B

Communicated to
Cond. to officers
officers Concerned, and
Concerned; and
the copies of the
the copies of the
rate list distributed
rate list distributed
as under:—
-uted as under:

Supdg. Engineers
Supdg. Engrs.
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Escr. P. W. Accts — 5
Escr. P. W. A.
Office use — 8
Office use

100
100

W.C. No. 255

FROM THE DIRECTOR GENERAL
OF RAILWAYS,

TO

Circular No. 14.

Dated Simla, November 29, 1886.

Received 15-1-87

(+90.5.c)

INDIAN STATE RAILWAYS.

Statement showing rates for B class State Railway Stores "Engineer's Plant (excluding Petty Tools)."

G. C. B. Press, Simla.—No. 365 D. G. R.—2-12-86.—2,000.

W.C.
17.1.87

Jolly
17/1/87.

Supdg. Engrs
Supt. of Works I. M. Scheme.
C. A. to Govt
Chairman H. T. Board
Escr. P. W. Accts.

Enclosure to Director General of Railways' Circular No. 14 of 1886.

RATE LIST.

CLASS B.

ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

FOR 1885.

Enclosure to Director General of Railways' Circular No. 14 of 1886.

RATE LIST.

CLASS B.

ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

FOR 1885.

Enclosure to Director General of Railways' Circular No. 14, dated 29th November 1886.

INDIAN STATE RAILWAYS.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS). CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885.

CONTRACT. No. B.	CONTRACT. Date. 1885.	No. of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	Remarks.
							£ s. d.		Ton. Cwt.	S.		
127	21st September ...	40 of '85	Ferozepore Bridge Works	Apparatus, diving.	Complete with pumps *as per Appendix A*	Sets 2	96 0 0	Set	2 10	25	K.	
					Spare India rubber dresses ...	No. 4	5 10 0	Each				
					Air hose without couplings (75′ each length)...	Lengths 6	7 1 6	,,				
					India rubber wrist rings ...	No. 24	0 0 4	,,				
					Maker's Nos. on pulley blocks. / Lifting capacity of blocks in tons. / Diameter of pulley and sheave.							
122	4th June ...	69 of '84	Rajputana-Malwa ...	Blocks, differential, pulley (Weston's);—pulleys for—	5956 — 3 — 13″	6	0 10 0	Each	0 18	...	B.	Freight not known as no tonnage and freight account has been received from India Office.
					96477 — 3 — 13″	6						
					125490 — 2 — 14″	1						
					125488 — 2 — 14″	1						
					46003 — 2 — 14″	1						
					105906 — 2 — 14″	1						
					125491 — 2 — 14″	1						
					125492 — 2 — 14″	1						
					125487 — 2 — 14″	1	0 9 0	,,				
					No number — 2 — 14″	5						
					96480 / 3 — 2 — 7½″	4						
					96478 — 2 — 7½″	4						
					No number — 2 — 7½″	4						
					96484 / G — 1½ — 7½″	6	0 8 0	,,				
					2079 / B — 1 — 8″	2						
					4783 / B — 1 — 8″	2						
					4786 / B — 1 — 8″	2	0 4 0	,,				
					4783 / B — 1 — 8″	2						
					4784 — 1 — 8″	2						
					34751 — 1 — 8″	2						
					65285 — 1 — 7½″	2						

INDIAN STATE RAILWAYS.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

Contract. No. B.	Contract. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Rate f. o. b. in England as per contract. Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Entire sea freight per ton to Port. Port.	Remarks.
							£ s. d.		Ton Cwt.	S. D.		
133	27th October ...	77 of '85	Bolan ...	Piping, wrought iron, materials for—	Bends, 90° wrought iron	25	0 11 8	Each	1 15	21 0	K	These are required for use with the 4″ wrought iron piping supplied by the War Office.
					„ 120° „ „	70	0 11 8	„				
					Tee pieces, wrought iron	9	0 17 6	„				
					Ditto ditto special	2	1 8 0	„				
					Caps, wrought iron for dead ends of piping ...	20	0 9 6	„				
					Sluice valves (taps) for 1,800 lbs. pressure with 2 flanges each, bolts, &c.	9	8 5 0	„	2 1	20 0	K	
					Pet cocks ¼″ bore of gunmetal with screwed ends	20	0 4 6	„				
136	20th November ...	77 of '85	Bolan ...	Piping, wrought iron, tools for—	Machines, hand power, combined pipecutting and screwing, from 2″ up to 4″ bore, suitable for fixing to a bench, with 2 sets of dies and cutters for each size of pipe for each of the above machines.	2	125 0 0	Total	1 13	14 8	K	
					Taps for recutting dies (one for each machine)	2	26 0 0	„				
					Taps for tapping or clearing the threads in the socket couplings.	2	42 0 0	„				
					Pipe vices	2	4 0 0	„				
					Taps suitable for tapping holes for pet cocks ¼″ bore	2	0 4 6	„				
					Dies	4 Sets	11 0 0	„				From the Invoice of S. S. *Marlborough* which sailed on 11th January 1886.
					Special master taps and clearing taps ...	2 of each	24 10 0	„				
					Duplicate cutters for the machines ...	2	0 3 0	„				

INDIAN STATE RAILWAY.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rater free on board in England of articles contracted for by the India Office from January to December 1885—contd.

Contract. No. B.	Contract. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Rate f. o. b. in England as per contract. Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Entire sea freight per ton to Port. Port.	Remarks.
							£ s. d.		Ton. Cwt.	S. D.		
138	23rd December ...	75 of '85	Ferozepore Bridge Works	Press, rail-straightening.	For 62 lbs. flat-footed rails, complete with punching gear (India Office completion drawing No. B166.)	1	26 0 0	Each	0 16	15 0	K	
126	17th September ...	40 of '85	Ferozepore Bridge Works	Pulsometers; boilers for—	With fittings complete for supplying steam to Pulsometers. The boilers to be 25-H. P. nominal each, of the locomotive type and mounted on wheels. Each boiler to be fitted with 100 lineal feet of strong wrought iron gaspiping of 2″ bore fitted with wrought iron flanges faced and drilled to template and fitted with bolts for connecting them. (India Office completion drawing No. B $\frac{163}{1-4}$.)	2	830 0 0	Total	28 7	70 0	K	
130	24th September ...	77 of '85	Bolan ...	Pumps, pressure, Worthington.	Complete with duplicates, boilers, &c., *as per Appendix B.* (India Office original drawing No. B 154.)	2	841 12 0	Total	18 4	41 6	K	
									0 11	16 0	K	Of the duplicate parts.
118	7th March ...	92 of '84	Northern Bengal ...	Ramps.	For 41½ lbs. