement dated March 1855, for the purpose of constructing railways in India, and, in particular, one from the seaport of Kurrachee to a point on the Indus at or near Hyderabad. The company was subsequently incorporated by an Act of Parliament in July 1855, and on the 26th December of the same year they entered into a contract with the East India Company for the construction of the line indicated above.

Sind Railway Company.

65. Before describing the progress of this undertaking, it may be as well to state that the constitution of the Company was greatly modified by an Act which passed in August 1857. This enactment, while it upheld all existing rights and privileges, annulled the deed of settlement, repealed the previous Act, and granted the Railway Company power to extend their operations. It allowed them to enter into contracts with Government for the construction of railroads in the Punjab, &c., and for the building and working of steam boats and other vessels.

66. In pursuance of the powers thus given, the Railway Company have entered into the following contracts with Government, viz.:—A contract, dated the 7th February 1859, for the establishment of a steam flotilla on the river Indus, for the conveyance of passengers and goods between Kotree, the port of Hyderabad and one of the termini of the Sind Railway, and Moulton, one of the termini of the Punjab Railway; and a contract, dated the 4th March 1859, for the construction and working of a railway in the Punjab, between Moulton and Umritser. They have also undertaken to construct the line from Lahore or Umritser to Delhi.

67. The three concerns are kept separate and distinct, although conducted through the agency of one company, under the designation of "The Sind Railway Company." The capital raised for each particular work is kept under the heads of "Sind Railway Capital," "Punjab Railway Capital," and "Indus Steam Flotilla Capital," and one Board administers the affairs of the three Companies.

68. The great object contemplated in these combined undertakings is the establishment of a sure and speedy means of communication between the port of Kurrachee in Sind, and the Punjab; as well as the connexion of Lahore and the North-West frontier of India, with Calcutta on the one side, and the Western Coast on the other.

Sind Railway.

69. The line in Sind proceeds from Kurrachee to Kotree on the Indus, opposite to Hyderabad. Its length, including a branch to Ghizlee Bunder, is 114 miles. The most important works are bridges and viaducts, of which there are several of considerable size, that over the Bahrum river being 600 yards in length; the next largest (560 yards) is that over the Mulleer. Other works of magnitude are, an embankment across a valley at Dorbejee, required to protect the line from the effects of inundation, and the wharf and steam ferry at Kotree.

Sind Railway.

70. The soil is not favourable for works of excavation, being in general a mixture of sand and clay, often with a hard crust of from one to two feet in thickness; and near the Karatolla Hills a number of rocky ridges have to be cut through. A further difficulty, which has to be contended with, is a scarcity in the supply of water. This will not be felt when the line is completed, as the watering stations will be fixed at places where there is abundance; but for the construction of the works it has, in some instances, to be brought a distance of many miles. The want of a supply of labour has also been much felt.

71. The first sod was cut by Sir Bartle Frere in April 1858. The works have hitherto been retarded in consequence of the pecuniary difficulties of the contractor,

Commencement.

Sind Railway.

who has lately abandoned his contract. The line is now being finished by the Company, and the resident engineer reports that rapid progress has been made since it has come into their hands. It is anticipated that the works will be completed and the railway opened for traffic by the end of the present year.

European staff.

72. The following statement shows the strength of the Engineering Staff in each year since the commencement, and the rate of mortality amongst them:—

Year.	Number of European Staff.	Deaths.	Deaths per cent.
1855	7	—	—
1856	6	—	—
1857	2	—	—
1858	25	2 (on the passage out.)	—
1859	3	—	—

Capital.

* This sum will be exceeded. 73. A capital of 1,000,000* which was estimated to be required for the line, has been sanctioned on a guaranteed interest of five per cent. per annum. £914,787 of this capital had been paid into the Government Treasury on the 31st December, leaving 85,213* still to be raised. The expenditure in England for materials, freight, and management has been 554,985*., and in India 328,801* on construction. The amount in the hands of the Government to the credit of the Railway Company on the 31st December was 31,001*. Of the paid up capital, 894,340* has been subscribed in England, and 20,447* in India, and on the 31st December this was held by 619 proprietors, of whom 328 possessed shares to the value of 1,000* and upwards.

Tonnage.

74. The tonnage engaged in each year for the conveyance of materials has been,—

1856.	1857.	1858.	1859.
Tons. 8,225	Tons. 19,742	Tons. 16,385	Tons. 26,469

Period at which Government can purchase the line.

75. Government will not be in a position to exercise the power reserved to it by the twenty-second clause of the contract, of purchasing the line at its market value, before the close of the year 1880.

Punjab Railway (Moultan and Umritser Line).

Punjab Railway.

76. The line selected, in accordance with the terms of the contract of March 1859, viz., from Moultan to Lahore and Umritser, is 250 miles in length. It is carried by the low water-shed of the Doab (between the Ravee and Sutlej), and presents very favourable gradients. For sections of 30, 40, and 100 miles respectively the line keeps a straight course. There are several watercourses to be crossed, but, with the exception of a few near Moultan, the necessary works are mere culverts.

Commencement.

77. It is estimated that the railway will be completed within a period of four years from the commencement. Some earthwork had been done previous to the formal commencement of operations by Sir John Lawrence on the 8th February 1859, and much progress has since been made on the line between Lahore and Umritser, which section, it is expected, will be finished and opened for traffic before the close of the present year.

European staff.

78. The European Engineering Staff consisted in each year, as follows:—

Year.	Number of Servants.	Deaths.	Deaths per cent.
1856	7	—	—
1857	—	—	—
1858	32	—	—
1859	45	1	2.5

79. The amount required for completing the railway will probably be two millions. Punjab Railway.
 Capital to the extent of 1,500,000*l.* has been issued, at a guaranteed interest of five Capital.
 per cent. Of this sum, 506,945*l.* had been paid into the Government Treasury on the 31st December, leaving 993,055*l.* still to be raised. In England, the expenditure for materials, freight, and management, has amounted to 164,419*l.*; in India, about 80,000*l.* has been expended on the works; leaving a balance standing to the credit of the Railway Company of 262,546*l.* The above capital has been subscribed in England, with the exception of 559 shares held by 21 shareholders in India. On the 31st December, the capital was held by 700 shareholders, of whom 402 were holders of stock or shares of the value of 1,000*l.* and upwards.

80. The freight engaged for the conveyance of the materials to India has been Tonnage.
 12,293 tons, all of which was taken up in the year 1859.

81. The first opportunity which Government will have of purchasing the Period at which
 railway at its market value, under Clause 22 of the Contract, will be in 1884. Government can
purchase the line.

Punjab Railway (Delhi Line).

82. On the 27th January 1859, in accordance with the recommendation of the Delhi line.
 Government of India, the construction of a line to connect the Punjab with Delhi was granted to the Scinde and Punjab Railway Company, with five per cent. guaranteed on the requisite capital, on the usual terms. Engineers have been already engaged in surveying two routes, one from Lahore *via* Ferozepore, and the other from Umritser *via* Loodianna and Umballa, along the line of the Grand Trunk Road. It is expected that the detailed plans and estimates of the route approved by Government will shortly arrive in England.

Indus Steam Flotilla.

83. The fleet sanctioned for this undertaking consists of fifty-three vessels, viz.:— Indus Steam
Flotilla.
 7 Passenger Steamers,
 6 Towing "
 33 Cargo Barges,
 and 7 Accommodation Flats.

The boat recommended by a Commission appointed in 1857 to consider the best description of vessel suited to the navigation of shallow Indian rivers, has been adopted, with slight modifications, to meet the requirements of the service. The dimensions of the passenger steamers are:—

Length, 200 feet.
 Breadth, 38 "
 Depth, 6 "
 Draught, 2 "

The whole of these vessels have been built under contract, and the following have arrived at Kurrachee:—

1 Passenger Steam Vessels.
 6 Towing Steamers.
 25 Cargo Barges.

The remainder are in course of delivery, and it is expected that the traffic will commence before the close of the present year. One steamer of each class was built and tested, to the satisfaction of the Directors in England, before contracts for the remainder were entered into.

84. The capital authorized for the undertaking, and upon which five per cent. Capital.
 interest has been guaranteed, is 250,000*l.* The whole of this had been subscribed for, and 249,140*l.* lodged in the Government Treasury on the 31st December, leaving 860*l.* still to be paid up. It has all been subscribed in this country. The expenditure in England, on materials, freight, and management, amounted to 158,654*l.*; in India, to 5,925*l.*; leaving a balance standing to the Company's

Indus Steam
Flotilla.

credit, on the 31st December, of 84,561*l*. The capital is held by 289 shareholders, of whom 89 are holders of shares of the value of 1,000*l*. and upwards.

Period at which
Government can
purchase the line.

85. The earliest period at which Government can purchase the concern, under Clause 22 of the Contract, will be in 1884.

Trade of Sind.

86. The following statement, showing the extraordinary increase in the trade of Sind during the last ten years, affords satisfactory evidence of the progress of the Province, which is an important element in considering the prospects of the railways and flotilla:—

Year.	Imports.	Exports.	Total.
	£	£	£
1848-49	344,715	107,133	451,849
1849-50	419,352	114,378	533,731
1850-51	425,831	196,461	622,293
1851-52	489,220	244,122	733,343
1852-53	535,690	376,337	800,000
1853-54	508,793	376,310	885,103
1854-55	575,196	346,893	922,089
1855-56	629,813	604,440	1,234,253
1856-57	685,665	734,522	1,420,187
1857-58	1,081,100	1,078,100	2,159,200
1858-59	1,540,600	1,044,200	2,584,800

Tonnage.

87. The tonnage engaged during the past year for the conveyance of steamers and stores to India has been 1,843 tons.

BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY.

Bombay, Baroda,
and Central India
Railway.

88. This Railway commences at Bombay, and proceeds in a northerly direction, through Surat and Broach, to Baroda, where it branches off to Ahmedabad. The whole distance is 309½ miles, being from Bombay to Baroda 245½ miles, from Baroda to Ahmedabad 64 miles.

89. The object of the line is to connect Bombay with the cotton districts of Guzerat; but the projectors of the undertaking, when it was originally proposed, contemplated the construction of a line from Bombay, *via* Surat and Baroda, to Agra, with a branch from Surat through the Taptee Valley, to join the East Indian Railway at or near to Agra or Delhi.

Commencement.

90. In consequence of doubts existing as to the best route for the section between Bombay and Surat, the Railway Company were required to commence their operations from the latter place, and to work up to Baroda and Ahmedabad. This portion was sanctioned in April 1855; the remainder of the line to Bombay not until April 1858. The Company was incorporated by Act of Parliament in July 1855, and in November 1855 they entered into a contract with the East India Company.

91. The cutting of the first sod took place in May 1856, and it was expected that the line from Surat to Broach would have been opened for traffic in October last. This expectation, however, was not realized, in consequence of the breaking down of a masonry abutment at fourteen miles from the latter place. But by accounts recently received from Bombay the opening of this section, (with the exception of the bridges over the Taptee and Nerbudda,) on the 7th February 1860, is advised.

Physical character
of the country.

92. The country through which the line passes is low and flat; is crossed by several wide and rapid rivers; and at certain seasons is inundated to a great extent. The crossing of these rivers, and the provision of waterway for the floods, have been the principal impediments to the progress of the works. The aggregate of bridge work amounts to nearly six miles. The bridges are designed by Lieutenant-Colonel P. Kennedy, and consist* of wrought-iron girders of sixty feet

Bridges.

* The constituent parts, both of girders and piers, are respectively similar throughout, with a view to facilitate their erection on reaching India, so that each portion of bridge-work sent from England fits with all that have preceded or may follow it, and therefore can be brought into use

together for the bridging of any river whatever. About two-thirds of the bridge materials for the entire line have been furnished, and the remainder is in progress of construction.

span, supported by cast-iron screw piles, connected by strong diagonal and horizontal bracing. The piers and abutments are constructed for a double roadway, but girders for one line only have been laid down. The bridge over the Taptee

Bombay, Baroda, and Central India Railway.

is 2,003 feet in length, and will have thirty-two openings of sixty feet each, and that over the Nerbudda is 3,750 feet in length, and will have sixty openings of sixty feet each.

93. The number of European Engineers, &c. employed in each year since the commencement of the works, and the mortality amongst them, has been as follows :—

Year.	Number of Servants.	Deaths.	Percentage of Deaths.
1853	14	—	—
1854	14	—	—
1855	28	2	7.1
1856	34	1	2.7
1857	50	1	—
1858	78	3	—
1859	124	4	—

94. The total cost of the line sanctioned, is estimated at 2,500,000*l.*, or about 7,400*l.* per mile. On the 31st December last, the Company had raised 1,503,965*l.*, of which 891,032*l.* had been spent in England, and 573,799*l.* in India, leaving a balance of 39,134*l.* in the Treasury of this Office. Of the above amount, 1,485,923*l.* was raised in this country, and 18,042*l.* in India. On the 31st December last, the capital was divided among 906 proprietors, of whom 356 were holders of stock or shares of more than 1,000*l.* value.

Capital.

95. The tonnage engaged in each year since the commencement of operations, for the conveyance of the materials to India, has been as follows :—

1856.	1857.	1858.	1859.
Tons. 3,215	Tons. 16,367	Tons. 19,313	Tons. 31,075

96. The first opportunity which Government will have, under the existing contracts, of purchasing the railway, will be in November 1880.

Period at which Government can purchase the line.

EASTERN BENGAL RAILWAY.

97. The Eastern Bengal Railway Company was formed in 1857, for the purpose of affording railway accommodation to the districts lying north and east of Calcutta. The line sanctioned is from Calcutta to Kooshtee on the Ganges, opposite Pubnah, where it will intercept the large traffic proceeding downwards. It will also enable merchants to send up their goods from Calcutta without encountering the dangers and delays of the navigation of the Soonderbunds. It is intended eventually to carry the railway to Serajgunge and Dacca; and, upon the strong recommendation of the Government of India, the immediate prosecution of the surveys has recently been sanctioned, and they are now being proceeded with. The districts traversed are rich in agricultural produce, which consists of indigo, sugar, oil-seeds, rice, and other grain; and they are thickly populated, containing upwards of 500 inhabitants to the square mile.

Eastern Bengal Railway.

98. The Company was incorporated by Act of Parliament in August 1857, and a contract was entered into on the 30th July 1858, between the Railway Company and the East India Company, under which the line to the Ganges is being constructed. By this agreement, interest at the rate of five per cent. is guaranteed, upon the usual terms, on the capital required for the work, which was at that time estimated at 1,000,000*l.* This amount will, however, be exceeded.

Incorporation, &c.

**Eastern Bengal
Railway.**

Although the contract only guarantees five per cent on the capital which may be required for the first section of the line, which is 109½ miles in length, it provides that the railway shall ultimately be carried to Dacca, &c., for which extensions fresh capital will have to be raised.

**Contract for
works.**

99. The construction of the railway, and the provision of the necessary rolling stock, have been entrusted to a firm of well known contractors, consisting of Messrs. Brassey, Sir Joseph Paxton, and Wythes, who have engaged to complete the line, and furnish the requisite stock, for 1,045,000*l.* This is exclusive of the cost of rails and chairs, which are to be provided by the Railway Company. The works were commenced on the 16th April 1859, and by the last accounts they were proceeding satisfactorily. Under the terms of the contract with Messrs. Brassey and Co., the line should be completed by 30th April 1861.

Capital.

100. The amount of capital paid into the Government Treasury by the Railway Company to the 31st December last in England, and in India, was 427,458*l.*, leaving 572,542*l.* still to be raised. Of the above sum, 424,773*l.* was subscribed in this country, and 2,685*l.* in India. The capital subscribed in this country was held by 425 shareholders, of whom 113 held shares of the value of 1,000*l.* and upwards. The capital raised in India was held by 31 shareholders, none of whom held shares of the value of 1,000*l.* The expenditure of the Company to the 31st December was, in England for management, materials, and freight, 130,219*l.*; in India, for construction, 46,481*l.*; making a total of 176,700*l.*, and leaving a balance of 250,758*l.* standing to the credit of the Railway Company in the hands of Government.

Tonnage.

101. The freight engaged by the Contractors to the 31st December was 12,569 tons.

**Period at which
Government can
purchase the line.**

102. The date at which Government can first exercise its right of purchase will be in August 1883.

103. It is possible that the operations of this Company may not be confined to those above described, for it has been decided, in accordance with the recommendation of the Government of India, that, should a line to Darjeeling be at any time sanctioned on the guarantee system, they shall be entrusted with its execution.

GREAT SOUTHERN OF INDIA RAILWAY.**Great Southern
of India Railway.**

104. The Great Southern of India Railway Company was constituted in 1857, by articles of association under the "Joint Stock Companies Act, 1856," for the purpose of constructing and working railways in the Southern Provinces of India, and was incorporated by Act of Parliament in 1858. The lines included in the undertaking are from Negapatam to Trichinopoly, with extensions north to a point on the Madras Railway (probably in the neighbourhood of Errode) and south to Madura and Tuticorin. The only portion of this work the construction which has at present been sanctioned is the line from Negapatam on the coast to Trichinopoly. For the execution of this section, a contract was entered into between the East India Company and the Railway Company on the 1st September 1858. A guarantee of interest at the rate of 5 per cent. has been granted on the requisite capital, which is estimated at 500,000*l.* The length of line is about 80 miles, and the country traversed is represented to be peculiarly favourable for railway operations. No physical difficulties present themselves, and good ballast is plentiful. The chief object contemplated is to provide outlets to the rich producing districts traversed by the railway. The whole neighbouring country is under cultivation, and rice and cotton are extensively grown. In addition to this, silks, cotton goods, and muslins are manufactured in great quantities.

105. It was at one time intended that a light description of railway should be constructed by Government on this very line, and instructions were sent out by the late Court of Directors for the purpose; but it was found that the cost would be so much greater than had been originally estimated, and that the object of the work would be better answered by a permanent line suitable to steam locomotion, that the arrangement was superseded by the agreement with the Great Southern of India Railway Company, above described.

Commencement.

106. The staking out of the line was concluded, and active operations commenced in May 1859, and tolerable progress has since been made. It is estimated that the line will be completed in the summer of 1861.

107. The amount of capital paid up on the 31st December was 196,221*l.*, of which 195,000*l.* was subscribed in this country, and 1,221*l.* in India. The capital was held by 170 shareholders, of whom 97 were holders of shares to the value of 1,000*l.* and upwards. The expenditure of the Company, in this country, on materials and management, up to the 31st December, had been 112,002*l.*; and in India, for construction, it is estimated that about 25,000*l.* had been disbursed; making a total of 137,002*l.*, and leaving a balance to the credit of the Railway Company in the Government Treasury of 59,219*l.*

Great Southern
of India Railway
Capital.

108. The date at which Government can first exercise its right of purchase, under the terms of the contract, is in September 1883.

Date at which
Government can
exercise its right
of purchase.

CALCUTTA AND SOUTH-EASTERN RAILWAY.

109. The Calcutta and South-Eastern Railway was registered, under the provisions of the "Joint Stock Company's Act of 1856," for the purpose of constructing and maintaining a railway or railways in India, and particularly a line from Calcutta to the Mutlah River, together with such wet docks and works as might be deemed necessary. Certain powers similar to those granted to Companies which have been incorporated, were conferred on this Company by Act of Parliament, in July 1857.

Calcutta and
South-Eastern
Railway.

110. After an unsuccessful attempt to obtain capital for the undertaking, without the assistance of a guarantee of interest, that aid was conceded by the Secretary of State in Council. The operations of the Company are limited to the line between Calcutta and the Mutlah. The rate of interest guaranteed is 5 per cent. per annum on the capital required for this work, which is estimated to cost 250,000*l.* A contract, embodying the usual conditions, was entered into between the Railway Company and the Secretary of State in Council, on the 15th March 1859.

111. The provision of a sure and speedy means of communication between Calcutta and the Mutlah, in view to the establishment of a new and commodious port in that estuary, is the chief object of the undertaking. The inconvenience which is now felt from the crowded state of the Hooghley, and the difficulties which are encountered by vessels in navigating it, has, for some time, called for increased accommodation for the ships trading to Calcutta.

112. The line is about 29 miles in length, and presents no physical difficulties. The country is described by the Government Consulting Engineer as a dead level, the only necessary gradient being at the bridge over Tolly's Nullah, in order that sufficient headway may be left for the boats passing under it. The works are being constructed by the Railway Company's engineers, without the intervention of contractors. Considerable progress has been made, and it is calculated that the Railway will be ready for traffic by March 1861.

113. The amount of capital paid up by the Railway Company on the 31st December 1859 was 129,278*l.*, leaving 120,722*l.* still to be raised. On the above date the capital was held by 342 shareholders, of whom 40 were proprietors of shares to the value of 1,000*l.* and upwards. The expenditure of the Company has been 71,410*l.*, of which 56,813*l.* was disbursed in this country, on stores, freight, and management, and 14,597*l.* in India. The amount standing to the credit of the Railway Company on the books of the Secretary of State on the 31st December was 57,868*l.*

Capital.

114. The first period at which the Government can exercise its right to purchase is in March 1884.

Government right
of purchase.

115. In addition to the lines undertaken by these Companies, proposals have been made for establishing railway communication in Oude and Rohilcund. Two Companies, bearing the names of the respective Provinces, have been formed for the purpose. The Oude Company has been engaged during the last cold season in making the necessary surveys, which were commenced in 1857, but were interrupted by the Mutinies. When the surveys are finished, and the views of the Government of India are sent home, it will remain for the Secretary of State in Council to determine whether any, and, if any, what, lines shall be undertaken, and by whom they shall be constructed.

Railways in Oude
and Rohilcund.

116. The experiment of constructing a railway by means of direct Government agency, and without the intervention of a Company, has also been

Government line
in Kumaon.

Government line
in Kumaon.

sanctioned. The line selected is to commence at the Iron Works which have recently been established by Government at Nynee Tall, in Kumaon, and is to join either the East Indian Railway or a new line of railway in Rohilkund. It is intended to apply the iron manufactured at the above works to the purposes of this line. The Superintendent, Mr. Sowerby, is of opinion that the cast-iron rails which he is able to turn out may be advantageously used, and estimates a saving of Rs. 13,900 per mile in the permanent way, for a single line at the distance of Delhi from the works. The surveys for this railway are being conducted by Mr. Hardy Wells, who commenced operations during the last cold season.

Railway Capital.

117. The following Statement shows, in a succinct form, when each Company was formed, the amount of capital estimated to be required for each undertaking, the amount authorized to be raised by each on the 31st December, the amount raised to that date, and the rate of guarantee.

Railway Company.	When established, and Date of Incorporation.		Capital estimated to be required for each Undertaking.	Amount authorized to be raised.			Amount raised in England to 31st December 1889.		Amount raised in India up to latest Advices.	Total raised at the end of the Year 1889.	Rate of Guarantee.
				By Share Capital.	By De- ventures.	Total.	By Share Capital.	By De- ventures.			
EAST INDIAN - Main Line - Jubbulpore	1845. 1st June	1849. 1st Aug.	19,000,000*	£	£	£	£	£	£	£	5 per cent.
	-	-	-	9,255,000	2,745,000	12,000,000	8,870,344	2,745,000	235,911	11,861,255	
	-	-	-	2,000,000	-	2,000,000	1,767,300	-	3,302	1,760,908	
MADRAS - Main Line - Bellary	1852. 28th July	1853. 14th Jan.	8,500,000	3,000,000	1,000,000	4,000,000	2,984,877	347,900	-	3,332,577	{ 23,500,000 at 5 per cent. 21,000,000 at 4½ 2500,000 at 4½
	-	-	-	-	-	-	-	-	-	-	
	-	-	-	1,000,000	-	1,000,000	585,850	-	-	585,850	
Great Indian Peninsula Sind - Punjab - Indus Steam Flotilla - Bombay, Baroda, and Central India -	1849. 1st Aug. 1855. 12th Jan.	1849. 1st Aug. 1855. 2d July	12,000,000	8,000,000	333,300	8,333,300	4,964,744	333,300	343,580	5,641,634	5 per cent.
	-	-	-	1,400,000	1,000,000	-	894,340	-	20,447	914,787	
	-	-	-	74,000,000	1,500,000	-	508,945	-	-	508,945	
Eastern Bengal - Calcutta and South- Eastern - Great Southern of India	1857. 23d Aug.	1857. 23d Aug.	230,000	250,000	-	250,000	249,140	-	-	249,140	"
	-	-	-	2,500,000	2,000,000	300,000	2,300,000	1,379,228	106,095	18,042	
	-	-	-	1,000,000	-	1,000,000	424,773	-	2,685	427,458	
Total	1856. 1st Aug.	1857. 1st Aug.	12,500,000	1,000,000	-	1,000,000	128,505	-	773	129,278	"
	-	-	-	250,000	-	250,000	-	-	-	-	
	-	-	-	500,000	-	500,000	195,000	-	1,321	196,321	
Total -		-	£ 52,430,000	29,755,000	4,378,300	34,133,300	22,920,846	3,532,895	625,971	27,079,712	-

* Including the Jubbulpore Line.

† Including the contemplated Line from Delhi to Lahore.

‡ Including proposed extensions.

Proportions raised
and expended in
England and
India.

118. It will thus be observed that, out of a capital of 52,430,000*l.* estimated to be required for all the railways which have been sanctioned 34,133,300*l.* had been guaranteed by the Indian Government, and 27,079,712*l.* raised, on the 31st December. Shares can be registered in India as well as in England; but only 625,971*l.* has been subscribed in the former country, being in the proportion of 1*l.* to 43*l.* Out of every million of railway money which is raised about 976,500*l.* is therefore subscribed in this country. About 555,000*l.* of this latter sum is expended here. The balance of 426,500*l.*, which, in addition to the amount subscribed in India, is required to meet the expenditure there, is advanced by the local Government. Monthly returns of these advances are received from India, the amounts thereof being debited against the railway capital in the treasury of this office. During the last few years of financial difficulty, when supplies have been sent, not from, but to, India, this process has pressed hard upon the Government, and has obliged the Secretary of State in Council to remit a large amount of bullion to that country; but when a more natural state of things is restored, and India is again in a position to furnish the Home authorities with the funds required for their expenditure in this country, the payments of railway capital here will diminish *pro tanto* the amount to be remitted home. It must, however, be borne in mind that, when the receipts into the treasury of this office, on account of capital, cease, the payment of the guaranteed interest will continue, and the remittances from India must be sufficient to meet this demand upon the Home Government in addition to its ordinary expenditure. Difficulty may occur in effecting this, but the profits of the railways in India will, it is hoped, supply funds sufficient for the payment of interest at the guaranteed rate; and the trade of the country increasing as it does, and increasing more as it must with the stimulant of railway communication, will facilitate the means of remittance.

Capital and In-
terest.

119. The first of the following statements shows the amount of capital paid by, and the second the amount of interest paid to, each Railway Company in each official year, in this country and in India.

STATEMENT I.*

Year ending April 30th	AMOUNT OF CAPITAL PAID INTO THE HOME TREASURY.									Capital.
	East Indian.	Great Indian Peninsula.	Madras.	Bombay, Baroda, & Central India.	Sind, including Punjab and Indus Flotilla.	Eastern Bengal.	Great Southern of India.	Calcutta and South-Eastern.	Total.	
	£	£	£	£	£	£	£	£	£	
1848-49 -	60,000	30,000	-	-	-	-	-	-	90,000	
1849-50 -	220,247	86,455	-	-	-	-	-	-	306,702	
1850-51 -	364,179	92,000	-	-	-	-	-	-	456,179	
1851-52 -	174,324	117,000	-	-	-	-	-	-	291,324	
1852-53 -	134,865	60,584	187,500	-	-	-	-	-	382,949	
1853-54 -	359,824	82,575	188,860	-	-	-	-	-	631,259	
1854-55 -	2,553,670	481,025	384,022	-	-	-	-	-	3,418,717	
1855-56 -	1,715,426	896,100	801,356	258,383	265,614	-	-	-	3,936,879	
1856-57 -	1,064,710	1,378,275	657,516	199,420	42,735	-	-	-	3,342,656	
1857-58 -	1,142,589	132,242	509,435	289,229	728,590	161,027	-	-	2,963,112	
1858-59 -	3,612,300	1,264,496	665,757	248,671	312,751	223,000	120,000	103,500	6,550,475	
Paid between 1st May and 31st Dec. 1859	11,402,134	4,620,752	3,394,446	995,703	1,349,690	384,027	120,000	113,105	22,370,252	
	1,970,510	677,292	503,981	490,220	300,735	40,746	75,000	15,400	4,083,489	
	13,372,644	5,298,044	3,898,427	1,485,923	1,650,425	424,773	195,000	128,505	26,453,741	

AMOUNT OF CAPITAL PAID INTO THE INDIAN TREASURY.

1849-50 -	-	3,544	-	-	-	-	-	-	3,544	
1850-51 -	31,796	57,865	-	-	-	-	-	-	89,661	
1851-52 -	21,516	36,773	-	-	-	-	-	-	58,289	
1852-53 -	4,673	15,842	-	-	-	-	-	-	20,515	
1853-54 -	5,715	17,374	-	-	-	-	-	-	23,089	
1854-55 -	84,492	29,996	-	-	-	-	-	-	114,488	
1855-56 -	38,630	120,393	-	4,153	-	-	-	-	163,176	
1856-57 -	28,966	29,068	-	6,125	10,650	-	-	-	74,809	
1857-58 -	12,927	15,121	-	810	4,550	-	-	-	33,408	
1858-59 -	4,581	11,409	-	2,866	3,725	2,247	-	-	24,828	
From 1st May to date of latest Advices	233,296	337,385	-	13,954	18,925	2,247	-	-	605,807	
	5,917	6,205	-	4,088	1,522	438	1,221	773	20,164	
	239,213	343,590	-	18,042	20,447	2,685	1,221	773	625,971	

STATEMENT II.*

Year ending April 30th	AMOUNT OF GUARANTEED INTEREST PAID IN ENGLAND.									Guaranteed interest.
	East Indian.	Great Indian Peninsula.	Madras.	Bombay, Baroda, & Central India.	Sind, including Punjab and Indus Flotilla.	Eastern Bengal.	Great Southern of India.	Calcutta and South-Eastern.	Total.	
	£	£	£	£	£	£	£	£	£	
1849-50 -	5,601	3,063	-	-	-	-	-	-	8,664	
1850-51 -	17,471	6,319	-	-	-	-	-	-	23,790	
1851-52 -	35,761	11,972	-	-	-	-	-	-	47,733	
1852-53 -	44,701	17,787	-	-	-	-	-	-	62,488	
1853-54 -	50,930	19,301	9,703	-	-	-	-	-	79,934	
1854-55 -	87,221	23,859	18,115	-	-	-	-	-	129,195	
1855-56 -	190,600	52,286	42,510	5,141	6,502	-	-	-	297,039	
1856-57 -	285,070	102,181	81,139	14,412	13,235	-	-	-	496,037	
1857-58 -	349,295	159,243	109,267	22,403	15,644	-	-	-	655,852	
1858-59 -	422,302	171,985	131,001	36,090	47,358	10,270	-	-	819,006	
Paid between 1st May and 31st Dec. 1859	1,488,952	567,996	391,735	78,046	82,739	10,270	-	-	2,619,738	
	541,147	231,334	171,379	56,996	70,276	19,458	5,466	5,321	1,101,377	
	2,030,099	799,330	563,114	135,042	153,015	29,728	5,466	5,321	3,721,115	

AMOUNT OF INTEREST PAID IN INDIA.

1851-52 -	1,423	4,338	-	-	-	-	-	-	5,761	
1852-53 -	532	5,038	-	-	-	-	-	-	5,570	
1853-54 -	1,140	5,701	-	-	-	-	-	-	6,841	
1854-55 -	1,662	6,400	-	-	-	-	-	-	8,062	
1855-56 -	5,129	8,084	-	-	34	-	-	-	13,247	
1856-57 -	12,319	14,431	-	318	498	-	-	-	27,566	
1857-58 -	5,214	16,046	-	516	563	-	-	-	22,339	
1858-59 -	11,665	16,870	-	696	946	112	-	-	30,289	
	39,084	76,908	-	1,530	2,041	112	-	-	119,675	

* These Statements are made out in round numbers, the fractions of the pound being omitted.

Guaranteed interest.

120. It thus appears, that on the 31st December last the eight Railway Companies had received the sum of 3,840,790*l.* for guaranteed interest. The three Companies who have commenced working portions of their lines had received 3,508,535*l.* of this amount; and on the 30th June 1859 had repaid 562,633*l.*

Proportion of profitable and unprofitable capital.

121. It is worthy of remark, that although the East Indian had only opened a section representing a capital of about 1,716,000*l.*, and had received the guaranteed interest upon more than thirteen millions, its profits amounted to one-fifth of the sum paid for the guarantee upon the whole. The proportion of profitable and unprofitable capital was as 1 to 8; that of realized profits and guaranteed interest as 1 to 5.

Statements showing objects, &c. of Companies.

122. The statement subjoined shows, at one general view, the length of line to be constructed by each Company, the objects of each undertaking, and the capital required and raised,—

Title of Company.	Objects of Company and Length of Line.	Estimated amount of Capital.	Amount of Capital sanctioned.	Rate of Interest Guaranteed.
		£	£	
East Indian Railway Company	The construction and working of lines of Railway from Calcutta to Delhi, and from Allahabad to Jubbulpore. Total distance 1,338 miles.	19,000,000	14,000,000	5 per cent. per annum on 11,255,000 <i>l.</i> Capital; 5 per cent. per annum on 2,745,000 <i>l.</i> Debentures, convertible into Shares.
Madras Railway	The construction and working of a Railway from Madras to the Western Coast at Bey-pore, with branches to Bangalore and the Neilgherries; also of a Line from Madras <i>viâ</i> Bellary, to join the line from Bombay. Total distance 850 miles.	8,500,000	5,000,000	4½ per cent. per annum on 500,000 <i>l.</i> Capital; 4½ per cent. on 1,000,000 <i>l.</i> Capital; 5 per cent. per annum on 2,500,000 <i>l.</i> Capital; and 5 per cent. per annum on 1,000,000 <i>l.</i> Debentures.
Great Indian Peninsula Railway	The construction and working of the following Railways, all of which terminate at Bombay; <i>viz.</i> , from Bombay <i>viâ</i> Callian to Jubbulpore, to meet the East Indian line from Allahabad, with branches to Mahim and Nagpore; and from Callian <i>viâ</i> Poonah and Sholapore to Moodgul in the Deccan, to meet the line <i>viâ</i> Bellary from Madras. Total distance 1,266 miles.	12,000,000	8,333,300	5 per cent. per annum on 8,000,000 <i>l.</i> Capital, and 333,300 <i>l.</i> Debentures.
Bombay, Baroda, and Central India Railway	The construction and working of a line of Railway from Bombay <i>viâ</i> Surat and Baroda to Ahmedabad. Total distance 310 miles.	2,500,000	2,300,000	5 per cent. per annum on 2,000,000 <i>l.</i> Capital, and 5 per cent. per annum on 300,000 <i>l.</i> Debentures.
Sind Railway	The construction and working of a line of Railway in Scinde, from Kurrachee to the River Indus at Kotree. Total distance, 114 miles.	1,400,000	1,000,000	5 per cent. per annum.
Sind Railway Company	Punjab Railway	4,000,000	1,500,000	5 per cent. per annum.
	Indus Steam Flotilla.	280,000	250,000	5 per cent. per annum.
Eastern Bengal Railway Company	The construction and working of a line of Railway from Calcutta to Kooshtee on the Ganges, with extensions to Serajgunge and Dacca. Total distance about 220 miles.	2,500,000	1,000,000	5 per cent. per annum.
Calcutta and South-Eastern Railway	The construction and working of a line of Railway from Calcutta to the Port of Moolah. Total distance 29 miles.	250,000	250,000	5 per cent. per annum
Great Southern of India Railway	The construction and working of a Railway from Negapatam to Trichinopoly, with branches to Salem and Tuticorin. Total distance, 300 miles.	2,000,000	500,000	5 per cent. per annum.

123. It thus appears, that eight Companies are employed to open 4,917 miles of communication, exclusive of the navigation of the Indus from Kotree to Moultan, a further distance of 570 miles. The largest concern is that of the East Indian, which will require a capital of 19,000,000*l*. The smallest, the Calcutta and South-Eastern, with a capital of 250,000*l*. Excluding the latter, the average length of line undertaken by each Company is 700 miles, with a capital of 7,454,000*l*.

124. The following Table shows the annual expenses incurred by each Company in England on account of Direction and Home Establishment, the average amount of which will be found to be about 3,650*l*. :—

Name of Company.	Direction and Audit.	Establishment Charges.	Allowance for the office of Consulting Engineer.	Total.
	<i>£</i>	<i>£</i>	<i>£</i>	<i>£</i>
East Indian	1,791	4,859	1,250	7,900
Great Indian Peninsula	1,321	2,679	750	4,750
Madras	900	3,100	600	4,600
Bombay, Baroda, and Central India	1,060	2,555	1,500	5,115
Sind	260	1,540	550	2,350
Punjab	260	1,540	550	2,350
Indus Steam Flotilla	130	670	300	1,100
Eastern Bengal	810	1,840	600	3,250
Great Southern of India	800	1,700	500	3,000
Calcutta and South-Eastern	542	1,158	400	2,100

* The same Board and establishment conduct the business of the three concerns.

The proportion which these expenses bear to the capital already guaranteed is 2*s*. per cent. ; to the capital estimated to be required, 1*s*. 6½*d*. per cent. ; and to the amount of interest guaranteed upon the latter, 1*l*. 1*s*. per cent.

125. It has sometimes been urged, that a less expensive and less complicated machinery than the employment of so many companies might have been devised for establishing a system of railways in India. The allegation may, to a certain extent, be true ; and, if circumstances had favoured the plan, simplicity, and perhaps economy and a direct pecuniary advantage to the public, might have been gained had Government retained the works in their own hands. But, after deliberate consideration, it was decided to encourage private enterprise, and to employ private capital to execute them. A combination of circumstances rendered futile any attempt to raise capital without a guarantee ; and it may be asked, more especially with reference to the political commotions and the financial difficulties which have been witnessed in India during the last few years, would any other system have accomplished the important object which the Government had in view ? Instead of a progress which was interrupted only at times when, and in places where, actual hostilities prevailed, would not these works have been suspended, in common with all the undertakings in course of execution by Government ? And would not the funds raised for their construction have been applied to meet the exigencies of the public service ? The agencies above enumerated have

Agencies employed in constructing Railways in India.

STATEMENT.

Railway Company.	When Sanctioned.	Chairman of the East India Company.	President of the Board of Control.
East Indian	March 1849.	Lt.-General Sir Jas. Law Lushington, G.C.B.	Sir John Hobhouse (Lord Broughton).
Great Indian Peninsula.	March 1849.	Do.	Do.
Madras	July 1852.	Sir James Weir Hogg, Bart.	Right Hon. J. C. Herries.
Sind Railway	Jan. 1855.	Major James Oliphant.	Rt. Hon. Sir C. Wood, Bt.
Bombay, Baroda, and Central India.	April 1855.	Elliot Macnaghten, Esq.	Right Hon. R. Vernon Smith (Lord Lyvellon).
Indus Flotilla	June 1857.	Ross Donnelly Mangles, Esq., M.P.	Do.
Eastern Bengal	Aug. 1857.	Do.	Do.
Punjab Railway	Jan. 1858.	Do.	Do.
Great Southern of India.	May 1858.	Sir Fred. Currie, Bart.	The Earl of Ellenborough.
Secretary of State for India.			
Calcutta and South-Eastern.	Nov. 1858.	Lord Stanley.	

been created at different times, and under various circumstances, and (as the Statement in the margin will show) by successive ministers, and thus it has happened that undertakings may have been committed to two companies, when one would have been sufficient ; but there is some advantage in allowing each association to carry out its own particular project, and in assigning to a single

one only such an extent of line as prevents the creation of an inconvenient monopoly.

Agencies employed
in constructing
Railroads.

126. It has also been said, that the multiplication of agencies involves further expense, by creating competition for materials and freight. The simultaneous construction of works may do so; but it is the extent of the demand, not the division of it, that enhances prices, and freight has generally been obtained by the Railway Companies at a lower rate than that paid by Government under a system of open competition.

Value of Indian
Railway stock and
shares.

127. The following table exhibits the fluctuations in the prices of Indian Railway Securities during the last five years :—

Name.	Amount of Shares.	1855.			1856.			1857.			1858.			1859.		
		Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.
														£100 Stock.		
East Indian - -	20	26	21	23½	24½	21	22½	115	97	106	113	102	107½	109	93	101
Madras 4½ per cent.	20	21½	18½	20	21½	18½	20	20½	17	18½	20½	17½	18½	95	82	88½
Madras 5 " "	20	-	-	-	-	-	-	22½	19	20½	22½	19	20½	102	92	97
Great Indian Pen- insula - -	20	26½	25	25½	23½	20½	21½	22½	19	20½	22½	20½	21½	107	90	98½
Sind - -	20	-	-	-	-	-	-	22½	21	21½	22½	21	21½	22½	17	19½
Consols - -	100	93	88	90½	95½	92½	93½	94½	86½	90½	98½	86½	92½	98½	88½	93½
											Debenture.			Stock.		
Indian Loan - -	100	-	-	-	-	-	-	-	-	-	99½	97½	98½	106½	97	101½

Transport of
materials (from
England).

128. Allusion has already been made to the distance of the supplies of permanent way materials, rolling stock, &c., from the scene of operations. This is one of the great obstacles to the progress of railways in India. To appreciate the extent of the difficulty, it is only necessary to calculate the amount of materials required to be sent from this country for the construction of the works which have been commenced. Taking 75 lbs. as the average weight per yard of the rails sent out (some are 84 and some 65 lbs.), 120 tons per mile is required for a single line. Including the rails required for a double line in certain parts, for sidings, bridges, buildings, and rolling stock, stores, &c. the average weight of materials for every mile of railway, as now constructed, will more than double that quantity, or be equal to 25,000 tons for every hundred miles, and 1,210,000 tons for the lines already sanctioned. Of this amount 794,904 tons had been shipped up to the end of last year, viz.,—

	Tons.
Up to 1854 - -	77,200
In 1855 - -	111,642
„ 1856 - -	126,835
„ 1857 - -	123,103
„ 1858 - -	147,844
„ 1859 - -	208,280
Total - -	794,904

so that, upon the calculation that 250 tons is required for each mile, materials were sent out to India sufficient,

In 1855 for 446 miles.	
„ 1856 „ 507 „	
„ 1857 „ 492 „	
„ 1858 „ 591 „	
„ 1859 „ 833 „	

The number of vessels, and their aggregate tonnage, which went to India during these years was, Transport of materials (from England).

In 1855	-	-	441 ships, with 301,671 tons.
„ 1856	-	-	701 „ 544,857 „
„ 1857	-	-	653 „ 529,238 „
„ 1858	-	-	723 „ 666,840 „

As the balance of trade between this country and India is always on the side of India, the natural limit to the conveyance of dead weight from this country is regulated by the trade from India. Ships go out from hence for return cargoes. If that natural limit is exceeded, and there are too many ships in the Indian ports to secure remunerative freights for the voyage home, a rise necessarily takes place in the freights to India, and the enhanced price falls upon the Railway Companies. In other words, the cost of constructing the works is increased.

129. But when the difficulty of conveying the materials to India is got over, Transport of materials (in India). a more formidable one presents itself there. With the great lengths of line which are in course of construction it is impossible, without incurring great delay, to lay down the rails upon what is termed the telescopic principle, *i.e.*, by leading them from a certain point over the line, as it is finished, and laying them down by degrees. If this course had been followed with regard to the East Indian line, the opening of any section in the upper portion would have been delayed long after the earth-works were ready to receive the rails, and the line between Allahabad and Cawnpore would never have been available for troops during the military operations in Oude. The means of transport are, however, very deficient, and great risk and expense is incurred in conveying materials, whether by land or river. So much has this been felt on the East Indian Railway, that the Directors have provided a fleet of tug steamers, with barges, to take their materials up the river. The Great Indian Peninsula Railway have also great difficulties to contend against in conveying the materials for the Deccan lines across the Ghats; likewise the Sind Company, in having to send their materials for the Punjab Railway a distance of from 670 to 900 miles from the Port of Kurrachee.

130. The following statement shows the number of accidents that occurred during the years 1857 and 1858 :— Accidents.

	East Indian.				Great Indian Peninsula.				Madras.			
	Killed.		Injured.		Killed.		Injured.		Killed.		Injured.	
	1857.	1858.	1857.	1858.	1857.	1858.	1857.	1858.	1857.	1858.	1857.	1858.
PASSENGERS.												
Passengers killed and injured from causes their own control - - - -	-	1	-	4	-	-	-	1	-	-	-	-
Passengers killed and injured owing to their want of caution - - - -	1	1	-	2	-	-	-	-	-	-	-	-
Total passengers killed and injured	1	2	-	6	-	-	-	1	-	-	-	-
PEOPLE CONNECTED WITH THE RAILWAY.												
Servants killed or injured from causes beyond their own control - - - -	-	6	1	7	3	-	1	2	2	-	-	-
Do. do., owing to their want of caution - -	7	9	-	1	-	7	1	11	-	2	-	-
Total railway people killed or injured	7	15	1	8	3	7	2	13	2	2	-	-
OTHERS, NEITHER PASSENGERS NOR CONNECTED WITH LINES.												
Trespassers killed or injured while crossing the line - - - -	2	7	-	1	2	1	-	-	-	-	-	-
Suicide - - - -	-	1	-	-	-	-	-	-	-	-	-	-
Total persons unconnected with railway	2	8	-	1	2	1	-	-	-	-	-	-
Grand total -	10	25	1	15	5	8	2	14	2	2	-	-

The Returns for last year have not yet been received. In the year ending 30th December 1857, 1,931,892 persons of all classes travelled by railway, and out of this number, only one passenger (third class) met with a fatal accident. It is

Accidents.

explained that, in this case, the man, who was a native, got out of the wrong side of his carriage while the train was stopping at a station, and sat upon the rails, when he was run over by a goods train and killed. In 1858, out of 2,423,508 passengers of all classes, two fatal accidents occurred, one to Captain Mainwaring, of the 23rd Native Infantry, who, in some way not explained, having left the carriage and fallen on to the foot board after the train had left the ticket platform was crushed between the carriage and the platform; the other accident befel a third class passenger, and was caused by a collision with a goods train.

131. In connexion with the subject of accidents, it may be mentioned that Colonel H. Barr, of the Bombay Army, has recently received your permission to expend 300*l.* in conducting experiments to prove the value of a danger fog signal which he has invented.

Europeans employed on Indian Railroads.

132. The following table shows the number of Europeans who are now in the service of the several Railway Companies, and the annual mortality amongst them:—

Year.	East Indian.			Great Indian Peninsula.			Madras.			Sind.			Punjab.			Indus Flotilla.			Bombay, Baroda, and Central India.			Eastern Bengal.			Great Southern of India.			Calcutta and South-Eastern.		
	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.
1850	6	-	-	11	1	9.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1851	12	1	8.33	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1852	29	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1853	67	-	-	31	-	-	11	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-
1854	130	-	-	44	2	4.54	25	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-
1855	183	8	4.37	51	1	1.96	57	1	1.75	7	-	-	-	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-
1856	247	10	4.05	80	3	3.75	84	-	-	13	-	-	7	-	-	-	-	-	36	3	8.3	-	-	-	-	-	-	-	-	-
1857	267	18	6.06	117	2	1.70	107	2	1.86	15	-	-	7	-	-	-	-	-	53	1	1.7	-	-	-	-	-	-	-	-	-
1858	404	11	2.72	153	6	3.92	118	2	1.69	40	-	-	32	-	-	2	-	-	82	2	2.4	13	-	-	-	-	-	-	-	-
1859	526	17	3.23	212	5	2.35	123	2	1.62	43	-	-	45	1	2.2	28	-	-	131	6	4.5	22	1	5.0	13	-	-	12	1	8.3

The average percentage of mortality during the last year was 2.9. The rate of mortality in the armies of the three Presidencies, exclusive of casualties from war, has been estimated at an average of six per cent. per annum.

133. In addition to the Engineering Staff, it has hitherto been found necessary to send out almost all the skilled labour required for the construction and working of the lines. The duties of engine-drivers and guards have, also, been performed by Europeans; endeavours, however, are being made, and with some success, to train persons in India for these and other duties which they have hitherto failed to perform satisfactorily.

TRAFFIC OPERATIONS.

EAST INDIAN RAILWAY.

Traffic Operations.
East Indian.

134. The following statement shows the number of passengers conveyed by this railway in each year since it was opened:—

Year ending	Miles open.	Number of Passengers.			Total.
		1st Class.	2d Class.	3d Class.	
31st May 1855	121	9,302	43,896	330,546	383,744
30th June 1856	121	12,049	53,674	773,135	838,858
30th „ 1857	121	13,409	52,301	947,958	1,013,668
30th „ 1858	121	14,763	51,765	1,037,106	1,103,634
30th June 1859	142	15,106	57,309	1,199,517	1,271,932
(24 miles opened 1st October 1858)					

135. The amount of receipts from passengers and goods respectively, and the working expenses during the same period, will be seen in this table :—

Traffic
Operations.
East Indian.

Year ending	Passengers.	Miscellaneous.	Goods.	Total.	Working Expenses.	Net Profits.
	£	£	£	£	£	£
30th June 1855 -	23,497	1,924	6,037	31,453	20,822	10,631
" 1856 -	43,790	4,618	33,771	82,178	33,765	48,413
" 1857 -	54,484	6,598	52,564	113,646	44,162	69,484
" 1858 -	58,856	14,572	76,804	150,232	62,507	87,725
" 1859 -	73,947	12,751	118,889	205,587	96,184	109,403

136. These returns do not include the result of the working of the line between Allahabad and Cawnpore, which, although open in 1857 for the conveyance of troops and stores, was not used by the Railway Company for public traffic until April 1859, and no accounts have yet been received of the working of the line since that period.

137. The materials for making a detailed analysis of the traffic are wanting at present, but the following results may be deduced from the foregoing statements. The proportion per cent. of each class of passengers in each year was as follows :—

Year ending	1st Class.	2d Class.	3d Class.
30th June 1855	2·6	11·5	85·8
" 1856	1·4	6·3	92·5
" 1857	1·3	5·1	93·5
" 1858	1·3	4·6	93·9
" 1859	1·1	4·1	94·8

The numbers conveyed per mile were, in

1854-55	-	-	-	2,983
1855-56	-	-	-	6,933
1856-57	-	-	-	8,377
1857-58	-	-	-	9,120
1858-59	-	-	-	9,661

the classes being divided as follows :—

Year ending	1st Class.	2d Class.	3d Class.
30th June 1855	77·6	375·5	2,530·9
" 1856	100·4	442·7	6,389·5
" 1857	110·8	432·2	7,834·3
" 1858	122·0	427·8	8,562·8
" 1859	106·3	403·5	9,151·5

The receipts from each class, and the average receipts per mile, were—

Year ending	1st Class.	2d Class.	3d Class.	Total.	Average Receipts per Mile.
	£	£	£	£	£
30th June 1855	1,890	2,949	18,658	23,497	194·8
" 1856	2,634	3,801	28,355	43,790	353·6
" 1857	3,735	4,811	45,938	54,484	450·2
" 1858	5,132	5,987	47,787	58,856	486·4
" 1859	5,814	5,169	62,964	73,947	520·8

138. The following table exhibits the proportion of working expenses to gross receipts, and the proportion per cent. of receipts from passengers and goods. It will be seen, while, in the first instance, the greater receipts were from passengers, the proportion has gradually become in favour of goods :—

Year ending	Percentage of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
30th June 1855	67·67	74·4	25·2
" 1856	41·16	53·2	46·7
" 1857	38·85	48·0	52·0
" 1858	40·08	38·9	60·8
" 1859	45·04	35·9	64·0

Traffic
Operations.
—
East Indian.

139. The proportion in which the expenses of maintaining and working the line are divided may be gathered from the following table, which was prepared by Captain Hodgson, in charge of the office of Consulting Engineer to the Government of India, Railway Department. The corresponding charges on the railways in Great Britain are also given:—

Country.		Percentage of whole Expenses.				
		Maintenance of Way.	Locomotive.	Traffic.	General.	Poor Rates, &c.
England -	{ 1855	14·4	37·9	26·6	13·4	7·7
	{ 1856	15·5	38·0	26·2	11·8	8·5
Scotland -	{ 1855	14·5	40·2	25·0	15·8	4·5
	{ 1856	13·9	41·7	23·1	15·8	5·9
Ireland -	{ 1855	12·9	43·0	25·7	14·0	4·4
	{ 1856	14·4	47·0	24·7	13·3	·6
	{ 1855	13·4	48·0	19·5	19·1	—
East Indian	{ 1856	28·9	42·1	12·9	16·1	—
	{ 1857	27·0	45·7	14·0	13·3	—
	{ 1858	21·7	38·9	26·7	12·7	—

140. The following statement, also prepared by Captain Hodgson, contains some interesting particulars:—

Half Years ending June and December.	Length of Railway open.	Receipts per Mile for			Expenditure per Mile of Railway open.								Expenditure per Train per Mile for						Receipts per Train per Mile.
		Passengers.	Goods.	Total.	Maintenance of Way.	Locomotive Carriages.		Traffic Charges.		Police, Postmen, Printing, Miscellaneous.	Total.	Maintenance of Way.	Locomotive and Rolling Stock.	Traffic.	Miscellaneous.	Rates and Government Duty.	Total.	On total Revenue.	
						Engine.	Carriages and Wagons.	Coaching.	Merchandise.										
1856	121	£ 240	£ 181	£ 421	£ 51	£ 73	£ 4	£ 9	£ 7	£ 27	£ 171	£ 13·29	£ 20·19	£ 4·33	£ 7·09	—	£ 44·90	£ 111·37	
1856	121	248	205	445	51	76	5	11	8	29	180	13·85	21·67	5·32	7·94	—	48·78	119·95	
1857	121	275	297	572	59	95		10	11	32	207	10·94	17·63	3·92	6·05	—	38·54	100·61	
1857	121	323	295	618	65	114		24	12	29	244	10·4	18·4	5·85	4·60	—	40·25	133·625	
1858	121	325	384	709	70	130		43	40	4	324	8·40	15·84	10·08	5·04	—	39·36	91·87	
1858	131	323	383	709	78	135		47	52	46	359	10·1	17·6	12·8	7·6	—	46·6	93·1	

The greater portion of the revenue from the goods' traffic is derived from coal, which is conveyed from Raneeunge to Calcutta at a charge of 9s. 6d. per ton. The receipts from this source were,—

	£
In the year ending 30th June 1855	- 1,949
„ „ 1856	- 17,678
„ „ 1857	- 29,869
„ „ 1858	- 43,224
„ „ 1859	- 71,736

The goods' traffic generally is at present so imperfectly developed, that an attempt to analyze it would not answer any useful purpose.

141. The net receipts of the line upon which the above traffic has been carried on for the last *half year* for which accounts have been made up amounted to 66,425l. This would produce a dividend at the rate of 7l. 14s. 10d. per annum; the cost being estimated at 1,716,000l.

GREAT INDIAN PENINSULA RAILWAY.

142. The number of passengers conveyed on this railway in each year since the commencement of the traffic will be seen by the following table :—

Year ending 30th June.	Number of Miles open.	Number of Passengers.			Total.
		1st Class.	2d Class.	3d Class.	
1854	35	11,780	62,217	461,198	535,195
1855	35	6,168	34,812	446,784	487,764
1856	88	4,869	32,479	469,666	507,014
1857	88	8,013	32,137	606,962	647,112
1858	130	11,569	33,852	774,472	819,893
1859	194	12,938	107,919	1,040,644	1,161,501

The receipts from passengers and goods, and the working expenses and profits during the same periods, are exhibited in the following table :—

Year ending 30th June.	Receipts.			Total.	Working Expenses.	Net Profits.
	Passengers.	Miscellaneous.	Goods.			
	£	£	£	£	£	£
1854	13,647	604	—	14,251	7,129	7,122
1855	12,512	362	1,692	14,566	10,795	3,771
1856	14,714	784	7,945	23,443	12,030	11,413
1857	25,486	2,454	30,225	58,165	24,342	33,823
1858	35,224	4,289	35,520	75,033	32,472	42,561
1859	60,785	1,065	86,646	148,496	65,491	83,005

143. From the first of the foregoing statements it may be gathered that the proportion per cent. of each class of travellers in each year was as follows :—

Year ending 30th June.	1st Class.	2d Class.	3d Class.
1854	2·201	11·625	86·174
1855	1·264	7·137	91·598
1856	·960	6·405	92·683
1857	1·238	4·966	93·793
1858	1·411	4·218	94·460
1859	1·113	9·291	89·594

The numbers conveyed per mile were,—

Year ending 30th June.	1st Class.	2d Class.	3d Class.
1854	336	1,777	13,177
1855	176	994	12,765
1856	55	364	5,337
1857	91	365	6,897
1858	89	260	5,957
1859	67	556	5,364

It will be observed that the opening, in 1855–56 and 1857–58, of additional lengths of line was attended by a falling off in the mileage number of passengers. This was naturally to be expected, and it will be interesting to watch the gradual development of the traffic in the districts through which the railway is taken.

Traffic
Operations.
—
Great Indian
Peninsula Railway.

144. The following table shows that while the average distance travelled by each class increased every year, that distance was less in proportion to the length of line opened.

Year ending 30th June.	Average Distance travelled by each Class.		
	1st Class.	2d Class.	3d Class.
1856	Miles. 31	Miles. 17	Miles. 17
1857	38	24	23
1858	30	26	20
1859	42	27	31

The receipts from each class, and the average receipts per mile, were as follows :—

Year ending 30th June.	Total Receipts from each Class.			Grand Total.	Average Receipts per Mile of Line open.
	1st Class.	2d Class.	3d Class.		
	£	£	£	£	£
1854	1,671	3,341	8,635	13,647	389·9
1855	1,031	2,123	9,358	12,512	357·4
1856	1,250	2,257	11,207	14,714	167·2
1857	2,376	3,059	20,051	25,486	289·4
1858	3,059	4,443	27,722	35,224	270·1
1859	4,827	8,759	47,199	60,785	313·8

145. The subjoined table exhibits the proportion of working expenses to gross receipts, and the proportion per cent. of receipts from passengers and goods.

Year ending 30th June.	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of receipts from	
		Passengers.	Goods.
1854	50·0	95·7	4·2
1855	74·1	85·8	14·1
1856	51·3	63·0	37·2
1857	40·2	43·8	56·4
1858	43·2	46·9	53·0
1859	44·1	41·0	58·3

146. The following statements are reproduced from the last interesting Report of the Great Indian Peninsula Railway Company, for the year ending 30th June 1859. It shows, "in comparison with the previous year, the average number of passengers per train, the average earnings per passenger train, and the average mileage travelled by each passenger :—

	Average Passengers per Train.				Average Earnings per Train.						Average Mileage travelled per Passenger.		
	1st Class.	2d Class.	3d Class.	Total.	1st Class.	2d Class.	3d Class.	Parcels and Luggage.	Carrriages, Horses, and Dogs.	Total.	1st Class.	2d Class.	3d Class.
Year ended 30th June 1858	4	12	264	280	£ s. d. 1 0 10	£ s. d. 1 10 2	£ s. d. 9 9 2	£ s. d. 0 13 5	£ s. d. 0 15 10	£ s. d. 13 9 5	30	26	23
Year ended 30th June 1859	3	24	229	256	1 1 3	1 18 6	10 7 11	1 9 0	1 4 2	16 0 10	42	27	31
Increase -	—	12	—	—	0 0 5	0 8 4	0 18 9	0 15 7	0 8 4	2 11 5	12	1	8
Decrease -	1	—	35	24	—	—	—	—	—	—	—	—	—

“Notwithstanding the extension from time to time of the opened line, the number of second class passengers travelling did not increase, and was in point of fact smaller in the year ended the 30th June 1858, when the mean number of miles open was 90½, than it had been in the second year of the Company's working of the railway ended 30th June 1854, when the mean mileage was 34½, the number carried being 33,852½ in the year 1857-58, and 34,812 in 1853-54. It was determined, therefore, to reduce, experimentally, the second class fare from 12 pies to 6 pies per mile. This reduced fare was accordingly brought into operation on the 1st October 1858, and the result is shown by the following comparative statement of the passenger traffic in the last two years :—

Traffic
Operations,
Great Indian
Peninsula Railway.

	Mean Mile- age.	1st Class.			2d Class.			3d Class.		
		No.	Amount.	Per Mile.	No.	Amount.	Per Mile.	No.	Amount.	Per Mile.
			£ s. d.	£ s. d.		£ s. d.	£ s. d.		£ s. d.	£ s. d.
Year ended 30th June 1858	90·63	11,569	3,058 1 9	33 15 0	33,852½	4,433 10 6	48 18 4	774,472½	27,723 13 8	305 17 8
Year ended 30th June 1859	165·41	13,968½	4,627 14 6	29 3 8	107,919	8,759 8 0	53 19 1	1,040,644	47,196 1 1	285 6 10
Increase	74·78	13,369½	1,769 13 9	—	74,066½	4,315 17 6	4 0 9	266,171½	19,473 7 5	—
Decrease	—	—	—	4 11 4	—	—	—	—	—	20 10 10

“The Merchandise Traffic of the year was composed as follows :—

	Tons.	Average Mileage each Ton.	Total Earnings.	Average Number of Vehicles which comprised each Goods Train.	Average Load of Goods carried by each Train.	Average Load carried by each Vehicle.
			£ s. d.			
First Class - -	33,908	48	8,633 11 10			
Second Class - -	54,312	57	21,889 4 5			
Third Class - -	8,114	70	5,092 12 7			
Fourth Class - -	4,877	71	4,204 4 5			
Fifth Class - -	4,681	53	5,279 4 9			
Treasure - -	275	41	488 13 6			
Railway Materials	89,316	50	28,942 19 8			
	195,483	53	£74,530 11 2	24.34	Tons 50.021	Tons 2055 ”

147. The cost of the 195 miles, to which the above statements apply, including permanent way and rolling stock, is calculated at 1,699,033½, or about 8,713½. per mile. The net receipts for the half year ending 30th June last were 48,515½, which would produce a dividend at the rate of 5½. 14s. per cent. per annum.

MADRAS RAILWAY.

148. The following statement shows the number of passengers conveyed by this Madras Railway. line in each year since it was opened :—

Year ending 30th June.	Number of Miles open.	Number of Passengers.			Total.
		1st Class.	2d Class.	3rd Class.	
1857	65	1,579	6,650	155,827	164,056
1858	81	1,068	5,301	200,913	207,282
1859	96	929	11,598	276,422	288,949

Traffic
Operations.
—
Madras Railway.

Subjoined are the receipts from passengers and goods respectively, in the same years :—

Year ending 30th June.	Receipts.			Total.
	Passengers.	Miscellaneous.	Goods.	
1857	£ 12,753	£ 2,502	£ 10,811	£ 26,066
1858	17,051	4,603	14,827	36,481
1859	22,299	5,482	20,161	47,942

The proportion of each class of passengers in each year, was—

Year ending 30th June.	1st Class.	2d Class.	3d Class.
1857	·97	4·05	94·98
1858	·52	2·55	96·93
1859	·32	4·0	95·68

The numbers conveyed per mile, were—

Year ending 30th June.	1st Class.	2d Class.	3d Class.
1857	24·3	102·3	2397·3
1858	13·1	65·4	2480·4
1859	9·6	120·8	2879·3

The average distance travelled by each class, was—

Year ending 30th June.	1st Class.	2d Class.	3rd Class.
	Miles.	Miles.	Miles.
1857	48	39	36
1858	68	46	38
1859	63	42	37

The total receipts from each class, and the average receipts per mile, will be seen by the following table :—

Year ending 30th June.	Total Receipts from each Class.			Grand Total.	Average Receipts per mile of line open.
	1st Class.	2d Class.	3d Class.		
	£	£	£	£	£
1857	653	1,117	10,983	12,753	196
1858	574	1,160	15,317	17,051	215
1859	568	1,478	20,253	22,299	232

149. The percentage of working expenses to gross receipts, and the proportion per cent. of receipts from passengers and goods, was as follows :—

Year ending 30th June.	Percentage of Working Expenses on Gross Receipts.	Proportion per cent. of Receipts between	
		Passengers	and Goods.
1857	50·2	48·9	51·1
1858	52·1	46·7	53·3
1859	52·9	46·5	53·5

150. The cost of the line at present open for traffic is calculated at 672,000l., or 7,000l. per mile. As the accounts were originally made up, it would appear that the net receipts for the half-year ending 30th June last were about 7,015l., being equivalent to a dividend at the rate only of 2l. 1s. 9d. per cent. per annum. But this does not present a correct view of the case, for during that period a considerable sum was defrayed by revenue which should have been, and will be, borne by capital. It may also be observed that the traffic has since greatly improved, and that the net receipts of the last half-year will probably double those of that above mentioned.

Traffic
Operations—
Madras Railway.

TRAFFIC OF THE THREE RAILWAYS COMBINED.

151. The following statement presents a general view of the aggregate traffic on all the railways now open in India :—

General Traffic
Operations.]

Year ending 30th June.	No. of Miles.	Railway.	No. of Passengers.				Tonnage of Goods.	Receipts from Passengers.	Receipts from Goods.	Total Receipts.	Working Expenses.	Net Profits.*
			1st Class.	2d Class.	3d Class.	Total.						
1853-54	35	Great Indian Peninsula	11,730	63,217	461,198	535,195	23	13,647	£ 604	£ 14,251	£ 7,129	£ 7,123
1854-55	156	East Indian	15,476	78,708	777,330	851,514	33,603	36,009	10,015	46,024	31,876	14,148
1855-56	209	Great Indian Peninsula	16,918	86,153	1,342,301	1,345,372	133,107	58,504	47,118	105,622	45,795	59,827
1856-57	274	East Indian	23,001	91,088	1,710,747	1,834,836	260,792	92,723	106,154	197,877	81,596	116,281
1857-58	333	Great Indian Peninsula	27,400	90,918	2,012,401	2,130,309	329,063	111,181	150,615	261,746	111,444	150,303
1858-59	433	Madras	23,973	176,826	2,516,583	2,722,382	195,451	157,451	224,904	402,025	187,035	214,990

* It is possible that these amounts may be slightly altered hereafter, as there are certain charges about which there is some doubt as to whether they should be applied to capital or revenue.

† A further section of 35 miles was opened on the Great Indian Peninsula line just before the end of the year.

152. The number of passengers per mile in each year were,—

Year ending 30th June.	On the East Indian.	On the Great Indian Peninsula.	On the Madras.	Average on the Three Lines.
1854	—	15,291	—	15,291
1855	2,983	13,936	—	5,440
1856	6,933	5,761	—	6,440
1857	8,377	7,353	2,523	6,659
1858	9,120	6,306	2,559	6,418
1859	9,661	5,987	3,009	6,533

The proportion per cent. contributed by each company was,—

Year ending 30th June.	East Indian.	Great Indian Peninsula.	Madras.
1857	55.5	35.6	8.9
1858	51.7	38.5	9.8
1859	48.6	41.2	10.2

The proportion per cent. of passengers in each class was,—

Year ending 30th June.	1st Class.	2d Class.	3d Class.
1857	1.3	4.9	93.8
1858	1.3	4.3	94.4
1859	1.2	6.2	92.6

153. The following table shows the total receipts, working expenses, and profits :—

Year ending 30th June.	Receipts from Passengers.				Receipts from Goods.				Total Receipts.	Working Expenses.			Total Working Expenses.	Total Profits.*
	East Indian.	Great Indian Peninsula.	Madras.	Total.	East Indian.	Great Indian Peninsula.	Madras.	Total.		East Indian.	Great Indian Peninsula.	Madras.		
1853-54	-	13,647	-	13,647	-	604	-	604	14,251	-	7,129	-	7,129	7,123
1854-55	23,497	12,512	-	36,009	7,961	3,054	-	10,015	46,024	31,081	10,795	-	31,176	14,148
1855-56	43,790	14,714	-	58,504	33,289	8,729	-	47,118	105,622	33,765	12,030	-	45,795	59,827
1856-57	54,434	25,468	-	79,902	59,162	22,679	-	81,841	197,877	44,163	24,348	-	68,511	116,281
1857-58	55,856	33,324	-	89,180	91,376	39,809	-	131,185	261,746	82,472	16,465	-	98,937	150,303
1858-59	73,947	60,785	-	134,732	121,640	87,711	-	209,351	402,025	96,134	25,390	-	121,524	214,990

* Subject to future adjustment. See note to paragraph 151.

General Traffic
Operations.

The proportion per cent. of the receipts was—

	Year ending 30th June	East Indian.	Great Indian Peninsula.	Madras.
	1857	58·7	27·5	13·8
	1858	52·9	31·8	15·3
	1859	47	38·7	14·3

Amount advanced
for guaranteed
interest covered by
profits.

154. It is calculated that the cost of the lines which realized these profits was,—

* This does not include the cost of the 24 miles to Cynthea or the cost of making the road to the Burdwan Junction suitable for a double line, as neither of these works (which have since been finished) were in position to produce any return to June last.

East India	145 miles	£ 1,716,000
Great Indian Peninsula	195 „	1,699,000
Madras	96 „	672,000
		<u>£4,087,000</u>

The guaranteed interest upon these sums amounts to, on

East India 5 per cent.	-	-	-	-	£ 85,800
Great Indian Peninsula 5 per cent.	-	-	-	-	84,950
Madras { 500,000£. at 4½ per cent.	-	-	-	-	22,500
321,600£. at 5 „	-	-	-	-	8,600
Total	-	-	-	-	<u>£ 201,850</u>

The net profits of the three railways, notwithstanding the small earnings of the Madras line, amounted, for the year ending 30th June last, to more than this sum, so that the Government was practically relieved from any payment on account of the guarantee upon the capital expended on these lines.

155. From a former part of this Report it will be gathered that up to the end of the year the whole extent of railway open was 636 miles; but the length of line to which these traffic operations apply is only 436 miles, no returns having been received of the results of the remaining 200 miles.

Government liability
for guarantee.

156. It appears from the following statement, that on the 1st January 1860, the annual amount of interest payable by the Government of India to the Railway Companies, on account of the guarantee, was 1,352,039£. per annum, and that by the 1st January 1860 this amount will be increased to about 1,663,705£. In the mean time, however, the net earnings of the railways which are open for traffic will also increase, and assist to diminish the demand upon Government.

Railway Company.	Amount of Capital paid in on 31st December 1859, and Interest due thereon.		Amount estimated to be paid in during 1860, and Interest due thereon.		Total Interest.
	Capital.	Interest.	Capital.	Interest.	
	£	£	£	£	£
East Indian - - -	13,611,857	680,592	3,067,250	153,362	833,954
Madras - - -	3,898,427	189,921	1,152,000	57,600	247,521
Great Indian Peninsula -	5,641,634	282,081	900,000	45,000	327,081
Bombay, Baroda, and Central India - - - }	1,503,965	75,198	253,000	12,650	87,848
Sind - - -	914,787	45,789	150,000	7,500	53,289
Punjab - - -	506,945	25,348	100,000	5,000	30,348
Indus Flotilla - - -	249,140	12,457	152,235	2,611	15,068
Eastern Bengal - - -	427,458	21,372	360,000	18,000	39,372
Calcutta and South-Eastern	129,278	6,463	60,000	3,000	9,463
Great Southern of India -	196,221	9,811	200,000	10,000	19,811
Total - - -	27,079,712	1,348,982	6,394,485	314,723	1,663,705

157. It should be borne in mind, that of the 27,079,712£., upon which the sum of 1,348,982£. was due for interest, only 4,087,000£. was in a position to yield any return, that is to say, had been expended upon lines open for traffic, and it has been explained above that the earnings of the lines representing that capital amounted, during the year ending 30th June last, to more than the sum paid for the interest guaranteed upon it. Since that time a further improvement has taken place in the gross receipts, but the want of full particulars does not enable me to furnish the actual profits.

Financial pro-
spects.

158. This result may, I trust, be regarded as an earnest of what the financial position of these undertakings will be when they are completed throughout. It is thought by some that their present success is due to the shortness of the sections now open, and to their vicinity to the Presidency towns. But these opinions do

not apply so much to passenger as to goods traffic, from which latter source, I venture to think, the greater profits will ultimately be derived. At present, the conveyance of merchandize is very limited, and it cannot be expected that the traffic will be properly developed until a greater extent of line is open, but it will have been observed, by the tables given above, that the receipts from goods are already greater than from passengers; whereas the proportion in 1856 was 55·40 of the latter to 45·60 of the former; last year it was 39 to 61, per cent. Financial prospects.

159. There are two periods in the history of these undertakings, for the arrival of which the Government as well as the shareholders will look with interest. One, when, after the completion of each undertaking, the half-yearly profits shall exceed the rate of guaranteed interest, and when half such excess will accordingly be added to the 5 per cent. paid to the shareholders. The other, when the whole amount advanced by the Government, for the payment of the guaranteed interest, shall have been paid off, and the shareholders will receive the whole of the net receipts.

160. It would be premature now to attempt to calculate when these events are likely to occur. In the mean time, however, there is sufficient ground for looking forward to the realization of Lord Dalhousie's prediction, that "the Government will never be called upon, after a line shall have been in full operation, to pay the interest guaranteed upon the capital;" in other words, that a line, when completed and in full work, will realize a steady profit of 5 per cent. As this state of things must, however, depend upon various circumstances, it may be worth while to examine whether the hope may be justified by the present aspect of Indian railway projects.

161. The success of all railways is of course contingent upon their original cost, upon the manner in which they are managed when completed, upon the trade of the country and the extent and habits of the population of the districts through which they pass, upon the deterioration of the plant and road, and upon the amount of working expenses. And, when applying these conditions to India, it may be possible to arrive at something like a correct estimate of the commercial value of railways in that country.

162. Before considering the question of the cost of construction, it should be borne in mind that no expense attending the purchase of land falls upon the Indian railway shareholder, that Parliamentary contests are avoided, and that the expenses on account of law and parliamentary proceedings are, consequently, very trifling, when compared with that paid by English companies. The table subjoined exhibits the expenses incurred by some of the English, as well as the Indian railway companies in being formed and incorporated, and the proportion which such expenses bear to the capital. Law and Parliamentary expenses

Railway Company.	Total Capital of the Company.	Law and Parliamentary Expenses.			Proportion which the Total Parliamentary Expenses bear to the Total Capital.
	£	£	s.	d.	
Eastern Counties - - - -	11,611,085	268,201	2	3	2·3 per cent.
Great Northern - - - -	11,444,404	334,219	0	0	2·92 "
Great Western - - - -	27,430,710	760,270	6	1	2·77 "
London, Brighton and South Coast -	7,799,257	43,690	9	5	·56 "
London and North-Western - -	34,041,013	869,771	0	9	2·55 "
London and South-Western - -	9,506,225	813,702	0	0	8·6 "
Midland - - - -	20,712,981	597,890	10	10	—
South-Eastern - - - -	11,044,592	515,707	11	3	4·669 "
East Indian - - - -	17,000,000	4,093	0	0	·02 "
Madras - - - -	8,500,000	1,183	0	0	·01 "
Great Indian Peninsula - -	12,000,000	4,124	0	0	·03 "
Bombay, Baroda, and Central India -	2,500,000	3,033	0	0	·12 "
Scinde - - - -	3,000,000	2,383	0	0	·07 "
Eastern Bengal - - - -	1,250,000	926	0	0	·07 "
Great Southern of India - -	500,000	466	0	0	·09 "
Calcutta and South-Eastern -	250,000	1,174	0	0	·46 "

* This observation does not, however, apply with great force to the East Indian, partly in consequence of the addition caused to their expenses from losses, incurred by the Mutiny, &c.

163. The amount affixed to the Indian lines in the following statement exhibits, therefore, with trifling exceptions, what is actually required* for the construction of the Comparison of cost with other lines.

Comparison of cost
with other lines.

works and the supply of plant. It will be seen that the average cost of Indian railways bears a favourable comparison to that of other countries.

Name of State.	Year.	Length of Line open.	Total Capital expended.		Receipts from Traffic.		Working Expenditure.		Net Receipts.		Proportion per Cent. of Working Expenses to Receipts.	Proportion per Cent. which Net Receipts bear to the Capital expended.
			—	Per Mile of Line open.	—	Per Mile of Line open.	—	Per Mile of Line open.	—	Per Mile of Line open.		
		Miles.	£	£	£	£	£	£	£	£		
Austria	1856	1,586	25,876,786	16,378	3,461,322	2,190	1,824,120	1,150	1,637,202	1,040	52.70	6.32
Belgium	1856	445	7,294,788	16,391	960,327	2,158	580,600	1,290	389,727	888	58.16	5.46
France	1854	2,913	74,772,994	25,688	7,882,666	2,706	3,409,237	1,191	4,613,439	1,515	44.01	6.58
Germany, exclusive of Austria and Prussia	1855	2,226	29,185,250	13,111	4,042,370	1,816	1,442,938	897	2,599,442	919	49.38	5.70
Great Britain { England and Wales	1857	6,706	263,145,238	39,275	20,195,460	3,161	9,707,498	1,564	10,487,962	1,597	48.00	4.06
Scotland		1,243	38,084,288	30,225	2,486,890	2,107	1,093,970	941	1,392,920	1,166	44.00	4.13
Ireland		1,070	16,760,800	15,604	1,139,296	1,091	438,771	465	700,525	626	38.00	3.99
Holland	1857	163	3,243,845	19,931	278,619	1,709	169,837	1,042	108,782	667	60.98	3.35
Prussia	1856	2,503	35,295,048	14,101	4,537,802	1,877	2,341,005	988	2,196,597	909	51.59	6.23
Sardinia	1855	234	—	—	338,724	1,477	174,050	744	164,674	703	51.38	—
Spain	1855	130	—	—	137,028	924	67,879	528	69,149	402	56.48	—
Switzerland	1856	203	4,037,427	19,888	120,271	636	69,273	341	59,998	295	54.28	1.46
Tuscany	1856	132	2,053,468	15,556	127,536	966	58,901	446	68,635	520	46.18	3.94
United States of America	1855	17,481	144,646,953	8,275	18,780,848	1,234	10,079,149	606	8,701,700	568	54.00	6.70
East Indian	1858-59	142	1,716,000	12,084	205,587	1,447	96,184	677	109,403	770	45.04	7. 4. 10.
Great Indian Peninsula	1858-59	194	1,699,033	8,758	148,496	764	65,491	337	83,005	427	44.1	5. 14. 0.
Madras	1858-59	96	672,900	7,000	47,942	499	25,890	264	22,552	234	52.9	2. 1. 9.

164. By taking the instances of two trunk railways in England and India respectively, some idea may be formed of the comparative cost to the shareholders of such lines in each country. The works and stock included in the present undertaking of the London and North-Western Company, and the purchase of land, involved an expenditure nearly three times greater than that which it is expected will be required for the line from Calcutta to Delhi and its branches. The former line embraces a length of 686½ miles, and the capital amounts to 34,559,446£; the average cost per mile being 50,000£. The latter is 1,120 miles in length, and the cost, exclusive of the purchase of land, which is provided by Government, is likely to be 17,000,000£. for a single, or 20,000,000£. for a double line, or 14,480£. and 17,480£. per mile respectively.

Comparison of
working expenses.

165. It would appear also, by the above statement, that the expenses of working lines at present open in India, and of maintaining them, is not greater than similar charges in other countries. It is, however, almost premature to express any decided opinion upon this point. On the one hand, the railroads have not been opened for a sufficient length of time to enable a judgment to be formed of the deterioration that will take place in the permanent way materials and rolling stock; and, on the other hand, the charges for management are probably larger in proportion to the extent of line open than they will be when the whole of the work is completed. At the same time, the returns which have been made indicate a gradual reduction in the expenditure on this head. The full effects of the climate and the depredations of the white ant upon the wooden materials (such as sleepers, fencing, &c., which form part of the work) have yet to be ascertained, but sufficient has already been observed to lead to the belief that the process of decay will not be slow, and that it will, in all probability, be found economical to substitute iron for wood as much as possible. Taking, however, everything into consideration, there is no reason for supposing that the cost of working and maintaining railways in India will bear an unfavourable comparison with that incurred on railways in other countries.

166. With regard to traffic, the statements above furnished, exhibiting the results of the past, afford, perhaps, a sufficient encouragement for the future; and it may be observed, that these results would have been still more satisfactory if the Madras line were a fair criterion of the traffic which it ought to command; but the absence of roads from the existing highways to the stations has hitherto offered a great obstacle to its development.

Prospects of suc-
cess.

167. The various lines must necessarily differ in their respective results, according to the circumstances of the districts through which they pass, but assuming that the requisite facilities will, in all cases, be afforded for obtaining a

ready access to them, and considering that the competition will be avoided, which in this country has been the means not only of exhausting funds at the outset, but of seriously diminishing the amount of profits that had been calculated upon, ample grounds exist for the expectation, that when once the lines are completed and brought into working order, the traffic will be sufficient, not only to cover the guaranteed interest, but to produce a highly remunerative return. Prospects of success.

168. Having alluded to the question of competition, I should observe, that any injurious effects which the existence of an apparent monopoly might seem calculated to produce upon the interests of the community at large is prevented by the power which is reserved to the Government to regulate the proceedings of the Railway Company, and to fix, in the first instance, the rates and fares which they may impose. In considering this question, the Government is influenced by the two-fold desire to produce as remunerative a traffic as possible, and to confer as much convenience and benefit upon the population of the country, and as many facilities for its trade, as are compatible with the extent of profits contemplated in the clause of the contracts relating to the question of fares. The problem is a difficult one, and can only be solved by careful experiments. These have been, and are now being, tried, and modifications in the tariffs have, from time to time, been made, as circumstances seemed to require. Fares. See Appendix.

169. It is worthy of note how greatly the traffic of the third class preponderates. The proportion of first and second class put together is to the third class as 1 to 16½. This shows, conclusively, how strong has become the desire of the population at large to move about, when the means of doing so has been provided. If railways have produced this result with a people usually regarded as inactive and stationary, it may reasonably be expected that an impulse will be given to the already expanding trade of India,* the advantages of which will be felt equally in this country as in India. Effects upon people and trade of India.

170. It may be interesting, as an example, to examine the effect which they will probably have upon the great staple of our manufacturing districts. It appears by the Statement* appended, that the average amount of cotton supplied per annum to the United Kingdom, by India, during the ten years ending 1858, was 146 million pounds, or about 18 per cent. of the total imported into the former. America supplies 75½ per cent. of the remainder. Of the Indian portion, Bombay sends 135 million pounds, Madras 9½ millions, and Bengal 1½ millions. By far the greater quantity, therefore, comes from Bombay. The cotton fields of Berar and Surat will soon be penetrated by the Great Indian Peninsula and the Bombay and Baroda Railways. Hitherto the cotton from the former district has been carried to the port of Bombay, a distance of 450 or 500 miles, on the backs of bullocks or in country carts; from the latter it has been conveyed in small Carriage of Cotton &c.

* STATEMENT.

Year.	East Indies.		United States.		Other Parts.		Total.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.	Amount.	Value.
	lbs.	£	lbs.	£	lbs.	£	lbs.	£
1849	67,303,519	1,775,309	634,504,050	13,549,722	50,126,447	1,070,408	751,834,016	16,395,439
1850	110,690,357	2,201,178	493,153,112	14,897,334	51,551,007	1,557,270	655,394,476	18,655,782
1851	141,446,798	3,474,789	596,638,963	14,294,275	38,113,811	517,310	776,199,571	18,286,574
1852	81,104,223	3,619,989	765,630,544	17,146,930	79,229,479	1,856,941	925,964,239	22,623,860
1853	181,360,994	3,629,494	658,451,796	15,015,797	54,978,793	1,289,399	894,791,583	19,934,690
1854	138,183,429	2,802,150	722,151,346	16,173,182	45,345,794	1,015,565	905,680,569	19,990,997
1855	119,513,537	2,428,764	681,629,424	16,330,705	64,943,312	2,389,267	866,086,273	21,148,736
1856	170,771,510	3,314,951	780,040,016	32,001,000	63,349,888	1,583,747	1,014,161,414	36,899,698
1857	253,410,036	4,437,949	654,758,048	19,779,149	64,222,704	1,940,161	972,390,788	26,157,259
1858	197,221,247	4,301,769	833,237,776	21,720,567	68,381,824	1,780,777	1,098,840,847	27,803,113
Total.	1,460,905,650	31,986,342	6,820,195,074	180,908,861	580,243,052	15,000,845	8,861,343,776	227,896,048
Average per annum	146,090,565	3,198,634	682,019,507	18,090,886	58,024,305	1,500,084	886,134,377	22,789,604

Carriage of
Cotton, &c.

coasting vessels. The system of packing and cleaning it, has been very imperfect, and upon reaching Bombay it is found, frequently after a journey of six or eight weeks, to have deteriorated in quality and to have diminished in quantity. It has been estimated that the expense of conveying it from Berar amounts to 1½d. per lb., but it is often much higher. This addition to its cost, and its present inferiority to American cotton, prevents the grower from realizing an adequate profit, except when America fails to send the necessary supply to England. It is the opinion of competent judges that the growth of cotton in Berar may be increased to an almost unlimited extent, and that, with care and attention, its quality may be improved. When railways afford a safe and expeditious means of conveyance, and enable it (as the present rates would do) to be delivered at Bombay at more than a penny a pound cheaper than can now be accomplished under the most favourable circumstances, there will be no excuse for inattention to its culture, for the cost of bringing it to the English market would then be so reduced as to enable it to compete, upon more equal terms, with American cotton. In a few words, the result of railway communication will be, the greater supply to this country of a better article at a cheaper rate.

General advantages of railways in India.

171. The same observations are equally applicable to other products, such as sugar, indigo, rice, &c., which are exported from India, as well as to many resources of the country, including wool, flax, fibres, &c., which have hitherto remained comparatively unknown or dormant, principally from the deficiency in the means of conveying them to a seaport. The most important of these resources, the development of which will add more to the material wealth of the country than almost any other product, are coal and iron. For it is possible that, by the use of these essential aids to the working of machinery, India may again become a manufacturing as well as a producing country. In addition to the commercial benefits which are thus likely to arise, it is hardly necessary to allude to the political, military, and social advantages which will result from railways in India. The saving of time alone will be calculated by weeks, instead of hours as in other countries where railways have been introduced. Whether this saving is considered in reference to the movements of troops, the conveyance of passengers, or the carriage of goods, the advantages will be enormous. The ease and security which is derived from railways will also be more sensibly felt in India than in almost any other country. Troops will be moved without fatigue and danger to health, and Government will be enabled to concentrate them at any given point at a few hours' notice; merchandize will be conveyed without the damage and loss to which it is subject by road or river transit; and the facilities for personal intercourse, and for the spread of intelligence afforded thereby, will not fail to improve the social condition of the country.

Light railways.

172. It would not be within the scope of a Report of this character to enter into a full consideration of the policy of the guarantee system, or to inquire into the expediency of retaining the construction and management of railways in the hands of Government, although both are questions which have been much discussed in respect of Indian undertakings. Nor is it my province to examine into the question of the applicability of light railways and tramways to the requirements of India. I would only suggest, with reference to this question, that it should be borne in mind that the railways hitherto sanctioned are trunk lines, intended as the main arteries of communication throughout the country, from which branches will ultimately strike out, and that their objects would have been but imperfectly fulfilled, if they had not been constructed of so solid and permanent a character as to ensure an uninterrupted traffic throughout the year, and to afford the means of high-speed locomotion. Their cost has, in some instances, and from unforeseen circumstances, disappointed expectation. The average will, however, upon the whole, show a moderate outlay. But the conditions which have regulated their construction need not, necessarily, be applied to branch lines, which, for the most part, will be executed for local purposes.

Conclusion.

173. I feel, Sir, that in some of the observations which I have ventured to submit, I may have already transgressed the strict limits of an official Report. But it appeared to me that the novelty of the system which has been applied to railways in India justified a review of the circumstances under which that system was introduced, as well as an explanation of the basis upon which it is founded. And the great stake which the Government has in these undertakings furnished

me, I thought, with an excuse for examining their prospects of success, in order Conclusion.
that it might be seen what grounds exist for the hope that the Indian revenue will
ultimately be relieved from the payment of the guaranteed interest and that the
15,224 shareholders who have embarked their money in them have made a
profitable investment.

I have the honour to be,

Sir,

Your most obedient, humble Servant,

JULAND DANVERS,

Secretary, Railway and Telegraph Department.

APPENDIX.

FORM OF DEED OF CONTRACT.

THE following are the provisions contained in the Deeds of Contract between the Government of India and the Railway Companies :—

1. That it shall be lawful for the Secretary of State in Council to determine, fix upon, and **Selection of line.** select the route and direction of a line of railway, to commence at or near to and to proceed to or near , and such selected line of railway, of an estimated cost, to be approved of by the Secretary of State in Council, shall be completed by the said Railway Company, and opened for the conveyance of passengers and goods with all practicable speed.

2. That the Secretary of State in Council shall give notice to the said Railway Company **Notice of line.** of the line when so selected as aforesaid, or of any part or parts thereof, as such part or parts shall from time to time be fixed upon; and it shall be lawful for the Secretary of State in Council, from time to time, to alter the said route or direction, or to extend or limit the same as they shall think fit, after such notice as aforesaid: Provided always, that if such alteration of route or direction shall be made after the said railway shall have been commenced in a previously selected route or direction, the expense of the said railway, or in any way incident to the said alteration, shall be considered as properly incurred by the said Railway Company.

3. That the Secretary of State in Council shall, after the selection of the route and direction **Land.** of the said line of railway, or of any part or parts thereof, and from time to time as may be necessary, provide the land which shall be required for the said railway, or for the part or parts thereof so selected, and the works connected therewith, and for proper stations, offices, warehouses, and other conveniences for the same, and shall give to the said Railway Company possession thereof, and that all land of which possession shall be so given to the said Railway Company which shall not be permanently required for the purposes of the said Railway Company shall, as soon as practicable, be restored and delivered up by the said Railway Company to the Government of India for the use of Her Majesty, her heirs and successors, for the purposes of the Government of India.

4. That the said Railway Company shall, on receiving possession of the same land, or any **Works.** part thereof, forthwith and subject to the supervision and control herein-after prescribed, commence and proceed with diligence in the construction of the said line of railway, and of all such stations, offices, warehouses, fixed machinery, and other works and conveniences as in the opinion of the Secretary of State in Council (such opinion to be certified in writing) shall be necessary or expedient, as well with reference to the original construction of the said railway, and the working thereof, as with reference to the permanent maintenance thereof, and its protection from injury or destruction by inundation, tempests, or other causes whatsoever; and such railway shall be made at such gradients, and shall be furnished with rails of such weight and strength, and laid down and secured in such manner, and shall consist either of a single or double line of railway as the Secretary of State shall in writing direct, and shall, if required by the Secretary of State in Council, and at such time or times as they shall in writing require, be provided with an electric telegraph, constructed along all or such part or parts of the said railway, and upon such principle and under such regulations as to its use, and the terms of its use, as the Secretary of State in Council shall in writing direct or approve of; and the said Railway Company shall, from time to time, attend to execute and perform all such directions in writing as may from time to time be given by the Secretary of State in Council for any deviations from or alterations in any directions or requisitions previously made or given with respect to the premises. And the said Railway Company shall, as soon as the said railway shall be completed for such a distance as in the opinion of the Secretary of State in Council shall be desirable, open the same for the conveyance of passengers and goods.

5. That it shall be lawful for the Secretary of State in Council, from time to time, by **Opening.** notice to the said Railway Company, to require any specified part or parts of the said line of railway to be completed as aforesaid, and to be opened for the conveyance of passengers and goods before the remaining part or parts thereof shall be constructed, and such requisitions shall be complied with and fulfilled by the said Railway Company.

6. That the said Railway Company shall pay into the Bank of England, to the account of **Money capital.** the Secretary of State in Council of India, the sum of not less than , which, with the sum of , will make up in all the sum of sterling, by such

instalments and at such times as the Secretary of State in Council may require, and such payments may be made in sums of not less than _____ each, in London, provided that if the said Railway Company shall receive any portions of the capital already subscribed, or hereafter to be subscribed, in India, it shall be lawful for them to pay the amount so received in sums of not less _____ rupees into the treasury at _____, in or towards satisfaction of the said instalments, and the acknowledgments of such respective payments there shall, when produced to the Secretary of State in Council in London, be considered and taken in part satisfaction as on the days of payment thereof respectively of the said sum of _____, at the exchange of 1s. 10d. for each Company's rupee: Provided always, that such payments into the treasury at _____ shall not exceed the amounts which may from time to time be required for expenditure in India, such limit being determined upon by the Secretary of State in Council.

Draft on capital.

7. That as often as, and when any money shall be required by the said Railway Company for any purposes in connexion with the said line of railway, sanctioned by the Secretary of State in Council, and with reference to the particular sums from time to time required, only so far as such purposes shall have been performed to the satisfaction of the Secretary of State in Council, or when any money shall be required for the performance of works in connexion with the said line of railway, sanctioned by the Secretary of State in Council, while the same shall be in course of execution, the same may be drawn in such sums as shall, from time to time, be necessary, by the said Railway Company in London or in India, according to such arrangements as shall be made from time to time with the Secretary of State in Council for that purpose; but ten days' notice of every such draft, or proposed draft, shall be given to the Secretary of State in Council, or to the Government of India, or to such Lieutenant Governor or such authority as the said Government of India may direct; and all sums of money which shall be so drawn at _____ shall be set off at the exchange of 1s. 10d. for each Company's rupee against the said sum of _____ sterling, or so much thereof as shall have been paid into the Bank of England to the account of the Secretary of State in Council as aforesaid; and the said Railway Company shall not in any case be entitled to draw in London or in India to an extent greater than the balance in their favour for the time being in respect of the capital raised for the said line of railway.

Plant, fares, and tolls.

8. That when and so soon as the said line of railway, or any part or parts thereof which shall have been required by the Secretary of State in Council to be completed before the construction of the other parts, shall be completed and ready to be opened for the use of the public, and so, from time to time, as any such part thereof shall be so completed and ready to be opened, the said Railway Company shall and will, subject to the supervision and control herein-after mentioned, provide to the satisfaction of the Secretary of State in Council a good and sufficient working stock of engines, carriages, and other plant and machinery for working the said railway, or such part or parts thereof as shall have been completed as aforesaid, and carrying on the business and traffic of the same, and the said Railway Company shall and will forthwith commence and carry on the business of common carriers of goods and passengers upon the said railway, and for that purpose shall cause to be run on the said railway so many trains, at such times and at such rates of speed, and between such places, and with such conveniences and accommodations, as the Secretary of State in Council shall from time to time require. And the said Railway Company shall and will allow the use of the said railway to the public on such terms as shall be approved by the Secretary of State in Council; and the said Railway Company shall be authorized and empowered to charge such fares for the carriage of passengers and goods, and such tolls for the use of the said railway as shall have been approved by the said Secretary of State in Council, and shall not in any case charge any higher or different fares or tolls whatsoever without such approval being first obtained; but such fares or tolls shall, when such net receipts as are herein-after mentioned shall in any year have exceeded ten per cent. upon the outlay, be reduced in accordance with any requisition of the Secretary of State in Council in that behalf, but only with a view of limiting the said fares and tolls so far that the net receipts shall not exceed ten per cent. as aforesaid.

Title to land.

9. That upon the completion of the said line of railway, or of any part or parts thereof which shall have been required by the Secretary of State in Council to be completed before the construction of the remaining part, the Secretary of State in Council shall and will grant to the said Railway Company a lease of or otherwise secure to them a right and title to the land which shall have been provided under the provisions in these presents contained, or of so much thereof as shall be required for the completed line, and for the works and conveniences thereto belonging for a term of ninety-nine years, commencing from the day of the date of these presents, unless the same shall be sooner determined under the provisions herein contained, and the Secretary of State in Council shall guarantee to the said Railway Company the quiet and undisturbed possession of such land, but shall not be called upon to show any title thereto.

**Supervision;
Government Director
may be appointed;
his powers and
privileges.**

10. That the said Railway Company and their officers, servants, and agents, as also their accounts and affairs, shall in all things be subject to the superintendence and control of the Secretary of State in Council, as well in England as elsewhere, and in particular that no bye-laws, contracts, orders, directions, proceedings, works or undertakings, acts, matters, or things whatsoever, shall be made, done, entered into, commenced or prosecuted by or on the

part of the said Railway Company, unless previously sanctioned in writing by the Secretary of State in Council, or in some other manner to be prescribed by them, and that no monies shall be raised by the said Railway Company by any other means than by calls upon or payments in respect of the Shares in the same Company, without the sanction of the Secretary of State in Council in writing, and no extension in the number of shares in the said Railway Company or in the amount of its capital shall be made, unless sanctioned in like manner; and that it shall be lawful for the Secretary of State in Council, from time to time, to give to the said Railway Company, their officers, servants, and agents, all such orders and directions as the Secretary of State in Council shall from time to time think fit, with reference to the railway and works to which this present contract relates, and with reference to the manner and times of executing the same, and with reference to any contracts, orders, and directions to be entered into, made, or given with regard thereto, and otherwise with reference to the same, all which contracts, orders, and directions shall be executed and followed by the said Railway Company, to the satisfaction of the Secretary of State in Council, the costs and expenses of the same, which shall have been allowed and sanctioned by the Secretary of State in Council, being paid out of the capital of the said Railway Company, raised for the purposes of this present contract: And that for better enabling the Secretary of State in Council to exercise the control and direction intended to be hereby secured, the said Railway Company shall record and keep in proper books for that purpose full and particular accounts of all their transactions and proceedings, including full and true minutes of all their meetings, meetings of Directors, communications with India, and correspondence, so as at all times to exhibit thereby fully and truly the state of their affairs and proceedings; and that the Secretary of State in Council, and any person or persons appointed by him in that behalf, shall at all reasonable times have free access to all the books, accounts, papers, and documents of the said Railway Company (except communications between the said Railway Company and their legal advisers), and power to make copies of or extracts from the same, whether such books, accounts, papers, and documents relate to the said railway and works, or to any other matters and things whatsoever in which the said Railway Company shall or may be interested; and for the purposes aforesaid it shall be lawful for the Secretary of State in Council, from time to time, to appoint any one person, not being a shareholder in the said Railway Company, to be a Director of the said Railway Company, to be called the Government Director, which Director, if and when appointed, shall rank as and be one of the Board of Directors of the said Company, and be entitled in all things to act as such, and to exercise at his discretion a right of veto in all proceedings whatsoever at Boards of the said Directors, except proceedings for the purpose of communicating with the legal advisers of the Company, and shall not be removeable except by order of the Secretary of State in Council, and shall, in case the whole number of Directors shall at the time of his appointment be filled up, come and be in the place of the Director who shall retire from the direction according to the decision of the Board, such decision being taken by ballot, but such Government Director shall not be entitled to any salary from the said Railway Company: Provided always, that nothing herein-before contained shall authorize the Secretary of State in Council to appoint any officer or servants of the said Railway Company, except such Government Director as aforesaid.

11. That all the expenses of the said railway, in respect of the said line of railway, shall from time to time be stated and submitted to the Secretary of State in Council, for his sanction and approval, and as between the said Railway Company and the Secretary of State in Council, shall be allowed so far only as the same shall from time to time have been sanctioned and approved by the Secretary of State in Council: Provided always, that the last-mentioned stipulation shall not interfere with any such subsidiary agreement or agreements (if any) as from time to time may be made between the said Railway Company and the Secretary of State in Council, for the performance of any part or parts of the said railway and works, at any sum or sums of money to be specified in such subsidiary agreement or agreements, in which case the expenses in respect of the same shall be allowed and taken at the sum or sums which shall be so agreed upon. Sanction of expenditure.

12. That a capital account relating to the construction of the said line of railway, and the works, conveniences, and telegraphs thereto belonging, and relating to the original cost of engines, carriages, plant, and machinery provided for the purposes of the said line, to be called "The Capital Account," shall be kept by the said Railway Company, to which account all monies paid by the said Railway Company, the expenditure of which shall have received the sanction and approval of the Secretary of State in Council, shall from time to time be carried, and when and so soon as the said railway and works shall have been completed, and furnished with the necessary rolling stock and plant, or at any earlier time or times, if the Secretary of State in Council shall require the same, the said capital account shall be made up, and a statement shall be furnished to the Secretary of State in Council of the aggregate amount of capital, which, according to such account, shall have been expended, and such amount shall, by examination of such account, be ascertained and certified by the Secretary of State in Council, and thenceforth and from the opening of the said line of railway or any part thereof, the cost of maintaining it, with its machinery and stock in good working condition, shall be payable by the said Railway Company out of the revenue of the said railway, including any interest to be received from the Secretary of State in Council, as herein-after is mentioned; but upon any additions, alterations, or improvements, such as shall properly be chargeable to the capital account, being thereafter made, with the sanction and Capital account.

approval of the Secretary of State in Council to, of, or in the said railway, or the works, conveniences, or telegraphs thereto belonging, or the engines, carriages, and other plant and machinery belonging thereto, the cost necessarily incurred in executing such additions, alterations, or improvements shall be added to the said capital account, and the said capital account shall from time to time be made up and stated afresh as occasion shall require, and be ascertained and certified accordingly,

Repair and maintenance of rolling stock.

13. That at all times during the said determinable term of 99 years the said Railway Company shall keep the said railway, or so much thereof as shall be completed and opened for traffic, and the works and conveniences belonging thereto, and the telegraphs on the said railway (if any) in a state of good repair, and in good working condition, to the satisfaction of the Secretary of State in Council, and shall keep the same fully provided with rolling stock and plant adequate to the service thereof to the satisfaction of the Secretary of State in Council.

Revenue account.

14. That the said Railway Company shall, in such forms and under such heads or divisions as shall be prescribed by the Secretary of State in Council, keep accounts of all receipts and payments whatsoever in respect of the said line of railway (other than such receipts and payments as properly belonging to the capital account herein-before agreed to be kept), and such accounts shall be called the "Revenue Accounts," and shall be made up half-yearly to the 30th day of June and the 31st day of December in every year, or to such other days in the year as the Secretary of State in Council shall appoint, and shall be regularly transmitted to the Secretary of State in Council, who shall be at liberty in all times, in auditing the same accounts, to make any corrections therein which may be necessary.

Deposit of revenue, and drafts thereon.

15. That all the earnings of the said railway, received by or on account of the said Railway Company in India, shall be paid at such times and in such manner as the Secretary of State in Council shall direct, without any deduction under any pretence whatever, into the Treasury of the Government of India at , to an account to be kept separately, to be called "The Revenue Account," and when any money shall be required by the said Railway Company for any purposes in connexion with the said railway, sanctioned by the Secretary of State in Council, such money may be drawn by the said Railway Company according to such arrangements as shall from time to time be made with the Secretary of State in Council for that purpose.

Guarantee of interest.

16. The Secretary of State in Council shall, from time to time during the determinable term of 99 years, pay out of the revenues of India to the said Railway Company in London, half-yearly, on the 30th day of June and the 31st day of December in every year, interest at the rate of per cent. per annum on the said sum of sterling, or on such parts thereof as shall for the time being have been paid into the Bank of England, to the account of the Secretary of State in Council, or into a treasury in India, as aforesaid, such interest upon any part of the said sum of being considered, in the first instance, as running from the day on which the same part shall have been so paid into the Bank of England to such account.

Excess above.

17. That if the expenditure of the said Railway Company in making the said railway and works, or otherwise in respect of the matters to be included in the said capital account, shall exceed the said sum of , the money necessary to meet such excess shall be raised and paid by the said Railway Company into the Bank of England, to the account of the Secretary of State in Council, and the Secretary of State in Council shall, from time to time, during the then residue of the said determinable term of 99 years, pay out of the revenues of India to the said Railway Company, half-yearly, on the days aforesaid, interest at the rate of per cent. per annum, such interest on the same monies to be calculated from the respective times when they shall have been so paid into the Bank of England as aforesaid.

Application of profits.

18. That so soon as the said Railway Company shall begin to work the said line of railway, or any part thereof, and henceforth during the said determinable term of 99 years, the net receipts which shall be realized during any half year, or from the commencement up to the first of the aforesaid half-yearly days on the said line of railway, or on any part thereof, after deducting therefrom all sums which shall have been expended in the repairs and maintenance of the said line of railway and works, and the repair and restoration of the rolling stock and plant belonging thereto, or have been duly apportioned to the account of the said line of railway for expenses of management and conduct of the said Railway Company and its affairs, and which shall have been allowed or sanctioned by the Secretary of State in Council, and also deducting such sum (if any) as, with the consent of the Secretary of State in Council, may be appropriated and set apart for repairing,* restoring, and making good any deterioration of the railway and works or stock and plant, and for the current expenses of working the said railway (the money to be so appropriated and set apart as a reserve fund, or any part thereof being invested and accumulated or otherwise dealt with, till required for application in any manner the said Railway Company may think fit, subject to the sanction and approval of the Secretary of State in Council), shall be applied, in the first instance, in or towards discharge of the interest, which shall be payable by the Secretary of State in Council under their covenants in this indenture contained, in respect of the said half-year, so as to exonerate the Secretary of State in Council, so far as the same net receipts will extend, from the payment of such interest,

* In the case of the Indus Steam Flotilla, the contract provides for the establishment of two funds, viz., the "Insurance and Contingencies Fund" and the "Depreciation Fund," which are to be formed and kept up by the application of a certain percentage of the profits.

the money to be so applied being reckoned at the fixed and permanent exchange of 1s. 10d. per Company's rupee, and the residue (if any) of such net receipts shall be applied in manner following, that is to say, one moiety thereof shall be forthwith applied in the repayment of such sums of money as shall at any previous time or times have been paid by the Secretary of State in Council to the said Railway Company under the covenants in this indenture contained, by way of interest as aforesaid, together with simple interest on such sums of money at the rate of per cent. per annum from the times of payment respectively, and such moiety shall be paid into the Treasury of the Government at , and shall be reckoned at the said rate of exchange, and shall be applied in reduction and discharge of the whole of the interest payable to the Secretary of State in Council on the said sums of money, before the same shall be applied in liquidation of any part of the principal thereof, and the other moiety of the said surplus net receipts shall be paid to or applied for the use and benefit of the said Railway Company; and if, at any time during the determinable term of 99 years, the whole of the monies previously paid by the Secretary of State in Council as aforesaid, with interest thereon, as aforesaid, shall have been repaid and discharged, then for every half-year during such time, and so often as the same shall happen, the said Railway Company shall be entitled, for their own use and benefit, to the entirety of the said surplus net receipts, or, as the case may be, so much thereof as shall remain after such repayment and discharge, as last aforesaid, shall have been made.

19. That the said Railway Company will at all times during the said determinable term convey on the said railway the Government mails and post bags, and the guards and other servants of the Post Office in charge thereof, free of charge; and when they are on duty, all officers and persons in the administration of the Post Office also free of charge, and will also convey on the said railway, when they are on duty, the troops in Her Majesty's service, both horse and foot, and all other persons to whom the provisions of the Mutiny Acts and Regulations for the time being in force for Her Majesty's European and Indian forces respectively shall be applicable, and all artisans on the business of the Government; the officers and persons of similar station in life to be entitled to travel in first-class carriages at second class fares, and the troops and European artisans in second-class carriages at the lowest fares, and all other persons at the lowest fares, with two tons of baggage for every hundred men, free of charge, and will also convey on the said railway all general stores belonging to the Government, and all guns, ammunition, horses, and other animals used for military purposes, and all military stores, carriages, waggons, camp equipage and equipments whatsoever, at the lowest rate, for the time being, chargeable for the carriage of such animals, goods, and merchandise, the several privileges of conveyance and carriage hereby stipulated for, being at all times to be used and enjoyed in preference to and priority over the public use of the said line of railway for conveyance and carriage.

Mails and troops.

20. That at the end of the said term of 99 years, by effluxion of time, the land to be provided as aforesaid, with the railway thereon, and all buildings, works, fixed machinery, telegraphs, and conveniences whatsoever, shall revert to and become the property of Her Majesty, her heirs and successors, for the purposes of the Government of India, free from all debts and charges whatsoever (save such as shall have been sanctioned by the Secretary of State in Council), and any lands in Great Britain which may then be held by the said Railway Company for the purposes of the undertaking to which this contract relates shall be sold, and the clear monies produced by any such sale shall be paid into the Bank of England to the account of the Secretary of State in Council, and the said Railway Company shall deliver to the Secretary of State in Council their property on the same account, all plans, surveys, sections, books, printings, writings, drawings, and documents whatsoever in anywise connected with the undertaking and affairs of the said Railway Company, so far as respects the said line of railway. And the said Railway Company shall sell, and the Secretary of State in Council, on behalf of Her Majesty and for the purposes of the Government of India, shall purchase all the engines, carriages, stock, machinery, and plant, which shall be then used in working the said railway, or otherwise in connexion therewith, or belonging thereto, for such sum of money as shall be the fair value thereof the same to be determined in case of difference by a valuation, to be made by referees or their umpire, to be respectively appointed in the usual manner. And the Secretary of State in Council shall pay out of the revenues of India to the said Railway Company in London the sum of money to be so determined within four months after such determination, with interest thereon, at the rate of five per cent. per annum, from the expiration of the said term of 99 years.

Ultimate rights of property.

21. That after any portion of the said line of railway shall have been finished and in work for three calendar months at least, it shall be lawful for the said Railway Company then or at any time thereafter during the said term of 99 years, to give notice in writing of their intention to surrender and relinquish the said railway and works on any day to be mentioned in such notice, so that such notice be served at least six calendar months before that day, both on the Secretary of State in Council in London, and also on the Secretary of Government at ; and in case of such notice being given, the said Railway Company shall, at the expiration thereof, surrender and relinquish to Her Majesty, for the purposes of the Government of India, the said line of railway and works accordingly, together with the telegraphs (if any), and shall, with all convenient speed, sell any lands in Great Britain which may then be held by the said Railway Company for the purpose of the undertaking to which this contract relates, and pay the clear monies to be produced by such sale into the Bank of

Surrender.

England, to the account of the Secretary of State in Council of India; and shall deliver to the Government, or their authorized agents on behalf of Her Majesty, for the purposes of the Government of India, the engines, carriages, stock, plant, and machinery belonging to the said line of railway and works, and all plans, surveys, sections, printings, writings, drawings, and documents whatsoever connected therewith, and the premises to be so surrendered and delivered shall be accepted and received accordingly, it being expressly agreed that the said line of railway, works, stations, telegraphs, engines, carriages, stock, plant, and machinery shall, at the time of such surrender and delivery, be in good working order, according to the covenant in that behalf herein-before contained on the part of the said Railway Company; and immediately upon such surrender and delivery being made, the Secretary of State in Council shall be bound to pay out of the revenues of India to the said Railway Company the capital expended by the said Railway Company upon the said railway, works, and premises so to be surrendered and delivered, such expended capital being ascertained and certified in the manner herein-before mentioned, together with such parts (if any) of the capital raised for the purposes of this contract as shall remain in the Bank of England, to the account of the Secretary of State in Council, and to discharge and indemnify the said Railway Company from all debts and liabilities incurred with the sanction of the Secretary of State in Council in respect of the said line of railway; and thereupon the covenants herein-before contained for payment of interest shall cease as from the day upon which the said line of railway and works are to be surrendered and accepted; and all claims by the Secretary of State in Council, on account of interest on the said Railway Company in respect of the said line of railway, shall also cease, and the Secretary of State in Council shall be at liberty to retain out of any monies payable to the said Railway Company, the amount of all claims and demands of any sort then existing against the said Railway Company on their revenue account, in respect of their said railway, and which shall not be shown to have been fully satisfied and discharged: Provided always, that the Secretary of State in Council shall not be liable to refund any sum expended in the maintenance or working of the said line of railway, or any part thereof, after the same shall have been opened, which sum is to be provided by the Railway Company out of the revenues of the line, and interest, as herein-before provided, or otherwise.

Purchase.

22. That at any time within six calendar months after the expiration of the first twenty-five years of the said term of 99 years, or at any time within six calendar months after the expiration of the first fifty years of the same term, it shall be lawful for the Secretary of State in Council to give notice to the said Railway Company in London and at of their intention to purchase, on behalf of Her Majesty, for the purposes of the Government of India, the said railway and works, together with the stations and telegraphs (if any), and the engines, carriages, stock, plant, and machinery belonging to the said railway and works, but subject to such debts and liabilities (if any) as may have been incurred to Her Majesty, or to the Secretary of State in Council (exclusive of any arrears of the interest on the capital of the said Railway Company paid by the Secretary of State in Council, under the conditions of this agreement, which shall not have been repaid), or to any person or persons with the sanction of the Secretary of State in Council, and to interest on such of the said debts as carry interest, from the day on which possession shall be taken of the said railway, but not from any earlier time; and thereupon, at the half-yearly day next but one following such notice, the land to be provided as aforesaid, with the railway thereon, and all buildings, works, fixed machinery, stations, telegraphs, and conveniences whatsoever connected therewith, shall revert to and become the property of Her Majesty, for the purposes of the Government of India; and in case any lands in Great Britain shall then be held by the said Railway Company for the purpose of the undertaking to which this contract relates, the same shall be sold, and the clear monies to be produced by such sale shall be paid into the Bank of England to the account of the Secretary of State in Council of India; and the said Railway Company shall, at the same time, deliver to the Government, or their authorized agents, on behalf of Her Majesty, for the purpose of the Government of India, the engines, carriages, stock, plant, and machinery belonging to the said line of railway and works, and all plans, surveys, sections, books, printings, drawings, writings, and documents whatsoever in anywise relating thereto; and the Secretary of State in Council shall be bound to pay in London, out of the revenues of India, on the said half-yearly day, for the purchase of all the same premises, a sum equal to the amount of the value of all the shares and capital stock in the said Railway Company issued or created for the purposes of the said railway, calculated according to the mean market value in London of such shares or stock, during the three years immediately preceding the expiration of the said period of twenty-five years, or the said period of fifty years, as the case may be, and shall also be bound to indemnify the said Railway Company against all such debts and liabilities (if any) as they may have incurred, to or with the sanction of the Secretary of State in Council, in respect of the said line of railway, and as shall be then subsisting, and thereupon the covenants herein-before contained for payment of interest shall cease.

Possession as a remedy.

23. That if default shall be made by the said Railway Company in the raising and payment of the said sum of _____, or any of the instalments thereof, or of such further capital as shall be required for the construction of the said railway, or in the due application of any monies drawn in London or in India as aforesaid, or in the execution of the said

railway and works, conformably with the covenants in that behalf herein-before contained, or in case the said railway shall not be worked to the satisfaction of the Secretary of State in Council, or in case of any other breach on the part of the said Railway Company of any of the covenants herein contained, it shall be lawful for the Secretary of State in Council, on giving to the said Railway Company at three calendar months' notice of their intention in that behalf, to terminate the interest of the said Railway Company in the said land, railway, telegraphs, and works to be taken or constructed under these presents, and by their agents to assume on behalf of Her Majesty, for the purposes of the Government of India, possession of the land, railway, telegraphs, and works, and of all or any of the engines, carriages, stock, plant, and machinery provided for the same or belonging thereto; and all plans, surveys, books, printings, drawings, writings, and documents whatsoever in anywise connected with the said line of railway, and in that case any lands in Great Britain which may then be held by the said Railway Company for the purpose of the undertaking to which this contract relates shall, with all convenient speed, be sold, and the clear monies to be produced by such sale shall be paid into the Bank of England, to the account of the Secretary of State in Council. And in case of such notice being given, the Secretary of State in Council shall be liable to repay, out of the revenues of India, within six calendar months after its expiration, to the said Railway Company in London, the capital expended by the said Railway Company upon the said railway and works, so ascertained and certified as herein-after is mentioned, after a proper deduction for all debts and liabilities then affecting the said Railway Company, in respect of the said line of railway, the money so to be repaid to include so much (if any) of the capital raised for the purposes of the said line of railway as shall then remain in the Bank of England, to the account of the Secretary of State in Council; and also to discharge, exonerate, and indemnify the said Railway Company from all debts, obligations, and liabilities for works and expenditure undertaken, with the sanction of the Secretary of State in Council, in respect of the said line of railway, and thereupon the covenants of the Secretary of State in Council in this indenture contained for payment of interest shall cease, and all claims by the Secretary of State in Council on the said Railway Company, in respect of the said line of railway, shall also cease, the intention of the parties hereto being that the said Railway Company shall, under all circumstances, receive back their capital expended with such sanction as aforesaid, and that such re-entry and assumption of possession, and the exercise by the Secretary of State in Council of the powers and authorities by this clause given to them, shall be the only penalty to which the said Railway Company shall be liable in case of default in raising sufficient capital for the purposes of the said line of railway, or in constructing and working the said railway to the satisfaction of the Secretary of State in Council.

24. That if default shall be made by the Railway Company, after the said line of railway, or any portion thereof shall have been opened, in their covenant to keep the said line of railway and works, or such part thereof as shall have been completed and opened for traffic, in repair and condition for the space of one calendar month next after notice in writing in that behalf from the Secretary of State in Council to the said Railway Company at it shall be lawful for the Secretary of State in Council, by their agents, to enter on the said line of railway and works, and to do and execute all such works as may be required for fulfilling the said covenant, and to charge the expenses of the same against the said Railway Company, by setting off the amount of such expenses against any moneys then payable, or which shall thereafter become payable by the Secretary of State in Council, for interest in manner herein-before mentioned, which interest shall, in such case, to that extent, be considered as paid and satisfied by such set-off or retainer; and shall, for all the purposes of these presents, be regarded and considered as interest actually paid by the Secretary of State in Council to the said Railway Company in pursuance of their covenants in that behalf, herein-before contained, and if such expenses shall not be satisfied by such set-off and retainer as aforesaid, then the Secretary of State in Council may set off and deduct the same against and from all or any part of any other moneys which shall on any account whatsoever, under or by virtue of these presents, be or become payable by the Secretary of State in Council to the said Railway Company.

Repairs by the
Government of India.

25. That in every or any case in which, under the provisions of these presents, the Secretary of State in Council shall, before the expiration of the said term of 99 years, become bound to repay the capital expended by the said Railway Company upon the said line of railway and works as aforesaid, or to pay for the purchase of the said line of railway, works and stock, it shall be lawful for the Secretary of State in Council, instead of paying a gross sum of money, in respect of the premises, to declare by notice to the said Railway Company in London their option to pay an annuity, to be reckoned from the time when the gross amount would be payable, and to continue during the residue of the said term of 99 years; and in that case such an annuity shall be payable in London on such two half-yearly days in the year as shall be selected by the Secretary of State in Council in that behalf, with a fractional part for any broken half year, the rate of interest which shall be used in calculating such annuity being determined by the average rate of interest during the preceding two years received in London upon public obligations of the East India Company, and other public obligations in London, by the Secretary of State in Council, and which shall be ascertained by reference to the Governor and Deputy Governor of the Bank of England for the time being: Provided always, that the aforesaid option shall not apply to the undrawn portion (if any) of the capital of the said

Annuity commutation.

Railway Company, raised for the purposes of the said line of railway; which portion is to be repaid to the said Railway Company, with interest, under the provisions in that behalf hereinbefore contained, in case the said Railway Company shall relinquish or be deprived of the said railway and works as aforesaid.

Return of surplus.

26. That if after the said railway and works, including the telegraphs, if required, shall have been completed and furnished with adequate working stock, the whole of the capital raised by the said Railway Company for the said line of railway shall not have been required for the purpose of the said capital account, the surplus therefore shall, to the extent to which the same shall have been paid into the Bank of England to the account of the Secretary of State in Council, be refunded to the said Railway Company in London, with such interest as shall be due on such capital at the time, and thereupon the aforesaid covenants for payment of interest shall no longer apply to the capital which shall have been so refunded.

Sanction of the Secretary of State in Council.

27. That any notice, direction, approval, or sanction to be given or signified on the part of the Secretary of State in Council, for any of the purposes of these presents, shall be sufficient and binding, if signed by the Secretary of State for India, or one of his Under Secretaries, or by the Secretary of Government at , or by any other officer or servant duly authorised to act on behalf of the Secretary of State in Council, in respect to the matters to which the same shall relate, and the Secretary of State in Council shall not in any case be bound in respect of matters aforesaid, unless by some writing signed in the manner before mentioned.

Railway office in, and agent.

28. That the said Railway Company shall keep an office of the said Railway Company at all times hereafter during the said term, established at , or any such other place or places as shall be agreed upon between the Secretary of State in Council and the said Railway Company; and the said Railway Company shall keep at the said office an authorised agent, or authorised agents, with whom the Secretary of State in Council and the Government at may communicate on affairs concerning the said railway; and all drafts drawn by the said agent or agents, and all receipts of and acts done by such agent or agents on behalf of the said Railway Company, or concerning the said railway and works, and the affairs thereof, shall be binding on the said Railway Company; and every notice to be given to the said Railway Company shall be sufficiently given if left at the said office or personally served on such agent or agents.

Legislation in India.

29. That the Secretary of State in Council shall promote the passing by the Governor General of India in Council of any Act or Acts which shall be necessary or convenient for enabling the said Railway Company to fulfil in India the objects of their undertaking according to the terms and provisions of these presents.

30. That none of the covenants, terms, and provisions of these said presents shall have any operation upon the provisions contained in the said indenture of the , and that none of the covenants, terms, and provisions of the said indenture shall have any operation upon the provisions of these presents, or shall extend or apply to the said railway and works hereby contracted for. In witness whereof, &c.

TABLES FURNISHING PARTICULARS OF PERSONS EMPLOYED ON OPEN PORTIONS OF INDIAN RAILWAYS.

EAST INDIAN RAILWAY.

Traffic Department.			Hourah Stores Department.			Engineering Department.			Locomotive Department.			Carriage Superintendent's Office.			Steam Ferry, Hourah Department No. 1.		
Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.
63	584	647	14	186	200	18	1,154	1,172	125	308	433	17	410	427	2	23	25

(continued)

Steam Ferry, Calcutta, Department No. 2.			Traffic Department, Steam Ferry.			Electric Telegraph Department.			Agent's Office, Revenue Department.			Agent's Office, Ticket Department.			GRAND TOTAL.		
Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.
2	23	25	1	10	11	15	80	95	2	8	10	3	3	6	262	2,789	3,051

GREAT INDIAN PENINSULA RAILWAY.

Secretary's Department.			Engineering Department.			Traffic Department.			Locomotive Department.			Total.		GRAND TOTAL.	
Correspondence, Account and Audit Branches.			Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.		
Europeans.	Natives.	Total.													
5	60	65													
Stores Branch.			77	141	218	71	679	750	89	1,127	1,216	257	2,341	2,598	
Europeans.	Natives.	Total.													
15	334	349													
			Grand Total.												
			414												

MADRAS RAILWAY.

Agent and Manager's Office.			Chief Accountant's Office.			Capital and Revenue Office.			Engineers Department.			General Stores Department.			Traffic Department.		
Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.
11	20	31	7	47	54	18	67	85	8	585	593	16	111	127	66	1,274	1,340
						Locomotive Department.			Total.								
						Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	GRAND TOTAL.						
						146	1,175	1,321	272	3,279	3,551						

**STATEMENT SHOWING THE VARIOUS TARIFFS THAT HAVE BEEN TRIED
ON INDIAN RAILWAYS.**

EAST INDIAN RAILWAY.

1854.		1855.	1858.
PASSENGERS.	GOODS. (Existing Rates.)	PASSENGERS.	PASSENGERS. (Existing Fares.)
1st Class.—2 annas, or 3d. per mile. 2d Class.—9 pies, or 1½d. per mile. 3d Class.—3 pies, or ¾d. per mile.	1st Class.—½ of a pie per maund, or 9 pies = 1½d. per ton per mile. 2d Class.—½ a pie per maund, or 1 anna 1½ pies = 1½d. per ton per mile. 3d Class.—¾ of a pie per maund, or 1 anna 6 pies = 2½d. per ton per mile. 4th Class.—1 pie per maund, or 2 annas 3 pies = 3½d. per ton per mile. 5th Class.—2 pies per maund, or 4 annas 6 pies = 6½d. per ton per mile. N.B.—Coal is conveyed on this line at the rate of 7 pies per ton per mile.	1st Class.—1 anna 6 pies, or 2½d. per mile. 2d Class.—10 pies, or 1½d. per mile. 3d Class.—3 pies, or ¾d. per mile.	1st Class.—1 anna 6 pies, or 2½d. per mile. 2d Class.—9 pies, or 1½d. per mile. 3d Class.—3 pies, or ¾d. per mile.

GREAT INDIAN PENINSULA RAILWAY.

1853.		1856.	1857.	1858.
PASSENGERS.	GOODS.	GOODS. (Existing Rates.)	PASSENGERS.	PASSENGERS. (Existing Fares.)
1st Class.—2 annas, or 3d. per mile. 2d Class.—10 pies, or 1½d. per mile. 3d Class.—3 pies, or ¾d. per mile.	1st Class.—14 pies, or 1½d. per ton per mile. 2d Class.—18 pies, or 2½d. per ton per mile. 3d Class.—24 pies, or 3d. per ton per mile. 4th Class.—30 pies, or 3½d. per ton per mile.	1st Class.—10 pies, or 1½d. per ton per mile. 2d Class.—14 pies, or 1½d. per ton per mile. 3d Class.—18 pies, or 2½d. per ton per mile. 4th Class.—20 pies, or 2½d. per ton per mile. 5th Class.—30 pies, or 3½d. per ton per mile.	1st Class.—1 anna 6 pies, or 2½d. per mile. 2d Class.—1 anna, or 1½d. per mile. 3d Class.—3 pies, or ¾d. per mile.	1st Class.—1 anna 6 pies, or 2½d. per mile. 2d Class.—6 pies, or ¾d. per mile. 3d Class.—3 pies, or ¾d. per mile.

MADRAS RAILWAY.

1856.		1858.		1859.	
PASSENGERS.	GOODS.	PASSENGERS.	GOODS.	PASSENGERS. (Existing Fares.)	GOODS. (Existing Rates.)
1st Class.—1 anna 6 pies, or 2½d. per mile. 2d Class.—9 pies, or 1½d. per mile. 3d Class.—4 pies, or ½d. per mile.	1st Class.—6½ pies, or, with a small terminal charge, about 1d. per ton per mile. 2d Class.—13½ pies, or, with a small terminal charge, about 1½d. per ton per mile. 3d Class.—20½ pies, or, with a small terminal charge, about 3d. per ton per mile.	1st Class.—1 anna 6 pies, or 2½d. per mile. 2d Class.—6 pies, or ¾d. per mile. 3d Class.—4 pies, or ½d. per mile.	1st Class.—8 pies, or 1d. per ton per mile. 2d Class.—10 pies, or 1½d. per ton per mile. 3d Class.—15 pies, or 1½d. per ton per mile. 4th Class.—2 annas, or 3d. per ton per mile.	1st Class.—1 anna, or 1½d. per mile. 2d Class.—6 pies, or ¾d. per mile. 3d Class.—2 pies, or ½d. per mile.	1st Class.—8 pies, or 1d. per ton per mile. 2d Class.—10 pies, or 1½d. per ton per mile. 3d Class.—1 anna, or 1½d. per ton per mile.

STATEMENT OF THE NUMBER OF PROPRIETORS OF INDIAN RAILWAY STOCK OR SHARES.

Railway Company.	Number of Proprietors holding Shares of the Value of 1,000l. and upwards.	Number of Proprietors holding Shares of less than 1,000l. Value.	Total Number of Shareholders.
East Indian - - - -	2,672	3,185	5,857
Great Indian Peninsula - - -	1,660	2,200	3,860
Madras - - - -	1,033	1,023	2,056
Sind { Sind - - - -	328	291	619
{ Punjaub - - - -	402	298	700
{ Indus Steam Flotilla - - -	89	200	289
Bombay, Baroda, and Central India -	356	550	906
Eastern Bengal - - - -	113	312	425
Great Southern of India - - -	97	73	170
Calcutta and South Eastern - - -	40	302	342
Total - - - -	6,790	8,434	15,224

CLASSIFICATION OF GOODS.

The following Lists show of what Articles the different Classes of Goods consist :—

FIRST CLASS.

Bones for Manure.	Iron in Pigs.	Salt.
Bricks.	Iron Railway Bars.	Sand.
Country Potaah.	Lime or Chunam.	Stones.
Clay Loam or Earth.	Manure.	Timber unwrought, in pieces not exceeding 16 feet in length.
Coke.	Ores.	Tiles.
Firewood.	Returned Empties (of all sorts).	
Flags.		

SECOND CLASS.

Alum.	Ghee, in barrels or tubs.	Onions.
Anchors.	Gourds.	Paint, in casks.
Arrow-root.	Grain, Wheat, Barley, Oats, Rye, &c.	Paper, coarse or mopping.
Bale or Piece Goods, consisting of Cotton, Woollen, or Piece Fabrics (at owner's risk).	Gram.	Paun, or Beetle Leaves.
Bamboos.	Grindstones.	Pitch, Tar, Rosin, in casks.
Bark for Tanning.	Gum.	Plants, Shrubs (charged by measurement).
Baskets.	Gunny Cloths or Bags.	Potash European.
Beans.	Hemp and Hempen Ropes.	Potatoes or other Roots.
Beetlenuts.	Hides or Skins.	Rags.
Bitumen.	Horns.	Rice.
Bones not otherwise classified.	Iron and Steel, in Bars.	Saltpetre.
Borax.	Iron, viz., Boilers, Tanks, Forgings, or Plain Castings, not exceeding 16 by 7 by 6 feet, or 30 maunds weight. Bar, Rod, Sheet, Plate or Hoop, Bolts, Spikes, Nails, Screws, Quarrying or Agricultural Tools, Vices, Anvils, Nuts, Washers, Pipes, &c.	Seeds of all sorts not otherwise classified.
Brooms or Brushes, country made.	Jaggree.	Shells.
Cannon Balls.	Jute and Jute Yarn.	Soap, country or common European.
Chains.	Lac and Lac Dye.	Soda Water, Ginger Beer, and Lemonade, in cases.
Chalk.	Lead in pigs, &c.	Starch.
Charcoal.	Leather, country or common European.	Staves for Casks.
Chillies.	Marble, in blocks, not polished.	Sugar, unrefined.
Cocoanuts or Shells.	Mats, Durmah, or Floor.	Sugar or other Canes.
Coir and Coir Rope.	Molasses.	Talc.
Cotton, raw.	Nuts.	Tallow or Lard, in casks.
Dammer.	Ochre.	Thread, Cotton, Flax or Woollen.
Dye Woods.	Oil, in casks.	Timber, unwrought, and in pieces exceeding 16 feet long, or wrought into Planks, Agricultural or other Tools, Doors, Sashes, or House Fittings, if not damageable, will be carried in this class.
Earthenware (common).	Oil Cake.	Twist or Yarn, Cotton or Woollen.
Fish, Dried or Salt.		
Flax or Tow.		
Flour or Bran.		
Fruits or Leaves, dried.		
Fullers' Earth.		
Furniture, viz., country-made, and not polished or carved.		

THIRD CLASS.

Ale or Beer, in casks or cases.	Hardware and Ironmongery, not otherwise classified.	Pepper.
Bacon.	Hay, Straw, Reeds, &c. (carried at owner's risk).	Porter, in casks or cases.
Bellows.	Hosiery, Cotton or Woollen.	Provisions, Salt.
Bottles, empty.	India Rubber.	Quills.
Bread and Biscuits.	Indigo and Indigo Seed.	Shoes or Sandals, country made.
Brushes, European manufacture.	Iron, in Castings or Forgings, Boilers or Tanks, exceeding the dimension allowed in the second class, but not exceeding 25 by 7 by 6 feet, or 45 maunds weight.	Silk, Raw.
Butter, in casks or tubs.	Military Baggage, not including Gunpowder or such explosive materials.	Snuff.
Canvas.	Lead, in Pipe or Sheets.	Spirits, Brandy, Gin, Rum, &c. Arrack, Whiskey, &c., in wood.
Carpets.	Machinery, in pieces or cases, not exceeding 25 by 7 by 6 feet, or 45 maunds weight.	Sugar, refined.
Copperas.	Opium.	Tents.
Cutch.	Paper, Writing, &c.	Tobacco.
Feathers.		Turneric.
Felt.		Varnish.
Files.		Vegetables.
Fruits, common country, fresh.		Vinegar, in wood or cases.
Furniture, packed, and not damageable.		Wax.
Ginger.		Wearing apparel, Cotton, Flax, or Woollens.
Groceries, heavy.		Wine, in wood.
Hams, cured.		

FOURTH CLASS.

Books.	Glass and Glass-ware (carried at owner's risk).	Oilman's Stores, not otherwise classified.
Camphor.	Grapes.	Perfumery, Scented Soaps, &c.
China-ware.	Guns and Pistols.	Shoes and Boots, of European Manufacture.
Chanks.	Hats and Caps.	Saddlery, Whips, and Harness.
Clocks, plain, in wooden cases.	Hosiery, Silk.	Silk, Manufactured.
Cochineal.	Ivory.	Shawls.
Confectionery and Sweetmeats.	Lace.	Spirits, in bottles and cases.
Coral.	Lead Pencils.	Spices, not otherwise classified.
Cutlery.	Marble, polished or wrought.	Sundries, in boxes or cases.
Drugs, not otherwise classified.	Medicines, not otherwise classified.	Tea.
Eggs.	Millinery.	Toys.
Elephant's teeth.	Military accoutrements, Swords, Musical Instruments, Bayonets, Pouches, &c.	Turpentine.
Fish and Game.		Wine, bottles and cases.
Furniture, wrapped in mats or cloth, and damageable.		
Furs.		

FIFTH CLASS.

Bank Notes and Bills.	Jewellery or Trinkets.	Stamps or Securities.
Coins of Gold, Silver, or Copper.	Paintings or Drawings.	Statuary.
Engravings.	Plate and Plated-ware.	Timepieces, Ornamental.
Gold Lace or Thread.	Silver, in a manufactured or an unmanufactured state.	Watches.
Gold, in a manufactured or unmanufactured state.	Silver Lace or Thread.	Writings.

LONDON :

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 For Her Majesty's Stationery Office.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA.

NOTE.

The first foot note on page 23 should read thus :—

“The earnings of the Bombay, Baroda, and Central India Railway Company would also have been larger, but for an outlay of 49,768*l.* from revenue for repairs to the Nerbudda and Saburmuttee Bridges.”

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.



LONDON :

PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.

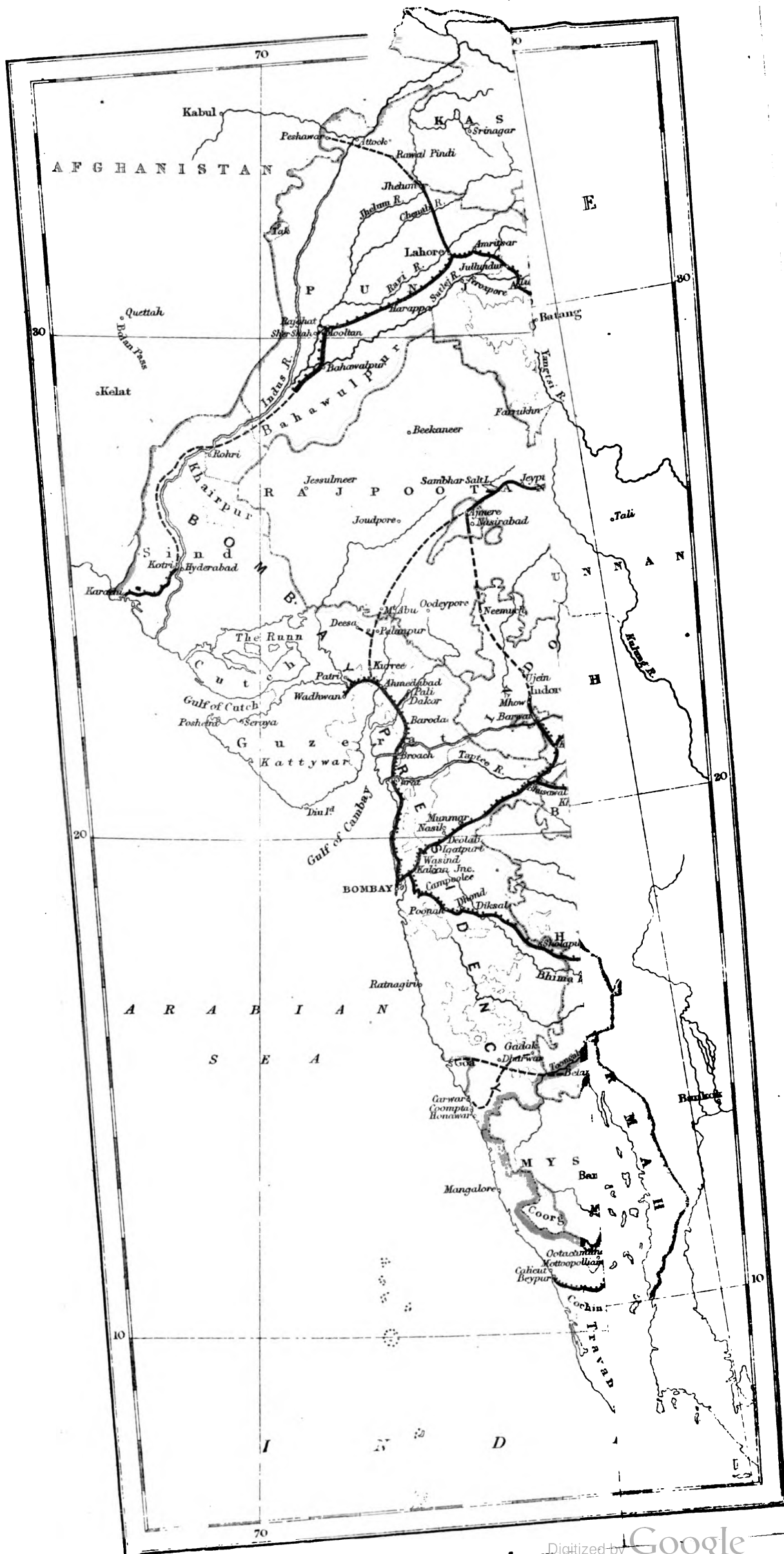
FOR HER MAJESTY'S STATIONERY OFFICE.

1877.

[C.—1823.] Price 1*s.*

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REPORT.

To the Most Honourable the MARQUIS of SALISBURY, &c., &c.

MY LORD MARQUIS,

India Office, June 1877.

I HAVE the honour to lay before your Lordship my seventeenth Annual Report on the progress and working of the Indian Railway system.

2. During the year 1876, 479 miles of new line were opened for traffic. The whole extent now completed is 6,948 miles. Of these, 767 are constructed with a double, and 6,179 with a single line; 5,748 are on the 5 ft. 6 in. gauge, 1,162 on the metre, 27½ on a four feet gauge, and 20, in the Guicowar of Baroda's territory, on a 2 ft. 6 in. gauge. Progress in 1876.

3. The lines opened since the end of 1875 comprise 297½ miles of the South Indian Railway, which is now complete with the exception of a section, 37 miles in length, south of Cuddalore; 103* miles of the Northern Punjab State line, extending from Lahore to Jhelum; 20 miles of the Rajputana; 13 miles of the Holkar State Railway between Khandwa and Chual Choki, and between Mhow and Indore; 36½ miles on the Neemuch State Railway, and 9 miles on the Pali branch of the Bombay and Baroda Railway. I understand also, although it has not been officially announced, that the line from Rangoon to Prome has been opened.

4. At the same time progress has been made on other lines in course of construction. It is expected that the Northern Bengal Railway will be opened some time this year to Jalpaiguri, 173 miles from Sara, the point on the Ganges from which it starts. At Jalpaiguri the line falls short of the foot of the Hills below Darjeeling by 33 miles. This gap is a serious one for traffic, and it will be very desirable to extend the railway so as to make it as serviceable as possible as well for the industries of Darjeeling as for the districts in Thibet, with which a small trade is now carried on. At its southern terminus on the Ganges it will be connected with the Eastern Bengal Railway by a ferry across the river, and by a short branch from the right bank to the station on that line. Northern Bengal line.

5. The line in Tirhoot, which was originally constructed as a temporary work during the famine season of 1874, has been made a permanent one as far as Durbanga, about 45 miles. A branch has also been thrown out from it at Somastipur to Mozufferpoor. Tirhoot.

6. The Northern Punjab line, which is being constructed on the 5 ft. 6 in. gauge is nearly complete and ready for traffic as far as Jhelum. The bridge over the Chenab between Lahore and Wazirabad was opened by His Royal Highness the Prince of Wales in January 1876. The traffic on the narrow gauge line which had been laid down between Lahore and Wazirabad has been going on during the construction of the other line. Punjab, Northern.

7. Considerable advance has been made with the works on the Indus Valley line. A length of 107 miles, extending from Moultan to Chunni Ghote, was opened for goods traffic during the dry season, a temporary bridge having been put up over the Sutlej at Adamwahan. A further length of 171 to Rohri is expected to be opened in December. From Sukkur, on the opposite side of the Indus, to Kotree, the terminus of the Sind Railway, the line is expected to be opened this month. The bridge over the Indus at Rohri has not been commenced, nor has the design yet been settled; but the permanent one over the Sutlej at the place above mentioned will be completed in March 1878. Indus Valley.

* Sixty-two miles of this line was originally constructed on the narrow gauge and used as a temporary work.

Wardha
Valley.

8. The completion of the Wardha Valley Railway in Central India is only impeded by the bridges. Mr. Armstrong, the late Chief Engineer, reported that "the whole of the Wardha Valley Railway will not be opened for regular traffic until the Wurrora and Pothra viaducts are finished. The Wurrora may be finished by July 1877, but the Pothra not before February 1878, as works can only proceed on budget grants, which are limited, and have been."

Bombay,
Baroda, and
Central
India, Dakor
branch.

9. The Pali extension of the Dakor branch of the Bombay, Baroda, and Central India Railway is an illustration of the moderate cost at which railway works may, in favourable situations, be executed. The line is 13·83 miles in length, is of the 5 ft. 6 in. gauge, and is laid with 60 lbs. rails on iron bowl sleepers. The stations are plainly built, but of sufficient size for their purpose. The total cost has been Rs. 6,14,950, being about 4,000/. a mile.

Nerbudda
railway
bridge on
Indore line.

10. An important link has been added to the line of communication between Central India and the North-West Provinces, *vid* Indore, by the completion of the bridge over the Nerbudda river. This is the third railway bridge over that river, and was opened on the 5th October by Maharajah Holkar, who promoted the undertaking in the first instance by advancing 1,000,000/. to the Government at 4½ per cent. per annum. The first stone of the bridge was laid by Lord Northbrook in December 1872.

Railway
works in
Southern
India.

11. In Southern India, besides the progress made on the South Indian Railway, certain famine relief works have been going on. Among these are included the doubling of the line between Madras and Arcot, where the north-west and south-west lines join, and the earthworks for an extension of the Arcot and Conjeeveram branch of the South Indian line to Chingleput, where it will be connected with that Company's main system. Towards Bombay also, in the Dekkan, a chord line extending from Dhond on the south-eastern line to Munmar on the north-eastern line of the Great Indian Peninsula Railway has been made as a relief work, but it is not likely to be carried out to completion at present.

Nawab of
Rampoor's
offer.

12. Another example has been given of the desire of a Native Chief to encourage railway extension. The Nawab of Rampore has offered to contribute half the capital for the construction of a line from Moradabad to Rampore, on condition, however, that the Government will guarantee 5 per cent on the amount paid by him, and that he is not expected to build bridges over the Ramgunga and Kosee rivers.

Steamer
service
between
Goalundo
and Dacca.

13. In connection with the subject of railway extension, I may mention that the improvement of the steam communication between Goalundo, the terminus of the Eastern Bengal Railway, and Dacca, has occupied the attention of the Government and railway authorities, and measures have been taken for establishing a daily service by which passengers and mails will be taken from Calcutta to Dacca within 24 hours. Nothing, I regret to say, has yet been done with regard to the improvement, so much required, of the river service to Assam, notwithstanding the endeavours of the Agent of the Company to make arrangements with the Indian General Steam Navigation Company for the purpose.

Goalundo
terminus.

14. Although the encroachments of the river at Goalundo have continued (slightly as compared with former years), and a vigilant look out at a particular period of the rains was necessary in order to shift the rails and landing stages so as to accommodate the boat traffic, the prospects of the place are promising, and the population and trade increases. The arrangements for the railway station are of a very temporary and inexpensive character, consisting of sheds and houses made of timber and bamboo, with tiled roofs.

15. The cyclone and sea wave which visited the Bay of Bengal, and produced such appalling devastation on the north-east coast and islands adjoining, did not, fortunately, proceed more north, nor reach any of the provinces traversed by the Bengal lines.

Flood
damages.
Punjab.

16. But in other parts of India considerable flood damage was done. In the Punjab, the period during which the floods continued in the Sutlej river was said to be unprecedented, a length of from 10 to 14 days occurring before any sensible subsidence took place. Two piers of the Punjab and Delhi bridge over that river were carried away on the 10th and 11th August, leaving a gap of 334 feet, and interrupting the traffic until the 12th October, when it was taken over in boats. The most economical way of repairing the damage was by extending

the revetment now existing so as to fill up the space. This was accomplished by the 12th December.

17. On the western coast, also, the Bombay, Baroda, and Central India Railway suffered severely. Twenty-five spans of the bridge over the Nerbudda were swept away on the 6th September, and three servants of the Company were drowned. The rainfall at Surat, close by, was 17 inches in 16½ hours. The engineering staff of the Company immediately set to work to restore communication, and they succeeded in doing so on the 30th October by a diversion on a low level staging. They also applied themselves to repair the broken spans, and so well were their plans organized, that the bridge was finished and opened for traffic on the 28th April. Enough, however, had occurred to show that its stability cannot be depended upon, and the repeated interruptions to traffic, which means loss of revenue, pointed to the conclusion that, both on the grounds of safety and economy, it was desirable to adopt measures for establishing a more perfect means of crossing the river. After much deliberation, it has been determined to erect a new bridge, altogether upon different principles. Instead of being supported by screw piles, and having 67 spans of 62½ feet, the bridge about to be constructed will have only 25 spans, and the superstructure, which will consist of iron girders, 187 feet 6 inches in length, will be supported by piers formed of two iron cylinders, placed 37 feet 6 inches apart, centre to centre, 14 feet in diameter, for a height of 33 feet from the bottom, and 10 feet above that. It has been designed by Sir John Hawkshaw, and a contract has been made with Messrs. Hopkins, Gilkes, & Co. for the provision and delivery in India of all the ironwork, for a sum of 148,930*l.* Other materials will come to about 30,000*l.*, and it is estimated by the Agent and Chief Engineer that the cost of erection will amount to 92,500*l.* more. The materials of the old bridge will be available for minor structures in other places, and for increasing the stability of existing bridges, for there can be no doubt that other bridges on this line will have to be strengthened, and it is not improbable that the same course will be followed with regard to the present bridge over the Mhye river as has been taken with the Nerbudda.

Nerbudda bridge on Bombay and Baroda.

18. The East Indian and the Great Indian Peninsula Railways have been comparatively exempt from damage. At the Calcutta terminus of the former, however, a very unexpected and unusual fall of rain occurred in January last, and caused considerable damage to goods, especially grain, which had been accumulated at the Howrah station, and which were unprotected from the weather. Compensation to the extent of Rs. 1.10.400 had to be paid to the owners. On the Bhore Ghat, on the Great Indian Peninsula Railway, several slips occurred during the rains, but they were generally of a slight character, and did not cause any accidents. Disintegration of the rock through which some of the cuttings have been made is going on, and it is necessary to keep a watchful look out during the monsoon.

East Indian.

Great Indian Peninsula.

19. No commencement has yet been made with the continuation of the Rajputana line from Ajmere to Ahmedabad, by Pahlanpore, but it is regarded as the first new railway which is to be undertaken when the state of the finances will admit of the expenditure.

West Rajputana line.

20. Nothing has yet been decided with regard to the extension to the Punjab and Delhi line at Saharunpore of the Oudh and Rohilkund Railway, the northern terminus of which is now at Moradabad. Several alternative routes have been examined, and plans and estimates prepared for each. The whole subject is, therefore, in a position to be fully considered, and is now engaging the attention of the Government of India. One route, *via* Nujeebabad, Hurdwar, and Roorkee, is 128½ miles in length, and is estimated to cost Rs. 1,58,59,314. Another, *via* Nujeebabad and Roorkee, leaving Hurdwar to the north, is 114½ miles, and is estimated to cost Rs. 1,43,43,762, and a third, *via* Nugeenah, Keerutpore, and Roorkee, is 114½ miles in length, and is estimated to cost Rs. 1,33,98,886. This last would cross the Ganges at Balawala.

Oudh and Rohilkund extensions.

21. At the Benares end, the extension of the line by tramway to the river bank from the cantonment, has been commenced, but nothing has been yet settled about a bridge across the Ganges, whereby a junction with the East Indian Railway would be effected.

22. A proposition has been made, by parties who have obtained from the Portuguese Government a long lease of the port and harbour of Marmagoa, to extend a

Projected line from Goa to Bellary.

line of railway, which they have agreed to make from that port to the Portuguese frontier, to Bellary through Dharwar, New Hooblee, Judduck, and Copal. They ask for the grant in perpetuity of all land that may be required for the railway, and for permission to excavate and appropriate, on any waste land at the disposal of Government, all such stone, limestone, or earth as may be required for embankments, bridges, stations, and houses; and they offer the same concessions with respect to the conveyance of mails and troops as have been made with the Guaranteed Companies. The whole subject is now under the consideration of the Government of India.

23. The following table gives the length of each undertaking, and the extent opened on the 1st January 1877 :—

Railway.		Gauge.	Length of Line sanctioned.	Length opened during 1876, or since.	Total Length opened.	Portion laid with Double Line.	Length remaining to be finished.
Guaranteed.	East Indian - { Main line - Jabalpur line. }	5' 6"	{ 1,280 223½ }	—	1,280	410½	—
	Great Indian Peninsula - -	5' 6"	1,288	—	1,288	325	—
	Madras - - - -	5' 6"	858	—	858	3½	—
	Bombay, Baroda, and Central India -	5' 6"	417	9	417	23½	—
	Scind, Punjab, and Delhi - -	5' 6"	663½	—	663½	4½	—
	South Indian - - -	3' 3½"	617½	297½	580½	—	37
	Eastern Bengal - - -	5' 6"	159½	¾	158½	—	1½
	Oudh and Rohilkund - - -	5' 6"	711	—	544½	—	166½
	Nalhati - - - -	4' 0"	27½	—	27½	—	—
	Calcutta and South-eastern - -	5' 6"	28	—	28	—	—
	Northern Bengal - - -	3' 3½"	373	—	—	—	373
	Punjab Northern - - -	5' 6"	267½	108	103*	—	164½
	Indus Valley - - - -	5' 6"	508	—	—	—	508
	Rajputana (Agra and Delhi to Nasirabad) - - -	3' 3½"	400	20½	400	—	—
	Neemuch (Indore to Neemuch) -	3' 3½"	303½	36½	36½	—	267
State.	Indore to Khandwa (Holkar's) -	3' 3½"	85½	13	70	—	15½
	Patri branch of Bombay, Baroda, and Central India Railway -	5' 6"	22½	—	22½	—	—
	Wurdha Valley - - - -	5' 6"	46½	—	18	—	28½
	Tirhut - - - -	8' 3½"	93	—	45	—	48
	Rangoon and Irrawaddy Valley -	3' 3½"	367	—	—	—	367
	Sindia (Agra to Gwalior) - -	5' 6"	72	—	—	—	72
	West Rajputana - - - -	3' 3½"	314½	—	—	—	314½
	Nagpur and Chattisgarh - - -	3' 3½"	123½	—	—	—	123½
	BERAR.						
	Khamgaon - - - -	5' 6"	7½	—	7½	—	—
	Amraoti - - - -	5' 6"	5½	—	5½	—	—
	NIZAM'S GOVERNMENT.						
	Wadi to Hyderabad and Secunderabad	5' 6"	121	—	121	—	—
	PROVINCIAL.						
	Muttra and Hathras - - - -	3' 3½"	30	—	30	—	—
Gaekwar of Baroda's, from Iniagam to Dubhoe - - -	2' 6"	20	—	20	—	—	
Total - - - -			9,435½	479½	6,948½	767	2,487

* In lieu of 62 miles of temporary line.

24. The following statement exhibits the annual progress made in the construction of railways since their commencement:—

Railways.	Length of Line open at the end of each Year.																							
	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
East Indian Rail- way (including Jabalpur).	—	37½	120½	180½	120½	141	234½	367½	543½	883½	937	1,106½	1,129½	1,130½	1,353	1,353	1,353	1,353	1,508½	1,508½	1,508½	1,508½	1,508½	1,508½
Great Indian Peninsula.	21½	34½	50½	88½	88½	194½	245½	297½	437½	494½	553	585½	701½	815½	852	875½	872½	1,257½	1,271½	1,277½	1,278½	1,278½	1,278½	1,288½
Madras - - -	—	—	—	68½	80½	95	95	136	297½	447	447	571	611	645	645	677½	707½	782½	831½	831½	857½	857½	856½	856½
Bombay, Baroda, & Central India.	—	—	—	—	—	—	—	35	133	185	185	305½	308½	306½	305½	305½	307½	307½	349½	368	369½	400½	408	417
Scind - - -	—	—	—	—	—	—	—	—	105½	105½	105½	105½	105½	108½	108½	108½	108½	108½	108½	108½	108½	108½	108½	108½
Punjab - - -	—	—	—	—	—	—	—	—	—	32	45	45	253	253	246	246	246	553½	553½	553½	553½	553½	553½	553½
Delhi - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	53	270	553½	553½	553½	553½	553½	553½	553½
Great Southern of India, now South Indian.	—	—	—	—	—	—	—	—	49	79	79	79	79	79	127	144	168	168	168	168	168	168	168	168
Carnatic, now South Indian.	—	—	—	—	—	—	—	—	—	—	—	—	18½	18½	18½	18½	18½	18½	18½	18½	18½	18½	18½	18½
Eastern Bengal -	—	—	—	—	—	—	—	—	—	110	110	110	110	110	110	113½	113½	113	113	150½	150½	150½	150½	157½
Oudh and Rohil- kund.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	42	42	42	42	294	455	530½	548½	544½
Calcutta & South- eastern.	—	—	—	—	—	—	—	—	—	15	23	23	23	23	23	23	23	23	23	23	23	23	23	23
Punjab Northern	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	63½	103
Nalhati - - -	—	—	—	—	—	—	—	—	—	—	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½
Khangaon - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7½	7½	7½	7½	7½	7½	7½
Amraoti - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5½	5½	5½	5½	5½	5½
Rajputana - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92½	202	370½	406
Holkar - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	57	76
Neemuch - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36½
Patri - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23½	23½	23½	23½
Wardha Valley -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18	18	18
Tirhut - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	44	45
Nizam's - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	131	131	131
Muttra & Hathras	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30	30
Baroda State -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20
Total - - -	21½	72	171	274½	289½	430½	624½	836½	1,581½	2,351½	2,516½	2,962½	3,368½	3,568	3,936½	4,016½	4,261	4,766½	5,072	5,365½	5,671½	6,201	6,407½	6,948½

* The Great Southern of India Railway has, on re-measurement, been found to be 167 miles only.

† Temporary Line.

25. The time will soon arrive when it will be necessary to decide upon the course to be taken with regard to the East Indian Railway Company on the expiration of the first term of their lease. This will occur in 1879, in February of which year the Government will have the option of giving notice of their intention to purchase the main line on the terms specified in the contract. The first term of the lease of the Jubbulpore line does not terminate till the year 1883. Expiration of the first term of the East Indian Company's main line.

26. The Railway Conference, which was to have assembled in Calcutta in January last, was postponed, in consequence of the inability of many of the chief officers of the railways to be absent from their duty during the press of work occasioned by the traffic arrangements connected with the supply of food to the famine-stricken districts in the Bombay and Madras Presidencies. Many questions of interest and importance had been selected for discussion, including the establishment of a clearing house; the assimilation of systems of working, and of regulations; the adaptation of rolling stock to military purposes; the simplification and reduction of goods tariff; continuous brake power; communication between passengers, guards, and drivers; uniformity of statistics of traffic and of returns of accidents. Conference.

27. The arrangements connected with the Conference had been committed to Captain Kellow Pye, R.E., whose lamented death, subsequent to its postponement, has deprived the Government of a very able and rising public servant, and the Railway Department especially, of one of its most efficient officers.

28. In my last Report an account was given of certain experiments which had been made on the 5 ft. 6 in. gauge railways, to ascertain how railways can be made most available for military use in India.

Military capabilities of the metre gauge lines.

29. In January last a Committee, of which Brigadier-General H. R. Browne was President, was appointed by the Government of India to report on the military capabilities of the metre gauge railways. The Committee met at Agra, where experiments with metre gauge vehicles were carried out. They found that a first class passenger carriage would convey nine officers seated or four lying down; a second class, 18 officers or men seated or 12 lying down; a third class, 24 European or Native soldiers, in marching order, or 32 followers; that covered goods or cattle waggons would accommodate 12 British or Native soldiers in marching order with kits, or eight British with kits and one E. P. tent, or nine sepoy's with kits and half-company pāl; that either of these waggons would convey 80 kits of British or Native soldiers packed in suleetahs in the usual way, or eight tents E. P. pattern, kettles, and equipment complete (with the exception of the poles, which must be lashed on the roof or placed on an open truck), or 16 sepoy's pāl's complete. The ordinary horse-boxes or cattle waggons admitted, they found, two horses with ease and a third on emergency, if the animals are quiet and properly attended to. In the open trucks the accommodation would be the same, if the horses are placed longitudinally, but if standing transversely four may be embarked in the same waggon. This arrangement, however, is not free from risk of accident, in consequence of the heads of the animals protruding beyond the sides. A new class of waggon of increased length, suitable for four horses, is being introduced. Bullocks, they observe, are steadier and less liable to frights than horses, and may therefore be more safely conveyed in the goods waggons. Three large or four small draught bullocks may be placed in a covered goods waggon, and four to six in open waggons 13 ft. 6 in. in length, fitted with temporary side rails.

30. In reply to the question, "Can a siege train be conveyed?" the Committee say, "There is no difficulty in conveying the heaviest ordnance in use in Indian siege trains on the metre gauge, or in loading and unloading it from ordinary station platforms," and "at all places where break of gauge occurs, heavy ordnance may be transferred from the waggons of one line to those of another with great facility, by using the travelling or fixed cranes belonging to the railway, the rate of transfer, with a single crane, averaging 15 to 20 minutes for each heavy gun, with its carriage and limber." With reference to the conveyance of a heavy field battery (40-pounder Armstrong, &c.), they are of opinion that no difficulty would occur in its transport, and that it would require 136 vehicles, consisting of 1 first class carriage, 16 third class, 78 horse or cattle trucks, 33 low-sided trucks, 7 covered goods waggons, and 1 ammunition van.

Alterations necessary in existing vehicles.

31. These opinions are the result of careful experiments, which were conducted under the directions of the Committee. In order to make the rolling stock on the railways as available as possible for military purposes, certain alterations will be necessary, both in the 5 ft. 6 in. and the metre gauge waggons, and these can be carried out by degrees as repairs and renewals are required, without detriment to the vehicle as a conveyance for merchandise. The expense—estimated at 150,000l.—would be too large to be incurred at once. The expediency of considering the suitability of the railway permanent way and stock for military stores and ordnance is exemplified by the break down which has occurred on the Roumanian railways, in consequence of the heavy pressure of the war traffic.

Approach roads to railway stations.

32. Complaints continue to be made of the absence, in many parts of the country served by railways, of approach roads to the stations. The advantage of these communications, both to the districts and to the railways, is fully acknowledged, and the Government of India has urged "upon Local Governments and Administrations, and upon the rulers of Native States, the utmost possible efforts in respect to feeder roads," recommending that if the funds at the disposal of these authorities are too limited to meet all demands for public works, preference should be given to roads over civil buildings, inasmuch as the money spent upon the former will contribute to the remunerativeness of railways and repay itself. In a recent Despatch from your Lordship to the Viceroy, these views are fully endorsed, and the trust is expressed that the Government "may find it possible to take such steps as shall at all events secure the opening out and maintaining in proper condition approach roads to all railway stations where they do not now exist, and that no considerable delay may be permitted to occur before this very essential object is attained."

33. The Chief Engineer of the Oudh and Rohilkhund Railway, at the last inspection of the line, called attention to the fact that small villages were springing up just outside many of the station premises, and suggested "that some system should be observed in their construction, and that they should be under some control as to sanitary arrangements." The subject is one worthy of consideration, not only in Oudh, but in other parts of India. The Government Consulting Engineer supported the proposition, and further suggested that "the houses should be tiled, and not thatched, as there is some danger of sparks flying that distance." Station villages.

34. Arrangements have now been made with all the Companies, excepting the Great Indian Peninsula, for transferring to the Government their telegraph systems, such wires being left for the use of the railways as are required for the working of the traffic. Transfer of telegraphs to Government.

35. In the report of Captain Portman, Superintendent of Police for the Bombay, Baroda, and Central India Railway, illustrations are given of the various offences committed on railways in India. Two cases of dacoity are mentioned, consisting of night attacks upon stations for the sake of plunder. There is a case of robbery by a female, who administered to a fellow passenger a powerful narcotic, which she described as a "pussad," or sacred sweet, and was taken as such by her victim. She was found asleep in the carriage, deprived of her ornaments and money. Thefts and embezzlement under false declaration of goods are sometimes practised. Bags of gunpowder are despatched as groceries, and opium is smuggled in oil jars, the drug being packed between narrow receptacles for oil one passing through the middle of the jar and another just inside the covering. Opium is also sent in bags, described as containing gum, glue, &c. Police cases.

36. There have been changes in the heads of the staff of several of the railways during the year. In consequence of the lamented death of Mr. Cecil Stephenson, who had done good service for many years on the East Indian Railway in various positions, and lastly as Agent, and also the retirement of the able Chief Engineer, Mr. George Sibley, Mr. Bradford Leslie was selected to fill the joint office of Agent and Chief Engineer. Mr. Charles Currey, the very efficient Agent of the Bombay, Baroda, and Central India Railway, having accepted the post of Secretary to the Company in London, in succession to the late Mr. Baynes, Mr. F. Mathew, the zealous and energetic Chief Engineer in India, was appointed Agent as well. The retirement of Mr. Harrison, after many years' good service as Chief Engineer and acting Agent of the Sindh, Punjab, and Delhi Company, was followed by the appointment to the agency of Mr. Roscoe Bocquet, the Locomotive Superintendent. On the Great Indian Peninsula Railway also, Mr. H. P. Le Mesurier, C.S.I., who was formerly Chief Engineer in the Jubbulpore line of the East Indian, and did good service in the Punjab during the mutiny, resigned the appointment of Agent which he had held for some years, to become a member of the Railway Commission in Egypt. The Auditor, Mr. Barnett, is now acting as Agent. Indian staff.

PROCEEDINGS IN THIS COUNTRY.

37. The following tables exhibit the shipping operations of the Companies and the Government in this country :—

SHIPPING OPERATIONS, exclusive of Fuel, during 1876, on Account of Guaranteed and State Railways.

Railway.	Number of Ships employed in 1876.	Number of Tons of Goods shipped in 1876.	Value of Goods shipped in 1876.	Amount paid for Freight and Insurance in 1876.	Average Rate of Freight and Insurance per Ton.
		Tons.	£	£	£ s. d.
East Indian - - -	64	31,706	239,035	30,009	0 19 0
Great Indian Peninsula - - -	118	135,228	178,558	158,676	1 3 3½
Madras - - -	28	9,362	85,439	12,065	1 5 9
Bombay, Baroda, and Central India	47	8,200	66,279	11,606	1 8 4
Scinde, Punjab, and Delhi - -	19	2,091	49,885	5,492	2 12 6
South Indian - - -	30	13,536	131,568	18,596	1 7 5
Eastern Bengal - - -	18	933	6,258	1,087	1 3 3
Oude and Rohilkund - - -	37	5,448	136,043	9,254	1 14 0
State Railways - - -	226	90,297	680,929	111,342	1 4 8
Total - - -	587	296,801	1,573,994	358,127	—

AMOUNT and Cost of COAL and other FUEL sent out from this Country in 1876.

Railway Company.	Number of Tons supplied from England.			Total original Cost.			Sum paid for Freight and Insurance.	Average Cost of each Ton when bought in England.			Average Cost of each Ton delivered in India.		
	Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.		Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.
East Indian -	—	883	—	£ —	£ 2,153	£ —	£ —†	£ s. d. —	s. d. 48 9	s. d. —	£ s. d. —	s. d. —	s. d. —
Great Indian Peninsula -	118,666	—	—	68,428	—	—	131,756	11 6½	—	—	38 9	—	—
Madras -	—	1,781	—	—	1,514	—	12,640	—	17 0	—	—	47 2½	—
Bombay, Baroda, & Central India	20,922	—	—	84,288	—	—	—†	1 13 9	—	—	1 13 9	—	—
Scinde, Punjab, and Delhi -	5,876	97	*112	9,416	309	—	—§	—	32 1	65 8	32 1	63 8	—
South Indian -	19,272	303	—	10,856	241	—	18,848	11 3	15 10	—	33 0	39 6	—
Eastern Bengal -	200	100	—	152	136	—	173	15 3	27 3	—	24 9	42 11	—
Oude & Rohilkund -	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals -	164,936	3,166	112	123,140	4,353	—	—	—	—	—	—	—	—

* Sample to be paid for on approval. † Included in cost of coke. ‡ Included in price of coal. § Included in original cost.
 || This price includes all charges until delivery is taken from the sides of the ships at Madras. The landing charges are about 3s. a ton.

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.	Number of Ships lost.	Number of Tons of Goods shipped.	Amount paid in England for Goods shipped.
Up to end of 1860 - - -	2,605	39	2,094,686	£ 10,431,976
In 1861 - - -	407	—	181,621	1,669,443
" 1862 - - -	280	1	138,013	1,487,582
" 1863 - - -	279	2	166,840	1,285,464
" 1864 - - -	233	—	102,318	1,018,164
" 1865 - - -	442	2	199,157	1,729,543
" 1866 - - -	581	7	312,227	2,527,757
" 1867 - - -	512	5	333,329	3,052,652
" 1868 - - -	364	3	188,858	1,849,554
" 1869 - - -	455	1	211,750	1,432,784
" 1870 - - -	461	1	263,449	1,688,209
" 1871 - - -	307	6	168,049	707,765
" 1872 - - -	318	1	66,534	655,822
" 1873 - - -	404	2	201,590	1,561,602
" 1874 - - -	426	5	265,114	2,042,136
" 1875 - - -	421	—	288,186	1,518,991
" 1876 - - -	587	—	296,801	680,929
Total - - -	9,082	75	5,480,525	35,340,373

38. The proprietors have increased in number from 62,608 to 63,228. The insignificant number of those who held stock or shares in India has become still less, owing to purchases for transfer to the Home Registers as a remittance: the Europeans being reduced from 407 to 293, and the Natives from 390 to 367. The proportion of stock held in India is about 1·50 per cent. of the whole.

Railway.	Number of Shareholders on 31st December 1876.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1876.
	Registered in England.			In India.			Bonds.	Stock.	
	With Stock or Shares to the Amount of 1,000 <i>l.</i> and upwards.	With Stock or Shares of less Amount than 1,000 <i>l.</i>	Total in England.	Europeans.	Natives.	Total in India.			
East Indian - - -	7,201	8,558	16,059	103	149	252	586	864	17,761
Great Indian Peninsula -	5,670	7,656	13,326	68	125	193	534	1,523	15,576
Madras - - -	3,145	4,257	7,402	—	—	—	24	—	7,426
Bombay, Baroda, and Central India -	2,470	3,885	6,355	9	38	47	1	—	6,403
Scinde, Punjab, and Delhi - - -	3,447	5,376	8,823	48	11	59	—	—	8,882
South Indian - - -	941	1,454	2,395	No register in India.			—	142	2,537
Eastern Bengal - - -	704	954	1,658	19	20	39	40	199	1,936
Oude and Rohilkund -	1,095	1,398	2,493	46	24	70	—	144	2,707
Total - - -	24,673	33,538	58,571	298	367	660	1,185	2,872	63,228

NUMBER of LOCOMOTIVES and VEHICLES owned by the GUARANTEED RAILWAY COMPANIES.

Railway Company.	Locomotives.			Passenger Carriages.		Goods Trucks and Waggon.		Total Number of Vehicles on 31st December 1876.
	Former Number.	Added or With-drawn in 1876.	Total Number, 31st Dec. 1876.	Former Number.	Added in 1876.	Former Number.	Added or Deducted in 1876.	
East Indian - - -	515	† - 4	511	954	28	6,664	37	7,683
Great Indian Peninsula -	345	—	345	1,312	2	6,681	- 2	7,993
Madras - - -	128	—	128	383	8	3,205	—	3,596
Bombay, Baroda, and Central India - - -	85	- 5	80	295	—	2,739	- 31	3,003
Scinde, Punjab, and Delhi -	156	—	156	509	25	2,995	- 68	3,461
South Indian - - -	* 60	+ 42	93	226	116	† 936	+ 520	1,675
Eastern Bengal - - -	43	—	43	167	+ 2	707	- 6	870
Oude and Rohilkund -	62	+ 7	69	302	+ 20	1,200	+ 294	1,816

* 9 locomotives sold to the Punjab Northern State Railway.

† 2 sold, 2 condemned.

‡ 123 goods vehicles sold to the Punjab Northern State Railway.

NUMERICAL RETURN of all Races employed on open Lines of Railways and on the Indus Flotilla on the 30th September 1876.

Railways				General Administration, including Agency, Audit, Account, Paymasters, Stores, Medical, Barrack, Printing, Stationery, and Police Establishments.				Traffic and Telegraph Departments.				Engineers' Department.				Locomotive and Carriage and Wagon Departments, including Steamboat Establishment.				Total.				Number of Miles Open.	Number of Stations.	Remarks.
Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.							
East Indian	74	32	3,006	3,114	232	188	8,533	9,003	72	15	10,997	11,034	501	231	9,585	10,327	929	468	32,133	33,528	1,503½	135	(a.) Of these, 106 are extra men for miscellaneous work. (b.) This includes Chitpur and Koostia branches.			
Eastern Bengal	15	—	683	683	67	29	2,469	2,503	12	2	(a) 1,560	1,574	61	36	1,628	1,725	155	67	6,940	6,562	(b) 158½	33				
Oudh and Rohilkund	28	30	577	635	33	8	1,026	1,070	29	10	2,300	2,339	71	32	2,145	2,243	164	80	6,048	6,392	542½	75				
Punjab and Delhi	55	12	598	665	89	31	1,533	1,653	25	7	3,303	3,425	119	36	2,943	2,798	288	86	8,167	8,541	533½	51				
Sind (including Indus Steam Flotilla).	3	14	203	219	9	27	100	196	3	2	468	503	72	74	1,430	1,570	87	117	2,200	2,404	108½	9				
Calcutta and South-Eastern (State).	(c) 2	—	12	14	—	—	39	59	—	1	107	108	(c) 1	1	82	84	3	2	260	205	28	8	(c.) One European is only employed in the General Administration and one in the Locomotive Department, of these two Railways, but entries are made against each line. Exclusive of the Agency Surgeon attending Railway employees on Rajputana State Railway.			
Nalhati (State)	(c) 1	—	10	11	—	—	31	31	—	—	69	69	(c) 1	—	60	61	2	—	170	172	27½	7				
Rajputana (")	21	20	327	368	32	31	631	724	29	5	2,594	2,628	63	22	706	793	147	73	4,288	4,513	394½	48				
Holkar and Neemuch (")	11	—	76	87	9	8	149	166	2	1	201	204	20	8	257	285	42	17	683	742	107	14				
Tirhut (")	6	2	52	60	2	1	120	129	19	3	261	283	8	1	134	143	35	7	573	615	45	7				
Punjab, Northern (")	10	2	84	96	13	15	43	71	2	—	80	82	12	5	70	83	57	23	283	343	103	14				
Madras	16	46	502	564	29	338	1,937	2,324	30	93	4,370	4,493	145	421	2,879	3,445	220	893	9,708	10,926	837½	87				
South Indian	6	19	170	195	5	46	809	950	20	44	2,190	2,254	46	88	1,001	1,135	77	197	4,240	4,534	477½	61				
Great Indian Peninsula	42	29	1,087	1,158	272	263	3,619	4,154	67	42	10,004	10,113	300	130	5,971	6,467	741	470	20,681	21,992	1,366½	137				
Bombay, Baroda, and Central India.	15	34	671	720	16	53	1,404	1,503	17	2	2,046	2,063	57	154	1,150	1,370	105	343	5,370	5,718	460½	78				
Railways under the control of the Government of India.	226	112	5,029	5,967	539	538	14,790	15,667	193	40	22,000	22,399	931	443	18,753	20,133	1,889	942	61,235	64,068	3,572½	421				
Ditto ditto Madras	22	05	672	759	34	334	2,856	3,274	50	137	6,560	6,747	191	509	3,880	4,580	297	1,093	13,968	15,360	1,835½	143				
Ditto ditto Bombay	57	03	1,738	1,878	288	316	5,113	5,717	84	44	12,050	12,178	417	290	7,180	7,837	846	713	26,031	27,010	1,716½	215				
Total Indian Railways	305	240	8,030	8,604	861	1,038	22,769	24,658	327	227	40,670	41,224	1,539	1,246	29,766	32,550	3,032	2,750	101,254	107,076	6,624½	784				

PERSONS EMPLOYED ON THE RAILWAYS.

39. It appears by the foregoing returns that, out of a total of 107,036 persons employed on the 6,624 open miles of railway on the 30th September last, 101,254 were Natives, 3,032 were Europeans, and 2,750 East Indians. The number of deaths amongst the Europeans was 60 or about 2 per cent., amongst the East Indians 34 or 1·24 per cent., during the preceding twelve months.

European
and East
Indian
employés.
Casualties.

40. The Europeans, it will be seen, form only 2·83 per cent. of the whole number employed. It is not probable that this proportion will be materially reduced, and it is certain that there will always be a number of Europeans of the mechanical class who will reside many years, if not all their lives, in India, and raise a progeny there. I have not been able to obtain a complete return of the number and ages of the children now in India belonging to the European servants of the Railway Companies, but information as to these points and as to the means available for their education has been called for. We shall then be in a position to judge whether some more perfect arrangement than that which now exists may not be made for their bringing up. Not only should they receive mental and religious instruction, but their health and physical training should be attended to. There cannot be a doubt that European children who are allowed to remain in the plains of India until they reach maturity will be reduced to a feeble and flaccid condition, and that a second generation would degenerate still more. It is important, therefore, if they are to remain in India, that, both on their own account and in the interests of their adopted country, the opportunity should be given them of growing up as strong in mind and body as circumstances will permit. Where Europe is out of the question, attention will naturally be turned to one of the hill stations, as a more suitable place than the stifling towns of the plains, for the purposes of training children of this class. One or two boarding schools might, with the aid of the Government and the Companies, be established in some well selected situation, as central as possible, and the European and perhaps the East Indian railway employés would probably be glad to contribute their quota of the expense.

Children of
Europeans
and their
education.

41. Some idea of the numbers to be provided for, and of the existing means of education, may be formed by a return relating to the East Indian Railway, the only one which has been obtained. It appears from this that at 32 stations there are 940 European children, and at 42 stations 749 half-caste children, of all ages, being 1,689 in all; that schools are provided at 13 stations, and that 34 stations are without them; that at the 13 stations there are 593 European and 509 half-caste children, 1,102 in all. There are thus 347 European and 240 half-caste children who have no schools to go to, and who are dependent on parental or private teaching. The total number of European employés on the East Indian Railway is 929, and of East Indians 466, so that the average proportion of children to adults is in the case of Europeans not quite 1 per cent., and in the case of East Indians ·62 per cent. Applying the same proportion to the whole of the railway employés in India, there would be about 3,000 European children, and 1,870 East Indian, to be brought up. A considerable number of these would be infants, or under five years of age, and consequently not eligible for a public institution. But a large number still remain. We shall know the exact number when the returns called for are made. In the meantime it may be worth while to consider, in all its bearings, the whole question of the training of these Indian born English children. I may mention that doubts have already been raised as to the character of the education given. The Archdeacon of Calcutta, after visiting the railway schools in Upper India, expressed his opinion that the education given "is not up to the standard taught in the English National Schools," and he doubts whether it fully qualifies the boys "for the occupations suitable to their "stations in life." At Bombay, on the other hand, the education is reported to have been fairly successful. There, boarding schools have been already established, as well as night schools for the elder boys who are engaged during the day in the workshops.

42. The Europeans composing the class to which I have been referring have generally been well conducted and steady. Their pay is good, and they are provided

Conduct of
European
servants on
the railways.

with suitable dwellings and various means of recreation and amusement. If they resist the temptation of drink, they have a fair prospect before them of competence and success. Harmony and good feeling has prevailed between the men and their superiors, but occasionally questions have arisen which have produced a little excitement and irritation. There was an example of this last year, but all misunderstanding was soon removed by tact and forbearance. In June the European guards and drivers of the East Indian Railway expressed their discontent with the arrangements under which they were employed. They complained that their pay, which was reduced when the traffic fell off, had not been restored to its former figure when the traffic improved; that they were not treated fairly with regard to overtime, Sunday allowances, promotion, &c. Meetings were held, and the men were brought face to face with Mr. Campbell. They were respectful, and he received their reasonable representations with consideration and good temper. Captain Wallace, R.E., Deputy Consulting Engineer to the Government, who had been appointed to investigate the cause of the discontent, acted also with great discretion, and was the means of bringing the matter to a satisfactory settlement. Admitted wrongs were redressed, a proper understanding was come to, and certain questions were reserved for consideration. It was also agreed that an attempt should be made to establish a uniform system of pay and allowances on all the railways. This would be very desirable, and the experience which has now been gained should not make it difficult to decide on what would be the best arrangement. The chief points seem to be to fix a reasonable rate of wages at starting, and to allow continuous good service to be rewarded by increased pay up to a proper maximum, to settle what is a fair day's work, and to guard against excessive overtime, which overtaxes a man's strength, and leads to the imperfect performance of his duty. This is a subject which will, no doubt, engage the attention of the next Conference.

Provident Funds.

43. The East Indian is the only Company which at present has contributed any of its revenue to a provident fund. On that line the fund has proved to be a great boon. The contribution is made out of the excess net profits over 6 per cent., both the Government and the Company agreeing to give up a proportionate amount of their surplus profits. The intended effect of the grant is to give every subscriber (and each servant when engaged is now compelled to be a subscriber) a personal interest in the success of the undertaking. A sum of 45,000*l.* has been contributed to the fund by the above method. The grant last year was upwards of 20,000*l.* Other Companies, it may be hoped, will likewise be in a position before long to confer a similar benefit on their officers and servants.

Native servants.

44. With regard to Native servants, I have only to observe, generally, that careful selection in the first instance, and proper training afterwards, have produced their natural fruits. Steadiness, self-possession, and other moral qualities, of which they are usually thought to be deficient, improve, and we have now many examples of well qualified drivers and pointsmen. Their competency as skilled workmen, whether as artificers, mechanics, forgers, &c., has already been demonstrated by experience. Although requiring more skill and closer attention to work, the Native drivers and shunters appear to give more satisfaction than the guards, at least in Bengal. They are described as "strongly built men, and smart and intelligent." Mr. Campbell, the Locomotive Superintendent of the East Indian Railway, takes great pains in preparing them for their work. He is disposed to place confidence in them, and, after trial and experience, he advocates their increased employment.

ACCIDENTS.

45. The usual return of accidents for the past year has not yet been received from India. I am unable, therefore, to give more than an imperfect summary of those cases which have from time to time been reported by the Agents of the Companies. The most disastrous accident was one which occurred on the Madras line, near Amboor, at 2 o'clock on Christmas morning. The mail train and a special goods train were to have passed at that station; but the driver of the mail train, forgetting that he had to meet the special, drove through the station, at which no signal seems to have been exhibited, and came into collision with the special two miles further on. One composite, two third class, and three waggons were smashed, and 12 lives were lost, ten passengers being killed on the

spot. The driver, station master, and assistant station master were prosecuted and punished by fines and imprisonment.

46. One or two malicious attempts to injure and upset trains have been made. On the East Indian Railway a rail was removed from a culvert just before the mail on the night of the 11th August was expected. The attempt was, happily, discovered by the driver of a light pilot engine which happened that evening to be passing in front of the train. A similar attempt was made on the Eastern Bengal, and the motive was traced to be that of revenge for injury done to the crops by the railway. On the Madras and South Indian lines the same attempts were made.

47. On the Oudh and Rohilkund, damage was caused by the sparks from an engine, and an action was brought against the Company to recover the loss. Judgment was given in favour of the plaintiffs by the Assistant Commissioner before whom the case was tried, and confirmed by the Commissioner of the District, on the ground that the Company possessed no legislative power to use locomotives. Strange though this reason may appear, it seems that there was ground for it. In order that, in future, all doubts may be removed, it has been suggested that the new Railway Bill about to be introduced into the Legislative Council for consolidating all existing Acts relating to Indian Railways should contain a clause by which the power to use locomotives on railways should be distinctly given.

48. On the South Indian, a child fell out of a carriage while the train was in motion. The mother jumped out after it, and both were picked up uninjured. On the same line, a cow-catcher was the means of saving a human being. A Native woman, who afterwards said she was tired of life, placed herself between the rails just as a train approached. She was caught up by the cow-catcher, and pitched, unhurt, on the side of the line.

49. One fatal accident occurred to a Native on the Punjab line, through his own misdemeanour. He travelled some distance on the buffer of a waggon, and on jumping off when the train was approaching a station, with a view, it is supposed, of evading payment of his fare, was run over and killed.

50. Although unable to give more than the summary contained in the subjoined table, I am able to say, judging from the detailed returns relating to one or two lines, that the system of reporting and investigating accidents is very complete. Whether it be that a cooly employed in carrying materials or in excavating gravel is injured, that a workman is hurt in the shops, that a bungalow takes fire, that injectors of an engine fail or a rod breaks, each case is noticed and reported as carefully as when a serious collision takes place or when a train is derailed. And this is quite right as a rule. The nature of an accident is apt to be judged solely by its actual results; but the grossest blunder may be less serious in its effects than a trivial mistake. A loose rail or an imperfect tyre may cause greater loss of life than the gap in a bridge or a collision between two trains. A signaller may give a wrong signal, and an accident may only be averted by the watchfulness of the driver. The investigation of an accident should have reference to the future as well as to the past, the object being to provide prospective safeguards as well as to detect blunders or neglect of duty. It becomes, therefore, often quite as important to inquire into what are regarded as trivial accidents and narrow escapes, as to take up the more serious cases. Nor should those which happen so frequently to passengers, and especially to railway servants, through causes within their control, be passed over, for even while individual sufferers may be at fault, checks might be used against negligence and recklessness on their part.

ACCIDENTS TO PERSONS during the Year 1876.

	Passengers Killed or Injured from Causes beyond their control.		Passengers Killed or Injured from Misconduct or Incaution.		Railway Servants Killed or Injured from Causes beyond their control.		Railway Servants Killed or Injured from Misconduct or Incaution.		Persons Killed or Injured at Level Crossings.		Trespassers.		Miscellaneous.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
East Indian Main -	1	6	9	22	5	1	15	31	—	1	46	4	2	6	78	71
Jubbulpore -	—	3	1	1	—	1	2	—	—	—	3	1	1	—	7	6
Great Indian Peninsula -	—	—	1	2	8	30	8	33	2	—	4	2	4	8	27	75
Madras -	10	18	1	5	1	4	9	18	1	—	3	3	2	1	27	44
Bombay, Baroda, and Central India.	—	5	—	1	1	15	7	8	—	1	3	1	1	1	12	32
Scinde, Punjab, and Delhi -	—	—	1	2	—	—	11	8	—	—	—	—	1	1	13	11
South India -	—	—	—	3	—	2	—	15	1	—	1	—	—	—	2	20
Eastern Bengal -	—	—	*1	1	1	—	3	5	—	—	1	1	1	1	7	8
Oudh and Rohilkund -	—	—	1	1	—	—	5	10	—	—	9	2	1	1	16	14
State Lines (no returns).	11	27	15	38	16	53	60	128	4	2	70	14	13	19	189	281

* Drowned from a steamer.

CAPITAL.

51. During the year 1876-77, the capital expenditure on the guaranteed railways was 879,665*l.* The accounts of the State lines have only been received up to the end of October last. At that time a sum of 2,946,947*l.* had been expended on them since the 1st January 1876. It may be estimated that by the end of the year a further sum of 553,053*l.* had been appropriated to works in hand, making a total of about 3,500,000*l.* for the year. The greater part of the expenditure of guaranteed capital took place on the extensions of the South Indian, to which line, as before stated, nearly three hundred miles were added. On most of the railways very little was spent, and with regard to some, the total amount has been reduced by the sale of stores to other lines, as well as the transfer to revenue account of the value of such as were required for working and maintenance purposes.

52. During the current year more capital will be required on the open lines for the purchase of an additional stock of locomotives and waggons to meet increased traffic, and for the new bridge over the Nerbudda river on the Bombay and Baroda Railway. The development of the resources of the country which is now taking place, and the large traffic which has ensued, points to the probability of more expenditure in future years for the additional accommodation and means of transport that will be required.

53. The State lines on which the principal expenditure was incurred were the Northern Bengal, the Punjab Northern, and the Indus Valley.

54. The total amount of capital that had been expended up to the end of the year (adopting the estimate above made for the months of November and December on the State lines) was 109,364,867*l.*, of which 94,272,265*l.*, was on account of guaranteed, and 15,092,602*l.* on account of State lines. The details are given in the accompanying statements, prepared in the Accounts Departments of this Office.

55. The total amount of guaranteed capital that had been raised up to the 31st March last was 94,832,562*l.*, of which 84,374,121*l.* consisted of share capital, 4,766,300*l.* of debentures, 5,422,458*l.* of debenture stock, and 269,683*l.* of capital not bearing interest.

56. The rates of interest paid on the several descriptions of capital, and the amounts thereof, were as follows, on the 31st March last :—

				£
Share capital	at 5	per cent.	-	82,630,969
"	" 4 $\frac{3}{4}$	"	-	1,243,152
"	" 4 $\frac{1}{2}$	"	-	500,000
Debentures	" 4 $\frac{1}{2}$	"	-	183,450
"	" 4 $\frac{1}{2}$	"	-	2,096,400
"	" 4	"	-	2,486,450
Debenture stock	" 4 $\frac{1}{2}$	"	-	1,925,000
"	" 4	"	-	3,497,458
Capital not bearing interest	-	-	-	*269,683
				<u>£94,832,562</u>

* Premium on share capital and debentures	-	-	£ 562,263
Less, discount on debenture stock, viz. :—			£
Stock represented as shown above	-	-	5,422,458
Cash received in respect thereof	-	-	5,129,878
			<u>292,580</u>
			<u>£ 269,683</u>

STATEMENT No. 1.

STATEMENT OF EXPENDITURE IN ENGLAND AND INDIA ON INDIAN STATE RAILWAYS, appropriated to the various Undertakings as shown in Statements to 31st October 1876 (the latest date to which such Statements have been received from India).

State Railway.	Expenditure appropriated.			Classification of Expenditure.												Receipts on Capital Accounts.
	England.	India.	TOTAL.	Pre-liminary Expenses.	Land.	Con-struction of Line.	Ballast and Permanent Way.	Stations and Buildings.	Electric Telegraph.	Plant.	Rolling Stock.	Main-tenance.	Estab-lishment.	Con-tingencies.	Suspense Accounts.	
Punjab, Northern	£ 529,785	£ 1,719,099	£ 2,248,884	£ 26,510	£ 22,759	£ 1,027,938	£ 277,401	£ 67,723	£ 108	£ 112,062	£ 59,092	£ 3,696	£ 371,532	£ 14,014	£ 273,385	£ 7,146
Indus Valley	629,133	2,572,798	3,201,931	61,616	12,564	1,150,115	589,170	115,292	658	99,887	205,159	4,895	419,527	27,798	521,056	5,301
Hubli and Carwar	2,502	52,812	55,314	—	—	—	—	—	—	—	—	—	53,674	1,640	—	—
Wardha Valley, Coal	51,026	375,975	427,001	8,474	341	124,270	199,557	25,232	—	13,779	241	415	34,537	1,489	19,026	380
Holkar	305,630	871,119	1,176,749	3,251	4,617	526,333	208,921	68,404	—	32,041	114,364	266	121,522	8,987	91,412	3,369
Nemuch	269,963	398,987	668,949	20,972	424	123,191	186,681	27,961	—	14,872	6,345	969	89,510	5,899	193,243	748
Rajpootana	772,475	1,751,441	2,523,916	25,692	39,350	573,528	957,326	236,559	1,500	35,198	297,257	64	191,136	10,592	158,023	2,309
Western Rajpootana	—	52,313	52,313	4,269	—	—	—	—	—	1,994	—	—	43,258	2,360	557	25
Nulbatee	30,000	—	30,000	—	—	*30,000	—	—	—	—	—	—	—	—	—	—
Calcutta and South-eastern	268,424	422,400	690,824	6,769	108,507	104,596	155,774	57,164	3,693	8,270	122,481	—	86,773	18,766	18,031	—
Northern Bengal	—	700,801	943,465	8,287	32,453	246,665	125,758	20,637	2,828	21,629	496	2,270	117,523	9,557	357,714	2,352
Scindia	42,760	115,576	158,336	1,911	1	40,746	1,295	3,229	—	4,879	41	5	29,914	967	75,519	171
Nagpur and Chuteesghur	—	11,250	11,250	1,679	—	—	—	—	—	707	—	—	8,502	320	62	20
Tirhoot	145,169	200,214	345,383	760	1,448	69,311	168,705	11,098	—	16,851	28,365	—	30,007	1,756	17,363	281
Rangoon and Irrawaddy Valley	179,530	447,793	627,323	2,394	12,720	105,052	262,706	44,381	—	17,635	28,618	—	47,928	1,787	104,614	512
Rangoon and Sittang Valley	—	9,406	9,406	965	—	—	—	—	—	615	—	—	7,447	380	50	1
Moradabad, Deobund, and Roorkee	—	2,852	2,852	52	—	—	—	—	—	34	—	—	2,616	150	—	—
Kosi Extension	—	3,507	3,507	241	—	—	—	—	—	46	—	—	3,104	116	—	—
Assam Extension	—	4,246	4,246	809	—	—	—	—	—	178	—	—	3,536	135	94	6
Hathras and Muthra Section, Light	—	96,927	96,927	93	990	3,480	52,854	12,194	—	637	14,020	—	7,000	175	5,504	10
Provincial Railway.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hathras and Kasganj, ditto, ditto	—	61	61	61	—	—	—	—	—	—	—	—	—	—	—	—
Cawnpore and Furruckabad, ditto, ditto	—	1,061	1,061	1,061	—	—	—	—	—	—	—	—	—	—	—	—
NATIVE STATES.																
Nizam's	145,217	1,010,746	1,155,963	1,037	—	401,121	471,329	108,014	—	16,260	9,168	—	112,792	4,348	85,446	4,067
Kharagsum Branch	—	48,530	48,530	37	89	10,921	29,328	4,638	125	348	32	—	2,838	234	—	—
Oomraotee Branch	13,316	30,418	43,734	112	245	9,418	25,259	4,844	110	302	15	—	3,806	123	—	—
Mysore	—	11,624	11,624	550	—	—	—	—	—	831	—	—	9,994	249	—	—
Total	3,627,593	10,911,956	14,539,549	177,122	236,258	4,546,685	3,712,059	806,870	9,022	398,980	885,659	12,086	1,798,496	111,987	1,870,999	26,668

* This amount was paid to the Oude and Rohilkund Railway Company for purchase of the Line.

Note.—The total expenditure in England on State Railways to 31st October 1876 amounted to 4,090,841l. The above figures represent only that portion of such expenditure which had been appropriated in India to the several undertakings to the date of the last advices received.

T. W. KEITH,
Accountant.

India Office, 30th June 1877.

STATEMENT No. 2.

Showing the AMOUNT of CAPITAL authorized to be raised for each Undertaking as now sanctioned, the Amount raised, and the Amount withdrawn, to 31st March 1877.

Railway.	Amount authorized to be raised on 31st March 1877.					Amount raised in England to 31st March 1877.					Amount raised in India to Date of last Advices.		Total Amount withdrawn to 31st March 1877 (partly estimated).
	Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	Total.	Share Capital.	Debentures.	Debenture Stock.		Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.	
								Stock represented.	Cash received.				
East Indian—Main Line	£ 22,992,960	2,719,850	£ 1,500,000	£ 170,488	£ 27,383,298	£ 22,615,804	2,719,850	£ 1,500,000	£ 169,150	£ 326,325	£ 1,388	£ 27,332,467	£ 27,308,306
„ Jubbulpore Line	£ 3,200,000	—	—	£ 43,249	£ 3,243,249	£ 3,189,350	—	—	£ 43,249	£ 7,665	—	£ 3,240,264	£ 3,400,485
Great Indian Peninsula	£ 20,000,000	268,800	£ 3,065,300	£ 229,602	£ 23,563,702	£ 19,424,815	268,800	£ 2,701,450	£ 228,860	£ 495,563	£ 743	£ 22,894,339	£ 22,798,608
Madras	£ 10,264,100	—	—	£ 9,898	£ 10,273,998	£ 10,247,671	—	—	£ 9,898	—	—	£ 10,257,569	£ 10,103,795
Bombay, Baroda, and Central India	£ 7,550,300	200,000	—	£ 35,387	£ 7,785,687	£ 7,528,638	200,000	—	£ 35,387	£ 21,672	—	£ 7,785,687	£ 7,846,380
Scinde, Punjab, and Delhi	£ 11,418,900	—	—	£ 4,403	£ 11,423,303	£ 10,988,984	—	—	£ 4,386	£ 86,258	£ 67	£ 11,079,640	£ 10,561,045
Eastern Bengal	£ 2,355,520	462,350	£ 411,308	£ 2,288	£ 3,131,466	£ 2,238,996	462,350	£ 411,308	£ 2,288	£ 16,486	—	£ 3,094,850	£ 3,098,969
Oude and Rohilkund	£ 4,000,000	1,115,300	£ 384,700	£ 3,352	£ 5,503,352	£ 3,575,581	1,115,300	£ 384,700	£ 3,352	£ 424,419	—	£ 5,473,241	£ 5,493,595
South Indian	£ 3,213,559	400,000	£ 425,000	£ 63,596	£ 4,102,155	£ 3,184,688	—	£ 425,000	£ 63,541	£ 1,221	£ 55	£ 3,674,505	£ 3,766,162
Total	£ 84,895,339	5,166,300	£ 5,786,308	£ 562,263	£ 96,410,210	£ 82,994,517	4,766,300	£ 5,488,458	£ 560,061	£ 1,379,604	£ 2,302	£ 94,332,562	£ 94,272,265

India Office, 12th April 1877.

T. W. KEITH,
Accountant.

STATEMENT No. 3.

SHOWING the AMOUNT received from and withdrawn by each Company during the Year ended 31st March 1877.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1876.	Sums advanced to the Companies on the 31st March 1876.	Amount received						Amount withdrawn				Total received during the Year ended 31st March 1877.	Total withdrawn during the Year ended 31st March 1877.		
			In England, between 1st April 1876 and 31st March 1877.			In India, between 1st April 1876 and the Date to which Accounts have been received.			In England, between 1st April 1876 and 31st March 1877.	On account of Stores, Establishment Charges, &c.	For Discharge of Debentures.	Date to which Accounts have been received.			Amount.	Estimated Withdrawals between Dates specified and 31st March 1877.
			Share Capital.	Debentures.	Deben- ture Stock.	Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.								
East Indian, Main Line.	£ 190,869	£ —	£ 47,755	£ —	£ —	£ 7,061	£ —	£ 262,695	£ 54,720	31st December 1876	£ 85,991*	£ 110,000†	£ 54,816	£ 121,424		
East Indian, Jubbulpore Line.	—	173,586	—	—	—	—	—	—	—	"	8,365*	5,000†	—	43,365		
Great Indian Peninsula.	688,160	—	360,690	—	—	—	90,516	373,826	1,035,450	"	100,641*	265,000†	451,306	1,043,635		
Madras	221,899	—	3,170	—	—	—	—	101,084	38,300	"	8,089*	60,000†	3,170	71,295		
Bombay, Baroda, and Central India.	104,361	—	—	—	—	—	—	91,819	45,300	"	87,935	10,000†	—	165,054		
Scinde, Punjab, and Delhi.	564,683	—	—	—	—	—	—	69,660	—	31st October 1876	6,428	30,000†	—	46,088		
Eastern Bengal	—	392,963	—	—	—	—	—	14,919	27,100	31st December 1876	13,937	43,000†	436,800	42,956		
Oude and Rohilkund	185,060	—	—	—	—	—	—	157,188	—	"	38,281	10,000	—	205,414		
South Indian	291,357	—	15,000	—	—	—	—	151,706	—	"	206,328	40,000	15,000	398,084		
Total	2,246,389	566,549	426,615	436,800	—	7,061	90,516	1,222,842	1,200,870	—	99,823	443,000†	960,992	2,080,535		

* Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amounts withdrawn in India on Capital Account during the year.

† It is estimated that, on receipt of advices from India regarding transfers, which are several months in arrear of advices of cash transactions, transfers of expenditure to Revenue Account, &c., will have exceeded withdrawals to this extent.

India Office, 12th April 1877.

T. W. KEITH,
Accountant.

STATEMENT of WITHDRAWALS out of CAPITAL for EXPENDITURE; showing the Amount withdrawn in England and in India by all the Guaranteed Indian Railway Companies during each Financial Year from the commencement to 31st March 1877.

Year.	England.	India.	Total.
	£	£	£
1849-50	69,211	6,682	75,893
1850-51	61,164	38,099	99,263
1851-52	154,212	197,111	351,323
1852-53	174,920	252,640	427,560
1853-54	252,484	418,165	670,649
1854-55	960,878	769,278	1,730,156
1855-56	1,935,074	1,431,337	3,366,411
1856-57	1,752,813	1,762,287	3,515,100
1857-58	1,328,243	2,094,825	3,423,068
1858-59	1,941,033	3,551,075	5,492,108
1859-60	2,508,668	4,662,796	7,171,464
1860-61	2,388,315	5,190,400	7,578,715
1861-62	1,597,430	5,004,782	6,602,212
1862-63	1,852,393	4,010,951	5,863,344
1863-64	1,415,146	3,340,507	4,755,653
1864-65	1,396,821	2,725,419	4,122,240
1865-66	2,222,679	3,414,187	5,636,866
1866-67	3,958,357	3,339,346	7,297,703
1867-68	3,924,490	3,195,591	7,120,081
1868-69	1,969,814	2,512,084	4,481,898
1869-70	2,298,680	2,444,171	4,742,851
1870-71	1,899,054	1,877,216	3,776,270
1871-72	886,996	1,609,732	2,496,728
1872-73	822,995	345,750†	477,245
1873-74	1,028,032	334,979†	693,053
1874-75	1,174,893	86,982†	1,087,911
1875-76	1,151,585	200,779†	950,806
1876-77	1,222,842	343,177*†	879,665*
	42,349,222	52,537,014	94,886,236
Deduct amount withdrawn by the Calcutta and South-eastern Railway Company, this Railway having subsequently become the property of the State	267,362	346,609	613,971
	42,081,860	52,190,405	94,272,265

* These amounts are partly estimated.

† Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amount withdrawn in India on Capital Account.

Note.—The total expenditure in India in each year as shown in the above Statement will not be found to coincide with that shown in the Indian Finance and Revenue Accounts, owing to the fact that the transfers of expenditure to Revenue Account can only be made in the books in this country on receipt of advices from India, and are consequently brought to account some months later than in the Indian books.

India Office,
12th April 1877.

T. W. KEITH,
Accountant.

STATE OF DEBENTURE LOANS on the 31st March 1877.

Railway.	Amount.		Rate of Interest	Date at which Loan expires.
	£	£		
East Indian - - -	96,400		4½	10th August 1877.
" - - -	183,450		4½	" "
" - - -	1,000,000		4½	22d August 1877.
" - - -	440,000		4	19th March 1878.
" - - -	1,000,000		4½	1st January 1881.
		2,719,850		
Great Indian Peninsula - -	268,800		4	30th June 1878.
		268,800		
Bombay, Baroda, and Central India	200,000		4	1st January 1882.
		200,000		
Eastern Bengal - - -	52,650		4	1st November 1884.
" - - -	409,700		4	12th July 1886.
		462,350		
Oude and Rchilkund - - -	615,800		4	4th June 1880.
" " - - -	500,000		4	1st August 1881.
		1,115,800		
		4,766,300		

Note.—None of the above Debentures are convertible into Share Capital.

India Office,
12th April 1877.

T. W. KEITH,
Accountant.

REVENUE.

57. The net revenue derived from the railways during the year 1876 was 4,564,823*l.*, compared with 3,647,868*l.* of the previous year. The State lines, 935 miles in length, earned 113,401*l.*, and the guaranteed lines, 6,000 miles in extent, earned 4,451,422*l.* According to the account given below, the guaranteed interest advanced during the year 1876 amounted to 4,634,222*l.*, so that there was a difference only of 182,800*l.* between that and the receipts. But inasmuch as certain lines earned surplus profits to the amount of 833,170*l.*, half that sum (after deducting 19,835*l.*, contributed to the Provident Fund of the East Indian Railway) had to be returned to the Companies. In the previous year the difference between receipts and guaranteed interest was 1,073,882*l.*, and the half surplus profits amounted to 173,506*l.* The net amounts chargeable against the revenues of the country for the two years respectively were, in 1875, 1,247,338*l.*, in 1876, 588,467*l.* This is a great improvement, and full of encouragement for the future. During the past year the famine in Southern India caused a large movement of grain from the north-west, which added considerably to the traffic of the East Indian, the Great Indian Peninsula, and the Madras lines, but irrespective of this explanation of part of the increase, there has been a large demand for wheat and seeds for exportation, and the cultivation of land for the purpose of meeting the demand is annually extending. These and other signs of a steady advance, not only in the traffic, but in a prudent and economical management of the railways, enabled Sir John Strachey, in his budget statement on the 15th March, to observe that he regarded "the progress of the railways as one of the most hopeful and important facts connected with the future of our finances." The returns relating to the traffic of the present year, which have already been received, justify the expectation that the guaranteed interest advanced by the Government will be covered by the net receipts, even after deducting the share of surplus profits due to the Companies.

58. A difference will be observed between the amount given above and that stated in the Annual Revenue (Home) Accounts, as the deficit payable out of the revenues of India for the guaranteed interest. This is explained by the difference in the time which makes up the year in each case. The *official* year ends with the 31st March, the *railway* year on the 31st December. The railway accounts are made up each half year ending the 30th June and the 31st December, and the guaranteed interest is also due on those days. From these last accounts the results above given are derived.

Gross
receipts,
Guaranteed
railways.

59. The gross receipts of the guaranteed lines, for the year, were 8,369,883*l.*, compared with 7,113,898*l.* of the previous year. The expenses were 3,976,296*l.*, compared with 3,537,484*l.*, being 47 per cent., as against 49 per cent. of the receipts.

60. The gross receipts of the State lines amounted to 424,099*l.*, as compared with 298,181*l.*, and the expenses to 310,695*l.*, compared with 226,827*l.*, being 73 per cent. as against 76 per cent. Gross receipts, State lines.

61. The gross receipts from both together were thus 8,793,982*l.* and the working expenses 4,229,156, leaving, as before stated, a net revenue of 4,564,828*l.*

62. The line which has contributed most to these satisfactory results is the East Indian, but others are approaching its position of prosperity and there is ground for hoping that before very long the earnings of most, if not of all, the guaranteed lines will cover the guaranteed interest. East Indian.

63. Taking the capital expended upon these undertakings up to the end of the year at 94,270,000*l.*, the average receipts per cent. per annum would be 4*l.* 14*s.* 5*d.* Average receipts per cent. per annum.

64. Of the above amount,—

	Per Cent. per Annum.
	<div style="text-align: right;">£ s. d.</div>
27,208,200 <i>l.</i> , representing the main line of the East Indian, earned	7 6 0
or	
30,608,600 <i>l.</i> , including the Jubbulpore line, earned	6 9 0
22,800,000 <i>l.</i> , representing the Great Indian Peninsula, earned	5 3 0
3,094,000 <i>l.</i> , „ „ Eastern Bengal	5 16 0
7,847,000 <i>l.</i> , „ „ Bombay, Baroda, and Central Indian*	3 11 0
5,450,000 <i>l.</i> , representing the Oude and Rohilkund, earned	2 9 0
3,766,100 <i>l.</i> , „ „ South Indian†	2 7 0
10,104,000 <i>l.</i> , „ „ Madras	2 6 0
10,560,000 <i>l.</i> , „ „ Scinde, Punjab, and Delhi‡	2 5 0
65. Surplus profits were earned to the amount of 833,170 <i>l.</i> viz. :—	£
By the East Indian (in both half years)	651,664
The Great Indian Peninsula (in the first half year)	125,816
The Bombay, Baroda, and Central India (in the first half year)	20,343
The Eastern Bengal (in the second half year)	35,347

Surplus profit.

Half of these amounts was retained by the Government.

66. I may here mention that the financial results of some of the recent branches of the Bombay and Baroda Railway have been very satisfactory, the receipts having more than covered the guaranteed interest on the capital. Mr. Wood, the Auditor of that Company in India, after analyzing the figures of the separate accounts of the Main line and branches of that railway, shows that the Main line to Saburmuttee earned 3·68 per cent., the Wudwan extension earned 5·14, and the Dakor branch 6·23 per cent. per annum, aptly observing that, “while this comparison shows that low first cost is essential to the financial success of branch lines in this country, the results realized in the case of our own lateral extensions prove that carefully selected and economically constructed branch lines, in good agricultural districts, not only stimulate the trading and productive energies of the people, who are, by their introduction, placed in easier communication with larger markets and centres of commerce, but that, with good management, they may directly benefit the State and the proprietors of the main undertaking.” Branch lines of Bombay and Baroda Railway.

67. The Revenue Statement, giving the particulars of the receipts and expenses of each railway for the year, will be found on pp. 24, 25. This statement gives the actual amount of revenue yielded by the railways, after all adjustments have been made with the concurrence of Government. If the results differ from those in the Traffic Statements (from p. 38 to p. 43), it is because there may be some claim which, outstanding perhaps from former years, had to be settled. In the case of the Great Indian Peninsula Railway, for instance, the expenditure from the half year's revenue was reduced by contributions to the extent of 88,884*l.* from funds raised from the receipts of previous years, and in the case of the Eastern Bengal, the earnings, 31,000*l.*, from the *steamers* used by the Company are not included in the *railway* returns. Statements and Tables.

* The earnings of the Bombay, Baroda, and Central India Railway would also have been larger, but for an outlay of *l.* from Revenue for repairs to the Nerbudda Bridge.

† With regard to the South Indian, it should be remarked that a great portion of the line has only just been opened, and also that a loss of 18,441*l.* was incurred, and charged to Revenue, by the sale of broad gauge rolling stock, which they no longer required, on account of the adoption of the metre gauge for their line.

‡ The earnings of this line would have been better by 26,000*l.*, but for the exceptional charges to revenue, on account of the expenditure on the bridges for protective works.

STATEMENT showing the REVENUE from the INDIAN RAILWAYS in 1875 and 1876, as given in the Accounts passed by Government.

Railway.	Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
	Passengers.	[Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
GUARANTEED.									
East Indian, Main Linej	£ 851,089 801,311	£ 2,058,301 1,622,681	£ 100,794 85,671	£ 3,010,184 2,509,663	£ 286,553 226,135	£ 738,383 736,619	£ 1,024,936 963,054	34 38	£ 1,985,248 1,546,609
" Jabalpur Line	£ 91,618 77,300	£ 128,334 92,198	£ 25,222 15,550	£ 245,169 185,048	£ 39,772 38,654	£ 80,266 68,672	£ 120,038 107,326	49 58	£ 125,131 77,722
Great Indian Peninsula	£ 483,374 478,530	£ 1,686,786 1,457,666	£ 66,020 36,888	£ 2,236,171 1,973,084	£ 167,855 158,742	£ 889,710 774,044	£ *1,057,565 932,786	47 47	£ 1,178,806 1,040,308
Madras	£ 237,370 226,049	£ 393,904 344,523	£ 20,821 18,820	£ 652,095 589,392	£ 125,959 152,016	£ 293,854 262,188	£ 419,813 414,204	64 70	£ 232,282 175,188
Bombay, Baroda, and Central India	£ 214,530 228,348	£ 386,610 343,382	£ 19,654 13,724	£ 620,794 585,454	£ 114,813 81,378	£ 230,329 237,165	£ 340,227 318,543	55 54	£ 280,567 266,911
Sind, Punjab, and Delhi	£ 225,745 221,458	£ 342,012 260,824	£ 168,124 20,653	£ 730,881 511,935	£ 131,325 79,060	£ 361,966 248,996	£ 493,291 328,056	67 64	£ 237,590 183,979
South Indian	£ 113,402 54,228	£ 68,821 44,393	£ 8,562 4,732	£ 190,785 103,353	£ 7,111 7,693	£ 94,522 42,076	£ 101,633 49,774	53 48	£ 89,152 53,579
Eastern Bengal	£ 108,542 110,298	£ 181,067 146,472	£ 44,053 39,048	£ 333,662 295,318	£ 32,437 54,657	£ 121,714 155,424	£ 154,151 190,081	46 64	£ 179,511 105,737
Oude and Rohilkhand	£ 156,851 137,585	£ 164,091 130,602	£ 20,199 6,985	£ 341,142 275,122	£ 41,255 38,015	£ 165,552 131,258	£ 206,807 164,273	49 59	£ 134,335 110,349
Totals for Guaranteed Railways	£ 2,482,516 2,340,994	£ 5,409,926 4,530,266	£ 468,449 242,638	£ 8,369,883 7,113,898	£ 847,080 845,054	£ 2,976,296 2,692,430	£ 3,918,461 3,537,484	47 49	£ 4,451,422 3,576,314

* Exclusive of 90,307l. charged to Special Funds.

Railway.	Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
	Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
STATE LINES.									
Calcutta and South-eastern - { 1876 1875	£ 6,987 6,354	£ *2,715 2,854	£ 182 1,157	£ 9,834 10,365	£ 3,352 2,014	£ 7,331 6,329	£ 10,683 8,343	108 80	Loss 849 2,022
Nalhati - { 1876 1875	£ 4,790 5,324	£ *2,603 2,506	£ 126 52	£ 7,519 7,942	£ 3,770 1,811	£ 4,488 4,327	£ 8,358 6,138	111 77	Loss 839 1,804
Rajputana - { 1876 1875	£ 84,107 61,730	£ 148,301 108,378	£ 4,150 4,620	£ 236,558 174,728	£ 43,004 33,180	£ 109,316 78,066	£ 152,320 111,246	64 63	84,238 63,482
Wardha Valley - { six months 1876 - - - 1875	£ 319 395	£ 1,587 2,240	£ 8 39	£ 1,914 2,674	£ 568 697	£ 1,707 2,170	£ 2,275 2,867	119 107	Loss 861 Loss 195
Holkar's - { 1876 1875	£ 10,809 7,829	£ 23,463 23,513	£ 3,567 603	£ 37,839 31,945	£ 5,910 3,234	£ 29,355 27,352	£ 35,265 30,586	93 95	2,574 1,359
Nizam's - { 1876 1875	£ 23,217 25,136	£ 29,979 20,204	£ 128 174	£ 53,324 45,514	£ 12,669 16,132	£ 33,042 35,709	£ 45,711 51,841	86 113	7,612 Loss 6,327
Punjab, Northern - { 1876 1875	£ 25,662 9,704	£ 21,336 4,564	£ 585 208	£ 47,583 14,276	£ 11,583 1,992	£ 24,106 6,066	£ 35,689 8,038	75 56	11,894 6,278
Tirhut - { 1876 1875	£ 5,115 686	£ 6,917 783	£ †5,910 9	£ 17,942 1,478	£ 2,883 506	£ 9,437 581	£ 12,320 1,087	67 73	5,522 391
Berar - { Amraoti - { 1876 1875 Khamgaon { six months 1876 1875	£ 712 740	£ 5,601 4,670	£ 57 16	£ 6,870 5,426	£ 283 320	£ 4,196 3,808	£ 4,479 4,128	70 76	1,890 1,298
Neemuch - { 1876	£ 135 151	£ 2,810 3,671	£ 14 11	£ 2,959 3,833	£ 254 280	£ 1,888 2,253	£ 2,142 2,533	72 66	816 1,300
Totals for State Railways - { 1876 1875	£ 164,054 118,049	£ 245,312 178,243	£ 14,788 6,859	£ 424,999 298,181	£ 84,276 60,166	£ 224,966 166,661	£ 310,695 226,527	73 76	113,401 71,354
Grand Total for all Railways - { 1876 1875	£ 2,646,570 2,459,043	£ 5,655,238 4,703,509	£ 483,232 249,527	£ 8,793,982 7,442,079	£ 931,356 905,220	£ 3,201,262 2,559,091	£ 4,229,156 3,764,311	48 50	4,561,923 3,677,868

* Includes goods miscellaneous earnings.

† Includes 5,522l. receipts from construction on account of hire of locomotives and vehicles.

GUARANTEED INTEREST.

68. The following tables relate to the advances made by Government on account of the guaranteed interest. It will be seen that a sum of 4,634,222*l.* was paid during the year ending the 31st December last, and that up to that date the total amount advanced was 61,558,745*l.* By the table which follows, it will be observed that of this 61,558,745*l.*, 34,724,213*l.* had been recovered from the Companies, leaving 26,834,532*l.*, with simple interest at 5 per cent. per annum, to be paid back out of the half surplus profits of the future.

69. It will also be seen that, although up to the 30th June 1876 a sum of 23,191,094*l.* has been paid from time to time to the East Indian Railway on account of guaranteed interest, the aggregate net receipts from that time have reduced the amount to 5,258,456*l.*, while out of 14,724,534*l.* paid to the Great Indian Peninsula, 6,480,493*l.* remains as the net amount advanced, and out of 6,376,669*l.* paid to the Scinde, Punjab, and Delhi, a sum of 5,256,237*l.* remains.

70. The amount which has been contributed by the surplus profits towards the discharge of the guaranteed interest is 1,491,969*l.*, being half the sum of 3,030,167*l.*, less 46,229*l.* paid out of the surplus profits of the East Indian Railway to the Provident Fund, which represents the whole amount realized up to 31st December last by the excess profits over and above the guaranteed interest. Of this latter sum, 4,273,573*l.* was contributed by the East Indian.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

STATEMENT of the Total Amount of INTEREST advanced to each of the under-mentioned Railway Companies to the 31st December 1876.

Railway Company.	Interest advanced to 31st December 1875.	Interest advanced during 1876.			Total.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian, Main Line	19,848,686 7 5	1,298,131 17 3	9,330 3 2	1,307 0 5	21,156,148 7 10
" Jubbulpore Line - -	1,875,094 15 9	159,467 10 0	383 5 0	159,850 15 0	2,034,945 10 9
Great Indian Peninsula	13,580,493 5 4	1,134,383 1 0	9,658 1 0	1,144,041 2 0	14,724,534 7 4
Madras - - -	6,879,575 18 2	512,480 13 11	—	512,480 13 11	7,392,056 12 1
Bombay, Baroda, and Central India - -	4,694,686 9 1	387,559 19 0	217 16 3	387,777 15 3	5,082,464 4 4
Scinde, Punjab, & Delhi	5,822,871 0 0	551,298 10 0	2,499 6 5	553,797 16 5	6,376,668 16 5
Eastern Bengal - -	1,608,544 8 5	130,830 3 4	919 14 9	131,749 18 1	1,740,294 6 6
Oude and Rohilkund -	1,255,088 0 9	256,805 15 0	3,194 5 0	260,000 0 0	1,515,088 0 9
South Indian - -	1,359,482 3 3	177,062 9 6	—	177,062 9 6	1,536,544 12 9
Total - -	£56,924,522 8 2	4,608,019 19 0	26,202 11 7	4,634,222 10 7	61,558,744 18 9

India Office, 12th April 1877.

T. W. KEITH, Accountant.

A STATEMENT showing approximately the Amounts advanced on account of **GUARANTEED INTEREST** to the several under-mentioned Railway Companies to the 30th June 1876, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total Amount advanced to 31st December 1876.*	Aggregate of Net Revenue Balances for the several half-years to 30th June 1876, inclusive.	Net Amount advanced.
	£	£	£
East Indian, Main Line - -	21,156,148	17,390,025	3,766,123
" Jubbulpore Line - -	2,034,946	542,613	1,492,333
Great Indian Peninsula - -	14,724,534	8,244,041	6,483,493
Madras - -	7,392,057	3,190,984	4,201,073
Bombay, Baroda, and Central India -	5,082,464	2,284,957	2,797,507
Scinde, Punjab, and Delhi - -	6,376,669	1,120,432	5,256,237
Eastern Bengal - -	1,740,294	1,205,535	534,759
Oude and Rohilkund - -	1,515,088	279,943	1,235,145
South Indian - -	1,536,545	465,683	1,070,862
Total - -	£ 61,558,745	34,724,213	26,834,532

* The Interest for the half-year to 30th June 1876 not being paid until the succeeding half-year.

India Office, 12th April 1877.

T. W. KEITH, Accountant.

STATEMENT showing the Amount of **SURPLUS PROFITS** earned by Guaranteed Railways to 31st December 1876 inclusive.

Company.	To end of 1872.	Half year to 30th June 1873.	Half year to 31st Dec. 1873.	Half year to 30th June 1874.	Half year to 31st Dec. 1874.	Half year to 30th June 1875.	Half year to 31st Dec. 1875.	Half year to 30th June 1876.	Half year to 30th Dec. 1876.	Total.
	£	£	£	£	£	£	£	£	£	£
East Indian Railway, Main Line	741,008	167,753	104,688	641,832	77,951	158,539	38,702	352,531	299,133	2,582,137
" Jubbulpore Line	—	—	—	11,288	—	—	—	—	—	11,238
Great Indian Peninsula Railway	69,555	—	—	—	—	143,838	—	125,816	—	339,209
Bombay, Baroda, and Central India	5,864	—	—	4,723	—	5,934	—	20,343	—	36,864
Eastern Bengal -	—	—	8,411	7,810	9,151	—	—	—	35,947	60,719
Total -	816,427	167,753	113,099	665,603	87,102	308,311	38,702	498,690	334,480	3,030,167

T. W. KEITH, Accountant.

India Office, 13th June 1877.

71. The low rate of exchange for bills on India which has lately prevailed has drawn more particular attention to the losses which are incurred by Government, in consequence of the fixed rates in the contracts with the several Companies for transactions in this country. It will be seen by the subjoined statements that the Government has sometimes, and for some transactions, lost, and at others gained. On the whole they have lost considerably, for it unfortunately happened that when the advances in sterling for the supply of materials for construction purposes were large, the rate of exchange was high, and when the receipts of the railways in rupees were large, and had to be converted into sterling, the rate of exchange became low. The rate which was fixed in the contracts with the principal Companies was 1s. 10d.; but in one instance it is 1s. 11d., and in another 2s. the rupee. The net loss up to the end of the year 1875-76 was 1,454,867l.

STATEMENT showing the Loss or GAIN to India in each Year, by adopting in the Transactions with the Guaranteed Railway Companies the rates of Exchange specified in the several Contracts, as compared with the average rate obtained in each Year for Bills of Exchange drawn on India.

Year.	Average Rate for Bills on India.	Loss by Exchange in adopting the Rate of 1s. 10d. the Rupee.	Gain by Exchange in adopting the Rate of 1s. 10d. the Rupee.	Gain by Exchange in adopting the Rate of 1s. 11d. the Rupee.*	Gain by Exchange in adopting the Rate of 2s. the Rupee.†	Loss by Exchange in adopting the Rate of 2s. the Rupee.
	s. d.	£	£	£	£	£
1849-50	1 10½	—	195	—	—	—
1850-51	2 0½	—	4,076	—	—	—
1851-52	2 0½	13,909	—	—	—	—
1852-53	1 11½	20,456	—	—	—	—
1853-54	2 0½	39,485	—	—	—	—
1854-55	1 11½	33,663	—	—	—	—
1855-56	2 0½	118,734	—	—	—	—
1856-57	2 1½	230,251	—	—	—	—
1857-58	2 0½	232,656	—	—	—	—
1858-59	+	—	—	—	—	—
1859-60	+	—	—	—	—	—
1860-61	+	—	—	—	—	—
1861-62	1 11½	393,865	—	—	—	—
1862-63	1 11½	297,923	—	—	—	—
1863-64	1 11½	226,489	—	—	—	—
1864-65	1 11½	136,920	—	—	—	—
1865-66	1 11½	44,193	—	—	—	—
1866-67	1 11	55,840	—	—	—	—
1867-68	1 11½	57,305	—	—	674	—
1868-69	1 11½	11,669	—	—	2,647	—
1869-70	1 11½	—	25,019	—	6,878	—
1870-71	1 10½	—	32,966	—	21,252	—
1871-72	1 11½	—	144,151	—	14,499	—
1872-73	1 10½	—	107,492	—	31,771	—
1873-74	1 10½	—	62,529	—	26,284	—
1874-75	1 10½	—	21,777	5,537	10,149	—
1875-76	1 9½	68,596	—	10,161	—	970
Total -	—	1,981,954	398,205	15,698	114,154	970

* Adopted in the case of the South Indian Railway Company, which was formed in the year 1874-75 by the amalgamation of the Great Southern of India and Carnatic Railway Companies.

† Adopted in the case of the Oude and Rohilkund Railway Company, and until 1873-74 inclusive, in that of the Carnatic Railway Company.

‡ Up to the year 1860-61 inclusive the Home Treasury was open at all times for the sale of bills on India, at rates altered from time to time by advertisement. Consequent on the mutiny it was necessary to refrain from drawing on India, and the exchange was raised to a prohibitory rate.

THOS. W. KEITH, Accountant.

India Office, 22nd June 1877.

TRAFFIC.

72. There has been considerable improvement in the traffic during the year, and although some of it is due to the movement of grain from the North-West Provinces to the famine stricken districts of Southern India, there are clear indications that a growth of a healthy kind has commenced, and is likely to continue. The increase has taken place principally in the staple commodities of the country, such as seeds, grain, salt, coal, sugar, and jute. Cotton is almost the only article that has not been carried to the same extent as in the previous year. The most remarkable feature in the traffic returns is the large increase under the heads of grain and seeds. Five years ago, the quantities of these articles carried on all the railways then open were 7,460,340 cwt. and 2,672,640 cwt. respectively, or 10,132,980 cwt. together; last year the amounts were 25,640,720 cwt. and 11,862,260 cwt., or a total of 37,502,980 cwt.

73. It is hardly necessary to observe that these figures represent the aggregate amount of the traffic on all the railways put together, and not the quantity carried over each mile of railway. But the stimulus which has been given to the grain and seed trade between India and this country may be seen in the fact that, while in the twelve months ending with March 1871 the wheat exported from India to the United Kingdom was 248,522 cwt., and the oil seeds 1,384,023 cwt., in the twelve months ending last March the exports of wheat to this country were 4,337,208 cwt., and of oil seeds 3,740,362 cwt. The exports of wheat from

Traffic in grain and seeds.

Calcutta alone during the year were 3,404,800 cwt., of which more than half was brought down by the railway.

74. Another important feature, as showing how the wants of the mass of the people may be met by means of railways, is the increase in the salt traffic. In 1871, the amount of salt carried by the railways was 225,572 tons; in 1876 it was 536,837 tons.

75. Largely as the traffic has increased, it might have been still greater if more rolling stock had been available. The want of locomotives and wagons has been a great check, and I am afraid that goods have, in consequence, sometimes, been damaged by delay and exposure. The Agent of the Oudh and Rohilkund Railway recently observed that three times the amount of traffic might have been taken on that line if they had possessed the means of carrying it. On other lines it has been more or less the same. The stations in the Punjab and Delhi, and on the East Indian and Great Indian Peninsula, have frequently been blocked with grain and other goods, because the means of carrying them away failed. At Patna and Benares a steamboat service came to the aid of the East Indian Railway, and took some of the grain to the Kooshtea station of the Eastern Bengal Railway, and to Calcutta.

76. Of the State lines, the Rajpootana is at present the most important, but the Punjab Northern promises well. Both are in their infancy. The net profits of the Rajpootana have improved from 58,862*l.* in 1875, to 84,238*l.* in 1876. The total amount of goods carried was much the same, viz., 162,000 tons, but the receipts increased by 40,000*l.* The passengers in 1875 numbered 998,853; last year they were 1,295,597, and yielded 84,000*l.*, as compared with 61,730*l.* It must be remembered that these results relate to the first whole year during which the line has been worked since its completion. It cannot but be regarded as satisfactory that it should have yielded nearly 3½ per cent. per annum on an outlay of 2,500,000*l.* The Punjab Northern, also, has done well for its first year, both in passengers and goods. The number of the former carried was 701,477, and the weight of the latter 100,960 tons; the receipts from each being 25,662*l.* and 21,336*l.* Rajpootan line.

77. Some of the smaller State lines, such as the Oomrawuttee, Kamgaum, and Patri, also the Nizam's, are worked by the guarantee Companies, under arrangements by which the Companies do not derive direct pecuniary gain, but receive the benefit of the traffic brought to their lines.

78. The general results of last year's working show that the gross weight of goods carried was (including 72,514 tons by the Indus Flotilla) 5,871,690 tons, and the amount received for the conveyance of the same was 5,783,978*l.* During the previous year these amounts were respectively 4,388,650 and 4,698,506*l.*, showing an increase of 1,483,040 tons in weight and 1,085,472*l.* in money. The East Indian main line alone exhibits an increase of 363,000 tons, or 35 per cent., and of 435,622*l.*, or 26·9 per cent., over the previous year; the expenditure being 61,880*l.* more. The Jubbulpore line, an increase of 74,480 tons and 36,000*l.* and 13,000*l.* in expenses. The Great Indian Peninsula shows also an increase of 233,300 in tonnage and 221,096*l.* in receipts, the expenditure being 125,000*l.* greater than in the year 1875. The gross earnings from the conveyance on the Bombay, Baroda, and Central India Railway of 50,461 tons in excess of the previous year were 25,519*l.* more. The Eastern Bengal yielded an addition of 35,000*l.*, the weight conveyed showing an increase of 60,000 tons. On the Madras also the goods exceeded those of the year 1875 by 200,000 tons, the receipts therefrom being 390,000*l.*, compared with 343,000*l.* General results for the year.
East Indian.
Great Indian Peninsula.
Bombay, Baroda, and Central India Railway.
Eastern Bengal.
Madras.

79. The famine in Southern India, where the area affected by the want of rain extends over 54,000 square miles, with a population of 8,000,000, has produced a very large grain traffic on the lines immediately connected with those districts, as well as on the East Indian and even the Punjab and Delhi. The railways in Madras were the means of conveying 310,957 tons of grain up to the end of March. Of this 146,254 tons were sent from Madras, and 35,000 were despatched in March alone. The locomotive power and stock at the command of the railway authorities were unfortunately inadequate. They had to borrow from other lines, and to indent on England for more. Effects of famine on traffic.

80. I have no hesitation in saying that the recent development which has occurred in the merchandise traffic is due, in a great measure, to the more liberal scale of charges which has lately been adopted. Other causes, especially the famine, have contributed to produce this effect, but the chief one is the reduction in the Effects of lower rates.

rates for carriage. The policy of moderately low rates for the staples of the country may, I am glad to say, now be regarded as one which has been generally accepted by the Companies, and its encouraging results will probably lead to its further extension. The greater the traffic, the more the rates may, within moderation, be safely lowered; for by good management, with a large traffic, full train loads may be secured, and waste of carrying power will be avoided. The railway can then afford to carry at cheaper rates. Thus one reacts upon the other. Low rates produce traffic and a large traffic proportionately reduces working expenses and increases profits. The two leading Companies, the East Indian and the Great Indian Peninsula, have acknowledged in their reports to the shareholders the success of their policy in lowering rates. The East Indian say, "it is this reduction of rates which has conduced so much to the late "development of traffic." The Great Indian Peninsula also observe "that the "modifications of rates and charges which have been adopted are operating "beneficially in aiding the development of the traffic."* The Scinde, Punjab, and Delhi Directors likewise congratulate themselves on the effect of lower rates upon their traffic; and the Agent of the Oudh and Rohilkund Company, when alluding to the changes made in the tariff for goods, by which considerable relief was given to the customer, observes that the results obtained "seem to indicate "that the change was required and has been appreciated."

81. We have seen the effect of the judicious reduction of rates on the traffic of one important article of consumption and of exportation, viz., wheat. There is another worthy of notice. On the Eastern Bengal Railway the rate for the carriage of salt was reduced to the extent of from 25 to 33 per cent., according to the distance it was conveyed. The traffic during the year preceding the reduction amounted to 70,524 maunds. The traffic for one year under the new rates has been 422,976, or an increase of 600 per cent. Sir John Strachey has a strong belief that a very large proportion of the population of India do not obtain that full supply of salt which they would take if they could get it. The impediment to increased consumption is the price at which it can be obtained, and there can be no doubt that the charge for conveyance on most of that which is consumed has, on account of the distance which it has to be conveyed, more to do with the price than the cost of production and the duty. The above confirms the correctness of Sir John Strachey's opinion. On the Rajpootana State line, however, from which there is a branch to Sambhur Salt Lake, the salt rates are twice as high as on the East Indian, and $2\frac{1}{2}$ times higher than on the Oudh and Rohilkund.

82. There is one more example of the results of a liberal policy worth noticing. On the Oudh and Rohilkund line the classification of goods was revised, 255 items being transferred to classes where the charge was lower, and 107 items, consisting of valuable articles involving extra care and risk, to where the charge was increased. Terminal charges of two pies per maund were also abolished on all goods carried upwards of 60 miles, so that the public were benefited to a considerable extent in the aggregate. The result justified the changes. The amount of goods carried increased from 170,835 to 260,462 tons, and the gross receipts from Rs. 7,44,806 to Rs. 9,26,271.

Passengers.

83. The passenger traffic has not shown the same degree of development, or given the same indication of expansion as the goods. If it had not been for the visit of His Royal Highness the Prince of Wales in 1875-76, and for the Delhi assemblage, the preparations for which commenced towards the end of the year, the last two years would not have shown much increase per mile open. Trials have been made in one or two cases with reduced rates. The effect was to increase numbers, and, where sufficient time has passed to test the trial, to enhance receipts also, but not in the same proportion. Some disappointment has been expressed that the effect has not been more rapid, and a return to higher charges has been advocated as a remedy. I do not expect that a remedy would be found in this course, but rather the reverse. It is, of course, possible to go too low, but, taking into consideration the poverty of the people and the small value they attach to time, that point has not been reached by the two pies ($\frac{1}{4}d.$) per mile rate, which is the lowest charge made. The comparative stagnation which appears to exist shows that some further inducement is required to tempt the mass of the

* These modifications consisted chiefly in removing the special charges (which amounted to three times the usual rates) for carrying goods over the Ghat inclines, and for terminals. This was tantamount to a reduction of about 40,000*l.* in the year's charges on the public.

people to use the railway more. The time has passed for using the argument that Natives do not care for moving about with ease and speed when they have the means and opportunity of doing so.

84. The total number of tickets issued last year to all classes (exclusive of periodical ticket holders) was 30,535,319, for an average mileage open of 6,592 miles, being 4,632 per mile. In the previous year the numbers were 26,779,437 for 6,298 miles, or 4,252 per mile. The receipts were 2,193,509*l.* from passengers in 1876, and in 1875 they were 2,083,932*l.* The receipts per train mile were the same in each year, viz., 5·78*s.* By far the greater bulk of the passengers were the lower classes. On most lines there are four classes, the two lowest being distinguished either as third and fourth, or intermediate and third, the fares being 4½, 3, and sometimes 2 pies. Out of the 30,535,319 who travelled last year, 29,641,237, or 97 per cent., consisted of the lower classes, 685,015, or 2·24 per cent., of the second class, and 209,065, or 76 per cent. of the first class. The number of holders of season tickets increased from 17,490 to 20,437.

85. The number of miles travelled by trains of all descriptions was 21,609,411, compared with 17,950,312 of the previous year. The passenger train mileage was 3,664,354, compared with 3,908,029; the goods, 10,004,054, compared with 7,161,259; the mineral, 258,309, compared with 210,074; and the mixed goods and passengers, 7,291,940, as against 6,333,465. Train mileage.

86. The ton mileage, i.e., the number of tons carried one mile, was 1,298,219,081, compared with 905,697,217 of 1875. Ton mileage.

87. The expenses of working and maintaining the railways, excluding the Indus Flotilla, amounted to 4,226,966*l.*, compared with 3,739,923*l.* of 1875. While the expenses were increased by 487,043*l.*, the receipts were increased by 1,360,329*l.* The proportion per cent. of expenditure to gross receipts was 47, and in 1875 it was 50·64. On the East Indian it was only 34·05 for the Main line, but 48·96 for the Jubbulpore. On the Great Indian Peninsula it was 47; on the Madras, 64·38; on the Bombay and Baroda, 54·80; on the Scinde, Punjab, and Delhi, 67·35; on the South Indian, 53·37; on the Eastern Bengal, 46·55; on the Oudh and Rohilkund, 63·94; and on the Rajpootana, 64·39. The maintenance and renewals last year came to 1,031,358*l.*, compared with 801,833*l.* of the previous year. The locomotive expenses were 130,742*l.*, and the repairs and renewals of stock 103,819*l.* more than 1875, and the increase in the coaching and merchandise expenses only 6,053*l.* Considering the large addition to the traffic during the year, this is very creditable to the management. On some lines especially there was a marked improvement, and this is the more satisfactory as showing an honest and serious effort to secure an efficient administration and enlarged returns at a diminished cost. Although the East Indian Main line earned 500,000*l.* more than the previous year by the conveyance of passengers and goods, their expenses connected with "coaching and merchandise" was 1,752*l.* less. The departments in which increased expenditure took place were the "maintenance and renewal" and "repairs and renewals of carriages and waggons." The Great Indian Peninsula likewise exhibits an increase of 263,000*l.* in receipts, and a diminution of 10,000*l.* in expenses under "coaching and merchandise." It also shows a considerable improvement in the general cost of doing its work. While in 1875 it took 662*d.* to carry a ton of goods one mile, it only required 572*d.* to do the same last year. The East Indian still holds the foremost place as the most economically managed line, and shows that during the year it has made further advances in diminishing expenditure. In 1875 the average cost of carrying a ton of goods one mile was 324*d.*, in 1876 it was only 253*d.*, a result which I believe to be unexampled in the records of railway economics. That, in addition to good management, it has natural advantages, is apparent by the fact that, under the same direction, the Jubbulpore branch of 224 miles presents returns of a less favourable kind. The results on the East Indian Main line, as compared with other lines is, in great measure, explained by the high average of the train loads. While the Great Indian Peninsula carried 88 tons in each train, and the Madras 52, the East Indian carried 132·7. The Bombay and Baroda carried 117, but their expenses are high, the cost of carrying a ton one mile being 575*d.*, or more than twice that of the East Indian. The same remark applies to the Eastern Bengal. Expenditure.

88. The statements at pp. 36 to 43 provide statistical data from which other deductions, besides those already given, may be drawn. The tables, which, as usual, have been prepared by Mr. Rendel, and are given below, contain many interesting and instructive particulars, and enable comparisons of a very useful

kind to be made between the usefulness and profitableness of the different lines.

Fuel.

89. Before leaving the subjects of traffic and working, I should mention that Native coal is becoming more generally used. The East Indian Railway alone carried coal to the amount of 520,262 tons, and received for doing so 245,295*l*. Five years ago these respective amounts were 295,852 and 124,781*l*. A large portion of the increase arises from the supplies for the railways in the North-West, Oudh, and the Punjab. The Wurrora collieries are supplying portions of the Great Indian Peninsula system with coal at Rs. 5 per ton. It is supposed that the whole of the requirements of the Nagpore branch will be met from this source. Coal is also obtained from the Mhopani mines at 9 rupees at the pit's mouth, and from the Bengal collieries delivered at Jubbulpore, at 19 rupees. The average cost of English coal delivered at Bombay last year was 33*s*. An attempt was made to introduce Bengal coal into the Madras Presidency, but the lowest offer to supply it at Madras was at the rate of Rs. 21 a ton; and, as English coal could be obtained at a price below this, viz., Rs. 18, it will be necessary to wait until some arrangement can be made by which the cost of bringing the coal by sea from Calcutta to Madras can be reduced.

Acid in certain wood fuel.

90. The scarcity of wood in Madras is becoming greater every year, and the importance of obtaining a supply of fuel at a moderate cost, therefore, increases. I may here mention that one inconvenient effect of the use of wood fuel has lately been detected, but it would appear to be confined to wood from a particular locality, as no complaints have been made except with that obtained in Scinde. It was found that, in the locomotives running on the railway, the copper fire-box plates rapidly wore out. Specimens of the corroded metal were sent over, as well as several samples of the babool wood which was used. These were carefully analyzed by Dr. Watson, of Manchester, who reported that the rapid destruction of the plates was due to the presence of chloride of sodium (common salt) as one of the mineral constituents of the wood, that effect being increased in proportion to the height of the temperature at which the plates were exposed to the action of the gases. Inquiry is now being made as to the character of the soil and atmosphere where the trees were grown, in order to ascertain whether the saline ingredient in the wood may be traced to these sources.

91. The following Memorandum, which has been prepared by Mr. T. R. Watt, of the Great Indian Peninsula Railway, is interesting, as illustrating not only the value of cheap coal, but the effect upon its consumption of high and low average train loads in working.

92. Taking the weight of each passenger at 1 cwt., and including revenue stores carried free, the following results are obtained as showing the relationship between the quantity and cost of coal consumed per ton of freight carried *for the year ended 30th June 1876* :—

	Great Indian Peninsula Railway.	East Indian Railway.	
		Main Line.	Jubbulpore Line.
(1) Consumption of coal, per ton carried -	Lbs. 160	Lbs. 121	Lbs. 114
(2) Tonnage carried, per ton of coal consumed -	Tons. 14	Tons. 18½	Tons. 19½
(3) Cost of coal consumed, per ton carried -	<i>s.</i> <i>d.</i> 2 5½	<i>s.</i> <i>d.</i> 0 4½	<i>s.</i> <i>d.</i> 1 2½
(4) Tonnage carried, per 1 <i>l</i> . of coal -	Tons. 8	Tons. 56	Tons. 16

Precautions against infection.

93. In connection with the comfort and safety of passengers while travelling on the railways, I may mention that, to guard against the spread of epidemic or contagious complaints, so likely to occur in India, and so commonly propagated through the assemblage of a large number of people at the stations and the crowds in the trains, orders have been issued with the view of organizing preventive measures. These chiefly consist of isolating those who may be found infected, and of supplying them with the necessary medical aid, and of using proper disinfectants.

Returns prepared by Mr. Bendel.

The Returns given below are drawn up on the same principle as those given in previous years.

The Punjab and Delhi line is omitted this year, the accounts for this line, separate from those of the Scinde, not being obtainable. But the Oude and Rohilkund is inserted for the first time.

(a) PASSENGER TRAFFIC.

	East Indian Railway.		Great Indian Peninsula.	Madras.	Bombay, Baroda, and Central India.	Eastern Bengal.	Oude and Rohilkund.
	Main.	Jubbulpore.					
Average length open, miles	No. 1,230 £	No. 223½ £	No. 1,266½ £	No. 858 £	No. 412 aver. £	No. 153 £	No. 548 £
(1.) Receipts from passenger traffic.	851,039	91,613	483,574	237,370	214,530	103,541	156,851
(2.) Passenger train miles run	No. 2,356,153 s. d.	No. 240,323 s. d.	No. 1,514,615 s. d.	No. 731,976 s. d.	No. 833,907 s. d.	No. 240,375 s. d.	No. 480,226 s. d.
(3.) Average passenger train mile receipts.	7 2½	7 4	6 4½	6 5½	7 11½	9 0½	7 3½
(4.) Number of passengers carried one mile.	No. 533,718,529	No. 53,216,819	No. 303,547,000	No. 153,142,000	No. 145,408,330	No. 66,270,000	No. 154,200,000
(5.) Average sum received for carrying a passenger one mile.	d. .883	d. .413	d. .376	d. .372	d. .350	d. .376	d. .241
(6.) Average number of passengers in a train at any one time.	No. 227	No. 213	No. 204	No. 209	No. 266½	No. 288	No. 363
(7.) Average number of passenger trains per diem each way, supposing each train to traverse the whole line open.	No. 2½2	No. 1½3	No. 1½4	No. 1½7	No. 1½9	No. 2½08	No. 1½75
(8.) Average number of passengers passing over each mile of line daily (both ways).	No. 1,142	No. 661	No. 668	No. 400	No. 954	No. 1,201	No. 781
(9.) Total working expenses for both goods and passengers, deducting telegraph special and miscellaneous and demurrage receipts from them.	£ 922,402	£ 94,734	£ 1,073,220	£ 396,291	£ 319,387	£ 126,448	£ 186,150
(10.) Average cost of running a train mile, passenger and goods miles assumed to cost the same.	s. d. 2 10	s. d. 3 2½	s. d. 3 9½	s. d. 3 5	s. d. 5 7½	s. d. 4 7	s. d. 3 4½
(11.) Average cost of carrying a passenger one mile.	d. .15	d. .13	d. .224	d. .196	d. .253	d. .191	d. .1113

(b) GOODS TRAFFIC.

Average length open, miles	No. 1,230 £	No. 223½ £	No. 1,266½ £	No. 858 £	No. 412 aver. £	No. 153 £	No. 548 £
(1.) Receipts from goods traffic	No. 2,056,560	No. 123,266	No. 1,630,391	No. 353,204	No. 335,994	No. 179,663	No. 163,633
(2.) Goods train miles run	No. 4,157,582 s. d.	No. 341,716 s. d.	No. 4,106,361 s. d.	No. 1,601,474 s. d.	No. 604,329 s. d.	No. 310,909 s. d.	No. 675,500 s. d.
(3.) Average goods train mile receipts.	9 10½	7 6	8 2½	4 11	12 9½	11 6½	4 10
(4.) Tons of goods carried one mile.	Tons. 551,427,750	Tons. 31,885,777	Tons. 362,002,087	Tons. 83,144,640	Tons. 71,023,440	Tons. 36,378,220	Tons. 44,587,040
(5.) Average sum received for carrying one ton one mile.	d. .895	d. .985	d. 1½15	d. 1½35	d. 1½04	d. 1½85	d. .951
(6.) Average number of tons in a goods train at one time.	No. 133½7	No. 93½3	No. 88	No. 53	No. 117	Tons. 117	No. 66
(7.) Average number of goods trains per diem each way, supposing each train to run over the whole line open.	No. 4½5	No. 2½09	No. 4½5	No. 2½56	No. 2½01	No. 3½	No. 1½636
(8.) Average number of tons of goods passing over each mile of line daily (both ways).	No. 1,130	No. 300	No. 783	No. 265	No. 472	No. 631	No. 223
(9.) Total working expenses for both goods and passengers, deducting from them telegraph, special and miscellaneous and demurrage receipts.	£	£ 94,734	£ 1,073,220	£ 396,291	£ 319,387	£ 126,448	£ 186,150
(10.) Average cost per train mile, goods and passenger miles assumed to cost the same.	s. d. 3 10	s. d. 3 2½	s. d. 3 9½	s. d. 3 5	s. d. 5 7½	s. d. 4 7	s. d. 3 4½
(11.) Average cost of carrying a ton of goods one mile.	d. .265	d. .41	d. .53	d. .788	d. .875	d. .47	d. .612

It will be seen that the best passenger train load (363 persons) is obtained on the Oude and Rohilkund, where also the average rate charged for passenger mile is also the lowest ($\cdot 241d.$ —less than one farthing) per mile. The worst average train load (204) was obtained on the Great Indian Peninsula, where the average rate was ($\cdot 376d.$) more than $\frac{3}{8}d.$ per mile.

The best average goods train load was obtained on the East Indian Main line (132·7 tons), where also the average charge per ton, per mile ($\cdot 895d.$) was lowest but one, the lowest being the Oude and Rohilkund ($\cdot 881d.$). The worst average load (52 tons) was, as last year, on the Madras line, its average rate per ton per mile being $1\cdot 135d.$

The lowest cost per train mile ($2s. 10d.$) is found on the East Indian Main line, the highest ($5s. 7d.$) on the Bombay and Baroda.

The lowest cost of carrying a passenger one mile ($\cdot 1113d.$) is found on the Oude and Rohilkund, the highest on the Bombay and Baroda ($\cdot 252d.$).

The lowest cost of carrying a ton of goods a mile ($\cdot 256d.$) is found on the East Indian, the highest on the Madras ($\cdot 788d.$).

The largest passenger traffic (1,201 persons, per mile, per diem) is found on the Eastern Bengal, the smallest (490) on the Madras.

The largest goods traffic (1,180 tons per mile per diem) is found on the East Indian Main Line, the smallest (223 tons) on the Oude and Rohilkund.

All the lines show a considerable improvement over last year in the amount of traffic, and in the cost of working it, though the great variations between them show that there is still large room for improvement to be effected, mainly through the reduction of rates and the increase of train loads.

94. The following tables give the rates charged for passengers and goods. It will be observed that, besides having five separate classes, there are special rates, which are generally lower than the lowest class. These are made under what are supposed to be exceptional circumstances, and are especially applied to long distances and to the staples of the country, such as grain, seeds, coal, rice, salt. It would seem desirable to introduce a more simple arrangement than this.

95. The quantities of the principal articles carried during each of the last two years are given in other tables, the classes to which the articles belong being specified.

FARES and RATES in use on the INDIAN RAILWAYS.

Railway.	Passengers.					Goods.					
	Fare for travelling One Mile.					Rate for conveying One Ton One Mile.					
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special.
GUARANTEED.	pies.*	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.
East Indian, Main Line.	18	9	4½	3	—	9·073	13·61	18·146	22·685	27·221	From 4·537 to 9·073.
East Indian, Jubulpore Line.	18	9	4½	3	—	9·073	13·61	18·146	22·685	27·221	From 4·537 to 9·073.
Great Indian Peninsula.	18	9	—	4	2½	10	14	24	34	48	From 5·5 to 8.
Madras { Single -	18	7	—	3½	2	10	14	18	24	36	From 5 to 8.
{ Return -	27	10½	—	4½	—	—	—	—	—	—	—
			Third Class. Mail	Ordinary							
Bombay, Baroda, and Central India.	15	7	4	3	—	10	15	21	30	40	Up to 8.
Sind, Punjab, and Delhi.	18	9	4½	3	—	9·07	13·61	18·14	22·68	27·22	From 6·80.
South Indian -	8	3	—	2	—	12	—	—	24	54	From 6 to 10.
Eastern Bengal -	12	6	—	4½	3	9·79	13·49	16·86	25·58	49·31	From 4·40 to 9·57.
	Upper	Upper Reserved Cmpmnt.	Lower	L. Rearvd. Cmpmnt.	Lower Reserved	Low	Middle			High	
Oude and Rohilkund	9	36	2	3	16 & 24	6·08	13·62	—	—	27·22	5·40.
STATE.	Upper	Lower	Special								
Calcutta and South-Eastern.	9	3	2	—	—	—	—	—	—	—	Average 7·15.
Nalhati -	Average	Average	Average	—	—	Average	Average	Average	Average	Average	Average 11·25.
Amraoti -	17·61	5·23	8·52	—	—	13·41	21·92	30·62	51·44	87·49	5·5 to 8.
Khamgaon -	18	9	—	4	2½	10	14	24	34	48	5·5 to 8.
Rajputana -	18	9	—	4	2½	10	14	24	34	48	7 to 37·02.
Wardha Valley -	9·89	4·13	—	2·11	—	13·49	19·17	27·20	—	—	5·5 to 8.
Holkar's :	18	9	—	4	2½	10	14	24	34	48	—
Station to station rates† -	11·79	4·42	—	2·21	—	—	—	—	—	—	From 6·35 to 8·85.
Ditto ditto‡ -	8 annas	3 annas	—	1½ anna	—	—	—	—	—	—	From 6·35 to 8·85.
	14·77	7·38	3·69	2·30	—	13·83	19·87	26·67	—	—	—
	8 annas	4 annas	2 annas	1½ anna	—	—	—	—	—	—	—
Punjab, Northern -	9·32	4·66	—	1·74	—	10·48	15·72	20·96	—	—	5·45 to 6·13.
Tirhut -	12·70	5·17	—	2·11	—	11·77	19·64	27·88	—	—	From 6·76.
Nizam's -	18	9	—	4	2½	10	14	24	34	48	5·5 to 9.
Neemuch -	10·37	5·19	2·59	1·62	—	—	—	—	—	—	—
	8 annas	4 annas	2 annas	1½ anna	—	—	—	—	—	—	—

* 8 pies = 1d.

† The rates in use on the section of 57 miles, Khandwa to Choral.

‡ The rates in use on the section of 13 miles, Mhow to Indore, opened on 3rd August 1876 for passenger traffic only.

§ Station to station rate.

STATEMENT showing the QUANTITIES of the principal Articles of MERCHANDISE &c., carried on the GUARANTEED RAILWAYS in 1875 and 1876.

Articles.	Class.	East Indian, Main Line.		East Indian, Jubbulpore Line.		Great Indian Peninsula.		Madras.		Bombay, Baroda, and Central India.		Scinde, Punjab, and Delhi.		Eastern Bengal.		Oude and Rohilkund.		South Indian.	
		1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.
Cloth - - -	2nd	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Coal - - -	Special	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.	See piece goods.
Cocoa-nuts - -	2nd	520,261	515,904	6,434	9	654	178	5,563	5,799	1,483	1,576	639	790	6,563	4,443	3,189	1,987	4,070	2,312
Coffee - - -	2nd	See dried fruits.	See dried fruits.	See dried fruits.	See dried fruits.	See dried fruits.	See dried fruits.	3,466	2,991	5,763	4,529	602	Not separately abstracted in 1875.	-	-	-	-	3,197	2,379
Cotton - - -	3rd	27,984	33,867	1,535	1,076	84,721	101,279	6,044	4,940	25	21	46	50	-	-	-	-	7,079	4,625
- - -	2nd	Including cocoa-nuts	Including cocoa-nuts	Including cocoa-nuts	Including cocoa-nuts	13,794	13,867	23,475	30,602	47,833	50,139	7,871	9,407	750	505	8,309	6,275	880	-
Dried Fruits -	2nd	5,646	5,430	2,368	2,911	13,794	13,867	-	-	5,111	5,374	6,253	6,974	-	-	-	-	-	-
Firewood - -	1st	15,111	13,552	13,142	11,530	43,266	34,977	10,389	11,529	5,266	5,534	9,469	14,121	-	-	9,141	12,002	-	-
Grain - - -	1st	195,452	69,686	45,414	18,114	424,515	215,784	116,421	47,474	62,923	44,384	91,628	65,700	12,365	14,271	154,846	75,802	68,650	41,940
or spec.	2nd	-	-	-	-	-	-	-	-	-	-	-	-	5,845	6,497	-	-	-	-
Gunny Bags -	2nd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Green Fruits and Vegetables -	2nd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hides - - -	2nd	Including skins	Including skins	Including skins	Including skins	16,505	14,029	4,689	5,187	11,038	8,968	3,848	3,145	-	-	1,634	1,668	2,853	2,496
- - -	2nd	19,180	19,170	3,385	1,462	10,856	5,573	14,739	9,113	918	701	4,056	2,734	4,357	6,184	2,664	2,118	1,637	1,213
Iron - - -	1st	54,184	39,875	3,352	3,769	-	-	9,451	8,992	Included in metals.	-	10,635	9,960	32	34	-	-	20,845	8,211
Jaggery and Sugar -	2nd	Including molasses	Including molasses	Including molasses	Including molasses	28,257	25,686	11,682	14,169	28,388	27,909	47,575	36,906	9,350	7,389	71,278	40,718	-	-
- - -	2nd	100,956	65,496	25,047	22,203	-	-	-	-	-	-	-	-	144,970	94,694	553	320	-	-
Jute - - -	2nd	Including hemp and flax	Including hemp and flax	Including hemp and flax	Including hemp and flax	24,939	32,899	4,647	3,556	8,197	7,800	2,252	1,870	968	667	4,184	3,618	-	-
Metal and Hardware -	3rd	7614	620	268	231	9,062	7,591	-	-	1,928	1,665	10,412	11,068	135	212	4,662	7,032	-	-
Military Stores -	3rd	18,392	21,157	1,556	1,343	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- - -	3rd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil - - -	2nd	4,230	3,517	366	86	8,667	10,115	7,080	6,758	2,300	1,422	2,491	Not separately abstracted in 1875.	-	-	675	648	3,215	2,123
- - -	2nd	-	-	-	-	4,245	3,426	-	-	986	1,254	59	-	16	16	1,163	523	6,124	2,689
Opium - - -	3rd	9,496	6,531	-	-	17,371	17,381	-	-	7,617	7,689	10,446	9,903	10,370	10,263	3,939	3,692	-	-
- - -	3rd	Including cloth	Including cloth	Including cloth	Including cloth	-	-	101,243	75,118	Included in grain.	-	9,966	Not abstracted separately in 1875.	15,482	22,840	-	-	-	-
Piece Goods - -	-	49,285	47,149	5,897	5,080	-	-	51,471	47,996	43,950	38,246	17,210	11,055	15,337	3,776	40,015	36,603	16,526	11,570
Rice - - -	1st	174,065	110,057	11,116	2,051	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- - -	1st	154,223	143,919	6,442	6,609	81,491	70,572	-	-	-	-	-	-	-	-	-	-	-	-
Salt - - -	1st	202,797	159,714	19,628	11,296	159,371	117,015	19,232	16,921	35,157	28,528	78,437	60,184	28,608	22,061	17,808	10,806	11,609	7,508
- - -	1st	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Seeds - - -	1st	638	718	68	118	530	697	-	-	Included in piece goods.	-	85	192	118	117	-	-	35,872	21,184
- - -	2nd	-	-	-	-	-	-	-	-	-	-	-	-	420	1,170	-	-	-	-
Silk - - -	4th	60,255	13,917	898	6,401	11,343	22,406	15,153	17,327	19,454	8,981	5,750	3,719	-	-	-	-	-	-
Tea - - -	2nd	10,117	8,930	822	1,064	2,982	3,677	6,272	6,127	6,518	8,100	1,151	947	11,251	9,017	12,074	18,889	-	-
Timber - - -	3rd	3,201	2,729	681	383	5,569	5,709	5,002	4,389	2,188	2,183	1,491	1,280	4,083	2,674	781	616	1,154	892
Tobacco - - -	2nd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Twist - - -	2nd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turmeric - - -	2nd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wines, Spirits, &c. -	3rd	6,497	8,979	581	398	8,758	4,001	2,556	2,950	645	619	2,347	2,717	316	381	2,309	2,455	-	-
- - -	3rd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wool - - -	2nd	-	-	-	-	588	311	-	-	2,476	2,185	6,526	5,798	-	-	(not included in above).	102,166	74,178	-

STATEMENT showing the QUANTITIES of the principal Articles of MERCHANDISE, &c., carried on the STATE RAILWAYS in 1875 and 1876.

Articles.	Calcutta and South Eastern.		Nalhati.		Amraoti.		Khamgaon.		Nizam's.		Wardha Valley.		Tirhut.		Punjab Northern.		Bajputana.		Holkar's.		Neemuch.	
	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.*	1876.	1875.	1876.	1875.	1876.	1875.
Cloth	1	153	7	153	7	7	153	7	153	7	153	7	153	7	153	7	153	7	153	7	153	7
Coal	3	4,170	4,797	4,170	4,797	4,170	4,797	4,170	4,797	4,170	4,797	4,170	4,797	4,170	4,797	4,170	4,797	4,170	4,797	4,170	4,797	4,170
Coco-nuts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coffee	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cotton	-	346	287	346	287	346	287	346	287	346	287	346	287	346	287	346	287	346	287	346	287	346
Dried Fruits	-	215	29	215	29	215	29	215	29	215	29	215	29	215	29	215	29	215	29	215	29	215
Firewood	21,818	24,535	-	21,818	24,535	-	21,818	24,535	-	21,818	24,535	-	21,818	24,535	-	21,818	24,535	-	21,818	24,535	-	21,818
Grain	7	539	319	539	319	539	319	539	319	539	319	539	319	539	319	539	319	539	319	539	319	539
Green Fruits and Vegetables	-	-	242	79	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Hay	3,623	2,709	-	3,623	2,709	-	3,623	2,709	-	3,623	2,709	-	3,623	2,709	-	3,623	2,709	-	3,623	2,709	-	3,623
Hides	-	30	27	30	27	30	27	30	27	30	27	30	27	30	27	30	27	30	27	30	27	30
Iron	46	46	59	46	59	46	59	46	59	46	59	46	59	46	59	46	59	46	59	46	59	46
Jaggery and Sugar	-	343	162	343	162	343	162	343	162	343	162	343	162	343	162	343	162	343	162	343	162	343
Jute	43	73	9	43	73	9	43	73	9	43	73	9	43	73	9	43	73	9	43	73	9	43
Metal and Hardware	-	-	152	153	568	12	152	153	568	12	152	153	568	12	152	153	568	12	152	153	568	12
Military Stores	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous	-	-	24	12	39	4	24	12	39	4	24	12	39	4	24	12	39	4	24	12	39	4
Oil	-	5	6	5	6	5	5	6	5	6	5	5	6	5	6	5	5	6	5	6	5	6
Opium	-	904	836	904	836	904	836	904	836	904	836	904	836	904	836	904	836	904	836	904	836	904
Piece Goods	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Railway Materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rice	516	106	1,453	769	-	-	516	106	1,453	769	-	-	516	106	1,453	769	-	-	516	106	1,453	769
Salt	-	-	330	567	3,760	1,375	-	-	330	567	3,760	1,375	-	-	330	567	3,760	1,375	-	-	330	567
Seeds	-	617	1,222	617	1,222	617	1,222	617	1,222	617	1,222	617	1,222	617	1,222	617	1,222	617	1,222	617	1,222	617
Straw	750	583	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silk	1,593	723	-	467	450	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sundries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Timber	-	-	1,745	1,679	447	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tobacco	-	-	23	13	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Twist	-	-	-	7	137	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wines, Spirits, &c.	-	-	34	45	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wool	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wooloo	1,555	3,224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Six months only.

† As miscellaneous in official accounts.

In future the list of commodities will be kept, as far as possible, under the heads herein given.

STATEMENTS relating to the PASSENGER and GOODS TRAFFIC and the GROSS

TABLE NO. 1.—STATEMENT of TRAFFIC on the INDIAN

Railway.	Actual Number of Miles open on 31st December, and Average Number of Miles of Open Line during 1876.						Number of Miles of Sidings on 31st December 1876.	Passenger Traffic.						
								Number of Passengers (exclusive of Holders of Season and Periodical Tickets).						Number of Holders of Season and Periodical Tickets.
	Double.		Single.		Total.			By First Class.	By Second Class.	By Intermediate Class.	By Third Class.	By Fourth or Coolie Class.	Total by all the Classes.	
	Actual.	Average.	Actual.	Average.	Actual.	Average.								
GUARANTEED.														
East Indian, Main Line	410½	410½	869	869	1,279½	1,279½	280½	48,159½	122,904	490,559½	5,635,182	—	6,296,805	10,612½
East Indian, Jubbul-pore Line	—	—	223½	223½	223½	223½	21½	5,447	21,474½	9,651½	268,237½	—	304,810½	—
Great Indian Peninsula	325	325	943½	943½	1,268½	1,268½	203½*	27,898	117,513½	—	476,402	3,243,710	3,865,523½	899
Madras	3½	2½	858	858	861½	860½	90½	12,622½	43,834½	—	1,763,196½	973,875	2,793,523½	115
Bombay, Baroda, and Central India	23½	23½	416	407½	439½	430½	74½	18,497	158,153	—	Third Class Mail 395,671	Class Ordry. 3,752,827	4,325,148	6,206
Scinde, Punjab, and Delhi	4½	4½	659	659	663½	663½	103½	19,171	43,978½	27,725	2,325,106½	—	2,415,983	2
South Indian	—	—	475	423	475	423	38	8,491	68,336½	—	2,744,187	—	2,821,014½	3
Eastern Bengal	—	—	158½	158½	158½	158½	—	30,103	54,402	—	330,368	1,323,373½	1,738,300½	2,594
Oude and Rohilkbund	—	—	548†	548	548	548	55½ {	Upper 20,216½	—	— {	Lower 2,536,329½	—	2,556,546	—
STATE.														
Calcutta and South-eastern	—	—	28	28	28	28	6½ {	Upper 3,361½	—	— {	Lower 513,940	—	517,301½	—
Nulhati	—	—	27½	27½	27½	27½	1½	970½	5,701	—	94,199	—	100,873½	—
Berar {	Amraoti	—	—	6	6	6	½	658	2,069	—	31,799	31,082½	65,608½	—
	Kamgaun	—	—	7½	7½	7½	½	199	274½	—	2,122	6,638½	9,279	—
Nizam's	—	—	121	121	121	121	7	2,255	7,000½	—	15,465½	190,992	215,903	—
Wurdha Valley	—	—	18	18	18	18	1½	123½	201	—	1,184	10,066½	11,275	—
Tirhoot	—	—	45½	45½	45½	45½	5	1,160	1,939	—	116,203	—	119,333	—
Punjab, Northern	—	—	103	90½	103	90½	7½	2,730	9,746	—	689,001	—	701,477	—
Rajputana	—	—	396½	394½	396½	394½	37½	4,543	16,808	—	1,274,246	—	1,295,597	—
Holkar's	—	—	70	62½	70	62½	9	1,998	9,413	2,733	276,783	—	290,926	3
Neemuch	—	—	37	37	37	37	3½	204	884	1,181	75,820	—	78,069	1
Totals for Railways	767	766	6,010½	5,928	6,777½	6,694	948½	208,806	684,815½	531,849	19,565,444½	9,532,610	30,523,527	20,457½
Indus Steam Flotilla	—	—	—	—	—	—	—	257½	260½	—	11,334	—	11,792	—
Totals for Railways and Flotilla	—	—	—	—	—	—	—	209,063½	685,016	—	19,576,778½	—	30,535,319	—

* Campoolie and Mowpani Branches treated as sidings.

† Including Nurora Branch (4 miles)

RECEIPTS and EXPENSES for the Year ended 31st December 1875.

RAILWAYS during the Year ended 31st December 1876.

Goods Traffic.											
Number of Live Stock.	Number of Tons of Minerals.			Number of Tons of General Merchandise.							Railway.
	Number of Tons of Coal and Coke.	Number of Tons of all other Minerals.	Total Number of Tons of Minerals.	Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special and Sundry.	Total of all Classes.	
											GUARANTEED.
11,797	520,261	—	520,261	1,065,923	153,765	47,922	24,200	4,755	81,402	1,397,967	East Indian, Main Line.
13	6,424	—	6,424	170,645	17,646	7,297	1,550	310	5,397	203,145	East Indian, Jubbulpore Line.
308,416	638	—	638	152,532	166,318	30,844	27,280	5,467	795,712	1,178,163	Great Indian Peninsula.
12,986	—	—	—	149,113	51,318	24,926	6,237	5,134	376,876	614,163	Madras.
200,382	{ 1,483 29,935* }	32,944†	64,362	106,215	48,405	46,615	1,141	1,396	239,184	444,966	Bombay, Baroda, and Central India.
594	854	—	854	81,975	61,454	26,847	14,558	2,113	309,418	496,365	Scinde, Punjab, and Delhi.
6,321	—	—	—	64,103	—	—	1,470	105	133,921	199,599	South Indian.
2,125	6,563	2,396	8,959	18,961	52,581	5,076	1,926	163	216,527	295,254	Eastern Bengal.
250	3,189	—	3,189 {	Low 62,962	Middle 31,053	High 2,703	}	—	342,034	438,752	Oude and Rohilkhund.
											STATE.
88	3‡	—	3‡	—	—	—	—	—	29,963	29,963	Calcutta and South-eastern.
—	4,170	—	4,170	3,423	1,277	1,230	384	23	1,187	7,594	Nulhati.
—	2	—	2	3,062	14,879	1,062	103	53	19,355	39,554	Amraoti - } Berar.
—	—	—	—	919	13,726	143	12	8	5,890	20,698	Kamgaun - }
456	6	—	6	4,871	7,196	2,716	260	218	44,171	59,429	Nizam's.
—	1,040	—	1,040	1,746	2,097	108	15	1	8,350	12,317	Wurdha Valley.
26	1,234†	—	1,234	12,707	683	516	—	—	22,781	36,687	Tirhoot.
—	—	—	—	21,230‡	4,760	5,506	—	—	71,463‡	100,960‡	Punjab, Northern.
24	275	—	275	140,967	4,563	1,477	—	—	15,868	162,895	Rajputana.
7	—	—	—	37,787	4,093	4,305	—	—	11,393	57,578	Holkar's.
—	—	—	—	—	—	—	—	—	—	—	Neemuch.
586,324	576,077‡	35,340	611,417‡	2,121,200‡	636,311	207,313	79,136	19,796	2,731,192‡	5,794,940‡	Totals for Railways.
—	—	—	—	—	—	—	—	—	—	72,314	Indus Steam Flotilla.
—	—	—	—	—	—	—	—	—	—	5,867,263‡	{ Totals for Railways and Flotilla.

* On Company's account.

† Includes 1,047 tons of coal for consumption.

‡ Company's own materials.

TABLE No. 2.—STATEMENT of TRAFFIC on the INDIAN RAILWAYS

Railway.	Number of Engines and Vehicles used in conveying Traffic.												Number of Miles travelled in shunting plotting.				
	Engines.	Carriages.						Trucks.	Average Number of Vehicles in each Train.				By Passenger (including Special and Troop) Trains.	By Goods (including Construction Materials for other Railways) Trains.	By Mineral Trains.	By Mixed Passenger and Goods Trains.	
		First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth Class.	Total Number.		Carriages in each Passenger Train.	Trucks in each Goods Train.	In each Mixed Passenger and Goods Train.						
											Carriages.	Trucks.				(P.)	(G.)
GUARANTEED.																	
East Indian, Main Line	450	84	85	132	322	—	623	5,387	10½	29½	16	7½	1,235,587	3,584,033	226,854	1,119,565	346,885
East Indian Jubbulpore Line	40	8	14	4	30	—	56	881	14½	24½	8½	17½	177,488	250,188	—	72,334	91,327
Great Indian Peninsula	331	79	146	composite 87	369	67	748	6,760	15	27	9	18	1,201,572	3,690,468	—	313,043	418,873
Madras	100	30	57	composite 30	196	33	346	2,756	9	17	6	9	14,293	679,774	—	717,683	921,700
Bombay, Baroda, and Central India	64	13	25	composite 16	171	—	225	2,436	9·4	42·6	11	14·8	414,633	442,897	—	123,574	161,482
Scinde, Punjab, and Delhi	67·10	44	55·84	21·67	212·07	—	3·58	2,050·15	13·52	34·80	9·83	19·14	327,243	551,169	—	329,850	184,443
South Indian	93	37	20	Royal saloon 3	213	—	366	1,400	—	—	22		—	—	—	596,540	
Eastern Bengal	33	29	16	—	40	61	146	696	14	40	4	31	187,330	167,354	—	52,946	148,615
Oudh and Rohilkund	63	Upper 17	—	composite 29	Lower 207	—	253	1,254	18·88	24·04	11	11	10,315	298,526	—	419,943	377,664
STATE.																	
Calcutta and South-eastern	5	Upper 4	—	—	Lower 37	—	41	168	14	20	8	20	20,550	224	—	10,638	10,638
Nulhati	4	1	—	—	4	—	6	15	—	—	5	6	—	—	—	24,128	16,064
Borari { Amraoti	2	—	—	composite 1	2	2	5	33	2·5	22	6	11	6	570	—	1,485	2,907
	2	—	—	composite 1	2	2	5	33	15	20	4·5	12·5	—	206	—	1,067	2,341
Nizam's	5	4	6	composite 1	10	10	31	70	18	24·5	13·5	14·5	2,432	64,988	—	48,723	38,908
Wardha Valley	1	—	—	composite 1	2	2	5	23	6·5	17·5	4	12	38	1,900	—	1,015	1,937
Tirhoot	7	—	—	composite 2	*11	—	13	140	—	—	9·87	12·74	275	184	By construction train 31,455	15,400	23,101
Punjab, Northern	11·75	6	6	—	43	—	55	230	—	29·29	11·14	5·48	—	43,487	—	82,144	50,944
Rajputana	54	39	11	—	105	—	155	959	71·	26·1	12·38	9·12	8,985	177,007	—	319,414	215,582
Holkar's	20	and saloon 6	4	—	59	break vans 7	76	257	10	25	8	14	25,479	51,187	—	15,143	17,685
Neemuch	1	1	1	—	9	break vans 2	13	8	15	—	—	—	11,224	—	—	—	—
Totals	—	—	—	—	—	—	—	—	—	—	—	—	3,664,350	10,004,054	258,309	3,667,894	3,027,50 596,540 7,201,940

* Includes seven cattle vans, used as 3rd class carriages

during the Year ended 31st December 1876—continued.

By Trains (except and assisting).			Number of Ton Miles (expressed in the Number of Tons moved One Mile).													Railway.
By Trains conveying Materials for Revenue Purposes.	Total Number of Train Miles.	Number of Train Miles per open Mile.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Goods Traffic.										Proportion of Up and Down Traffic.		
				Minerals.	General Merchandise.						Total Mineral and General Merchandise.	Up.	Down.			
					First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Special and Sundry.				Total of all Classes.		
119,692	6,681,526	5,182.13	Lug. and parcels. 2,884,777 cargs., &c. 1,825,423	96,148,625	338,395,692	65,022,650	17,197,693	8,646,245	1,335,846	26,480,999	455,279,125	551,427,750	36.74	63.26	GUARANTEED. East Indian, Main Line.	
2,944	594,383	2,656.46	Lug. and parcels. 488,140 cargs., &c. 180,740	1,433,768	24,015,080	3,602,253	1,403,951	320,502	64,637	1,040,584	30,447,009	31,859,777	81	19	East Indian, Jubbul-pore Line.	
—	5,623,976	4,434	—	108,898	36,667,717	52,101,461	8,963,894	6,606,458	1,896,015	253,639,942	359,895,467	360,004,385	67	33	Great Indian Penin-sula.	
—	2,333,450	2,720	1,162,704	—	25,520,978	9,108,944	4,182,778	1,328,571	633,842	42,058,669	82,633,782	82,833,783	55.53	44.47	Madras.	
53,018	1,236,554	2,845	Luggage only. 386,531	7,956,670	18,622,956	10,316,102	12,204,938	198,913	376,651	25,500,506	67,310,068	75,266,738	55.65	44.35	Bombay, Baroda, and Central India.	
100,750	1,406,254	2,253	679,840	170,877	11,561,396	10,128,242	4,183,224	2,037,195	363,120	39,760,013	68,033,189	68,204,066	70	30	Scinde, Punjab, and Delhi.	
21,268	682,806	—	126,857	—	4,763,765	—	—	136,414	10,331	9,631,451	14,540,961	14,667,818	44	56	South Indian.	
—	551,244	3,483	189,396	633,193	1,453,646	6,858,671	481,019	217,659	22,177	26,714,921	35,746,095	36,371,288	16.87	83.13	East Bengal.	
11,874	1,117,692	2,339	524,302	108,429	Low 6,924,769	Middle 3,905,948	High 357,170	—	—	28,633,964 3,799,558	43,621,400	43,729,838	—	—	Oude and Rohilkhand.	
104	42,154	1,505	3,163	98	—	—	—	—	—	701,619	701,619	701,707	98.83	1.17	STATE. Calcutta and South eastern.	
184	40,396	1,482	7,586	113,136	68,667	34,508	33,181	10,350	620	32,339	179,665	292,801	79.07	20.93	Nulhati.	
—	4,968	828	—	13	18,489	89,274	6,493	619	321	116,126	231,322	231,335	68	32	Amraoti	
—	3,616	467	—	—	7,354	109,510	1,141	98	61	47,122	165,586	165,586	85	15	Kamgaun } Berar.	
—	155,942	1,289	—	724	485,510	748,390	303,734	24,018	23,674	3,870,940	5,456,275	5,456,999	20	80	Nizam's.	
—	4,940	274	—	19,750	33,143	39,831	2,067	277	24	158,168	233,510	253,269	62	38	Wurdha Valley	
88	70,506	1,549.51	16,519	26,364	515,520	29,621	21,246	—	—	864,297	1,490,684	1,457,048	75.05	24.95	Tirhoot.	
—	177,625	6,724.51	79,264	—	1,425,621	349,719	240,614	—	—	1,459,485	3,475,439	—	43.58	56.42	Punjab, Northern.	
41,895	762,769	1,926	516,468	43,676	15,136,935	712,854	234,593	—	—	6,083,573	22,167,955	22,211,631	45.73	54.27	Rajputana.	
2,640	139,067	2,220	26,336	—	1,981,987	218,676	239,306	—	—	617,244	3,057,213	3,057,213	13.12	86.88	Holkar's.	
—	11,224	303	7,884	—	—	—	—	—	—	—	—	—	—	—	Neemuch.	
388,767	21,609,411	—	8,715,930	106,759,225	487,798,226	161,376,956	50,167,042	19,527,319	4,727,319	471,211,531	1,194,808,393	1,298,219,031	—	—	Totals.	

TABLE No. 3.—GROSS RECEIPTS of the INDIAN RAILWAY

Railway.	Passenger Traffic.													Receipts from Live Stock. From Coal and Coke. From other Minerals.		
	Receipts from Passengers.							Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Receipts for Mail Service.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic—(P.)	Passenger Receipts per Train Mile.			
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.									
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
East Indian, Main Line -	45,702	39,538	40,807	586,027	—	4,472	716,546	75,979	3,326	34,257	20,981	851,089	7·227	1,312	245,295	—
East Indian, Jubbul-pore Line -	6,096	5,205	2,453	51,795	—	—	65,549	7,879	977	10,034	7,173	91,612	7·334	8	3,248	—
Great Indian Penin-sula -	38,134	56,112	—	111,390	203,525	1,049	410,210	63,271	1,699	8,194	—	483,374	6·38	7,520	49	—
Madras -	14,455	14,754	—	140,850	38,733	120	208,912	25,159	—	3,299	—	237,370	6·486	2,134	—	—
Bombay, Baroda, and Central India -	4,935	10,306	—	Third class. Mail Train 51,361	Ordinary 125,558	3,958	196,118	14,125	165	384	3,738	214,530	7·97	11,260	609	*5,650
Scinde, Punjab, and Delhi -	14,718	13,844	5,121	163,721	—	7	197,411	25,522	1,032	1,780	—	225,745	6·87	268	546	—
South Indian -	1,816	3,616	—	102,593	—	7	108,032	4,938	—	432	—	113,402	3·80	332	—	—
Eastern Bengal -	3,870	3,211	—	21,248	68,411	1,361	98,101	10,064	70	273	—	108,508	9·03	33	1,747	144
Oudh and Rohilkhund	Upper 7,462	—	—	Lower 136,834	—	—	144,296	11,405	—	1,150	—	156,851	7·29	60	323	—
STATE.	Upper 206	—	—	Lower 6,498	—	—	6,704	229	—	4	—	6,937	4·45	9	1	—
Calcutta and South-eastern -	226	412	—	3,716	—	—	4,354	482	13	17	—	4,816	3·97	—	679	—
Berar { Amraoti -	28	50	—	366	225	—	669	43	—	—	—	712	9·55	—	1	—
{ Kamgaun -	12	9	—	32	67	—	120	15	—	—	—	185	2·53	—	—	—
Nizam's -	1,482	2,140	—	2,870	13,460	—	19,952	2,673	—	592	—	23,217	9·08	16	3	—
Wurdha Valley -	13	14	—	42	226	—	300	19	—	—	—	319	6·06	—	57	—
Tirhoot -	264	193	—	4,342	—	—	4,799	273	—	44	—	5,116	6·53	1	130	—
Punjab, Northern -	820	1,161	—	21,068	—	—	23,069	1,607	—	896	—	25,662	6·248	—	—	—
Rajputana -	1,910	2,777	—	71,375	—	—	75,962	7,251	—	894	—	84,107	5·124	25	290	—
Holkar's -	388	661	65	8,615	—	7	9,736	831	—	242	—	10,809	3·20	1	—	—
Neemuch -	34	71	44	1,924	—	8	2,061	152	—	18	—	2,251	4·01	—	—	—
Totals for Railways	142,576	154,074	48,400	1,486,587	450,205	10,989	2,302,921	253,957	7,282	62,510	31,892	2,646,562	—	22,979	253,614	5,794
Indus Steam Flotilla	2,595	289	—	4,736	—	—	7,620	885	—	—	—	8,505	—	—	—	—
Totals for Railways and Flotilla	145,171	154,363	48,400	1,491,323	450,205	10,989	2,300,541	252,842	7,282	62,510	31,892	2,655,067	—	—	—	—

during Year ended 31st December 1876.

Goods Traffic.										Total Receipts from Passenger and Goods Traffic—(P.)+(G.)	Passenger and Goods Receipts per Train Mile.	Total Miscellaneous Receipts—(M.)	Miscellaneous Receipts per Train Mile.	Total Receipts from Passenger Goods and Miscellaneous—(P.)+(G.)+(M.)	Total Receipts per Train Mile.	Railway.
Minerals.	Receipts from General Merchandise (exclusive of Live Stock and Minerals).							Total Receipts from Goods Traffic—(G.)	Goods Receipts per Train Mile.							
Total Receipts from Minerals.	From First or Lowest Class.	From Second Class.	From Third Class.	From Fourth Class.	From Fifth or Highest Class.	From Special and Sundry.	Total.									
£	£	£	£	£	£	£	£	£	s.	£	s.	£	s.	£	s.	GUARANTEED.
245,225	1,023,612	396,690	146,682	£2,061	17,490	† 142,239	1,811,994	3,058,301	9'901	2,909,390	8'834	100,793	'31	3,010,183	9'244	East Indian, Main Line.
3,248	80,564	22,739	12,065	3,469	856	‡ 15,366	125,079	128,535	7'511	219,947	7'436	25,222	'853	245,169	8'289	East Indian, Jubbul-pore Line.
495	185,367	433,907	105,182	78,480	43,934	§ 332,882	1,678,762	1,686,777	8'21	2,170,151	7'72	66,678	'23	2,226,829	7'95	Great Indian Penin-sula.
—	121,870	56,277	33,155	14,095	9,368	155,090	390,475	392,609	4'903	629,979	5'399	22,117	'189	652,096	5'539	Madras.
6,259	93,999	63,616	99,233	2,974	7,925	100,627	368,374	385,893	12'77	600,423	10'51	20,370	'36	620,793	10'87	Bombay, Baroda, and Central India.
546	62,286	24,762	37,540	70,551	4,566	141,513	341,196	342,012	9'27	507,757	8'14	22,311	'32	590,068	8'46	Scinde, Punjab, and Delhi.
—	27,931	—	—	1,528	271	38,759	68,439	68,831	2'31	182,223	6'11	8,563	0'39	190,785	6'40	South Indian.
1,891	6,146	43,874	3,881	2,634	527	120,677	177,739	179,663	11'54	288,171	10'45	14,600	'53	302,771	10'98	Eastern Bengal.
323	Low 25,546	Middle 31,530	High 5,121	—	—	101,063	163,250	163,633	4'36	320,494	5'30	20,190	'36	340,683	6'14	Oude and Rohilkhand.
STATE.																
1	—	—	—	—	—	2,616	2,616	‡ 2,715	5'00	9,652	4'59	182	'09	9,834	4'57	Calcutta and South-eastern.
679	479	398	524	277	28	175	1,376	‡ 2,603	3'24	7,419	3'07	126	'06	7,545	3'73	Nulhati.
1	584	2,632	243	26	16	2,099	5,600	5,601	32'22	6,313	25'41	57	0'23	6,370	25'64	Amraoti
—	131	2,029	26	2	2	680	2,310	2,310	22'05	2,945	16'29	14	'06	2,959	16'37	Kamgaun
3	2,306	5,361	3,093	400	544	16,654	29,960	29,979	5'72	53,196	6'32	128	'02	53,324	6'34	Nizam's.
57	238	504	31	5	1	751	1,530	1,587	8'17	1,906	7'72	8	'03	1,914	7'75	Wardha Valley.
130	3,163	303	303	—	—	3,019	6,787	6,918	5'94	12,034	6'18	‡ 5,910	3'03	17,944	9'21	Tirhoot.
—	8,601	3,059	2,841	—	—	6,835	21,336	21,336	4'565	46,998	5'292	585	'065	47,583	5'357	Punjab, Northern.
280	106,346	7,117	3,323	—	—	31,210	147,996	148,301	7'55	232,408	6'45	4,150	'11	236,558	6'56	Rajputana.
—	14,540	2,431	3,594	—	—	2,888	23,462	23,463	6'32	34,272	5'02	3,567	'51	37,839	5'44	Holkar's.
—	—	—	—	—	—	—	—	—	—	2,251	4'01	6	'01	2,257	4'02	Neemuch.
229,206	1,764,209	1,096,724	459,457	257,422	86,168	1,705,053	5,399,033	‡ 5,651,267	—	8,297,919	—	315,585	—	8,008,504	—	Total for Railways.
—	—	—	—	—	—	—	—	132,308	—	140,813	—	—	—	140,813	—	Indus Steam Flotilla.
—	—	—	—	—	—	—	—	4,783,665	—	8,438,732	—	315,585	—	8,744,317	—	{ Totals for Railways and Flotilla.

* From Company's own materials carried on Capital Account.

† Includes 1,744l. 0s. 10d., being receipts on account of demurrage and wharfage, stowage, &c.

‡ Ditto, 68l. 3s. 8d., ditto, ditto, ditto.

§ Include goods, miscellaneous earnings, Calcutta and South-Eastern, 89l., and Nulhati 46l.

|| Includes 5,522l. receipts from construction on account of hire of locomotives and vehicles.

TABLE No. 4.—EXPENDITURE ON REVENUE ACCOUNT

Railway.	Maintenance and Renewal of Way and Works.				Cost of producing Locomotive Power by Wages and Materials.			Repairs and Renewals of Carriages and Waggon.			Coaching and Merchandise.			Collection and Delivery of Goods.			Rates
	Gross.		Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.
	Ordinary.	Special.															
GUARANTEED.	£	£	d.		£	d.		£	d.		£	d.		£	d.		£
East Indian, Main Line -	286,553	—	10'56	9'52	246,976	9'10	8'20	105,075	3'87	3'40	220,511	8'13	7'33	—	—	—	4,946
„ Jubbulpore Line	39,772	—	16'14	16'22	30,784	12'40	12'56	11,798	4'79	4'81	13,183	5'35	5'38	—	—	—	8
Great Indian Peninsula -	156,072	11,783	7'16	7'5	435,387	18'58	19'5	168,381	7'19	7'5	155,670	6'64	7'0	311	0'01	—	1,230
Madras - - -	105,368	20,601	12'96	19'32	148,735	15'30	22'81	36,037	3'71	5'53	60,617	6'23	9'30	386	'04	'06	738
Bombay, Baroda, and Central India.	68,463	46,331	22'48	18'40	94,073	18'48	15'16	23,312	5'54	4'56	51,111	10'01	8'23	1,371	'37	'30	673
Scinde, Punjab, and Delhi -	76,890	54,435	21'030	22'287	107,409	17'214	18'218	23,306	4'533	4'797	50,230	9'402	10'046	5,640	'904	'856	123
South Indian -	Gross 7,111	—	2'74	3'73	47,420	18'27	24'85	13,381	7'08	9'63	16,100	6'20	8'44	—	—	—	271
Eastern Bengal - -	30,647	1,790	14'12	10'72	31,252	13'61	10'33	12,635	5'51	4'18	38,013	16'55	13'56	—	—	—	696
Oudh and Rohilkhand -	41,356	—	8'86	12'09	69,431	14'90	20'35	31,534	6'78	9'28	40,322	8'66	11'83	131	'03	'04	—
STATE.																	
Culcutta and South-eastern	1,755	1,597	19'08	34'09	2,888	16'44	29'36	2,028	11'54	20'63	1,144	6'51	11'63	—	—	—	68
Nalhati - - -	1,535	2,235	22'40	50'14	2,357	14'00	31'34	419	2'40	5'57	841	4'09	11'18	—	—	—	15
Berar { Amraoti - - -	Gross 283	—	13'68	4'45	2,057	99'32	32'27	797	38'50	12'50	713	34'47	11'20	—	—	—	—
Kangaun - - -	Gross 254	—	16'87	8'59	925	61'42	31'27	358	23'81	12'13	331	21'30	10'85	—	—	—	—
Nizam's - - -	Gross 13,689	—	19'40	23'76	16,190	24'92	30'36	6,278	9'66	11'77	5,617	8'64	10'53	—	—	—	—
Wardha Valley - -	Gross 508	—	27'59	29'68	836	40'04	43'71	324	15'76	16'95	290	14'10	15'16	—	—	—	—
Tirhoot - - -	2,883	—	9'81	16'	4,509	15'34	25'1	404	1'37	2'1	2,536	7'23	14'1	—	—	—	—
Punjab, Northern - -	11,583	—	15'65	24'56	9,898	13'37	20'98	3,396	3'24	5'04	5,405	7'30	11'36	—	—	—	—
Rajputana - - -	39,347	3,157	13'53	18'18	54,567	17'17	23'07	9,530	2'99	4'08	21,913	6'89	9'26	—	—	—	—
Holkar's - - -	5,910	—	10'30	15'62	10,235	17'75	27'18	4,023	6'94	10'63	3,281	14'29	21'69	—	—	—	—
Neemuch - - -	—	—	—	—	680	14'54	30'13	27	'58	1'19	385	8'23	17'06	—	—	—	—
Totals for Railways -	889,429	141,929	—	—	1,316,740	—	—	407,042	—	—	703,253	—	—	3,301	—	—	3,371
Indus Steam Flotilla	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals for Railways and Flotilla	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

during Year ended 31st December 1876.

and Taxes.		Compensation for Personal Injury, &c., Damage and Loss of Goods.				Legal and Parliamentary Expenses.			Miscellaneous Working Expenditure, not included in the foregoing.			Total Working Expenditure.			Railway.
Per Train Mile.	Per cent. of Gross Receipts.	Gross.		Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	
£.	%.	£.	£.	£.	%.	£.	£.	%.	£.	£.	%.	£.	£.	%.	
18	16	—	1,100	04	04	306	01	01	150,399	5'87	5'30	1,024,935	3'14	34'05	GUARANTEED.
—	—	—	87	03	03	20	01	01	24,397	9'89	9'95	120,038	4'06	48'06	East Indian, Main Line.
0'05	—	—	1,405	06	—	1,427	06	—	125,899	5'37	5'5	1,057,563*	3'78	47'	East Indian, Jubbulpore Line.
0'07	11	953	321	13	19	552	06	06	45,543	4'68	6'06	419,813	3'60	64'35	Great Indian Peninsula.
13	11	—	513	10	08	1,806	36	30	46,984	9'21	7'87	346,226	5'55	54'80	Madras.
0'00	0'02	3,646	3,222	1'100	1'165	364	068	062	56,072	8'978	9'502	306,549	5'278	67'35	Bombay, Baroda, and Central India.
0'10	14	76	—	03	04	2	—	01	12,272	4'73	6'43	101,633	3'26	53'27	Scinde, Punjab, and Delhi.
30	23	—	405	16	13	73	03	02	25,307	11'05	8'38	140,868	5'33	46'55	South Indian.
—	—	—	51	01	01	415	00	12	34,923	7'49	10'23	218,102	3'90	63'24	Eastern Bengal.
35	63	—	—	—	—	8	04	09	1,201	6'83	2'21	10,683	5'06	108'63	Oude and Rohilkund.
00	30	—	—	—	—	—	—	—	956	5'68	12'71	8,358	4'13	111'15	STATE.
—	—	—	—	—	—	—	—	—	620	30'41	9'68	4,479	18'03	70'3	Calcutta and South-eastern.
—	—	—	—	—	—	—	—	—	284	18'80	9'57	2,149	11'35	72'41	Nulhati.
—	—	—	—	—	—	—	—	—	4,967	7'63	9'30	45,711	5'86	85'72	Amraoti } Berar.
—	—	—	—	—	—	—	—	—	267	12'43	13'37	2,275	9'21	118'87	Kamgaun }
—	—	—	61	20	06	—	—	—	1,927	6'56	10'7	12,330	3'40	67	Nizam's.
—	—	—	45	06	00	—	—	—	6,302	8'60	12'97	35,689	4'02	75	Wardha Valley.
—	—	—	204	06	00	—	—	—	23,102	7'27	9'76	152,320	3'99	64'38	Tirhoot.
—	—	—	231	40	61	1	00	00	6,535	11'27	17'27	35,265	5'07	93'20	Punjab, Northern.
—	—	—	—	—	—	—	—	—	361	7'72	15'99	1,453	2'59	64'38	Rajputana.
—	—	4,677	7,624	—	—	5,103	—	—	577,436	—	—	4,129,424	—	—	Holkar's.
—	—	—	—	—	—	—	—	—	—	—	—	97,742	—	69'413	Neemuch.
—	—	—	—	—	—	—	—	—	—	—	—	4,227,166	—	—	Totals for Railways.
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Indus Steam Flotilla.
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Totals for Railways and Flotilla.

* Exclusive of 90,597½ ls. 5d. charged to special funds.

SUMMARY.

96. It now only remains for me briefly to recapitulate the principal facts given in the foregoing pages.

97. There are now open in India 6,937 miles of railway, of which 479 were completed during the year 1876. Of this length, 767 miles are laid with a double line, 5,748 are constructed on the 5 ft. 6 in. gauge, and 1,162 on the metre gauge. The most important additions made within the year are those of the South Indian Railway, between Madras and Tuticorin, and of the Punjab Northern line between Lahore and Jhelum. The works on the Northern Bengal and the Indus Valley have been advanced considerably, and it is expected that portions of these lines will be opened during the present year. The line from Rangoon to Prome is probably by this time open for traffic.

98. The total amount expended on the railways to the 31st March last as regards the Guaranteed lines, and to the 31st December as regards the State lines, was 109,364,867*l.*, of which 94,272,265*l.* consisted of guaranteed capital, and 15,092,602*l.* was raised by the Government for the State lines. During the year 1876 about 3,500,000*l.* was expended on the State, and 879,665*l.* on the Guaranteed lines.

99. The revenue derived from the railways during the year was 4,564,823*l.*, of which 4,451,422*l.* was earned by the Guaranteed Companies. The amount advanced for guaranteed interest to these Companies was 4,634,222*l.*, leaving a difference of 182,800*l.*, but 811,334*l.* of the revenue consisted of surplus profits from certain lines, half of which had consequently to be returned to the Companies.

100. The gross receipts were 8,793,982*l.*, and the working expenses 4,229,156*l.* The receipts from passengers amounted to 2,646,570*l.*, from goods 5,655,238*l.*, and from miscellaneous sources 483,232*l.*

101. Compared with the previous year, the revenue showed an improvement of 916,955*l.*, and instead of having to supply a net sum of 1,073,882*l.* for guaranteed interest, the Government had only to provide 588,467*l.*

102. The number of passengers carried was 30,535,319, with an average mileage open of 6,592 miles compared with 26,779,437 of the previous year, and a mileage of 6,298. The proportion per cent. of the first class was .76, of the second 2.24, and of the lower classes 97. The amount of goods carried was 5,871,690 tons compared with 4,388,660 of 1875. The proportion per cent. of the gross revenue from passengers was 33.84, and from merchandise, including minerals, 66.16.

103. The expenses of maintaining and working the railways were 4,226,966*l.*, being 487,043*l.* more than the previous year, and 49.20 per cent. of the gross receipts. The East Indian Main line came to only 34 per cent., the Eastern Bengal 46.55, the Great Indian Peninsula 47, while the Scinde, Punjab, and Delhi were 67.35, the Madras 64.38, and the Oude and Rohilkund 63.94 per cent.

104. The lines have been well maintained, and the rolling stock and locomotives, to which considerable additions will have to be made, have been kept in good order.

105. A more liberal policy than hitherto is being pursued with regard to the management of the railways, and the traffic has been stimulated in consequence. Passengers are on some lines carried for less than a farthing a mile, and rates as low as a halfpenny per ton per mile have been charged, with good effect, for the carriage of grain, seeds, coal, and other staple products.

106. Concurrent with these measures for increasing traffic, well directed exertions have been made to ensure economical management. These double efforts have produced the satisfactory results just briefly stated, besides those other effects which a good example and a successful issue scarcely ever fail to bring.

107. The following figures, which are extracted from Mr. Rendel's tables, show the relative position of the different lines in respect of the unit of profit :—

AVERAGE Sums received, Cost and Profits per Passenger, and per Ton per Mile.

Railways.	Passengers.		Goods.		Profits.	
	Receipts.	Cost.	Receipts.	Cost.	Each Passenger per Mile.	One Ton of Goods per Mile.
	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>
East Indian (Main) - - -	·383	·15	·895	·255	·233	·640
Jubbulpore Line - - -	·413	·18	·965	·41	·233	·555
Great Indian Peninsula - - -	·376	·224	1·115	·52	·152	·595
Madras - - -	·372	·196	1·135	·788	·176	·347
Bombay, Baroda, and Central India - -	·359	·252	1·304	·575	·107	·729
Eastern Bengal - - -	·376	·191	1·185	·47	·185	·715
Oudh and Rohilkund - - -	·241	·111	·881	·612	·130	·269

108. The trade and traffic of the past and present year would seem to show that an important movement has set in, which will greatly improve the commercial relations of India with this country, and tend to the advantage of both. It would hardly have been thought possible twenty years ago that a granary for England would have been found in the valleys of the Ganges, Jumna, and Indus. Notwithstanding their distance from a sea-port, we have seen during the last two years a rapidly increasing production of grain and seeds in the provinces watered by those rivers, and a large export trade springing up. The demand has, no doubt, this year been enhanced by the wants of the famine-stricken districts of Southern India, but the significant fact still remains, that a considerable advance has been made in the export trade. In the year 1871 the exports of wheat and oil seeds were 248,522 cwt. and 3,382,447 cwt. respectively, of which 1,384,023 was sent to England. In 1876 the wheat exported amounted to 5,583,336 cwt., of which 4,337,208 came to this country, and the seeds to 5,614,817 cwt., of which 3,740,362 came to England. Five years ago the aggregate quantities of these articles carried on the different railways then open were 7,460,340 cwt. of grain, and 2,672,640 cwt. of seeds; last year they were 25,640,720 cwt., and 11,862,262 cwt., being a total of 37,502,982 cwt., or 1,875,149 tons. So long as the difference between the price in the English market and the united cost of production, inland transit, and freight, is such as to leave a sufficient margin for a fair profit to the grower and the merchant, Indian wheat will find its way to England, and it seems probable that, with the facilities now afforded, a steady trade will be established. Railways have been very instrumental in promoting this highly desirable movement, and it may be confidently expected that other products of the soil will, with increased advantages of conveyance and diminished cost of transport, find a European market. When the fibres of Russia were denied to us during the Crimean War, India stepped in and supplied us with jute, and has continued to do so, to an increasing extent, ever since. The same may now happen with respect to wheat, barley, &c. Other products will also appear in the market. A country with a soil and climate capable of producing corn, tea, and tobacco, as well as coffee, opium, sugar, indigo, and cotton, must possess powers which, with the assistance of regular and cheap transport, will be ready to meet any demand that may be made upon it.

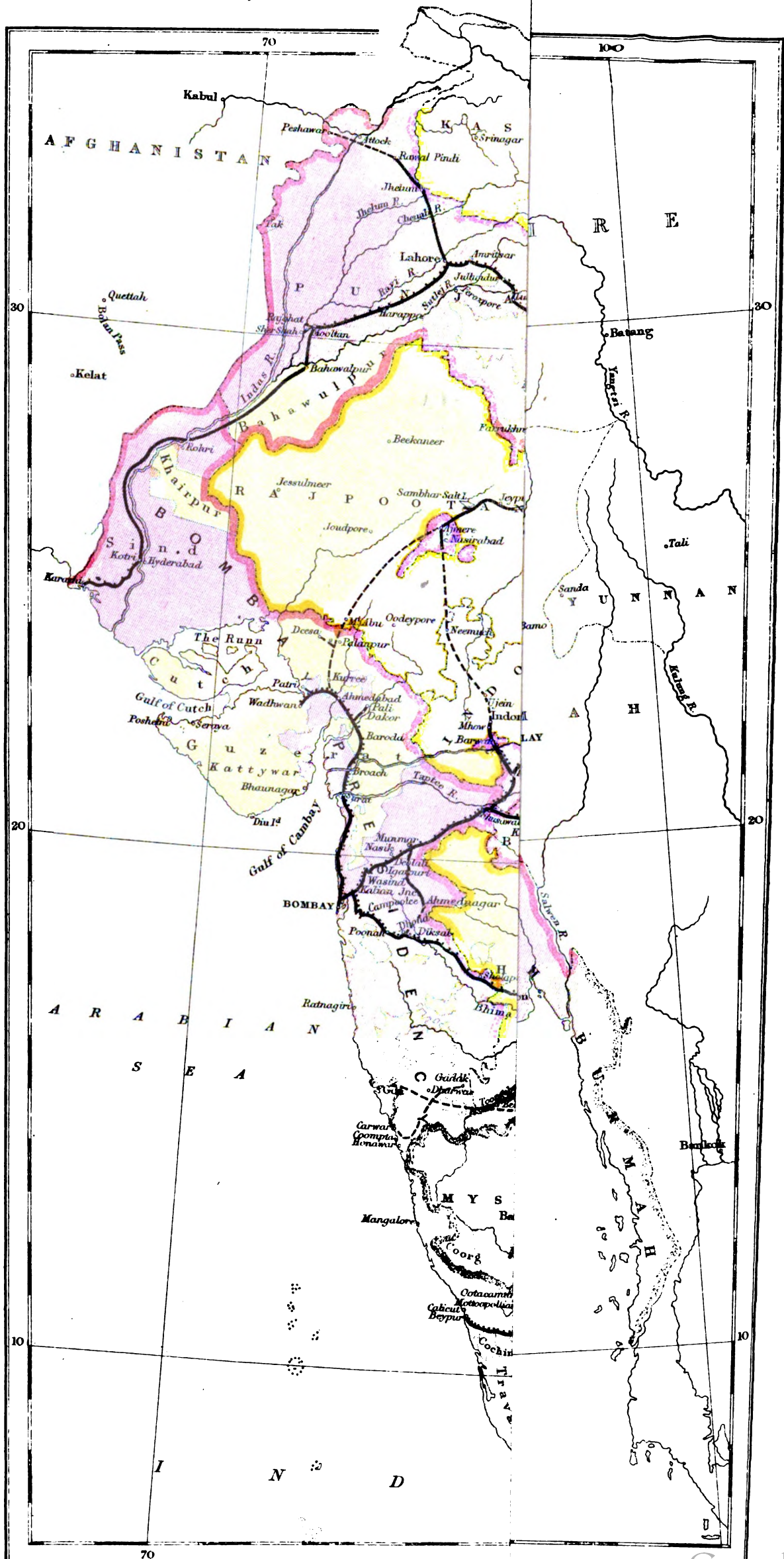
I have the honour to remain,

My Lord Marquis,

Your Lordship's very obedient humble Servant,

JULAND DANVERS.

LONDON:
Printed by GEORGE E. EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office.



REPORT
TO
THE SECRETARY OF STATE FOR INDIA IN COUNCIL
ON
RAILWAYS IN INDIA,
FOR THE YEAR
1877-78.

BY JULAND DANVERS, ESQ.,
GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES



LONDON:
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FOR HER MAJESTY'S STATIONERY OFFICE.

1878.

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REPORT.

To the Right Honourable the VISCOUNT CRANBROOK.

MY LORD,

India Office, June 1878.

I HAVE the honour to lay before your Lordship the following account of the present condition of the Indian Railway system, together with the results of working the open lines during the year 1877.

2. The length of railway open for traffic has been increased by $717\frac{1}{2}$ miles since the 1st January 1877. It now amounts to $7,551\frac{1}{2}$ miles; $5,912\frac{3}{4}$ being on the 5 ft. 6 in. gauge, and $1,638\frac{3}{4}$ * on narrower gauges. The additions made consist principally of $208\frac{1}{4}$ miles of the Northern Bengal Railway; 163 miles from Rangoon to Prome; the Chord Line (145 miles) between Dhond and Munmád, connecting the north-east and south-east branches of the Great Indian Peninsula Railway; and $132\frac{3}{4}$ miles of the South Indian, which will be open throughout on the completion of the Coleroon bridge. Then there has been the extension of the Wardha railway to Wurrora and a continuation of the line in Tirhut, and one or two minor works. Progress.

3. The Northern Bengal Railway was opened from Julpigoree, its northern terminus, to Atraie, a station on the river of that name, about 35 miles north of the Ganges, on the 20th August. The remainder was completed by the end of the year, and in January the whole main line between the foot of the hills and the Ganges was opened for traffic throughout, together with the 5 ft. 6 in. section on the south side of the river which joins the Eastern Bengal Railway at Poradaha, and is worked by that Company. An extension of this line in a northerly direction towards Darjeeling is about to be undertaken. The Government of India, being fully satisfied that it should be taken as far as possible into this important tea-growing district, sanctioned its construction as far as Silligoree, which is 22 miles beyond Julpigoree. From the former place it is said that an easy and practicable line for a railway has been found to a point 11 miles further up. This may be undertaken hereafter. Tea and other products from Darjeeling, which now occupy 14 days in the journey to Calcutta, will, when these works are completed, be conveyed from one place to the other in almost as many hours. Northern Bengal Railway.

4. The line from Rangoon to Prome was opened in May 1877. It proceeds from the former place along the valley of the Irrawaddy, and will be extended 42 miles further to Allanmyo. Another line in the province of British Burmah is also in contemplation from Rangoon to Toungoo. Rangoon and Prome.

5. The Dhond and Manmád line, which connects the two lines proceeding from Bombay towards Allahabad and Madras respectively, was commenced as a famine work in August 1877, and completed in April last. The two systems of Northern and Southern India are thus brought together, and the necessity for taking the traffic, down one ghat and up the other, from the Deccan to the Concan and back again, is avoided. Dhond and Manmád.

6. Operations have also been going on in various directions, and other lines are approaching completion. The Indus Valley Railway will, it is expected, be ready for traffic in the course of this year. There are some heavy works on it, including an important bridge of sixteen spans over the Sutlej at Adamwahan just opened. The course taken by this line will, it is apprehended, expose the embankments to the influence of inundations, and much watchfulness will probably be necessary to prevent damage to the works. The bridge over the Indus has not yet been commenced nor has its design been decided on. Indus Valley.

7. Progress has also been made on the Punjab Northern Railway between Jhelum and Ráwalpindi. From thence to Peshawur surveys are being carried on. Punjab Northern.

8. With regard to what is called the Western Rajputana line, which is the portion south of Ajmere of the main direct line from Agra and Delhi to Bombay, it is expected that the first section, $35\frac{3}{4}$ miles in length, from Ajmere to Beáwar, will be opened this year. A further length of $81\frac{3}{4}$ miles is in course of construction, and 78 miles extending from Ahmedabad north is also in hand; but measures do not appear to have been yet taken for executing the middle section of 104 miles. Western Rajputana.

* Of these $1,638\frac{3}{4}$ miles, all are on the metre gauge, with the exception of the Nalhati Railway of $27\frac{1}{4}$ miles, on a 4 feet, and the Baroda State Railway of 20 miles, on a 2 ft. 6 in. gauge.

- Railway in Assam.** 9. Other railway works are in contemplation, but have not yet been commenced. Among these is one 110 miles in length from Rungpore to Dhubri and Goálpára, in Assam, which will be the first railway introduced into that province; also a branch from Patna on the East Indian Railway to Gya, 58 miles in length, to be made as a provincial work. Branches from the Eastern Bengal Railway are likewise under consideration, viz., from Mymensing to Dacca, from Ranaghat *viá* Santipore and Kishnagur to Berhampore and Moorshedabad, and from Ranaghat to Bongong and Jessore. An important line has also been proposed to connect the East Indian and the Eastern Bengal Railways by means of a bridge over the river at Hooghly, thus taking the East Indian into Calcutta, and bringing the coal fields of Bengal into railway communication with the eastern part of the Presidency. The further extension of the Pali branch of the Bombay, Baroda, and Central India Railway to Godra, 17 miles in length, is under consideration, and surveys have been made for a line from Patri, or from some point on the Wadwan branch, across the Run of Kutch, at Molia, where it is about six miles in width, to Bhuj, the capital of the province. In Kattywar also surveys have been made of several branch lines which were spoken of as famine works when scarcity was apprehended, but nothing has yet been determined with regard to their execution. A branch from the Bombay and Baroda Railway at Broach to Debejbarra or Jagaiswer, at the mouth of the Nerbudda, has also been surveyed, the object being to facilitate communication between Guzerat and Kattywar, and to work, by means of a ferry between Bhownuggar or Gogo and its terminus, the traffic that will be produced by the lines just mentioned. The distance is $30\frac{1}{4}$ miles, and the estimate of its cost 107,375*l.* a sum of 19,800*l.* being required for a jetty and landing place.
- Branches to East Indian and Eastern Bengal Railways.**
- Branches to Bombay and Baroda Railway.**
- Nerbudda Bridge.** 10. Much energy has been shown in carrying on the operations connected with the new bridge over the Nerbudda river. All the materials are on their way out to Bombay, and many of the piers have been fixed in their foundations. It is estimated that the bridge will cost 322,550*l.*
- Railways in State of Baroda.** 11. The Gaikwar of Baroda has decided to extend railway communication in his State by adding $35\frac{1}{4}$ miles to the 2 ft. 6 in. line which he has already constructed from Mirjágam (on the Bombay and Baroda Railway) to Dabhoi. The works will be executed by that Company.
- Extensions of Oudh and Rohilkund.** 12. The much desired extension of the Oudh and Rohilkund Railway from Moradabad to Saharunpoor or Muzaffarnagur, to complete communication with the Punjab, has not yet been finally settled; and all that has at present been considered with regard to the connection of the Oudh Railway with the East Indian at Benares is the establishment of a steam ferry to convey the traffic between the two. Borings have, however, been made in the bed of the river to ascertain the best site for a bridge, and a bed of stiff clay has been found at a depth of 80 feet below the low-water level of the river. The bed extended to a depth of about 25 feet, and then sand appeared. The extension line from the cantonments to the river bank is in hand, and will shortly be completed.
- Works on East Indian during the year. On the Great Indian Peninsula.** 13. On the East Indian Railway the only work of importance which has been in progress during the year has been the remodelling of the Howrah terminus, enlarged accommodation having become greatly needed in consequence of the increased traffic. On the Great Indian Peninsula also the terminal station at Bombay has been at length fairly put in hand, and the workshops have been completed. Both these Companies, as well as others, have been obliged to increase their locomotive power and their stock of wagons to meet the traffic demands.
- The projected line from Goa to Bellary.** 14. I mentioned in my last Report that a project had been started for making a railway from the Portuguese harbour of Marmagoa to Bellary by way of Dharwar, Hooblee, Gudduck, and Copal, and the terms upon which the promoter, Mr. Frederick Campbell, proposed to undertake the construction and working of such portion of it as will extend beyond Portuguese territory. Certain concessions have since been made to Mr. Campbell, including the free grant of land, and the permission to obtain stone, limestone, and earth from any waste land at the disposal of Government; and a formal contract embodying these and other terms of an agreement will be entered into with Mr. Campbell, on the Secretary of State being satisfied, at any time within twelve months from the 27th April last, that a Joint Stock Company has been formed to carry out the scheme, and that sufficient capital for the purpose is forthcoming.
- Pondicherry Railway.** 15. Arrangements have just been concluded between the French Government and the Pondicherry Railway Company for taking a line of railway from the port of Pondicherry to Belper where it will join the South Indian main line.

16. The following table gives the length of each undertaking, and the extent now opened :—

	Railway.	Gauge.	Length of Line san- ctioned.	Length opened during 1877, or since.	Total Length opened.	Portion laid with Double Line.	Length remaining to be finished.
Guaranteed.	East Indian - { Main line* - } 						

* This includes the loop and the chord lines with their branches, 74½ miles in length. By the loop line the distance from Howrah to Delhi is 1,018½ miles. By the chord line, the length of which is 186½ miles, the distance is 954½ miles.

† 74 miles opened in 1878.

‡ 114½ miles of this were included in the length given in the similar table in the last Report.

§ 6 miles opened in 1878.

|| 225 miles opened in 1878.

¶ Opened in April 1878.

17. The following statement exhibits the annual progress made in the construction of railways since their commencement:—

Railways.	Length of Line open at the end of each Year.																			
	Up to 1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
East Indian Railway (including Jabalpur).	120½	120½	141	234½	367½	563½	883½	987	1,105½	1,129½	1,129½	1,353	1,353	1,353	1,353	1,503½	1,503½	1,503½	1,503½	1,503½
Great Indian Peninsula.	88½	88½	104½	245½	297½	437½	404½	553	585½	701½	815½	852	875½	872½	1,257½	1,271½	1,277½	1,278½	1,278½	1,278½
Madras - - -	65½	80½	95	95	136	297½	447	447	571	611	645	645	677½	707½	782½	831½	881½	857½	856½	856½
Bombay, Baroda, & Central India.	—	—	—	—	35	132	185	185	305½	305½	305½	305½	305½	307½	307½	349½	388	389½	400½	408
Sind - - -	—	—	—	—	—	105½	105½	103½	105½	105½	108½	108½	108½	108½	109½	108½	105½	105½	105½	105½
Punjab - - -	—	—	—	—	—	—	32	45	45	253	253	246	246	246	240	553½	553½	553½	553½	553½
Delhi - - -	—	—	—	—	—	—	—	—	—	—	—	—	53	53	270	553½	553½	553½	553½	553½
South Indian - -	—	—	—	—	—	40	79	79	79	79	127	144	168	168	168	168	168	168	168	168
Carnatic, now South Indian.	—	—	—	—	—	—	—	—	—	18½	18½	18½	18½	18½	18½	18½	18½	18½	18½	18½
Eastern Bengal - -	—	—	—	—	—	—	110	110	110	110	110	113½	113½	112	112	156½	156½	158½	158½	157½
Oudh and Rohilkund.	—	—	—	—	—	—	—	—	—	—	—	42	42	42	42	42	294	455	539½	542½
Calcutta & South-Eastern.	—	—	—	—	—	15	28	28	28	28	28	23	23	23	23	23	28	28	28	28
Northern Bengal - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	134½
Punjab Northern - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	63°	103
Nalhati - - -	—	—	—	—	—	—	—	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½
Khamgaon - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	8	8	8	8	8
Amraoti - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	6	6	6	6
Rajputana - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92½	292	379½	400
Holkar - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	57	70
Neemuoh - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36½
Patri - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22½	23½	22½	22½
Wardha Valley - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18	18	46½
Tirhut - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53°	44	79½
Nizam's - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121	121
Muttra & Hathras -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	29
Baroda State - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20	20
Rangoon and Promé. - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	163
Totals - - -	274½	289½	430½	634½	836½	1,581½	2,351½	2,516½	2,962½	3,368½	3,868	3,936½	4,016½	4,261	4,767	5,073	5,366½	5,672½	6,802	6,947½

* Temporary Line.

Flood damages.

18. Very little damage was inflicted on any of the lines by floods during the rains of last year; but as an illustration of how sudden and rapid are sometimes the changes produced on the surface of the land by heavy rainfall, it may be mentioned that in the course of one week, in the Madras Presidency, the traffic which was being busily conducted for famine purposes was checked by floods in the very places where drought had lasted for many months. On the South Indian Railway, the line was so damaged by the heavy rains that 11 miles were closed for a week. Injury was also done to the same line in many places by impetuous torrents rushing from breaches in tanks. In one instance seven tanks, placed one above the other, burst their embankments, and let out the water upon the railway.

19. In August, on the Eastern Bengal Railway, in consequence of the excessive and continuous rainfall during the previous week, several slips occurred in the embankments on the upper part of the line, near the Gorai Bridge, Pangsa, and Goalundo, and caused a temporary interruption of traffic.

20. On the Oudh and Rohilkund Railway it was found that the River Ganges at Rajghat had changed its course, and the main current, instead of continuing near the right bank, had moved to the left, by which four piers of the Allyghur bridge were threatened. This deviation has been attributed by the Chief Engineer of the railway to the accumulation of silt on the up stream side, caused by the weir of the Eastern Ganges Canal at Nurora, about three miles below the railway bridge, which impedes the movement of the silt; but I am not aware whether this theory has been confirmed by observation.

21. The floods in the Punjab rivers were last year unusually low. The dredger, which was supplied for the purpose of trying whether the existing channels could not be enlarged by excavation and the stream led away from where during the floods it would cause damage, had not arrived in sufficient time to make the trial last season.

22. The large traffic which has come on the old established lines has made it necessary to increase the engine power and the rolling stock, and considerable numbers of locomotives and wagons have been despatched to India during the year. Additional locomotive and rolling stock.

23. The question as to how railways may be best prepared for rendering the most effectual service in the movement of troops and military stores has continued to engage the attention of the authorities, and trucks have been designed which in future will be made alike applicable to military purposes and to the ordinary requirements of commerce. The despatch of Native troops to Europe in the course of the present year was greatly facilitated by the railways, and the officers of the Great Indian Peninsula, and of the Bombay, Baroda, and Central India Railways received the thanks of the Government for the prompt and punctual arrangements made by them for the conveyance of men and stores, and all the requisite material for the expedition. Rolling stock for military purposes.

24. The prices of most railway materials have been exceptionally low during the past year. In previous times as much as 13*l.* 7*s.* has been paid for iron and 18*l.* 10*s.* for steel rails per ton. Recently, 5*l.* 7*s.* 6*d.* only was paid for steel rails, which is lower than the lowest price ever paid for iron. Other articles of iron have been low in proportion. Locomotives and machinery have likewise been cheaper than heretofore. The subjoined table gives the prices paid for iron and steel rails and for coal during the last ten years. Price of materials.

PRICES of Iron, Steel, and Coal, between the years 1869 and 1878.

—	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.
	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.
Highest price of iron rails	8 9 6	8 18 6	8 18 6	11 17 6	13 7 0	11 7 6	7 15 0	6 19 0	6 12 0	—
" " steel rails	10 2 3	—	11 7 6	17 0 0	18 10 0	15 9 8	11 15 0	11 0 0	8 5 0	6 3 6
" " coal	0 14 6	0 10 6	0 11 0	1 5 8	1 6 6	1 2 6	0 17 6	0 14 0	0 14 0	0 14 0
Lowest price of iron rails	6 17 6	6 15 0	7 4 0	10 17 6	11 11 0	8 2 9	7 12 0	6 14 6	5 15 0	—
" " steel rails	10 2 3	—	11 7 6	13 15 0	18 10 0	15 9 8	9 5 0	6 15 0	6 12 6	5 7 6
" " coal	0 9 0	0 9 10	0 10 0	0 10 9	0 19 6	0 14 6	0 13 0	0 9 9	0 8 9½	0 8 6

25. The famine which devastated the southern part of India again brought forth the great power of the railways to alleviate distress in the stricken districts. The effects upon the traffic will be shown further on in this Report. The usual energy and devotion has been exhibited by the Government and Railway Officers in meeting the extraordinary demands upon the resources of the lines, and the following fitting acknowledgment of the services of some of them was published by the Government of Bombay in the "Gazette" :— Personal services in connection with the Famine.

"Colonel H. F. Hancock, R.E., Consulting Engineer for Railways and Under Secretary to Government, afforded constant aid to Government in bringing the full power of the railways to bear upon the transport of food-grain to the distressed districts, and in devising, in concert with the Railway Company, the complicated measures needed for this most important object.

"To the Agents, Mr. LeMesurier and Mr. Barnett; to the Traffic Manager, Mr. Conder; to the Locomotive Superintendent, Mr. Jackson; and to the servants of all grades of the Great Indian Peninsula Railway, the Government and the country are under the greatest obligations for their unflagging exertions day and night, in the time of trouble, to carry the food-grain for the famishing people. The wear and tear of body and mind caused by such sore and long-sustained effort will be fully known only to those who witnessed it. The vast quantity of grain carried by this railway has been already stated. It is difficult to measure the value of the railway at such a time as this, or the magnitude of the calamity which, without it, must have supervened. If these events had happened before the construction of this railway, the misfortunes of the people and the responsibilities of Government would have been indefinitely aggravated."

The Government of India also conveyed to Mr. Ross, the Traffic Manager of the Sind, Punjab, and Delhi Railway, an expression of its appreciation of his services on the occasion.

26. The following tables exhibit the shipping operations in connection with the supply of materials (which this year includes a considerable number of locomotives) for the railways from this country :—

SHIPPING OPERATIONS, exclusive of Fuel, during 1877, on Account of Guaranteed and State Railways.

Railway.	Route.	*Number of Ships employed in 1877.	Number of Tons of Goods shipped in 1877.	Value of Goods shipped in 1877.	Amount paid for Freight and Insurance in 1877.	Average Rate of Freight and Insurance per Ton.
			Tons.	£	£	£ s. d.
East Indian - - -	via Suez Canal.	14	992	16,372	1,657	1 13 5
	via Cape of Good Hope	39	22,507	171,821	17,849	0 15 10
Great Indian Peninsula - - -	Canal	91	33,311	322,663	60,056	1 16 1
Madras - - -	Cape	—	—	—	—	—
	Canal	53	19,192	208,798	35,697	1 17 2
	Cape	32	44,377	74,205	50,196	1 2 7
Bombay, Baroda, and Central India	Canal	33	4,623	44,852	5,002	1 11 9
	Cape	3	117	757	132	1 2 7
Sind, Punjab, and Delhi	Canal	17	2,927	27,158	4,463	1 10 6
	Cape	—	—	—	—	—
South Indian - - -	Canal	23	1,944	36,628	3,963	2 0 9
	Cape	2	2,327	23,953	2,901	1 4 11
Eastern Bengal - - -	Canal	6	755	10,202	1,231	1 12 7
	Cape	13	84			
	Cape	13	84	10,202	70	0 16 8
	Canal	16	2,124			
	Cape	3	555	9,983	363	0 13 1
Oudh and Rohilkund - - -	Canal	145	63,201	567,278	98,700	1 11 3
	Cape	49	19,796	207,848	17,141	0 17 4
State Railways - - -						
Totals - - -	- - -	—	218,832	1,773,662	303,353	—

* It is probable that these numbers include ships which have been employed by different Companies on the same voyage.

AMOUNT and Cost of COAL and other FUEL sent out from this Country in 1877.

Railway Company.	Number of Tons supplied from England.			Total original Cost.			Sum paid for Freight and Insurance.	Average Cost of each Ton when bought in England.			Average Cost of each Ton delivered in India.		
	Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.		Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.
East Indian - - -	—	—	—	£	£	£	£	£ s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.
Great Indian Peninsula	176,508	—	—	84,357	—	—	187,942	0 9 7	—	—	1 10 10	—	—
Madras - - -	23,722	1,629	3,624	12,493	1,400	1,857	32,819	0 10 6	0 17 0	10 3	1 13 5	2 1 6	1 10 7
Bombay, Baroda, and Central India - - -	22,878	133	—	32,747	266	—	—*	1 8 8	2 0 0	—	1 8 8	2 0 0	—
Sind, Punjab, and Delhi	5,055	194	—	8,148	424	—	—*	1 12 3	2 3 8	—	1 12 3	2 3 8	—
South Indian - - -	5,802	105	—	3,067	121	—	5,517	0 10 7	1 3 0	—	1 12 2	5 10	—
Eastern Bengal - - -	—	—	—	—	—	—	—	—	—	—	—	—	—
Oudh & Rohilkund - - -	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals - - -	233,965	2,061	3,624	140,812	2,211	1,857	226,278	—	—	—	—	—	—

* Included in original cost.

† Excluding inspection (where incurred) and landing charges at Madras.

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.‡	Number of Ships lost.	Number of Tons of Goods shipped.	Amount paid in England for Goods shipped.
Up to end of 1860	2,605	39	2,094,686	£ 10,431,976
In 1861	407	—	181,621	1,669,443
" 1862	280	1	138,013	1,487,582
" 1863	279	2	166,840	1,285,464
" 1864	233	—	102,318	1,018,164
" 1865	442	2	199,157	1,729,543
" 1866	581	7	312,227	2,527,757
" 1867	512	5	333,329	3,052,652
" 1868	364	3	148,858	1,849,554
" 1869	455	1	211,750	1,432,784
" 1870	461	1	263,449	1,688,209
" 1871	307	6	168,049	707,765
" 1872	318	1	66,534	655,822
" 1873	404	2	201,590	1,561,602
" 1874	426	5	265,114	2,042,136
" 1875	421	—	288,186	1,518,991
" 1876	587	—	296,801	680,929
" 1877	539*	5†	458,482‡	1,918,539
Totals		80	5,937,004	37,258,912

* Exclusive of ships conveying coal and fuel.

† All conveying stores for the Great Indian Peninsula Railway.

‡ Includes coal and fuel tonnage.

§ These numbers probably include ships which have been employed by two Companies at the same time.

27. The following table relates to the number of persons who hold investments in Indian railways. There is no material alteration since last year. Out of the 96,312,967 $\frac{1}{2}$ raised, 1,382,684 $\frac{1}{2}$ is held in India :—

Railway.	Number of Shareholders on 31st December 1877.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1877.
	Registered in England.			In India.			Bonds.	Stock.	
	With Stock or Shares to the Amount of 1,000 <i>l.</i> and upwards.	With Stock or Shares of less Amount than 1,000 <i>l.</i>	Total in England.	Europeans.	Natives.	Total in India.			
East Indian - - -	7,801	9,089	16,840	78	140	218	176	874	17,608
Great Indian Peninsula -	5,718	7,797	13,515	68	113	181	39	1,546	15,281
Madras - - -	3,127	4,352	7,479	—	—	—	263	—	7,742
Bombay, Baroda, and Central India -	2,469	3,903	6,372	8	38	46	23	—	6,441
Sind, Punjab, and Delhi - - -	3,275	5,643	8,918	46	11	57	—	—	8,975
South Indian - - -	959	1,454	2,413	No register in India.			41	147	2,601
Eastern Bengal - - -	687	1,016	1,703	14	21	35	31	213	1,982
Oudh and Rohilkund -	1,107	1,444	2,551	40	23	63	—*	148	2,762
Totals - - -	24,643	34,648	59,291	254	346	600	573	2,928	63,392

* Not known. Bonds to bearer.

28. The following shows the additions made to the rolling stock during the year :—

NUMBER OF LOCOMOTIVES and VEHICLES owned by the INDIAN RAILWAY COMPANIES.

Railway Company.	Locomotives.			Passenger Carriages.		Goods Trucks and Wagons.		Total Number of Vehicles on 31st December 1877.
	Former Number.	Added or With-drawn in 1877.	Total Number, 31st Dec. 1877.	Former Number.	Added or Deducted in 1877.	Former Number.	Added or Deducted in 1877.	
East Indian - - -	511	*—4	507	982	—	6,701	—	7,683
Great Indian Peninsula -	345	+10	355	1,314	—	6,679	—	7,993
Madras - - -	128	+22	150	391	—	3,205	+18	3,614
Bombay, Baroda, and Central India -	80	—3	77	295	—	2,708	—64	2,939
Sind, Punjab, and Delhi - -	156	—5	151	534	—17	2,927	+42	3,486
South Indian - - -	93	+4	97	342	+24	1,333	+310	2,009
Eastern Bengal - - -	43	—	43	169	+11	701	—10	871
Oudh and Rohilkund - - -	69	+19	88	322	+9	1,494	+750	2,575
State Lines - - -	†94	+68	162	†342	+176	†2,081	+388	†2,987
Totals - - -	1,519	+111	1,630	4,691	+203	27,829	+1,434	34,157

* Condemned.

† Approximate.

NUMERICAL RETURN of all Races employed on open Lines of Railways and on the Steam Flotilla on the 30th September 1877.

Railways.	General Administration, including Agency, Audit, Account, Paymasters, Stores, Medical, Barrack, Printing, Stationery, and Police Establishment.				Traffic and Telegraph Departments.				Engineers' Department.				Locomotive and Carriage and Wagon Departments, including Steamboat Establishment.				Total.				Number of Miles Open.	Number of Stations.	Remarks.
	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.			
East Indian -	73	33	3,060	3,164	319	238	10,579	11,136	83	16	13,075	13,179	532	231	10,670	11,433	517	37,383	38,912	155	* Of this, 173 extra for miscellaneous works.		
Eastern Bengal -	14	-	710	724	64	36	2,833	2,933	12	3	1,345	1,360	52	27	1,174	1,253	66	6,062	6,270	32			
Steamboat Establishment on ditto.	-	-	-	-	-	-	-	-	-	-	-	-	13	-	423	436	-	423	436	-			
Oudh and Rohilkund -	29	30	530	589	45	11	1,157	1,213	20	8	2,660	2,697	120	38	2,238	2,390	87	6,504	6,895	80			
Punjab and Delhi -	54	13	616	683	121	31	1,806	2,043	25	6	3,043	3,079	142	42	3,117	3,301	92	8,677	9,111	50			
Sind -	3	8	136	147	10	28	190	228	4	2	523	529	17	42	478	537	34	1,327	1,441	9			
Indus Steam Flotilla -	-	6	84	90	30	20	863	943	-	-	-	-	25	29	408	462	55	1,355	1,495	-			
Rajputana (State) -	26	16	356	397	29	27	681	740	20	2	2,506	2,618	75	41	1,065	1,181	86	4,701	4,936	48			
Holkar and Neemuch (") -	10	-	83	93	6	10	172	188	3	5	374	382	14	6	238	258	33	867	921	15			
Punjab Northern (") -	6	3	39	47(a)	13	14	350	377	4	-	357	361	24	4	438	466	47	1,184	1,251	20(b)			
Rangoon and Irrawaddy Valley.	9	23	40	71	(c)	(c)	(c)	(c)	34	15	1,704	1,753	32	25	110	176	75	1,903	2,000	163			
Madras -	14	47	514	575	50	461	2,112	2,623	31	103	4,983	5,116	227	568	4,068	4,893	322	11,707	13,207	95			
South Indian -	7	27	183	227	6	66	1,224	1,296	25	47	3,117	3,189	72	152	1,449	1,673	110	5,983	6,335	84			
Great Indian Peninsula -	36	33	1,101	1,170	326	227	5,140	5,693	71	33	13,370	13,474	427	190	8,144	8,771	870	27,755	29,108	151			
Bombay, Baroda, and Central India.	15	30	674	719	14	50	1,686	1,690	20	2	2,144	2,166	67	161	1,334	1,562	116	5,778	6,137	80			
Calcutta and South-Eastern (State).	3	-	33	25	-	-	62	62	-	1	106	107	1	1	66	68	3	257	262	8			
Nalhati (State) -	1	-	6	7	-	-	32	32	-	-	70	70	1	-	61	62	2	169	171	7			
Tirhut (") -	8	4	47	49	3	5	146	153	9	2	363	374	8	1	143	157	23	703	743	11			
Steamboat Establishment on ditto.	-	-	-	-	-	-	-	-	-	-	-	-	2	3	58	63	2	58	63	-			
Northern Bengal (State) -	3	1	46	50	8	9	244	261	14	4	1,737	1,805	13	6	161	180	38	2,238	2,296	14			
Railways under the control of the Government of India.	223	129	5,683	6,005	637	415	13,754	19,806	210	57	25,691	25,938	1,046	435	20,368	21,899	1,086	70,466	73,668	436			
Ditto ditto Madras -	21	74	707	802	56	527	3,356	3,919	56	149	8,100	8,305	299	720	6,547	6,566	432	17,690	19,592	179			
Ditto ditto Bombay -	51	63	1,775	1,889	340	277	6,766	7,383	91	35	15,514	15,640	504	351	9,478	10,333	986	33,533	35,245	231			
Ditto ditto Bengal -	14	5	132	141	11	14	463	508	23	7	2,326	2,356	25	11	494	530	73	3,425	3,535	40			
Total Indian Railways -	309	271	8,257	8,637	1,044	1,233	29,330	31,616	890	243	51,631	52,259	1,874	1,567	35,987	39,328	3,607	125,114	132,040	896			

PERSONS EMPLOYED.

29. By the return prepared in India, and given in the preceding page, it appears that out of a total of 132,040 persons employed on 7,248½ miles of railway on the 30th September last, 3,607 were Europeans, 3,319 were East Indians, and 125,114 were Natives. The number has increased during the year from 107,036 to 132,040. The length of line on which these were employed has increased from 6,624 to 7,248½, and the number of stations from 784 to 886. In 1876 the number employed per mile was 16, and per station 136, and there was one to 201 train miles; in 1877 these numbers were 18 per mile, and 149 per station, and one to 210 train miles. The Europeans increased from 3,032 to 3,607, the East Indians from 2,750 to 3,319, and the Natives from 101,254 to 125,114. The Europeans by the last return formed 2·75, and the East Indians 2·51 per cent. of the whole. In the previous year they were 2·83 and 2·71 respectively.

Numbers
employed.

30. It might have been expected that the large addition to the locomotive stock would have increased the proportion of European servants by the necessary addition of drivers, but while the European artificers in the Locomotive Department have been augmented from 1,539 to 1,874, the Native element has increased in greater proportions, from 27,766 to 35,887. Few of these latter are drivers, but the workshops are filled with them, and many are valuable in performing skilled labour. As drivers and shunters Natives are also more generally employed than they were. From all sides accounts are received of their sturdiness, steadiness, and regularity, as well as of the economy effected by their employment.

Proportion of
Europeans
to Natives.

31. The Volunteer Corps formed of the European and East Indian officers and servants of the railways are flourishing, and will constitute important local forces. The corps belonging to the East Indian Railway was reviewed by His Excellency the Viceroy early this year, and pronounced to be one of the finest regiments in the British service. Those in Bombay, composed of the officers and men of the Great Indian Peninsula and Bombay and Baroda Railways respectively, were also highly commended by the Inspecting General.

Volunteer
Corps.

32. In my last Report I alluded to the subject of establishing schools on the hills for the children of the Europeans and Eurasians employed on the railways. I endeavoured to point out the importance of training those children in a manner which would give them the best opportunity of becoming good citizens in the land of their adoption, and in view of that object suggested that, after infancy, they should be brought up in a more suitable climate than that found in the plains, and there receive the advantage of school instruction and discipline. I was not then aware that the question had already attracted so much of the attention of the authorities in India as it has done. I do not find that any systematic arrangement has been made to meet the requirements of the case, certainly so far as the children of railway servants are concerned; but I do find that in Lord Canning's time the neglected condition of European and Eurasian children attracted the notice of Bishop Cotton, and that more recently Lord Northbrook has expressed a great interest in their well-being. So far back as October 1860 Lord Canning thus wrote:—

Children of
Europeans
and Eu-
rasians con-
nected with
the railways.

“If measures for educating these children are not promptly and vigorously encouraged and aided by the Government, we shall soon find ourselves embarrassed in all large towns and stations with a floating population of Indianized English loosely brought up, and exhibiting most of the worst qualities of both races; whilst the European population, already so numerous that the means of education offered to it are quite inadequate, will increase more rapidly than ever.

“I can hardly imagine a more profitless, unmanageable community than one so composed. It might be long before it would grow to be what could be called a class dangerous to the State; but a very few years will make it, if neglected, a glaring reproach to the Government, and to the faith which it will, however ignorant and vicious, nominally profess. On the other hand, if cared for betimes, it will become a source of strength to British rule, and of usefulness to India.”

33. If prompt and vigorous measures were required then, how much more are they required now, when the numbers have increased and are increasing? I do not apprehend that there is any difference of opinion as to the expediency and necessity of moving in the matter at once. The Directors of all the Indian Railway Companies in this country have expressed real interest in the question, and have invited their managers in India to consider the best mode of attaining the object in view. The means are forthcoming, and all that is required is an agreement as to the steps to be taken, to be followed by proper organization.

34. A start has indeed already been made. The Sind, Punjab, and Delhi Railway Company has commenced with a small school at Mussoorie, which provides for 28 children. More accommodation is wanted, and the managers are ready to join with others in forming a general scheme for the education of children whose parents are unable to send them to Europe. Combination is desirable for many reasons, but the East Indian Railway officers seem to think that there is a sufficient number of children connected with the line to justify the establishment of a separate school of their own. Up to this time the only Hill school available for the children of the East Indian Railway is one at Nyni Tal, where a few have been educated. Mussoorie seems to be the station now preferred. The site is about 5,000 feet up the Hill, and in every way eligible. Mr. Pearce, the Carriage and Wagon Superintendent on the East Indian Railway, who, as chairman of the Committee for East Indian Railway aided schools, has watched the effects of the work of education as hitherto conducted, is of opinion that, while the existing schools are doing good service, "there can be no question of the great benefit that will be derived, both mentally and physically," by the children of the Company's employes from the establishment of schools on the Hills. Mrs. David Ross, the manager of the Mussoorie school for the Punjab line, in her report of January last, states that the children there have shown in a short time a "marked improvement both physically and morally," and that there has been no sickness whatever. Mr. Stone, the Acting Agent and Chief Engineer, who visited the school subsequently, describes the children as "the picture of health compared to the children in the plains." The expenses in this case have at present been met by fees from pupils, and a grant from the fine fund of the Railway Company. To give an idea of the expense of maintaining an establishment of this kind, I may mention that Mrs. Ross gives Rs. 4. 2 as the cost of feeding, and Rs. 12. 3 for the other charges per pupil per month. There are now only 28 children at the establishment. The cost per head at Darjeeling, where it is proposed that the children from Lower Bengal should go, is estimated at Rs. 25.

35. In Southern India, where perhaps the climate renders the matter one of greater importance even than in the higher latitudes of the country, there appears to have been no adequate provision yet made for the education of the European children. The Rev. James Sharp, the railway chaplain, reports, as recently as December last, that there is an "utter dearth of the means of education" for the children connected with the North-West line of the Madras Railway, and on the South-West line the provision is very imperfect, consisting, with the exception of the higher land of Bangalore, of schools in the plains. This state of things exists within reach of the bracing climate of the Neilgherri Hills, where one of the Lawrence Asylums can testify to its suitability for European born children.

36. I have been endeavouring to obtain a return of the number of children belonging to the servants of the various Railway Companies, distinguishing Europeans from Eurasians. The following table gives the result, imperfect as it is :—

Railway Company.	Europeans.	Eurasians.	Total.
East Indian - -	982	784	1,766
Eastern Bengal - -	93	29	122
Punjab and Delhi - -	240	81	321
Sind - - -	67	84	151
Great Indian Peninsula - -	479	372	851
Madras - - -	—	—	263
South Indian - -	32	156	188

CAPITAL.

37. The total amount of capital which had been expended on guaranteed lines up to the end of March last was 95,482,941 $\frac{1}{2}$ l., and on State lines, up to the end of October 1877 (the date of the latest advices), 17,661,600 $\frac{1}{2}$ l. The actual sum expended on Indian Railways for which returns have been received was thus 113,144,541 $\frac{1}{2}$ l. Adding 300,000 $\frac{1}{2}$ l. as the estimated expenditure on State lines during the months of November and December, and deducting 100,000 $\frac{1}{2}$ l. for the three months' outlay on guaranteed lines for this year, the total amount of capital laid out on Indian Railways to the end of the year 1877 would be 113,344,541 $\frac{1}{2}$ l.

38. During the year 1877-78 the amount of capital expenditure on guaranteed lines was 1,374,882 $\frac{1}{2}$ l., and on State lines, to end of October, 3,122,051 $\frac{1}{2}$ l., making a total expenditure of 4,496,933 $\frac{1}{2}$ l.

39. The additional amount raised by the Companies was 1,479,838 $\frac{1}{2}$ l. Debentures also to the amount of 1,279,850 $\frac{1}{2}$ l. were issued at 4 per cent. interest, in place of 1,096,400 $\frac{1}{2}$ l. 4 $\frac{1}{4}$ per cent. and 183,450 $\frac{1}{2}$ l. 4 $\frac{1}{2}$ per cent. debentures, which were paid off, thus effecting a saving of 3,660 $\frac{1}{2}$ l. per annum for interest. Calls were made upon unpaid shares, which increased the share capital by 96,427 $\frac{1}{2}$ l., and 6,209 $\frac{1}{2}$ l. was added to the amount of capital not bearing interest.

40. The total amount of capital which had been raised by the various Companies, under the guarantee, now amounts to 96,312,967 $\frac{1}{2}$ l., of which,—

£				
82,731,259 consists of share capital raised at 5 per cent.				
1,239,682	„	„	„	4 $\frac{3}{4}$ „
500,000	„	„	„	4 $\frac{1}{2}$ „
1,000,000	„	debentures	„	4 $\frac{1}{4}$ „
5,171,450	„	„	„	4 „
1,925,000	„	debenture stock	„	4 $\frac{1}{2}$ „
3,497,458	„	„	„	4 „
248,118*	„	capital not bearing interest.		

41. The chief expenditure of guaranteed capital has been more for the purpose of meeting the demands of increased traffic on existing lines and improving their accommodation than for extending their length. In certain places lines have been doubled, station premises have been enlarged, and additional locomotive and rolling stock has been provided. The South Indian is the only line on which the open length has been materially increased.

42. The expenditure on the State Railways has on the other hand been incurred in constructing and completing new works. A sum of 1,194,126 $\frac{1}{2}$ l. was expended on the Indus Valley line, and 322,905 $\frac{1}{2}$ l. on the Punjab Northern. The Northern Bengal absorbed 410,103 $\frac{1}{2}$ l., and the Rangoon and Irrawaddy 363,718 $\frac{1}{2}$ l.

43. It is not unlikely that in the ensuing year the capital of some of the guaranteed Companies will be reduced permanently by the transfer to Revenue of sums representing stores in excess of what will be required as the future stock in hand. All such stores are paid for in the first instance by Capital, and are debited to Revenue as issued for Revenue purposes. The value of stores in hand at the end of the year was about 3,500,000 $\frac{1}{2}$ l. Deducting this amount from the capital expended, the average mileage cost of the guaranteed railways is 15,246 $\frac{1}{2}$ l. The average mileage cost of the State lines up to the present time is 11,921 $\frac{1}{2}$ l.

44. The following tables, prepared in the Accounts Department of this Office furnish particulars connected with the Capital transactions of each undertaking:—

* The difference between this amount and that given in the Table on page 15 is thus explained:—

Premium on share capital and debentures	-	-	-	-	£568,646
Discount on debenture stock :					
Stock represented as shown above	-	-	-	£5,422,458	
Cash received (page 15)	-	-	-	5,129,878	
					292,580
Discount on debentures :					
Amount of debt shown above	-	-	£6,171,450		
Cash received (page 15)	-	-	6,143,502		
				27,948	
					320,528
					£248,118

STATEMENT No. 1.

STATEMENT OF EXPENDITURE IN ENGLAND AND INDIA ON INDIAN STATE RAILWAYS, appropriated to the various Undertakings as shown in Statements to 31st October 1877
(the latest date to which such Statements have been received from India).

State Railway.	Expenditure appropriated.			TOTAL.	Classification of Expenditure.											Receipts on Capital Account.
	England.	India.			Pre-liminary Expenses.	Land.	Con-struction of Line.	Ballast and Permanent Way.	Stations and Buildings.	Electric Telegraph.	Plant.	Rolling Stock.	Main-tenance.	Establi-shment.	Con-tingencies.	
Punjab, Northern	£ 594,937	£ 1,976,852	£ 2,571,789	£ 107,715	£ 24,349	£ 1,140,564	£ 504,379	£ 92,861	£ —	£ 110,483	£ 89,527	£ —	£ 360,916	£ —	£ 148,986	£ 7,991
Indus Valley	912,987	3,483,070	4,396,057	110,838	14,793	1,602,936	1,108,368	175,026	—	115,866	216,521	271	520,876	—	537,408	6,831
Hubli and Carwar	2,502	52,873	55,375	55,375	—	—	—	—	—	—	—	—	—	—	—	—
Wardha Valley, Coal	55,184	414,265	469,449	9,164	345	152,438	202,311	32,582	—	17,351	302	—	41,910	—	13,656	560
Holkar	320,541	929,317	1,249,858	21,699	4,619	577,387	221,402	89,184	—	29,668	109,420	—	127,793	—	72,527	3,841
Neemuch	314,531	536,167	850,698	63,926	289	138,935	199,399	38,836	—	17,989	22,165	—	83,927	—	236,447	1,115
Rajputana	829,706	1,857,521	2,687,227	52,164	47,766	597,608	982,680	304,276	—	39,285	320,104	—	181,755	—	164,019	2,430
Western Rajputana	—	65,940	65,940	57,154	9	4,997	219	360	—	13	—	—	2,087	—	1,189	38
Nalhati	30,000	—	30,000	—	—	*30,000	—	—	—	—	—	—	—	—	—	—
Calcutta and South-Eastern	268,424	422,400	690,824	6,769	108,507	104,596	155,774	57,164	3,698	8,270	122,481	—	86,773	18,766	18,031	—
Northern Bengal	379,636	973,932	1,353,568	10,417	45,653	395,675	444,738	57,075	—	44,257	53,698	—	169,397	—	136,389	3,726
Sindia	71,459	246,122	317,581	26,651	577	109,408	78,037	13,673	—	500	128	—	20,124	—	68,817	334
Nagpur and Chattisgarh	—	19,548	19,548	19,544	4	—	—	—	—	—	—	—	—	—	20	20
Tirhut	153,725	330,046	483,771	920	4,390	81,511	182,988	57,069	—	18,546	44,506	—	50,272	—	48,992	418
Rangoon and Irrawaddy Valley	200,281	790,760	991,041	2,307	13,433	194,265	402,890	105,940	—	24,280	32,184	—	79,154	—	137,810	622
Rangoon and Sittang Valley	—	15,800	15,800	15,810	—	—	—	—	—	—	—	—	—	150	—	10
Moradabad, Deobund, and Roorkee	—	2,852	2,852	52	—	—	—	—	—	34	—	—	2,616	—	—	—
Kosi Extension	—	5,358	5,358	5,358	—	—	—	—	—	—	—	—	—	—	—	—
Assam Extension	—	8,749	8,749	8,727	—	—	—	—	—	—	—	—	—	—	35	13
Seeb Sagur, Coal	—	3,400	3,400	3,897	—	—	—	—	—	—	—	—	—	—	18	15
Dhond and Munnad	—	5,490	5,490	5,490	—	—	—	—	—	—	—	—	—	—	—	—
Patna and Gya	—	155	155	155	—	—	—	—	—	—	—	—	—	—	—	—
Hathras and Muthra Section, Light	—	104,596	104,596	93	1,586	8,466	53,708	12,205	—	697	20,277	—	7,182	—	5,437	5
Provincial Railway.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hathras and Kasganj, ditto, ditto	—	61	61	61	—	—	—	—	—	—	—	—	—	—	—	—
Cawnpore and Furruckabad, ditto, ditto	—	1,162	1,162	1,162	—	—	—	—	—	—	—	—	—	—	—	—
Dildarnagar and Ghazipur Branch, ditto, ditto.	—	2,461	2,461	41	4	1,954	30	49	—	—	—	—	383	—	—	—
NATIVE STATES.																
Nizam's	145,219	1,024,683	1,169,902	14,545	—	404,855	474,889	124,064	—	15,293	9,168	—	106,645	—	25,880	5,429
Khamgaon Branch	—	48,530	48,530	37	89	10,921	29,328	4,638	—	343	32	—	2,888	234	—	—
Amraoti Branch	13,816	30,418	43,784	112	245	9,418	25,259	4,344	—	302	15	—	3,806	128	—	—
Mysore	—	11,624	11,624	550	—	—	—	—	—	831	—	—	9,994	249	—	—
Totals	4,297,448	13,364,152	17,661,600	600,123	266,558	5,610,934	5,066,389	1,169,296	3,928	444,008	1,040,518	271	1,858,348	19,522	1,616,106	33,401

* This amount was paid to the Oudh and Rohilkund Railway Company for purchase of the Line.

Note.—The total expenditure in England on State Railways to 31st October 1877 amounted to 4,783,356*l*. The above figures represent only that portion of such expenditure which had been appropriated in India to the several undertakings to the date of the last advices received.

India Office, 20th June 1878.

THOS. W. KEITH,
Accountant.

STATEMENT No. 2.

Showing the Amount of CAPITAL authorized to be raised for each Undertaking as now sanctioned, the Amount raised, and the Amount withdrawn, to 31st March 1878.

Railway.	Amount authorized to be raised on 31st March 1878.				Amount raised in England to 31st March 1878.								Total Amount withdrawn to 31st March 1878 (partly estimated).	
	Share Capital.	Debentures.	Debtenture Stock.	Capital not bearing Interest.	Total.	Share Capital.	Debentures.		Debtenture Stock.		Capital not bearing Interest.			
							Amount of Debentures.	Cash received.	Stock represented.	Cash received.				
												£		£
East Indian—Main Line	-	22,992,960	2,950,000	1,500,000	171,758	27,614,718	22,616,118	2,950,000	2,980,802	1,500,000	170,420	326,325	1,338	27,277,726
„ Jabalpur Line	-	3,200,000	—	—	43,249	3,243,249	3,189,350	—	—	—	43,249	7,665	—	3,398,513
Great Indian Peninsula	-	20,000,000	568,800	3,065,300	229,602	23,863,702	19,483,953	268,500	268,800	2,475,559	228,860	496,441	742	23,069,970
Madras	-	10,264,100	400,000	—	9,898	10,673,998	10,256,689	200,000	200,000	—	9,898	—	—	10,530,855
Bombay, Baroda, and Central India	-	7,550,300	575,000	—	85,387	8,160,687	7,528,628	575,000	571,250	—	35,387	21,672	—	7,809,549
Sind, Punjab, and Delhi	-	11,418,900	—	—	4,403	11,423,303	10,988,984	—	—	—	4,386	86,253	67	10,538,047
Eastern Bengal	-	2,255,520	462,350	411,308	2,288	3,131,466	2,288,996	462,350	462,350	874,780	2,288	16,486	—	3,108,464
Oudh and Rohilkund	-	4,000,000	1,615,300	384,700	8,292	6,008,292	3,575,581	1,315,300	1,315,300	354,589	8,292	424,419	—	5,754,485
South Indian	-	3,213,386	400,000	425,000	63,769	4,102,155	3,312,165	400,000	395,000	425,000	63,714	1,221	55	4,000,332
Totals	-	84,895,166	6,971,450	5,786,308	568,646	98,221,570	83,090,459	6,171,450	6,143,502	5,129,878	566,444	1,380,483	2,202	95,482,941

India Office, 4th April 1878.

THOS. W. KEITH,
Accountant.

STATEMENT No. 3.
SHOWING the AMOUNT received from and withdrawn by each Company during the Year ended 31st March 1878.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1877.	Sums advanced to the Companies on the 31st March 1877.	Amount received						Amount withdrawn				Total received during the Year ended 31st March 1878.	Total withdrawn during the Year ended 31st March 1878.	
			In England, between 1st April 1877 and 31st March 1878.			In India, between 1st April 1877 and the Date to which Accounts have been received.			In England, between 1st April 1877 and 31st March 1878.	In India.	Estimated Withdrawals between Dates specified and 31st March 1878.				
			Share Capital.	Deben- tures.	Deben- ture Stock.	Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.							
East Indian, Main Line.	£ 160,266	£ —	£ 309	£ 998,302	£ —	£ 1,269	£ —	£ —	£ 298,189	£ 787,350*	30th November 1877	£ 22,665†	£ 170,000‡	£ 999,880	£ 892,874
East Indian, Jabal- pur Line.	—	160,523	—	—	—	—	—	—	—	—	"	274†	2,000‡	—	2,274
Great Indian Penin- sula.	103,306	—	59,138	—	—	—	312	—	650,781	—	"	27,410†	345,000‡	59,450	278,371
Madras -	182,624	—	9,018	200,000	—	—	—	—	458,481	—	"	47,479	50,000‡	209,018	455,910
Bombay, Baroda, and Central India.	8,142	—	—	371,250	—	—	—	—	97,200	—	"	14,304	80,000‡	371,350	32,004
Sind, Punjab, and Delhi.	556,280	—	—	—	—	—	—	—	59,044	—	"	4,407†	45,000‡	—	9,637
Eastern Bengal -	537	—	—	—	—	—	—	—	28,616	—	"	5,535	20,000‡	—	14,151
Oudh and Rohilkund	—	40,296	—	200,000	—	4,940	—	—	83,942	—	"	66,906	90,000	204,940	240,848
South Indian -	—	85,116	27,650	395,000	—	—	—	—	116,278	—	"	104,433	20,000	422,650	240,711
Totals -	1,011,105	286,035	96,115	2,164,552	—	6,209	312	—	1,792,481	787,350	—	184,401	602,000‡	2,267,188	2,162,232

* Including a sum of 7,500l. paid as Discount on the renewal of 500,000l. 4½ per cent Debentures at 4 per cent.
† Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amounts withdrawn in India on Capital Account during the year.
‡ It is estimated that, on receipt of advices from India regarding transfers, which are several months in arrear of cash transactions, transfers of expenditure to Revenue Account, &c., will have exceeded the withdrawals to this extent.

India Office, 4th April 1878.

THOS. W. KEITH,
Accountant.

STATE of DEBENTURE LOANS on the 31st March 1878.

Railway.	Amount.	Rate of Interest	Date at which Loan expires.
East Indian - - -	£ 1,000,000	4½	1st January 1881.
" - - -	1,279,850	4	12th July 1882.
" - - -	280,150	4	1st December 1882.
" - - -	440,000	4	19th March 1883.
	2,950,000		
Great Indian Peninsula - -	268,800	4	30th June 1878.
	268,800		
Madras - - -	200,000	4	30th June 1882.
	200,000		
Bombay, Baroda, and Central India	200,000	4	1st January 1882.
" " "	375,000	4	1st August 1884.
	575,000		
Eastern Bengal - - -	52,650	4	1st November 1884.
" - - -	409,700	4	12th July 1886.
	462,350		
Oudh and Rohilkund - -	615,300	4	4th June 1880.
" - - -	500,000	4	1st August 1881.
" " - -	200,000	4	16th August 1884.
	1,315,300		
South Indian - - -	400,000	4	1st July 1884.
	400,000		
Total - - -	6,171,450		

India Office, 4th April 1878.

THOS. W. KEITH, Accountant.

STATEMENT of WITHDRAWALS out of CAPITAL for EXPENDITURE; showing the Amount withdrawn in England and in India by all the Guaranteed Indian Railway Companies during each Financial Year from the commencement to 31st March 1878.

Year.	England.	India.	Total.
	£	£	£
1849-50 - - -	69,211	6,682	75,893
1850-51 - - -	61,164	38,099	99,263
1851-52 - - -	154,212	197,111	351,323
1852-53 - - -	174,920	252,640	427,560
1853-54 - - -	252,484	418,165	670,649
1854-55 - - -	960,878	769,278	1,730,156
1855-56 - - -	1,935,074	1,431,337	3,366,411
1856-57 - - -	1,752,813	1,762,287	3,515,100
1857-58 - - -	1,328,243	2,094,825	3,423,068
1858-59 - - -	1,941,033	3,551,075	5,492,108
1859-60 - - -	2,508,668	4,662,796	7,171,464
1860-61 - - -	2,388,315	5,190,400	7,578,715
1861-62 - - -	1,597,430	5,004,782	6,602,212
1862-63 - - -	1,852,393	4,010,951	5,863,344
1863-64 - - -	1,415,146	3,340,507	4,755,653
1864-65 - - -	1,396,821	2,725,419	4,122,240
1865-66 - - -	2,222,679	3,414,187	5,636,866
1866-67 - - -	3,958,357	3,339,346	7,297,703
1867-68 - - -	3,924,490	3,195,591	7,120,081
1868-69 - - -	1,969,814	2,512,084	4,481,898
1869-70 - - -	2,298,680	2,444,171	4,742,851
1870-71 - - -	1,899,054	1,877,216	3,776,270
1871-72 - - -	886,996	1,609,732	2,496,728
1872-73 - - -	822,995	345,750†	477,245
1873-74 - - -	1,028,032	334,979†	693,053
1874-75 - - -	1,174,893	86,982†	1,087,911
1875-76 - - -	1,151,585	200,779†	950,806
1876-77 - - -	1,222,846	507,387†	715,459
1877-78 - - -	1,792,481	417,599*†	1,374,882*
Deduct amount withdrawn by the Calcutta and South-Eastern Railway Company, this Railway having subsequently become the property of the State - -	44,141,707	51,955,205	96,096,912
	267,362	346,609	613,971
Total - - -	£43,874,345	51,608,596	95,482,941

* These amounts are partly estimated.

† Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amount withdrawn in India on Capital Account.

Note.—The total expenditure in India in each year as shown in the above Statement will not be found to coincide with that shown in the Indian Finance and Revenue Accounts, owing to the fact that the transfers of expenditure to Revenue Account can only be made in the books in this country on receipt of advices from India, and are consequently brought to account some months later than in the Indian books.

India Office, 4th April 1878.

THOS. W. KEITH, Accountant.

REVENUE.

Guaranteed
Lines.

45. The revenue derived from the guaranteed railways during the past year was 6,117,226*l.*, compared with 4,442,430*l.* of the previous year. The guaranteed interest in respect of the year 1877 amounted to 4,662,635*l.*, leaving a net surplus of 1,454,591*l.* Out of this, 890,823*l.* was paid to the East Indian, the Great Indian Peninsula, and the Eastern Bengal Companies, as the moiety of their surplus profits (1,811,934*l.*) after deducting 30,288*l.* as contributions to their provident funds. A sum of 73,432*l.*, which consisted of the surplus profits of the Bombay, Baroda, and Central India Railway, was, according to special agreement, applied to the fund for constructing the new Nerbudda bridge. The net amount received by Government in excess of the guaranteed interest was 490,336*l.*

Loss by
exchange.

46. While this sum is contributed to the revenue of the country, it must be noticed that the Government, on the other hand, suffer, at the present low rate of exchange, a loss in supplying the Companies with funds in this country for the purchase of materials for construction and maintenance purposes (as well as for the guaranteed interest), which adds a considerable amount to the year's expenditure. Taking the contract rate at 1*s.* 10*d.* (in one or two cases it is more), and the average rate of exchange during the year at 1*s.* 8½*d.*, there would be a loss of 1½*d.*, or nearly 7 per cent., on each rupee. It may be estimated that during the past year a sum about equivalent to the net amount realized by Government in excess of the guaranteed interest was thus lost to the State.

Results since
1870.

47. The following table shows what has been received from the guaranteed railways on account of revenue, and what has been advanced to them on account of guaranteed interest, in each year since 1870 :—

GUARANTEED RAILWAYS.

Year.	Capital expended to 31st March.	Net Revenue for Year to 31st December.	Guaranteed Interest for Year to 31st December.	Interest in excess of Revenue.	Revenue in excess of Interest.
	£	£	£	£	£
1870 - -	83,910,587	2,846,600	4,344,113	1,497,513	—
1871 - -	87,686,857	2,686,260	4,544,764	1,858,504	—
1872 - -	90,183,585	2,869,223	4,603,853	1,734,630	—
1873 - -	90,660,830	3,185,069	4,613,573	1,428,504	—
1874 - -	91,353,883	3,956,071	4,651,088	695,017	—
1875 - -	92,441,794	3,576,514	4,641,979	1,065,465	—
1876 - -	93,392,600	4,442,430	4,658,947	216,517	—
1877 - -	94,108,059	6,117,226	4,662,635	—	1,454,591

Results of
each railway
in 1877.

48. The following table gives the results obtained from each undertaking during the year now under consideration, by which it will be seen that four Companies exceeded the guarantee by 1,850,012*l.*, and that four were deficient to the extent of 395,421*l.* That of the four which earned surplus profits the East Indian divided amongst its shareholders 2*l.* 4*s.* per cent. in addition to the guaranteed interest, the Eastern Bengal 2*l.* 5*s.* per cent., and the Great Indian Peninsula 1*l.* per cent. The surplus of the Bombay and Baroda was, as already explained, devoted to the fund for the New Nerbudda bridge :—

RESULTS OF WORKING the GUARANTEED RAILWAYS for the YEAR ended 31st December 1877.

Railway Company.	Net Revenue.	Guaranteed Interest.	Revenue in excess of Interest.	Interest in excess of Revenue.	Rate per cent. divided as Surplus Profits.	
					First Half.	Second Half.
	£	£	£	£	£ s. d.	£ s. d.
East Indian - - -	2,770,667	1,491,958	1,278,709	—	2 10 0	1 18 0
Great Indian Peninsula - - -	1,553,334	1,116,189	437,146	—	2 0 0	—
Eastern Bengal - - -	260,747	147,721	113,026	—	0 10 0	4 0 0
Bombay, Baroda, and Central India	414,845	393,714	21,131	—	—	—
South Indian - - -	152,205	185,721	—	33,516	—	—
Oudh and Rohilkund - - -	206,761	263,003	—	56,242	—	—
Madras - - -	374,723	510,568	—	135,845	—	—
Sind, Punjab, and Delhi - - -	383,944	553,762	—	169,818	—	—
Totals - - -	6,117,226	4,662,635	1,850,012	395,421	—	—

49. The revenue earned by the State railways amounted to 141,356*l.*, which was State Lines. 27,852*l.* in excess of the previous year.

50. The gross receipts of the guaranteed lines were 10,793,765*l.*, and the expenses were 4,676,539*l.* The gross receipts of the State lines were 537,628*l.*, and the expenses 396,272*l.* The net revenue from the two systems was 6,232,888*l.*, as explained at the foot of the Revenue Statement. Guaranteed and State.

51. Taking the capital expended up to the end of the year on all lines, State and guaranteed, at 113,345,000*l.*, the average receipt per cent. per annum would be 5*l.* 5*s.* The maximum reached was 9*l.*, on the East Indian; the minimum, 3*l.* 3*s.* 9*d.* The Eastern Bengal earned at the rate of 8*l.* per annum, and in the latter half of the year yielded a profit which, after paying the interest on debentures, would have given a dividend on the share capital at the rate of 13*l.* per cent. per annum. The following statement shows the rate per cent. per annum earned on the capital expended on the open lines to the end of the year:— Earnings per cent.

	Capital expended to 31st December 1877 (partly estimated).	Earnings per Cent. per Annum.		
		£	s.	d.
East Indian - - - -	30,632,000	9	0	10
Eastern Bengal - - - -	3,108,400	8	0	0
Great Indian Peninsula - - -	23,100,000	6	10	0
Bombay, Baroda, and Central India -	7,800,000	5	6	4
South Indian - - - -	*3,600,000	4	2	0
Sind, Punjab, and Delhi - - -	10,500,000	3	15	0
Madras - - - -	10,500,000	3	11	0
Oudh and Rohilkund - - -	5,750,000	3	10	0
Rajputana - - - -	2,688,000	3	3	9

52. The satisfactory results obtained must, to a certain extent, be attributed to the large traffic in grain caused by the famine in Southern India. It has been calculated that the receipts from this source alone were about 600,000*l.* But, while accepting this estimate, it must be borne in mind that much traffic of a more profitable kind was lost in consequence of the preference given to the consignments of grain to the famine districts, and of the inability of the railways, for want of rolling stock, to take much that was offered. A large export trade in wheat still continues, and there is fair ground for hoping that the traffic will maintain a steady progress, covering, before very long, the interest paid on the capital, and ultimately contributing regularly to the revenue of the State.

53. In 1872 the net receipts were 2,869,223*l.*, and the capital expended on the open lines about 92,030,000*l.* In 1877 the receipts were 6,232,888*l.*, and the capital expended 113,345,000*l.* In five years the net revenue has thus increased from 3*l.* 2*s.* 4*d.* to 5*l.* 5*s.* per cent. per annum.†

* A portion of the South Indian line is still under construction, and some of the expenditure to the end of the years, as shown in page 15, was consequently represented by unfinished work.

† I regret that, in my last Report, a mistake occurred in the compilation of the Revenue Statement, which was productive of several errors. In the Report of 1875-76 the receipts and expenditure of the Indus Flotilla were included and given separately in the statement, the total receipts amounting to 85,029*l.*, and the expenditure to 69,387. In the Report for 1876-77 these items were accidentally excluded from the statement relating to 1875, but included in the total. The addition was thus made to be incorrect, the totals including what should have been, but which was not, inserted. A careful writer of the "Financial Review" properly pointed out the error.

STATEMENT showing the REVENUE from the INDIAN RAILWAYS in 1876 and 1877, as given in the Accounts passed by Government.

Railway.	Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
	Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
GUARANTEED.	£	£	£	£	£	£	£		£
	886,748	2,600,819	151,854	3,639,421	275,817	860,262	1,136,079	31	2,503,342
	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877
	851,089	2,058,301	100,794	3,010,184	286,553	738,383	1,024,936	34	1,985,248
	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876
	99,112	271,484	55,558	426,154	46,687	112,142	158,829	37	267,325
	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877
	91,613	128,334	25,222	245,169	30,772	80,266	120,038	49	125,131
	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876
	536,604	2,366,549	101,143	3,004,296	168,111	1,282,851	1,450,962	48	1,553,334
	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877
	483,374	1,686,786	66,020	2,236,180	167,853	889,710	1,057,563	47	1,178,615
	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876
	247,447	649,673	22,781	919,901	110,875	434,303	545,178	59	374,723
UNGUARANTEED.	£	£	£	£	£	£	£		£
	237,870	393,904	20,821	652,595	125,959	293,854	419,813	64	232,282
	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877
	219,652	438,747	56,500	714,899	87,752	212,302	300,054	42	414,845
	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877
	214,530	386,610	19,654	620,794	114,813	225,414	340,227	54	280,567
	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876
	236,402	467,019	199,163	902,584	136,005	382,635	518,640	57	383,944
	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877
	225,745	342,012	163,124	730,881	137,325	361,966	493,291	67	237,590
	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876
	152,968	145,167	11,717	309,852	17,181	140,466	157,647	50	152,205
	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877
	113,402	68,821	8,562	190,785	7,111	94,522	101,633	53	89,152
UNGUARANTEED.	£	£	£	£	£	£	£		£
	117,793	268,712	55,972	442,477	30,769	150,961	181,730	41	260,747
	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877
	108,542	181,067	44,053	333,662	32,437	121,714	154,151	46	179,511
	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876
	172,869	218,618	42,694	434,181	49,474	177,946	227,420	52	206,761
	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877
	156,851	164,091	20,199	341,141	41,255	165,552	206,807	49	134,334
	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876
	2,669,595	7,426,788	697,382	10,793,765	922,671	3,753,868	4,676,539	43	6,117,226
	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877	- { 1877
	2,482,516	5,409,926	468,449	8,360,891	947,080	2,971,381	3,918,461	47	4,442,430
	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876	- { 1876
	Totals for Guaranteed Railways	Totals for Un-guaranteed Railways	Totals for Un-guaranteed Railways	Totals for Un-guaranteed Railways	Totals for Un-guaranteed Railways	Totals for Un-guaranteed Railways	Totals for Un-guaranteed Railways	Totals for Un-guaranteed Railways	Totals for Un-guaranteed Railways

* These figures include the earnings from the flotillas worked in connection with these railways.

Railway.	Receipts.			Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
	Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.	
STATE LINES.								
Calcutta and South-Eastern - { 1877 1876	£ 7,956	£ 2,825	£ 1,068	£ 11,849	£ 2,779	£ 6,906	£ 9,685	£ 2,164
Nalhati - { 1877 1876	6,937	2,715	182	9,834	3,352	7,331	10,063	Loss 849
Rajputana - { 1877 1876	5,562	3,187	197	8,946	4,174	4,814	8,988	Loss 42
*Wardha Valley - { six months 1876 1877	4,700	2,603	126	7,519	3,770	4,488	8,258	Loss 739
Holkar - { 1877 1876	89,671	171,484	8,110	269,265	47,229	136,265	183,494	85,771
*Nizam's - { 1877 1876	84,107	148,301	4,150	236,558	43,004	109,316	152,320	84,235
Punjab Northern - { 1877 1876	953	6,095	83	7,131	1,019	4,123	5,142	1,989
Tirhut - { 1877 1876	319	1,587	8	1,914	568	1,707	2,275	Loss 361
Berar - { *Amraoti - { 1877 1876	14,231	24,317	1,353	39,901	6,274	24,137	30,411	9,490
*Khamgaon { six months 1876 1877	10,509	23,463	3,567	37,539	5,910	29,355	35,265	2,574
Neemuch - { 1877 1876	27,239	48,739	157	76,135	10,103	48,937	59,040	17,095
Northern Bengal, 5 months of 1877 (Opened in August, 1877.)	23,217	29,979	128	53,324	12,669	33,042	45,711	7,613
Totals for State Railways - { 1877 1876	33,889	33,915	1,843	69,647	15,887	43,954	59,841	9,806
	25,062	27,336	585	47,583	17,583	24,106	35,089	11,894
	15,366	9,774	4,809	29,949	3,405	17,486	20,891	9,058
	5,715	6,917	5,910	17,942	2,883	9,437	12,320	5,622
	885	6,448	9	7,342	206	2,305	2,511	4,831
	712	5,601	57	6,370	283	4,196	4,479	1,891
	392	4,194	78	4,664	444	2,441	2,885	1,779
	135	2,870	14	2,959	254	1,888	2,142	817
	6,129	1,726	72	7,927	1,782	4,767	6,549	1,378
	2,251	—	6	2,257	—	1,453	1,453	804
	1,601	1,398	1,873	4,872	Not reported in returns from India	6,835	6,835	Loss 1,963
Totals for State Railways - { 1877 1876	208,874	314,102	19,652	537,628	93,302	302,970	396,272	141,356
	164,054	245,312	14,733	424,099	84,276	226,319	310,595	113,504
The above Revenue Statements give the financial results of the Guaranteed and State lines respectively. Inasmuch, however, as the four State lines marked * are worked by the Great Indian Peninsula Railway, their receipts are included in the Revenue Accounts of that Company. It is necessary, therefore, in summing up the total revenue derived from all the railways, both guaranteed and State, to deduct the receipts belonging to those lines.								
The totals would then be as follows :—								
Grand Total for all Railways - { 1877 1876	2,844,000	7,675,414	716,707	11,236,121	1,004,201	3,999,032	5,003,233	6,232,888
	2,622,187	5,615,261	482,975	8,720,423	1,017,582	3,156,867	4,714,449	4,545,974

GUARANTEED INTEREST.

54. The following tables relate to the advances made by Government on account of the guaranteed interest. It will be seen that last year they amounted to 4,653,438 $\frac{1}{2}$., and that since the commencement of railway operations under the guarantee system 66,212,183 $\frac{1}{2}$ has been so paid, but that 39,409,880 $\frac{1}{2}$ has been covered by railway earnings, leaving a debt of 26,802,303 $\frac{1}{2}$ to be paid back with interest out of the half surplus profits of future years. The tables also show the account as it stands with each Company.

55. For the first time the annual aggregate amount paid for the guarantee has, as shown under the head of Revenue, been exceeded by the receipts. In other words, the railways have not only been able to pay all the guaranteed interest advanced by Government, but they have contributed to the revenue of the year 490,336 $\frac{1}{2}$. In several previous years surplus profits have been earned by certain Companies, but the sum thus realized has been swamped by the deficiencies of others, and there has always been a deficit during the last seven years, varying from 1,858,504 $\frac{1}{2}$ to 216,517 $\frac{1}{2}$. Last year the profits earned by the East Indian, the Great Indian Peninsula, and the Eastern Bengal, in excess of the guarantee amounted to 1,811,934 $\frac{1}{2}$,* while the profits earned on the other four railways fell short of the guaranteed interest paid on their account by 395,421 $\frac{1}{2}$.

A STATEMENT showing approximately the Amounts advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to the 30th June 1877, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total Amount advanced to 31st December 1877.*	Aggregate of Net Revenue Balances for the several half years to 30th June 1877, inclusive.	Net Amount advanced.
	£	£	£
East Indian, Main Line - - -	22,485,534	19,181,120	3,304,414
" Jabalpur Line - - -	2,194,796	722,939	1,471,857
Great Indian Peninsula - - -	15,854,161	9,483,308	6,370,853
Madras - - -	7,900,367	3,559,786	4,340,581
Bombay, Baroda, and Central India - - -	5,467,979	2,609,924	2,858,055
Sind, Punjab, and Delhi - - -	6,930,431	1,402,545	5,527,886
Eastern Bengal - - -	1,888,040	1,386,885	501,155
Oudh and Rohilkund - - -	1,776,970	460,172	1,316,798
South Indian - - -	1,713,905	603,201	1,110,704
Totals - - -	£66,212,183	39,409,880	26,802,303

* The Interest for the half year to 30th June 1877 not being paid until the succeeding half year.
India Office, 4th April 1877.

THOS. W. KEITH, Accountant.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

STATEMENT of the Total Amount of INTEREST advanced to each of the under-mentioned Railway Companies to the 31st December 1877.

Railway Company.	Interest advanced to 31st December 1876.			Interest advanced during 1877.*									Total.		
				England.			India.			Total.					
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
East Indian, Main Line	21,156,148	7	10	1,322,236	5	9	7,148	13	5	1,329,384	19	2	22,485,533	7	0
Jabalpur															
Line -	2,034,945	10	9	159,552	15	2	297	19	11	159,850	15	1	2,194,796	5	10
Great Indian Peninsula	14,724,534	7	4	1,121,995	6	0	7,631	4	6	1,129,626	10	6	15,854,160	17	10
Madras -	7,392,056	12	1	508,310	1	3	—			508,310	1	3	7,900,366	13	4
Bombay, Baroda, and															
Central India -	5,082,464	4	4	385,304	16	8	210	3	3	385,514	19	11	5,467,979	4	3
Sind, Punjab, & Delhi	6,376,668	16	5	551,649	7	6	2,112	8	11	553,761	16	5	6,930,430	12	10
Eastern Bengal -	1,740,294	6	6	146,907	8	4	838	12	7	147,746	0	11	1,888,040	7	5
Oudh and Rohilkund -	1,515,088	0	9	259,508	4	2	2,379	3	10	261,882	8	0	1,776,970	8	9
South Indian -	1,536,544	12	9	177,360	9	4	—			177,360	9	4	1,713,905	2	1
Totals -	£61,558,744	18	9	4,632,819	14	2	20,618	6	5	4,653,438	0	7	66,212,182	19	4

* It will be observed that the Interest advanced during the year is here given, while the amount deducted from the net receipts to show the surplus profits is that which is advanced for the year during which those receipts were realized. It is the practice to pay the guaranteed interest a few days after the half year for which it is due has closed.

India Office, 4th April 1878.

THOS. W. KEITH, Accountant.

* This sum would have been further augmented by 73,432 $\frac{1}{2}$ earned on the Bombay, Baroda, and Central India Railway, had it not been arranged that all surplus profits should go towards the funds for the New Nerbudda bridge while it was in course of execution.

STATEMENT showing the Amount of SURPLUS PROFITS earned by Guaranteed Railways to
31st December 1877 inclusive.

Railway Company.	To end of 1873.	Half year to 30th June 1874.	Half year to 31st Dec. 1874.	Half year to 30th June 1875.	Half year to 31st Dec. 1875.	Half year to 30th June 1876.	Half year to 31st Dec. 1876.	Half year to 30th June 1877.	Half year to 31st Dec. 1877.	Total.
	£	£	£	£	£	£	£	£	£	£
East Indian : Main Line -	1,013,449	641,832	77,951	158,539	38,702	852,531	299,133	638,851	531,923	3,752,911
Jabalpur Line -	—	11,238	—	—	—	—	—	61,518	36,089	108,845
Great Indian Peninsula -	69,555	—	—	143,838	—	125,816	—	396,994	33,049	769,252
Bombay, Baroda, and Central India	5,864	4,723	—	5,934	—	20,397	—	—*	—	36,918
Eastern Bengal -	8,411	7,810	9,151	—	—	—	35,347	13,908	99,602	174,229
Totals - £	1,097,279	665,603	87,102	308,311	38,702	498,744	334,480	1,111,271	700,663	4,842,155

* Surplus profits were earned by the Bombay, Baroda, and Central India Railway Company during this half year, but no division took place, owing to the special agreement that all surplus profits should be applied to the construction of the Nerbudda Bridge.

India Office, 4th June 1877.

THOS. W. KEITH, Accountant.

TRAFFIC AND WORKING.

56. The traffic for the year 1877 made an unprecedented advance, and the work was done at a proportionately less cost.

57. The total quantity of goods carried amounted to 8,309,943 tons,* compared with 5,793,949* of the previous year, showing an increase of 2,515,994 tons. The amount received for conveying the same was 7,669,314*l.*, compared with 5,651,357*l.* in 1876, giving increased earnings to the amount of 2,017,957*l.* Goods traffic.

58. It has already been explained that this increase is due, principally, to the demand for grain which continued to come from the famine stricken districts in Southern India. The quantities were not only large, but they were conveyed long distances, the necessary supplies being obtained from the Upper Provinces and Bengal. The export trade also improved, especially from Calcutta, and the traffic would have been larger if the rolling stock had not been insufficient. As it was, the amount of grain carried over the various lines increased from 1,484,086 tons* in 1876 to 3,433,953* in 1877.

59. The passenger traffic increased 3,587,756† in numbers and 218,353*l.* in receipts. In 1877 the numbers were 34,143,512;† in 1876, 30,555,756.† The gross earnings from passengers in 1877 were 2,843,951*l.*; in 1876, 2,655,067*l.* Passenger traffic.

60. The lower classes increased from 29,641,237 to 33,169,217, and in receipts from 1,985,282*l.* to 2,162,978*l.* The second class from 684,815 to 763,420, and from 154,074*l.* to 164,684*l.* The first class increased from 208,808 to 210,875 in numbers, and fell off from 142,576*l.* to 136,121*l.* in receipts. Last year the third class constituted 97·14 of the whole, the second class 2·23, and the first ·63. The year before the proportions were 97, 2·24, and ·76, respectively. Each passenger travelled on an average about 60 miles.

61. The passenger receipts were 25·77 per cent., in proportion to 69·37 from goods. Five years ago the proportions were 32·84 per cent. passengers, 62·46 goods; the rest were miscellaneous.

62. The advance made is greater on the side of goods than of passengers, and the principal increase is amongst articles of staple produce and general consumption, which are carried at the lowest rates, viz., from $\frac{1}{2}$ *d.* to 1*d.* a mile. The average distance over which each ton was carried was about 236 miles. Five years ago only 586,133 tons of grain were conveyed on the railways. Last year, as we have seen, 3,433,953 were carried. The salt five years ago amounted to 248,586 tons; last year it was 462,716. Coal in 1872 was 403,632 tons, last year it was 673,168. Tobacco was 31,055, compared with 46,451, and sugar 124,790 tons, with 305,236. Hides were 59,646 in 1872, last year they were 67,363. Cotton, on the other hand, has gone back, Merchandise.

* I should explain that these figures are the aggregate of all the lines, and therefore embrace some of the same quantities carried twice or thrice when taken over more than one line. The goods carried by the Indus flotilla are not included.

† These are exclusive of season ticket holders.

having been 201,611 in 1872, and 188,902 in 1877. I may here mention that a famine affects traffic in different ways. The movement of grain from one part of the country to another is of course increased, but the export trade receives a check when the rolling stock is unable to meet the requirements of both. Passenger traffic, too, is diminished in the famine districts, in consequence of the impoverished condition of the people. The demand for piece goods and other articles also fall off from the same cause. The ordinary trade of the country is likewise deranged. On the Madras line last year only 1,684 tons of cotton were carried, compared with 23,475 of the previous year. On the other hand, the increase in hides was in some measure attributable to the mortality amongst the cattle, caused by insufficient food.

Train mile results.

63. The average receipts per train mile on the East Indian were 8·97s., on the Great Indian Peninsula 7·04s., on the Madras 5·18s., on the Bombay and Baroda 11·84s., on the Sind and Punjab 7·7s., on the Eastern Bengal, South Indian, and Oudh and Rohilkund 12·16s., 5·4s., and 6·59s. respectively, on the Rajputana 6·03s. The average on all the lines was, passengers 23·80d., goods and miscellaneous 68·47d. On the English lines the average in 1876 was, passengers 58·63d., goods 75·78d.

Inutility of, for purposes of comparison.

64. The train mile results are, however, of little worth in comparing one line with another. The proportion of train miles run to the length of a line is no real test of the work done; and the receipts per train mile alone are far from being an accurate guide as to the profitable character of an undertaking. The returns issued by the Board of Trade, showing the results of the English lines, do not give the information which would enable the only reliable comparative test of economical working to be applied. Until the number of passengers and tons carried one mile on each line is given and the average cost of conveying a passenger and a ton of goods one mile becomes thereby ascertainable, any attempt to draw comparisons that are of real practical service or to form an accurate judgment of how the business of a railway is managed is futile.

Deficiency of rolling stock.

65. Complaints have been, and are still, received from several quarters of the deficiency in the rolling stock. That much traffic was at certain times and in certain places lost in consequence of the want of wagons appears clear. An exaggerated view of the requirements of a line may be taken after such disappointments, and it has happened that undue demands have been made under the influence of panic; but when experience proves the existence of a real want, the interests of the railways as well as the claims of trade call for a ready response to the demand for greater means of transport. The locomotive stock has during the year been augmented by 111 locomotives; and 1,434 wagons, as well as 203 passenger carriages, have been added to the rolling stock. The demand, however, for more still continues, and a further number are being sent out this year.

Supply of more powerful locomotives.

66. Considerable economy in working the traffic may be expected from the introduction recently of a more powerful type of locomotive. Heavier train loads, which is at the basis of economical management, will then be run and the train mileage will be proportionately reduced. The engines now being sent out are made with 18-inch cylinders, instead of 17-inch, the various parts being suitably strengthened.

Work done by locomotives.

67. The following table gives the average number of miles run by each locomotive on each line, as well as the average work done as represented by passengers and goods carried per mile :—

INDIAN RAILWAYS, Year 1877.

Line.	Number of Passengers conveyed per Engine.	Number of Passengers moved over one Mile per Engine.	Tons of Goods moved over one Mile per Engine.	Number of Train Miles per Engine.
East Indian, Main Line - -	15,333	1,378,280	1,840,027	{ 17,735 21,920
" Jabalpur Line - -	7,863			
Great Indian Peninsula - -	12,115	1,040,483	1,689,861	24,623
Madras - -	21,518	1,235,409	1,309,421	29,107
Bombay, Baroda, and Central India -	72,849	2,348,382	1,457,300	20,325
Sind, Punjab, and Delhi - -	33,432	2,196,097	1,290,079	24,279
South Indian - -	43,996	1,612,904	376,597	12,664
Eastern Bengal - -	56,574	2,627,818	1,674,516	19,900
Oudh and Rohilkund - -	32,021	1,829,135	779,229	15,479
Rajputana (State) - -	20,451	1,254,127	407,911	13,522

68. The expense of maintaining and working the railways during the year amounted to 4,883,115*l.* as compared with 4,129,424*l.* of the previous year. The cost of maintenance was 1,004,340*l.* or 142·74*d.* per mile open and 8·32*d.* per train mile. Maintenance and working.

69. The cost of working, including repairs to rolling stock and miscellaneous expenses, was 3,878,775*l.*, or 32·06*d.* per train mile.

70. The cost of working and maintenance together came to 40·38*d.* per train mile. On English lines the average cost in 1876 was 36·13*d.*

71. The proportion per cent. of expenditure to gross receipts was 43·79 compared with 47 in 1876.

72. The number of miles travelled by trains of all descriptions was 28,965,447 compared with 21,609,411 of the previous year. The passenger train mileage was 3,738,001 compared with 3,664,354; the goods, 16,266,457 compared with 10,004,054; the minerals, 302,271, compared with 258,309; and the mixed goods and passengers, 8,098,179, as against 7,291,940. Train miles.

73. The table at p. 38 showing the working expenses in various departments exhibits some important variations and some curious matter for investigation.

74. In the locomotive charges the advantage which those Companies possess who find coal, as it were, at their door is at once apparent, and it is satisfactory to watch the increasing supply from native sources. The cost per train mile of fuel on the East Indian is only 1·6*d.*, while on the Madras and Punjab lines it is 4·8*d.* and 6·3*d.* respectively, making a difference of from 6 to 8 per cent. in the working expenses. All the coal used on the Madras lines is brought either from England or Australia, and last year cost the Companies from 32*s.* to 34*s.* a ton at the point of delivery, while the East Indian has coal mines at Kurhurballi and Serampore which yield all that is required for the working of their line at a cost of 6*s.* per ton at the pit's mouth. I may here mention that the Kurhurballi coal fields are held by the Company on a lease from the Government, from the 1st January 1871, for 82 years, at a yearly rental of Rs. 50,729 and a royalty of one rupee for every maund raised over 5,000,000, 3,000,000 at least to be raised every year. In the event of the railway and works coming into the hands of the Government before the expiry of the term of the lease, the tenure ceases and the lands revert to the lessor. The lease may be terminated by the lessor at the expiration of the first 10 years, or at the end of any subsequent period of 10 years. The Serampore mines are held separately on a perpetual lease from the Tekait of Serampore, at a yearly rental of Rs. 4,943. 3. 4. The expenditure necessary to bring the mines into working order has been Rs. 4,71,566, and has been paid out of Revenue. The average cost per ton during the first five years was 9*s.* 8½*d.*, during the second 6*s.* 10½*d.* The average cost at which the whole line is supplied is of course greater as the expense of haulage has to be added, and the distances are great. Coal.

The following results, which are drawn from the detailed statements at the end of the Report and from Mr. Rendel's Tables, give the main points of interest in connection with the expenditure on each line:— Main points of interest in working expenditure.

Line.	Working Expenses per Train Mile.	Cost of Maintenance.		Cost of Locomotive Power per Train Mile.	Work done by each Pound of Expenditure on Revenue Account.		Cost of carrying		Profit on carrying	
		Per Train Mile.	Per Open Mile.		Passengers carried One Mile.	Tons carried One Mile.	One Passenger One Mile.	One Ton One Mile.	One Passenger One Mile.	One Ton One Mile.
	<i>s.</i>	<i>d.</i>	<i>£</i>	<i>d.</i>			<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>
East Indian { Main -	2·89	8·41	215·5	8·11	} 577 + 773		·125	·218	·252	·599
Jabalpur -	3·24	11·43	208·8	11·06						
Great Indian Peninsula	3·44	4·79	123·2	19·4		240 + 392	·190	·495	·184	·508
Madras -	3·07	7·49	123·8	13·36		288 + 308	·197	·593	·197	·377
Bombay, Baroda, and Central India -	4·84	16·98	197·6	17·13	583 + 349		·175	·395	·193	·835
Sind, Punjab, and Delhi -	4·27	16·56	204·8	16·07	496 + 292		·193	·497	·122	·563
							{ approximate		{ approximate	
South Indian -	2·73	3·5	28·5	14·9	1,063 + 250		·086	·59	·139	·364
Eastern Bengal -	4·79	11·24	194·1	12·83	599 + 387		·180	·347	·146	·803
Oudh and Rohilkund -	3·42	8·92	90·2	13·59	923 + 396		·092	·39	·150	·325
Rajputana (State) -	4·11	11·62	119·2	19·14	514 + 167		·227	·74	·011	·660

Coal.

75. Now that the rates for transport have been reduced, the Great Indian Peninsula Railway find it advantageous to use the Bengal coal on the Jabalpur section of their line. During the year ended December last they obtained 21,459 tons from the Bengal Coal Company, at a cost to them of Rs. 19. 9. 6 per ton. They use also coal from the Nerbudda Coal Company's works, at a contract price of Rs. 9 per ton, and coal from the Government mines at Wurrora is available for the Nagpore branch. The Locomotive Superintendent of the line pronounces the Bengal coal to be equal to English, the Nerbudda to require 33 cwt. to do the same amount of work as one ton of English, and the Wurrora to be about half as good as English. He admits, however, that a good deal depends upon the manipulation of the coal by stokers and drivers, and expects to introduce improvements in this respect which will ensure greater economy. The frequent escape of sparks from the Wurrora coal is also an objection which has to be overcome.

Iron.

76. The extension of railways into the coal districts of the country, besides opening up important industries, is thus greatly contributing to the economical working of the lines. The production of iron is a matter in which the railways are also much interested, and it may be hoped that attempts will now be made to work the ore and send the manufactured article over the country from places which for their inaccessibility hitherto have been shut out from the opportunity of supplying iron to distant parts of the country. So long ago as 1853 Lord Dalhousie, after alluding to the fact that iron had been discovered in various places, added, "on these facts fair hopes may be built that the present most urgent want of India in connection with her material improvement, namely, an ample supply of good iron within her own bounds, may be abundantly supplied." And yet little has been accomplished. One reason why so little has been done, viz., the difficulty and expense of carriage, does not now exist to the same extent, and the time appears to have arrived for taking the subject into serious consideration.

Compensa-
tions paid
during the
year.

77. A formidable item, under the head of compensation for losses of goods in transit, swells the miscellaneous charges of the East Indian and the Great Indian Peninsula Companies. No less than 28,049*l.* by the one and 32,764*l.* by the other was paid on this account. The loss incurred by the East Indian was occasioned by damage done to grain stored at Howrah by an unusual and unexpected downpour of rain in January. The compensation paid by the Great Indian Peninsula was to make good losses by robberies. It was discovered that grain going to the famine districts was systematically stolen by organized bands of robbers, who were sometimes aided and abetted by the servants of the railway, and sometimes even by the police themselves. The continuance of these depredations induced the Government of Bombay to appoint a Commission to investigate both the causes of the thefts and of the failure of the railway authorities to stop them. This Commission came to the conclusion that the present railway police system, under which one force has jurisdiction within the limits of the railway premises and another in the district beyond, involved divided responsibility, and was faulty in principle, and recommended that the separate railway police should be done away with, the custody of the line being committed to the district police. Opinions differ as to whether this is the proper course to take, but it seems clear that the responsibility should not be divided, and that security to property should not be imperilled through the jealousies and misunderstandings of two separate bodies of police.

Police.

Robberies
of grain.

78. It would appear that the thefts in the first instance were committed by poor famishing creatures who could not resist the temptation which trains passing their doors full of grain furnished. The impunity with which this pilfering was carried on led to the formation of the organized bands of robbers above referred to. The subordinate servants of the railway then connived at the depredations, and certain station masters became corrupted by bribes from Native merchants. The misfortune is that success with grain robberies has encouraged the extension of the system of pillage to other articles. A strong and immediate remedy is accordingly necessary. After thus exposing the demoralization of the subordinate staff of the railway, the Commissioners conclude their report by saying, "We have sought to avoid imputing blame to the principal Company's servants. We have learnt to appreciate their herculean labours and ceaseless devotion to their employers and the public in the crisis now passing away. With this brief tribute to their honourable services, we beg to thank them, one and all, for the courtesy they have shown and the aid they have given to us."

Clearing
House.

79. An interesting report was made by Major T. F. Dowden, R.E., Deputy Consulting Engineer to the Government of India, on the English Railway Clearing System.

He describes the ease and accuracy with which interchange of stock and through traffic is conducted in this country, and shows that the same rules may in the main be applied to any country. They virtually make the railway system as it should be, one homogeneous whole, ensuring economy and due despatch. The terms for the use of the vehicles of one line on another being mutually settled, disputes as to charges cannot occur, and matters are arranged smoothly and systematically.

80. Great credit is due to the managers and officers in India for the manner in which they conducted the traffic under the difficulties of an unprecedented pressure. It can hardly be repeated too often that the success of a railway commences with skilful and economical management. There are, no doubt, always certain influences at work which are beyond control. The state of trade, the price of fuel, the weather, a good or bad harvest, political disturbances, will all affect traffic; but this increases the necessity for making the strictest economy the invariable rule, and for charging in ordinary times the lowest rates consistent with fair profits.

Good management in India.

FARES and RATES in use on the INDIAN RAILWAYS.

Railway.	Passengers.					Goods.					
	Fare for travelling One Mile.					Rate for conveying One Ton One Mile.					
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth or Highest Class.	Special.
GUARANTEED.	pies.*	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.
East Indian, Main Line.	18	9	4.5	3	—	9.073	13.61	18.146	22.685	27.221	From 4.537 to 9.073.
East Indian, Jabalpur Line.	18	9	4.5	3	—	9.073	13.61	18.146	22.685	27.221	From 4.537 to 9.073.
Great Indian Peninsula.	18	9	—	4	2.5	10	14	24	34	48	From 5.5 to 8.
Madras - { Single -	18	7	—	3.5	2	10	14	18	24	36	From 4 to 8.
Return -	27	10.5	—	4.875	—	—	—	—	—	—	—
Bombay, Baroda, and Central India. }	15	7	—	Mail 4 Ordinary 3	—	10	15	21	30	42	Up to 8.
Sind, Punjab, and Delhi.	18	9	4.5	2.25, 2.5, and 3.	—	9.07	13.61	18.14	22.68	27.22	From 6.8.
South Indian -	8	3	—	2	—	12	—	—	24	54	From 6 to 10.
Eastern Bengal -	12	6	—	4.5	3	8.99	10.67	14.31	21.02	40.83	From 7.98 to 10.41.
Oadh and Rohilkund	Upper 9	Upper Reserved 36	Lower 2	Lower Reserved 3	Lower Reserved Cmpmnt. 16 & 24	Low 6.80	Middle 13.61	—	—	High 27.22	From 4.53 to 5.44.
STATE.											
Calcutta and South-Eastern.	18	9	—	3	—	10.61	17.66	22.88	38.34	99.11	Up to 7.58.
Nalhati -	17.61	5.29	—	3.52	—	12.93	20.72	31.63	52.16	85.46	Up to 11.64.
Amraoti -	18	9	—	4	2.5	10	14	24	34	48	From 5.5 to 8.
Khamgaon -	18	9	—	4	2.5	10	14	24	34	48	From 5.5 to 8.
Northern Bengal -	12	6	—	2.25	—	18.75	20.66	27.66	—	—	From 10.32.
Punjab Northern -	9.18	3.85	—	1.79	—	11.03	15.45	19.41	—	—	From 5.49 to 6.50.
Rajputana	10.054	4.99	—	1.99	—	12.73	19.93	26.14	—	—	—
Neemuch -	10.37	5.19	2.59	1.62	—	11.77	17.65	23.54	—	—	From 5.88 to 7.36.
Nizam's -	8 annas	4 annas	2 annas	1a. 3p.	—	108.88	163.32	217.76	—	—	From 54.44 to 68.05.
Wardha Valley -	18	9	—	4	2.5	10	14	24	34	48	From 5.5 to 8.
Tirhut -	12.63	6.32	—	2.37	—	15.60	22.50	30.05	—	—	From 5.5 to 8.
Holkar :											11.35.
Khandwa to	11.79	4.42	—	2.21	—	—	—	—	—	—	—
Choral section	8 annas	3 annas	—	1a. 3p.	—	13.99	20.99	27.99	—	—	From 6.10 to 8.75.
Mhow to Indore section.	14.77	7.38	3.69	2.30	—	—	—	—	—	—	From 2 to 2.5 per maund.
	8 annas	4 annas	2 annas	1a. 3p.	—	†4	6	8	—	—	—

* 8 pies is about equivalent to 1d.

† Station to station rate.

Returns prepared by Mr. Rendel.

81. The returns given below are drawn up on the same principles as those given in previous years, except that receipts from demurrage are treated as receipts from goods traffic instead of being deducted from working expenses.

82. Accounts in India being kept in rupee currency, they have been converted in all cases into sterling at the rate of 1s. 10d. per rupee.

(a) PASSENGER TRAFFIC.

	East Indian. Main and Jabalpur Lines together.	Great Indian Peninsula.	Madras.	Bombay, Baroda, and Central India.	Sind, Punjab, and Delhi.	Eastern Bengal.	Oudh and Rohilkund.	South Indian (Narrow Gauge).	Rajputana (State Line) (Narrow Gauge).	All together.
Average length open, miles	No. 1,503	No. 1,288½	No. 895	No. 443½	No. 663½	No. 158	No. 548	No. 601	No. 396	No. 6,477
(1.) Receipts from passenger traffic.	£ 985,854	£ 507,136	£ 247,447	£ 219,653	£ 236,403	£ 117,746	£ 158,464	£ 145,293	£ 82,198	£ 2,700,194
(2.) Passenger train miles run	No. 2,646,376	No. 1,555,378	No. 842,954	No. 512,588	No. 695,306	No. 291,194	No. 467,008	No. 454,256	No. 409,424	No. 7,854,484
(3.) Average passenger train mile receipts.	£ 7.45	£ 6.73	£ 5.87	£ 8.57	£ 6.8	£ 8.09	£ 6.78	£ 6.7	£ 4.02	£ 6.875
(4.) Number of passengers carried one mile.	No. 627,117,403	No. 344,400,000	No. 150,720,000	No. 143,251,300	No. 180,080,000 (approx.)	No. 83,718,000	No. 157,305,600	No. 148,387,200	No. 82,772,400	No. 1,920,751,905
(5.) Average sum received for carrying a passenger one mile.	d. .377	d. .374	d. .394	d. .368	d. .315 app.	d. .336	d. .242	d. .235	d. .238	d. .337
(6.) Average number of passengers in a train at any one time.	No. 237	No. 222	No. 179	No. 279	No. 269 app.	No. 298	No. 337	No. 342	No. 202	No. 246
(7.) Average number of passenger trains per diem each way, supposing each train to traverse the whole line open.	No. 2.41	No. 1.68	No. 1.29	No. 1.53	No. 1.4	No. 2.53	No. 1.16	No. .99	No. 1.4	No. 1.66
(8.) Average number of passengers passing over each mile of line daily (both ways).	No. 1,143	No. 741	No. 461	No. 884	No. 743 app.	No. 1,503	No. 786	No. 978	No. 872	No. 891
(9.) Total working expenses for both goods and passengers, deducting telegraph special and miscellaneous, but not demurrage receipts from them.	£ 1,087,639	£ 1,431,604	£ 522,397	£ 245,716	£ 363,058	£ 144,649	£ 169,333	£ 139,574	£ 160,769	£ 4,264,739
(10.) Average cost of running a train mile, passenger and goods miles assumed to cost the same.	£ 2.46	£ 3.51	£ 2.942	£ 4.07	£ 4.17	£ 4.45	£ 2.57	£ 2.46	£ 3.82	£ 3.107
(11.) Average cost of carrying a passenger one mile.	d. .125	d. .19	d. .197	d. .175	d. .183 app.	d. .18	d. .092	d. .086	d. .227	d. .153

(b) GOODS TRAFFIC.

	No. 1,503	No. 1,288½	No. 895	No. 443½	No. 663½	No. 158	No. 548	No. 601	No. 396	No. 6,477
Average length open, miles	£ 2,872,308	£ 2,347,698	£ 649,673	£ 439,747	£ 469,019	£ 268,712	£ 200,400	£ 138,855	£ 187,194	£ 7,541,696
(1.) Receipts from goods traffic	No. 6,206,106	No. 6,596,062	No. 2,708,085	No. 695,011	No. 1,045,269	No. 365,611	No. 850,637	No. 702,118	No. 432,296	No. 19,600,095
(2.) Goods train miles run	£ 9.256	£ 7.12	£ 4.8	£ 12.62	£ 8.95	£ 14.7	£ 4.95	£ 3.95	£ 7.27	£ 7.7
(3.) Average goods train mile receipts.	Tons. 841,368,637	Tons. 562,168,600	Tons. 160,920,466	Tons. 85,760,420	Tons. 106,040,180	Tons. 56,078,400	Tons. 67,142,261	Tons. 34,956,600	Tons. 26,922,142	Tons. 1,941,227,866
(4.) Tons of goods carried one mile.	d. .817	d. 1.003	d. .97	d. 1.23	d. 1.06	d. 1.15	d. .715	d. .964	d. 1.4	d. .932
(5.) Average sum received for carrying one ton one mile.	No. 138.5	No. 85	No. 59.5	No. 123.5	No. 101.5	No. 154	No. 79	No. 50	No. 62	No. 99
(6.) Average number of tons in a goods train at one time.	No. 5.66	No. 7.14	No. 4.14	No. 2.15	No. 2.15	No. 8.17	No. 2.13	No. 1.6	No. 1.5	No. 4.14
(7.) Average number of goods trains per diem each way, supposing each train to run over the whole line open.	No. 1,534	No. 1,214	No. 493	No. 530	No. 438	No. 972	No. 336	No. 162	No. 196	No. 829
(8.) Average number of tons of goods passing over each mile of line daily (both ways).	£ 1,087,639	£ 1,431,604	£ 522,397	£ 245,716	£ 363,058	£ 144,649	£ 169,333	£ 139,574	£ 160,769	£ 4,264,739
(9.) Total working expenses for both goods and passengers, deducting from them telegraph, special and miscellaneous receipts, but not demurrage which is treated as goods receipts.	£ 2.46	£ 3.51	£ 2.942	£ 4.07	£ 4.17	£ 4.45	£ 2.57	£ 2.46	£ 3.82	£ 3.107
(10.) Average cost per train mile, goods and passenger miles assumed to cost the same.	d. .218	d. .495	d. .593	d. .395	d. .497	d. .347	d. .39	d. .59	d. .74	d. .376
(11.) Average cost of carrying a ton of goods one mile.										

83. It will be seen that the South Indian (narrow gauge) line obtained the highest passenger train load (342 persons), the Madras line the lowest (179 persons).

84. The highest average goods train load is on the Eastern Bengal (154 tons). The lowest is on the South Indian (50 tons).

85. The lowest average charge per mile for passengers is found on the South Indian ($\cdot 235d.$), the highest on the Madras ($\cdot 394d.$).

86. The highest average charge for goods per ton per mile is found on the Rajputana (State) line ($1\cdot 4d.$), the lowest on the Oudh and Rohilkund ($\cdot 715d.$).

87. The highest cost per train mile is found on the Eastern Bengal ($4\cdot 45s. = 4s. 5\frac{1}{2}d.$), the lowest on the South Indian (narrow gauge) and East Indian (each $2\cdot 46s. = 2s. 5\frac{1}{2}d.$).

88. The lowest cost of carrying a passenger one mile is found on the South Indian ($\cdot 086d.$), the highest on the Rajputana State line ($\cdot 227d.$) (both narrow gauge).

89. The lowest cost of carrying a ton of goods one mile is found on the East Indian ($\cdot 218d.$), the highest on the Rajputana ($\cdot 74d.$).

90. The largest passenger traffic is found on the Eastern Bengal (1,503 persons passing over every mile daily), the smallest on the Madras (461 persons).

91. The largest goods traffic is found on the East Indian (1,534 tons passing over each mile of line daily), the smallest on the South Indian (162 tons).

92. It is possible that mixed mileage is divided on the South Indian between passengers' and goods' trains on a different principle from that adopted on other lines. This may account for its comparatively large passenger train and small goods train loads.

93. A steady improvement seems to be taking place in the management of all the lines, the working expenses for the same quantity of traffic being generally considerably less than in the previous year.

ACCIDENTS.

94. In the absence of the returns from India of accidents connected with the railways, I am unable to give more than a short summary, compiled from information furnished by the Companies in this country, of the accidents which occurred during the year 1877.

95. By this statement it appears that 22 passengers suffered death from causes beyond their control, and 10 more received injuries in the same way. The proportion of killed was $\cdot 738$ per million, of damaged $\cdot 335$ per million, to the whole number carried.

96. As usual, a number of railway servants were killed and injured through a careless performance of their duties. No less than 99 are reported to be killed, and 169 injured from causes within their control and therefore preventable.

97. The most serious accident occurred on the Madras line near Arconum on the 9th November. A mail train ran into a goods train. Five persons, including one European, were killed. The accident was owing to the neglect of the Native station master at Naggery, who was tried and convicted of the offence, and sentenced to 18 months' imprisonment, but was released on appeal.

98. Numerous accidents occurred on the Great Indian Peninsula Railway during the pressure of traffic in grain for the famine stricken districts. They appear to have been caused principally by wild and reckless driving. No lives were lost, but considerable damage was done to locomotives and rolling stock.

99. In one case the death of a boy is attributed to his having been run over on the South Indian Railway, but no inquest was held, and there appears to have been no evidence on his person that he had been killed in the manner alleged. His body was found about 40 yards outside the fence, and it would almost seem that this circumstance alone led to the conclusion that he had met his death on the line. The South Indian Railway Board properly suggested that the matter should be more thoroughly investigated.

ACCIDENTS TO PERSONS during the Year 1877.

	Passengers Killed or Injured from Causes beyond their control.		Passengers Killed or Injured from their own Misconduct or Incaution.		Railway Servants Killed or Injured from Causes beyond their control.		Railway Servants Killed or Injured from their own Misconduct or Incaution.		Persons Killed or Injured at Level Crossings.		Trespassers.		Miscellaneous.		Total Persons of all Classes.		Total Killed or Injured.
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	
East Indian, Main Line -	2	4	2	17	1	9	22	54	3	2	49	6	6	11	85	103	188
" " Jabalpur Line	—	—	1	—	—	—	2	6	—	—	3	1	1	1	7	8	15
Great Indian Peninsula -	1	—	—	—	12	27	26	46	—	—	32	11	17	18	88	102	190
Madras - - -	13	1	3	—	4	9	22	19	—	—	19	12	17	4	78	45	123
Bombay, Baroda, and Central India.	—	4	—	—	1	6	7	13	—	—	3	—	4	1	15	24	39
Sind, Punjab, and Delhi -	—	1	—	6	8	3	9	15	—	—	—	—	11	1	28	26	54
South Indian - -	4	—	1	1	5	12	4	10	—	—	9	4	4	1	27	28	55
Eastern Bengal - -	2	—	—	1	5	4	3	1	—	—	5	1	—	—	15	7	22
Oudh and Rohilkund -	—	—	2	3	—	1	4	5	2	3	11	2	2	2	21	16	37
Totals - - -	22	10	9	28	36	71	99	169	5	5	131	37	62	39	364	359	723

STATEMENT showing the QUANTITIES of the principal Articles of MERCHANDISE &c., carried on the GUARANTEED RAILWAYS in 1876 and 1877.

Articles.	East Indian, Main Line.		East Indian, Jabalpur Line.		Great Indian Peninsula.		Madras.		Bombay, Baroda, and Central India.		Sind, Punjab, and Delhi.		South Indian.		Eastern Bengal.		Oudh and Rohilkund.	
	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.
Cloth	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Coal	624,022	580,261	24,672	6,424	5,761	654	4,398	5,563	See Piece Goods.	528	448	2,768	4,070	11,600	6,563	2,129	3,189	—
Cocoa-nuts	—	—	—	—	8,794	10,203	5,005	3,466	5,713	523	602	{ 2,656	{ 3,197	—	—	59	—	—
Coffee	—	—	—	—	575	—	4,161	6,044	21	50	46	{ 2,656	{ 3,197	—	—	—	—	—
Cotton	22,753	27,984	2,698	1,535	99,387	84,721	1,684	23,475	45,041	8,731	7,371	1,031	880	1,718	750	5,919	8,309	—
Dried Fruits	7,466	5,646	3,931	2,368	15,140	13,794	1,684	23,475	45,041	8,731	7,371	1,031	880	1,718	750	5,919	8,309	—
Firewood	6,576	15,111	3,088	13,142	35,380	43,266	6,980	10,389	5,266	16,880	9,469	—	—	—	—	12,180	9,141	—
Grain	411,482	195,452	141,449	45,414	785,541	424,515	594,887	116,421	119,636	358,043	91,628	323,016	68,650	43,104	12,365	247,422	154,346	—
Green Fruits and Vegetables	—	—	—	—	14,519	16,505	5,137	4,689	10,914	4,573	3,843	4,095	2,853	5,098	5,845	2,454	1,634	—
Gunny Bags	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hides	22,639	19,180	1,537	3,285	10,274	10,856	18,516	14,739	918	4,083	4,056	2,339	1,637	3,897	4,357	3,140	2,664	—
Iron	42,883	54,184	4,760	3,352	—	—	8,428	9,451	See Metals.	11,447	10,635	{ 41,298	{ 20,845	58	32	4,309	—	—
Jaggree and Sugar	108,267	100,956	11,774	25,047	33,857	26,257	11,429	11,682	22,196	48,280	47,575	—	—	10,376	9,350	64,057	71,278	—
Jute	25,654	614	120	268	46,169	24,389	—	—	9,249	2,833	2,252	—	—	128,309	144,970	6,290	553	—
Metal and Hardware	—	—	—	—	8,841	9,062	4,337	4,647	1,563	7,949	10,412	—	—	1,156	968	780	4,184	—
Military Stores	21,636	18,392	1,673	1,556	6,688	8,667	4,148	7,080	4,281	1,670	2,491	{ 2,275	{ 3,215	—	—	5,436	4,662	—
Oil	5,083	4,230	749	366	—	—	—	—	—	—	—	{ and Ghee	{ —	—	—	672	675	—
Opium	12,274	9,496	—	—	3,918	4,245	—	—	795	49	59	{ 2,275	{ 3,215	11	16	1,489	1,163	—
Piece Goods	51,638	49,285	6,911	5,897	19,286	17,371	—	—	7,126	10,908	10,446	{ 5,992	{ 6,124	12,570	10,370	3,888	3,339	—
Rice	237,978	174,065	29,148	11,116	—	—	129,658	101,243	See Grain.	7,358	9,966	5,672	7,079	119,686	15,482	25,545	—	—
Salt	154,939	154,233	7,280	6,442	86,281	84,491	58,609	51,471	50,887	19,025	17,210	21,045	16,526	21,300	15,337	43,350	40,015	—
Seeds	285,222	202,797	49,474	19,628	160,552	159,371	11,511	19,232	45,253	66,460	78,437	9,995	11,609	42,034	28,608	52,451	17,908	—
Silk	650	658	46	68	435	530	—	—	See Piece Goods.	92	85	{ 41,479	{ 35,872	142	118	8	—	—
Tea	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Timber	18,863	20,255	585	398	4,653	11,343	10,720	15,153	17,647	8,672	5,750	—	—	472	420	10,488	12,074	—
Tobacco	14,494	10,117	1,856	822	4,168	2,982	6,206	6,272	8,402	1,014	1,151	2,002	1,154	7,886	11,251	621	616	—
Turmeric	—	—	—	—	—	—	—	—	—	—	—	—	—	4,179	4,083	—	—	—
Twist	3,525	3,201	791	681	5,947	5,569	3,819	5,002	2,098	2,040	1,491	—	—	281	316	863	781	—
Wines, Spirits, &c.	6,001	6,497	549	581	3,274	3,753	2,469	2,566	512	2,159	2,347	—	—	—	—	2,710	2,809	—
Wool	—	—	—	—	753	588	—	—	2,426	6,418	6,526	—	—	—	—	39	—	—

STATEMENTS relating to the PASSENGER and GOODS TRAFFIC and the GROSS

TABLE NO. 1.—STATEMENT of TRAFFIC on the INDIAN

Railway.	Actual Number of Miles open on 31st December, and Average Number of Miles of Open Line during 1877.						Number of Miles of Sidings on 31st December 1877.	Passenger Traffic.						
	Double.		Single.		Total.			Number of Passengers (exclusive of Holders of Season and Periodical Tickets).						Number of Holders of Season and Periodical Tickets.
	Actual.	Average.	Actual.	Average.	Actual.	Average.		By First Class.	By Second Class.	By Intermediate Class.	By Third Class.	By Fourth or Coolie Class.	Total by all the Classes.	
GUARANTEED.														
East Indian, Main Line	410½	410½	809½	809½	1,280	1,280	235½	45,966½	120,846½	541,276½	6,256,962½	—	6,965,051	11,425½
East Indian, Jabalpur Line	—	—	223½	223½	223½	223½	22	5,446½	23,437	5,473½	319,493	—	353,850	—
Great Indian Peninsula	325	325	943½	943½	1,268½	1,268½	209½*	30,885	126,682	—	401,229	3,350,496	3,999,292	971½
Madras	37	37	858	858	895	895	93	13,634½	44,835	—	1,753,156½	815,513	2,625,139	84
Bombay, Baroda, and Central India	23	23	421	420½	444	443½	75	18,220	149,955	—	Mail, 440,634 Ordinary, 3,826,292	—	4,435,101	8,693
Sind, Punjab, and Delhi	4½	4½	659	659	663½	663½	103½	18,967½	51,281	26,428	2,644,784	—	2,741,430½	2
South Indian	—	—	601	581	601	581	47	11,841	133,304	—	3,903,470	—	4,047,615	4
Eastern Bengal	—	—	159	159	159	159	—	26,633	48,863½	—	301,364	1,487,630	1,864,490½	2,461
Oudh and Rohilkund	—	—	547½†	547½	547½	547½	62½	Upper 19,472	—	—	Lower 2,734,300	—	2,753,772	—
STATE.														
Calcutta and South-Eastern	—	—	28	28	28	28	6½	201	3,573	—	551,533½	—	555,307½	—
Nalhati	—	—	27½	27½	27½	27½	1½	1,024½	6,722	—	112,972½	—	120,719	—
Berar — { Amraoti	—	—	6	6	6	6	½	838	2,452	—	29,587	51,080	84,267	—
{ Khamgaon	—	—	8	8	8	8	½	376	687	—	4,375	24,066	29,504	—
Punjab Northern	—	—	103	103	103	103	7½	3,206	11,445	—	892,649	—	907,800	—
Northern Bengal	—	—	134	46½	134	46½	11	113	631	—	25,695	—	26,489	—
Rajputana	3	3	397	397	400	400	46½	4,267	14,035	—	1,331,474	—	1,349,776	1
Neemuch	—	—	36½	36½	36½	36½	1½	533	1,680	3,379	223,462	—	229,044	3
Nizam's	—	—	121	121	121	121	8½	2,139½	7,373½	—	14,069½	231,210½	255,787	—
Wardha Valley	—	—	46½	36	46½	36	6½	306	371½	—	2,455½	29,972½	33,105½	—
Tirhut	—	—	79	76½	79	76½	13½	2,763	5,440½	—	340,390	—	348,593½	—
Holkar	—	—	71	71	71	71	11	3,038	10,857	4,329	399,615	—	417,839	30
Totals for Railways	808½	803½	6,339½	6,218½	7,148	7,021½	1,014½	210,875	765,420½	580,886	26,600,363	5,987,968	34,143,512½	23,675
Indus Steam Flotilla	—	—	—	—	—	—	—	298	226½	—	12,754	—	13,378½	—
Totals for Railways and Flotilla	808½	803½	6,339½	6,218½	7,148	7,021½	1,014½	211,173	765,647	580,886	26,613,117	5,987,968	34,156,791	23,675

* Campoolee and Mopani Branches treated as sidings.

† Includes Nurora Branch (4 miles).

RECEIPTS and EXPENSES for the Year ended 31st December 1877.

RAILWAYS during the Year ended 31st December 1877.

Goods Traffic.												Railway.
Number of Live Stock.	Number of Tons of Minerals.			Number of Tons of General Merchandise.								
	Number of Tons of Coal and Coke.	Number of Tons of all other Minerals.	Total Number of Tons of Minerals.	Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special and Sundry.	Total of all Classes.		
												GUARANTEED.
17,268	624,022	—	624,022	1,615,948	165,600	48,457	20,159	5,422	90,543	1,946,129		East Indian, Main Line.
1	24,672	—	24,672	377,425	19,325	8,760	1,793	359	5,816	413,481		East Indian, Jabalpur Line.
306,845	5,717	—	5,717	119,682	177,822	31,629	16,223	5,120	1,158,529	1,509,010		Great Indian Peninsula.
17,628	74	—	74	120,194	53,140	13,523	4,504	1,213	796,391	968,965		Madras.
307,404	{ 2,531 30,137 }	22,950	55,618	113,439	40,617	45,961	1,140	1,261	313,627	530,065		Bombay, Baroda, and Central India.
970	1,898	—	1,898	98,497	56,066	28,356	15,632	2,137	574,404	775,092		Sind, Punjab, and Delhi.
4,354	—	—	—	37,856	—	—	1,502	126	348,087	387,571		South Indian.
2,102	11,800	1,805	13,405	44,670	73,455	7,168	2,237	209	312,378	440,117		Eastern Bengal.
46	2,129	—	2,129	{ Low 63,946 }	—	{ Middle 31,914 }	—	{ High 2,692 }	533,386	631,938		Oudh and Rohilkund.
												STATE.
116	427	—	427	192	206	28	19	1	29,570	30,016		Calcutta and South-Eastern.
—	2,302	—	2,302	9,077	1,523	1,074	230	43	2,887	14,834		Nalhati.
—	—	—	—	3,344	19,275	1,262	80	94	20,210	44,265		Amraoti -
—	7	—	7	2,233	17,447	321	34	24	11,629	31,688		Khamgaon } Berar.
290	—	—	—	44,842	6,408	3,739	—	—	66,447	121,438		Punjab Northern.
—	684	—	684	128	106	117	—	—	2,365	2,716		Northern Bengal.
43	534	—	534	96,638	4,974	2,161	—	—	101,378	205,151		Rajputana.
—	—	—	—	3,240	224	142	—	—	8,515	12,121		Neemuch.
293	—	—	—	7,744	6,031	2,761	423	155	86,986	104,100		Nizam's.
—	27,885	—	27,885	1,514	3,971	146	15	6	20,604	26,256		Wardha Valley.
—	1,195	—	1,195	6,732	1,525	575	—	—	28,106	36,938		Tirhut.
3	2	—	2	45,392	6,814	4,174	—	—	1,671	53,051		Holkar.
537,363	735,816	24,755	760,571	2,312,734	663,529	232,239	63,999	18,962	4,518,529	8,309,943		Totals for Railways.
—	—	—	—	—	—	—	—	—	—	62,625		Indus Steam Flotilla.
537,363	735,816	24,755	760,571	2,312,734	663,529	232,239	63,999	18,962	4,518,529	8,372,568		{ Totals for Railways and Flotilla.

‡ On Company's account.

* Company's own materials.

TABLE No. 2.—STATEMENT of TRAFFIC on the INDIAN RAILWAYS

Railway.	Number of Engines and Vehicles used in conveying Traffic.												Number of Miles travelled in shunting, piloting.				
	Engines.	Carriages.						Trucks.	Average Number of Vehicles in each Train.				By Passenger (including Special and Troop) Trains.	By Goods (including Construction Materials for other Railways) Trains.	By Mineral Trains.	By Mixed Passenger and Goods Trains.	
		First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth Class.	Total Number.		Carriages in each Passenger Train.	Trucks in each Goods Train.	In each Mixed Passenger and Goods Train.						
											Carriages.	Trucks.				(P.)	(G.)
GUARANTEED.																	
East Indian, Main Line	455	84	85	142	312	—	623	5,387	17	30	16'75	5	1,220,517	4,904,822	277,451	1,170,550	220,141
East Indian, Jabalpur Line	45	8	14	4	30	—	56	881	14'75	26	8'75	14'5	175,786	641,737	—	79,523	88,465
Great Indian Peninsula	331	79	148	Composite 83	397	44	751	6,750	14'8	24'2	9'7	13'1	1,259,122	6,223,961	—	296,256	371,101
Madras	123	30	57	Composite 31	192	37	347	2,731	9	17	5	7	11,633	1,814,529	—	831,321	393,556
Bombay, Baroda, and Central India	61	14	21	Composite 16	171	—	222	2,392	9'3	42'4	12	14'9	387,814	503,780	—	154,774	191,231
Sind, Punjab, and Delhi	82	41	55	19	203	—	318	2,876	14'6	33'45	10'34	15'66	325,784	875,653	—	369,523	169,616
South Indian	92	36	14	—	208	—	258	1,676	—	—	26		—	—	—	1,136,374	
Eastern Bengal	33	29	16	—	50	56	151	740	14	48	8	27	197,940	263,040	—	93,254	104,471
Oudh and Rohilkund	86	Upper 15	—	Composite 27	Lower 206	—	248	1,879	22'04	29'60	13'63	10'32	12,492	509,139	—	454,516	341,406
STATE.																	
Calcutta and South-Eastern	4	4	—	—	47	—	51	184	15	16	8	14	18,968	2,866	—	12,744	17,373
Nalhati	3	2	1	—	5	—	8	16	—	8	5	5	—	4,116	—	17,000	23,394
Berar	2	—	—	Composite 1	2	2	5	31	6	18	5	13	24	1,014	—	1,490	3,390
	2	—	—	Composite 1	2	2	5	31	9	18	4	7	8	312	—	3,752	4,844
Punjab Northern	17	7	7	—	46	—	60	274	12'60	30'45	10'77	11'76	76,068	59,518	—	76,582	34,540
Northern Bengal	10	1	7	—	31	—	39	244	—	—	9	7	—	8,794*	—	18,308	9,539
Rajputana	66	30	11	12	113	—	166	977	16'4	23'9	13'2	8'1	6,642	267,522	—	402,782	164,774
Neemuch	14	3	3	2	14	Break vans 5	27	38	14'6	—	11'66	2'6	13,545	—	—	22,275	3,567
Nizam's	8	4	3	Composite 1	12	10	30	64	20	20	11	11	1,940	153,228	—	54,733	34,323
Wardha Valley	2	—	—	Composite 1	3	2	6	21	6	15	5	13	111	10,871	—	3,629	7,469
Tirhut	10	1	7	—	16	—	24	202	21	20	9	8	3,512	3,228	24,820	57,242	33,921
Holkar	24	8	6	3	51	Break vans 29	97	407	11'79	23'49	9'23	12'88	56,195	19,827	—	26,898	25,902
Totals and averages	1,469	396	455	343	2,111	187	3,492	27,781	9'88	24'36	8'96	11'13	3,738,001	16,266,457	302,271	4,147,151 1,136,374	2,814,654 8,098,179

* On construction account.

during the Year ended 31st December 1877—continued.

by Trains (except and assisting).			Number of Ton Miles (expressed in the Number of Tons moved One Mile).														Railway.	
By Trains conveying Materials for Revenue Purposes.	Total Number of Train Miles.	Number of Train Miles per open Mile.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Goods Traffic.										Total Mineral and General Merchandise.	Proportion of Up and Down Traffic.			
				Minerals.	General Merchandise.						Up.	Down.						
					First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Special and Sundry.			Total of all Classes.					
197,613	8,069,594	8,306'00	2,123,392	130,518,500	503,193,466	67,638,185	16,625,216	7,496,021	1,580,626	30,339,609	626,928,123	757,446,623	35'70	64'30	GUARANTEED.	East Indian, Main Line.		
5,922	986,423	4,408'60	370,045	5,526,540	68,530,167	4,030,945	1,734,206	383,399	73,828	1,192,069	75,944,603	81,471,143	82'21	17'79	East Indian, Jabalpur Line.			
—	8,150,440	6,425	3,049,646	534,148	34,711,098	55,739,088	9,678,353	3,170,408	1,768,593	453,744,419	558,909,940	559,344,097	69'1	31	Great Indian Peninsula.			
—	3,551,039	4,139	1,404,278	3,645	19,302,105	9,930,066	2,313,919	1,033,818	264,708	126,881,165	159,745,801	159,740,446	65'43	34'57	Madras.			
31,360	1,339,368	2,794	408,673	6,242,469	17,678,446	10,154,907	11,177,269	198,706	344,616	43,096,894	82,652,838	88,895,337	54'35	45'65	Bombay, Baroda, and Central India.			
230,307	1,970,832	2,970'8	729,626	453,663	14,705,870	9,104,150	4,825,778	2,237,059	333,787	74,126,185	105,332,829	105,786,492	51	49	Sind, Punjab, and Delhi.			
23,724	1,165,098	5,163	162,165	—	2,079,858	—	—	144,191	20,277	32,402,814	34,646,940	34,646,940	41	59	South Indian.			
—	656,705	4,150	235,743	1,371,465	81,756	9,710,638	4,774,273	258,553	25,464	38,336,878	53,887,562	55,259,047	21'48	78'52	Eastern Bengal.			
13,603	1,531,245	2,430'61	559,933	72,505	Low 6,896,130	—	Middle 3,858,341	—	High 361,136	55,825,630	66,941,337	67,013,748	—	—	Oudh and Rohilkund.			
80	51,930	1,854'64	3,884	11,297	3,433	4,347	753	400	2	700,653	709,563	720,890	97'13	2'87	STATE.	Calcutta and South Eastern.		
—	44,010	1,615'05	10,194	60,716	192,531	41,008	29,044	6,235	1,151	73,841	343,810	404,536	66'21	33'79	Nalhati.			
—	5,418	903	—	—	20,063	115,648	7,570	482	561	121,263	265,587	265,587	—	—	Amraoti	Berar.		
—	3,416	1,086	1,395	56	17,867	139,570	2,566	275	193	93,029	253,502	253,558	—	—	Khamgaon			
—	246,708	2,535'95	107,127	—	3,298,361	555,309	329,983	—	—	1,334,508	6,018,011	6,018,011	32'03	67'97	Punjab Northern.			
52	36,743	274	4,457	52,236	8,617	4,007	7,258	—	—	155,477	175,359	227,595	64'73	35'27	Northern Bengal.			
58,755	892,475	2,252	378,670	76,390	10,844,738	779,027	372,331	—	—	14,849,158	26,845,252	26,922,142	47	53	Rajputana.			
464	39,351	1,077	12,977	—	96,066	2,393	6,009	—	—	214,742	319,210	319,210	34'73	65'27	Neemuch.			
—	244,224	2,027	—	—	738,671	630,228	311,052	40,974	17,418	3,361,301	10,069,544	10,069,544	—	—	Nizam's.			
—	22,080	611	—	703,390	30,506	78,769	3,321	379	126	419,794	532,895	1,236,235	—	—	Wardha Valley.			
—	122,723	1,604	48,636	35,625	251,090	69,641	25,015	—	—	1,077,038	1,422,334	1,453,459	33'90	66'10	Tirhut.			
760	129,572	1,851	46,331	73	2,158,228	378,554	233,650	—	—	62,229	2,332,656	2,332,729	43'31	51'69	Holkar.			
80,539	23,965,447	4,055	9,707,142	145,663,268	635,543,850	169,096,400	56,315,838	14,990,900	4,790,486	383,960,641	1,314,698,135	1,360,361,403	52'7	47'3	Totals and averages.			

TABLE No. 3.—GROSS RECEIPTS of the INDIAN RAILWAYS

Railway.	Passenger Traffic.													Receipts from		
	Receipts from Passengers.							Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Receipts for Mail Service.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic.	Passenger Receipts per Train Mile.			
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.									
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	(P.) £	s.	£	£	£
East Indian, Main Line -	40,899	39,992	41,807	644,948	—	4,862	772,508	72,260	3,362	23,497	15,118	896,745	7'417	1,928	322,055	—
East Indian, Jabalpur Line -	6,380	5,804	2,152	58,064	—	—	72,400	10,968	974	7,130	7,639	99,109	7'764	1	11,785	—
Great Indian Peninsula -	35,848	57,744	—	110,865	210,796	1,158	416,411	83,388	1,967	4,870	—	507,136	6'73	6,565	346	—
Madras -	15,411	16,399	—	148,017	33,375	87	213,289	30,004	—	4,154	—	247,447	5'871	2,762	15	—
Bombay, Baroda, and Central India -	4,871	10,466	{ Mail. 56,697 Ordinary. 183,897 }	—	—	4,413	200,344	14,136	165	241	4,787	219,653	8'57	12,318	707	*1,264
Sind, Punjab, and Delhi -	13,200	16,267														
South Indian -	2,265	6,860	—	136,671	—	11	145,807	6,513	36	613	—	152,969	2'7	602	—	—
Eastern Bengal -	3,773	3,024	—	90,107	76,105	1,225	104,234	13,411	70	31	—	117,746	8'09	39	3,896	278
Oudh and Rohilkund	Upper 7,269	—	—	Lower 154,258	—	—	161,527	10,977	—	365	—	172,869	7'40	17	236	—
STATE.																
Calcutta and South-Eastern -	31	223	—	7,210	—	—	7,464	215	269	18	—	7,956	5'03	12	43	—
Nalhati -	248	476	—	4,232	—	—	4,956	407	182	17	—	5,562	6'54	—	369	—
Berar {	Amraoti -	37	58	344	369	—	806	77	—	—	—	835	11'66	—	—	—
	Khamgaon -	22	20	60	238	—	349	46	—	—	—	392	2'08	—	1	—
Punjab Northern -	1,006	1,312	—	28,000	—	—	30,318	1,782	1,646	143	—	33,889	4'44	62	—	—
Northern Bengal -	54	126	—	1,335	—	—	1,515	86	—	—	—	1,601	1'74	—	271	—
Rajputana -	2,004	2,344	—	72,808	—	28	77,184	6,786	5,193	508	—	89,671	4'38	27	325	—
Neemuch -	79	123	130	5,340	—	14	5,686	261	182	—	—	6,129	3'42	—	—	—
Nizam's -	1,540	2,060	—	2,921	16,311	—	23,811	4,428	—	—	—	27,239	9'61	15	—	—
Wardha Valley -	49	29	—	99	703	—	880	73	—	—	—	953	5'10	—	2,506	—
Tirhut -	638	641	—	13,046	—	—	14,327	837	175	27	—	15,366	5'06	—	208	—
Holkar -	488	746	106	10,531	—	26	11,897	1,079	1,158	97	—	14,231	3'43	1	1	—
Totals and averages for Railways -	136,121	164,684	48,642	1,776,439	337,897	11,836	2,475,619	281,469	16,399	42,960	27,524	2,843,951	7'21	24,550	344,264	1,642
Indus Steam Flotilla	2,133	374	—	5,740	—	—	8,261	761	—	—	—	9,022	—	—	—	—
Totals and averages for Railways and Flotilla -	138,259	165,058	48,642	1,782,188	337,897	11,836	2,483,880	282,230	16,399	42,960	27,524	2,852,973	7'21	24,550	344,264	1,642

* Company's own materials carried on Capital Account.

during Year ended 31st December 1877.

Goods Traffic.										Total Receipts from Passenger and Goods Traffic.	Passenger and Goods Receipts per Train Mile.	Total Miscellaneous Receipts.	Miscellaneous Receipts per Train Mile.	Total Receipts from Passengers, Goods, and Miscellaneous.	Total Receipts per Train Mile.	Railway.
Minerals.	Receipts from General Merchandise (exclusive of Live Stock and Minerals).							Total Receipts from Goods Traffic.	Goods Receipts per Train Mile.							
Total Receipts from Minerals.	From First or Lowest Class.	From Second Class.	From Third Class.	From Fourth Class.	From Fifth or Highest Class.	From Special and Sunday.	Total.	(G.)	s.	(P.) + (G.)	s.	(M.)	s.	(P.) + (G.) + (M.)	s.	
£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	GUARANTEED.
322,055	1,460,796	413,714	144,283	67,630	20,705	169,704	2,276,832	2,600,815	9'40	3,487,660	8'861	151,865	0'386	3,639,415	9'247	East Indian, Main Line.
11,785	207,495	25,636	15,053	4,139	980	6,391	259,694	271,460	7'487	370,589	7'559	55,559	1'133	426,148	8'693	East Indian, Jabalpur Line.
346	171,627	455,730	103,235	40,723	38,911	1,483,937	2,294,163	2,301,074	7'01	2,808,210	6'96	100,815	0'24	2,909,025	7'04	Great Indian Peninsula.
15	87,256	59,098	18,916	11,412	4,846	463,340	644,868	647,645	4'783	895,092	5'041	24,810	0'140	919,902	5'181	Madras.
2,071	88,462	64,970	94,750	2,881	7,167	165,308	423,538	437,927	12'60	657,580	10'89	57,320	0'95	714,900	11'84	Bombay, Baroda, and Central India.
1,500	74,651	63,223	42,511	27,748	4,661	252,523	465,317	467,018	8'93	703,421	8'08	60,811	0'70	764,232	7'7	Sind, Punjab, and Delhi.
—	12,320	—	—	1,722	543	129,980	144,565	145,167	2'5	298,136	5'2	11,717	0'28	309,853	5'4	South Indian.
4,174	20,732	63,246	6,050	3,150	599	167,478	261,255	265,468	14'52	383,214	11'67	16,087	0'49	399,301	12'16	Eastern Bengal.
236	Low 25,289	—	Middle 30,711	—	High 5,183	157,182	218,365	218,618	5'14	391,487	5'94	42,693	0'65	434,180	6'59	Oudh and Rohilkund.
STATE.																
43	19	41	10	8	—	2,692	2,770	2,825	2'79	10,781	4'16	1,068	0'41	11,849	4'56	Calcutta and South-Eastern.
369	1,298	453	468	177	51	371	2,818	3,187	2'36	8,740	3'98	197	0'09	8,946	4'07	Nalhati.
—	571	3,302	264	19	26	2,266	6,448	6,448	33'03	7,333	27'07	9	0'03	7,342	27'10	Amraoti
1	318	2,563	58	7	6	1,241	4,193	4,194	18'02	4,595	10'90	78	0'18	4,664	11'08	Khamgaon
—	18,960	4,574	3,336	—	—	6,983	33,853	33,915	7'21	67,304	5'49	1,843	0'14	69,647	5'64	Punjab Northern.
271	62	42	102	—	—	921	1,127	1,398	2'94	2,999	2'15	1,873	1'35	4,872	2'65	Northern Bengal.
325	72,009	8,086	5,068	—	—	85,969	171,132	171,484	7'93	261,155	6'20	8,110	0'18	269,265	6'03	Rajputana.
—	654	84	58	—	—	930	1,726	1,726	9'68	7,855	3'99	72	0'04	7,927	3'98	Neemuch.
—	4,262	4,888	3,946	588	399	34,641	48,724	48,739	5'20	75,978	6'22	157	0'01	76,135	6'23	Nizam's.
2,506	271	1,012	55	8	3	2,240	3,589	6,095	6'65	7,048	6'38	83	0'08	7,131	6'46	Wardha Valley.
208	2,030	819	391	—	—	6,326	9,566	9,774	3'15	25,140	4'09	4,809	0'78	29,949	4'83	Tirhut.
1	15,811	4,002	3,802	—	—	700	24,315	24,317	10'63	38,548	5'98	1,353	0'21	39,901	6'15	Holkar.
345,906	2,264,893	1,175,483	473,067	160,212	84,080	3,141,123	7,298,858	7,669,314	8'17	10,513,265	7'69	541,319	0'403	11,054,584	7'63	{ Totals and averages for Railways.
—	—	—	—	—	—	—	—	129,330	—	138,352	—	—	—	138,352	—	Indus Steam Flotilla.
345,906	2,264,893	1,175,483	473,067	160,212	84,080	3,141,123	7,298,858	7,798,644	8'17	10,651,617	7'69	541,319	0'403	11,192,936	7'63	{ Totals and averages for Railways and Flotilla.

TABLE No. 4.—EXPENDITURE ON REVENUE ACCOUNT

Railway.	Maintenance and Renewal of Way and Works.				Cost of producing Locomotive Power by Wages and Materials.			Repairs and Renewals of Carriages and Waggon.			Coaching and Merchandise.			Collection and Delivery of Goods.			Rates
	Gross.		Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.
	Ordinary.	Special.															
GUARANTEED.	£	£	d.		£	d.		£	d.		£	d.		£	d.		£
East Indian, Main Line -	275,956	—	8'41	7'58	265,864	8'11	7'30	103,298	3'30	2'98	230,410	7'30	6'53	—	—	—	4,887
„ Jabalpur Line -	46,687	—	11'43	10'96	45,166	11'06	10'60	13,061	3'20	3'06	16,213	3'97	3'80	—	—	—	8
Great Indian Peninsula -	147,571	8,768	4'63	5'20	536,695	16'39	18'53	213,555	6'23	7'10	197,311	5'86	6'56	332	0'01	0'02	968
Madras - - - - -	96,271	14,604	7'49	12'05	197,698	13'36	21'49	64,257	4'34	6'98	71,006	4'80	7'72	3,919	0'27	0'43	946
Bombay, Baroda, and Central India.	70,658	17,094	16'98	12'23	88,503	17'13	12'38	20,932	4'05	2'93	52,017	10'07	7'28	2,100	0'41	0'29	693
Sind, Punjab, and Delhi -	87,316	49,688	16'56	17'796	131,995	16'07	17'272	31,109	3'78	4'071	63,981	7'79	8'372	1,486	0'18	0'194	180
South Indian - - -	17,181	—	3'5	5'54	72,169	14'9	23'29	12,568	2'5	4'05	26,414	5'4	8'53	—	—	—	553
Eastern Bengal - - -	30,770	—	11'24	7'71	35,091	12'83	8'78	13,189	4'82	3'30	46,718	17'07	11'70	—	—	—	700
Oudh and Rohilkund -	42,837	6,637	8'92	11'39	75,357	13'59	17'36	18,625	3'36	4'29	47,309	8'58	10'90	115	0'02	0'03	63
STATE.																	
Calcutta and South-Eastern	2,779	—	12'84	23'45	3,223	14'89	27'20	1,064	4'92	8'98	1,108	5'12	9'35	—	—	—	63
Nalhati - - - - -	2,135	2,039	22'74	46'66	2,123	11'58	23'73	646	3'53	7'25	806	4'39	9'01	—	—	—	13
Berar {	Amraoti - - -	206	—	9'13	2'8	1,037	45'94	14'1	415	18'38	5'7	369	16'34	5'02	—	—	—
	Khamgaon - - -	444	—	12'7	9'5	1,099	31'3	23'6	439	12'5	9'4	391	11'1	8'4	—	—	—
Punjab Northern -	7,862	8,025	15'47	22'82	19,416	18'88	27'88	3,274	3'18	4'70	9,160	8'92	13'16	—	—	—	—
Northern Bengal - -	*	*	*	*	2,439	15'93	50'06	108	0'70	2'22	1,606	11'08	34'81	—	—	—	—
Rajputana - - - - -	38,739	8,490	12'70	13'82	71,171	19'14	26'43	14,191	3'31	5'24	23,344	6'41	8'85	—	—	—	—
Neemuch - - - - -	1,782	—	10'73	22'48	2,117	12'75	26'71	131	0'79	1'65	1,048	6'31	13'22	—	—	—	—
Nizam's - - - - -	10,103	—	9'98	13'27	22,021	21'64	23'9	8,809	8'66	11'6	7,830	7'69	10'3	—	—	—	—
Wardha Valley - - -	1,019	—	11'08	14'29	1,834	19'93	25'7	734	7'98	10'3	652	7'09	9'1	—	—	—	—
Tirhut - - - - -	3,405	—	6'65	11'37	6,133	11'9	20'48	603	1'17	2'04	4,474	8'74	14'94	—	—	—	57
Holkar - - - - -	6,274	—	11'62	15'72	9,021	16'71	22'61	2,341	4'34	5'87	6,263	11'60	15'70	—	—	—	—
Totals and averages for Railways -	889,995	114,345	8'3	9'08	1,610,172	13'5	14'56	523,339	4'61	4'77	818,020	6'93	7'4	7,952	0'05	0'07	9,965
Indus Steam Flotilla -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total and averages for Railways and Flotilla }	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Not given in returns from India.

Note.—Since the foregoing tables were printed, a return relating to the Rangoon and Irrawaddy Valley Railway has goods to 768,175 tons. The receipts from passengers were 28,086*l.*, from goods 6,173*l.*, and from

during Year ended 31st December 1877.

and Taxes.		Compensation for Personal Injury, &c., Damage and Loss of Goods.				Legal and Parliamentary Expenses.			Miscellaneous Working Expenditure, not included in the foregoing.			Total Working Expenditure.			Railway.
Per Train Mile.	Per cent. of Gross Receipts.	Gross.		Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	
£	£	Personal.	Goods.	£	£	£	£	£	£	£	£	£	£	£	
0'15	0'13	—	28,049	0'86	0'77	1,071	0'08	0'08	212,730	6'49	5'95	1,136,223	2'89	31'22	GUARANTEED.
0'002	0'001	250	216	0'11	0'11	18	0'004	0'003	37,211	9'11	8'73	153,330	3'24	37'27	East Indian, Main Line.
0'02	0'03	—	32,764	0'96	1'09	1,782	0'05	0'05	221,637	6'53	7'37	1,381,393	3'39	45'98	Ditto, Jabalpur Line.
0'06	0'10	4,809	956	0'39	0'63	1,396	0'09	0'15	89,320	6'04	9'71	545,179	3'07	59'26	Great Indian Peninsula.
0'14	0'09	—	130	0'03	0'02	315	0'06	0'04	47,613	9'21	6'66	300,055	4'84	41'97	Madras.
0'021	0'023	59	101	0'019	0'021	412	0'050	0'054	55,542	6'76	7'268	420,869	4'27	55'071	Bombay, Baroda, and Central India.
0'13	0'17	—	176	0'03	0'05	56	0'01	0'01	30,316	6'1	9'79	159,432	3'73	51'45	Sind, Punjab, and Delhi.
0'26	0'17	—	3,371	1'41	0'97	108	0'03	0'03	26,995	9'87	6'76	157,442	4'79	39'42	South Indian.
0'01	0'02	—	123	0'04	0'04	467	0'08	0'11	35,818	6'46	8'25	227,420	3'42	52'38	Eastern Bengal.
0'29	0'52	—	10	0'05	0'09	—	—	—	1,439	6'65	12'15	9,635	3'73	81'74	Oudh and Rohilkund.
0'07	0'15	—	79	0'43	0'88	1	0'003	0'01	1,144	6'24	12'79	3,968	4'06	100'48	STATE.
—	—	—	69	3'06	0'98	—	—	—	415	18'38	5'7	2,511	9'27	34'2	Calcutta and South-Eastern.
—	—	—	73	2'1	1'6	—	—	—	439	12'5	9'4	2,335	6'85	61'9	Nalhati.
—	—	82	750	0'80	1'18	8	0'007	0'01	11,264	10'95	16'17	59,341	4'85	85'92	Amraoti } Berar.
—	—	—	—	—	—	—	—	—	2,592	16'93	53'20	6,835	3'72	140'29	Khamgaon }
—	—	—	110	0'03	0'04	23	0'001	0'002	26,926	7'24	10'01	183,494	4'11	63'14	Punjab Northern.
—	—	—	1	0'01	0'02	—	—	—	1,470	8'85	18'55	6,549	3'29	82'62	Northern Bengal.
—	—	—	1,468	1'44	1'9	—	—	—	3,309	8'66	11'6	59,040	4'83	77'5	Rajputana.
—	—	122	—	1'33	1'7	—	—	—	781	8'49	10'9	5,142	4'66	73'1	[Neemuch.]
0'11	0'20	—	24	0'46	0'63	—	—	—	6,195	12'1	20'65	20,391	3'40	69'76	Nizam's.
—	—	—	397	0'73	0'98	9	0'001	0'002	6,106	11'31	15'30	30,411	4'69	76'72	Wardha Valley.
0'06	0'06	5,322	69,437	0'52	0'67	5,666	0'04	0'05	824,782	6'98	7'5	4,883,115	3'37	55'83	Tirhut.
—	—	—	—	—	—	—	—	—	—	—	—	97,770	—	70'668	Holkar.
—	—	—	—	—	—	—	—	—	—	—	—	4,980,885	3'37	55'86	{ Totals and averages for Railways.
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	{ Total and averages for Railways and Flotilla.

been received. It applies to the first eight months after its opening. The passengers carried amounted to 413,521, the miscellaneous 186½. Total 34,445½. The expenses were 44,558½. The result was a loss of 10,113½.

SUMMARY.

100. The principal facts given in the foregoing pages may now be briefly summed up.

101. The length of railway now open in India is 7,551½ miles, of which 492½ were completed during the year 1877, and 225 since the close of the year. There are 806½ miles laid with a double line; 5,912¾ miles are constructed on the 5 ft. 6 in. gauge, and 1,638¾ on narrower gauges. The most important operations have been connected with the State lines, to which 580 miles have been added. The line which proceeds through Northern Bengal towards the Hills at Darjeeling, the Dhond and Manmád, and that between Rangoon and Prome, have been opened for traffic. The Punjab Northern line has also been finished to Jhelum, and the South Indian has been extended 132¾ miles. The Indus Valley will be ready for traffic in the course of this year.

102. The capital outlay on the State lines amounted to 3,122,051*l.*, and on the Guaranteed lines to 1,374,882*l.*, bringing the total capital expenditure up to the end of October as regards the State, and to the end of March last as regards the Guaranteed lines, to 113,144,541*l.* The expenditure up to the end of the year may be taken in round numbers at 113,344,500*l.*

103. The revenue derived from all the open lines during the year was 6,232,888*l.*, of which 6,091,532*l.* was earned by the Guaranteed lines, with a capital of 95,482,941*l.*, and 141,356*l.* was earned by the State lines, on a capital expenditure of 17,661,600*l.* The net receipts from the Guaranteed lines exceeded the amount advanced for guaranteed interest by 1,454,591*l.*; the year before there was a deficit of 216,517*l.* The average receipts per cent. for the year were 5*l.* 5*s.*; the maximum earned was 9*l.* per cent., by the East Indian. The Eastern Bengal yielded 8*l.*, the Great Indian Peninsula 6*l.* 10*s.*, and the Bombay, Baroda, and Central India 5*l.* 6*s.* 4*d.*, per cent per annum.

NET EARNINGS of the INDIAN RAILWAYS during 1877.

Railway.	Amount.	Per Train Mile.	Percentage of Net Earnings to Gross Receipts.
GUARANTEED.			
	£	<i>s.</i>	
East Indian, Main Line - -	2,503,342	6·36	68·78
" Jabalpur Line - -	267,325	5·45	62·73
Great Indian Peninsula - -	*1,527,640	3·96	53·93
Madras - - - -	374,723	2·11	40·74
Bombay, Baroda, and Central India - -	414,845	6·69	58·03
Sind, Punjab, and Delhi - -	383,944	3·48	44·92
South Indian - - - -	152,205	2·58	48·55
Eastern Bengal - - - -	260,747	7·37	60·58
Oudh and Rohilkund - - - -	206,761	3·11	47·62
Total for Guaranteed Railways -	6,091,532		
STATE.			
Calcutta and South-Eastern - -	2,164	·83	18·26
Berar { Amraoti - - - -	4,831	17·13	65·79
Khamgaon - - - -	1,779	4·23	38·13
Punjab Northern - - - -	9,806	·79	14·79
Rajputana - - - -	85,771	1·92	31·85
Neemuch - - - -	1,378	·69	17·38
Nizam's - - - -	17,095	1·40	22·48
Wardha Valley - - - -	1,989	1·81	27·87
Tirhut - - - -	9,058	1·47	30·24
Holkar - - - -	9,490	1·46	23·78
Deduct for losses† - - - -	- 2,005		
Total for State Railways - -	141,356		
Total for all Railways - -	6,232,888		

* The receipts from the lines worked by this Company are deducted.

† The Nalhati and Northern Bengal State Railways were worked at a loss of 42*l.* and 1,963*l.* respectively.

104. These large receipts were obtained at a less proportionate expenditure than in any previous year. The aggregate earnings were 11,236,121*l.*, and the working expenses 5,003,233*l.*, being an average of 44 per cent. of the gross receipts. The receipts from passengers were 2,844,000*l.*, from goods 7,675,414*l.*, and from miscellaneous sources 716,707*l.* Compared with the previous year the net revenue showed an improvement of 1,686,914*l.* The expenses of the East Indian (main line) were only 31 per cent. of the gross receipts. Those of the Eastern Bengal 41, of the Great Indian Peninsula 48, of the Madras 59.

105. The number of passengers carried was 34,143,512, with an average mileage open of 7,021 $\frac{3}{4}$ miles, compared with 30,535,319 of the previous year, with a mileage of 6,694. The proportion per cent. of the first class was .63, of the second 2.23, and of the lower classes 97.14

106. The weight of goods carried amounted to 8,309,943 tons, compared with 5,794,949 of the previous year.

107. The proportion per cent. of the gross revenue from passengers was 25.77, and from merchandise, including minerals, 69.37.

108. The operations of the year have been especially marked by the important part railways have played in connection with the famine. We had the phenomenon of great scarcity in the south and plenty in the north, which led to large quantities of grain being moved from one end of the country to the other. The receipts from this source were a substantial set off against the very heavy charges incurred by the Government in the relief of famine. The railways were thus instrumental, not only in alleviating distress and preserving life, but in reducing expenditure. It may be computed that about 600,000*l.* of last year's receipts are due to famine traffic, but it should at the same time be borne in mind that this was realized at the expense of other more profitable traffic, which was excluded by an insufficiency of rolling stock, and by the preference necessarily given to the conveyance of grain over other commodities while the demand for food existed. With the exception of this slight extraneous favour the supplies were obtained entirely through the natural course of trade. There was no artificial stimulus, and no attempt to regulate prices. The producers and traders of the favoured parts of the country despatched goods to those places where prices showed that the demand was great. While, therefore, the fact that much of last year's financial success was due to exceptional causes should, on the one hand, prevent too sanguine a conclusion being arrived at with regard to the immediate future, it should, on the other hand, be remembered that the circumstances which led to large profits interfered with the ordinary trade of the country, and lost to the railways much that they would otherwise have received. It may also be mentioned that the export trade in articles which are brought down by the railways to the coast has been steadily increasing during the year.

109. During the twelve months ending on the 31st March last, 15,600,291 lbs. of cotton twist exported from India, compared with 7,926,710 of the previous year, and 17,546,369 yards of piece goods, compared with 15,544,168, show how the demand for certain manufactured goods in eastern countries is being met from Indian resources. In linseed, exported principally for the United Kingdom, we find 7,198,918 cwt., compared with 5,614,617, and in rape seed 3,193,488 cwt., as against 2,088,760. The wheat trade with this country has also been maintained during the year, 6,340,150 cwt. having been exported, principally to London, as compared with 5,583,336 in 1876-77, and 2,498,185 of 1875-76. Exports of tea have also increased from 24,361,599 lbs. in 1875-76 to 33,459,075 lbs. in 1877-78.

110. Bearing these facts in mind, it may not be uninteresting to recall to remembrance the words of Lord Dalhousie when, twenty-five years ago, he was advocating the commencement of a system of railways, which has now been nearly completed, but which has not yet arrived at maturity. "Great tracts," he said, "are teeming with produce they cannot dispose of. Others are scantily bearing what they would carry in abundance if only it could be conveyed whither it is needed. Every increase of facilities for trade has been attended, as we have seen, with an increased demand for articles of European produce in the most distant markets of India, and we have yet to learn the extent and value of the interchange which may be established with people beyond our present frontier, and which is yearly and rapidly increasing. Ships from every part of the world crowd our ports in search of produce which we have or could obtain in the interior, but which at present we cannot profitably fetch to

“ them, and new markets are opening to us on this side of the globe, under circumstances which defy the foresight of the wisest to estimate their probable value or calculate their future extent.”

I have the honour to remain,
My Lord,
Your Lordship's very obedient humble Servant,
JULAND DANVERS.

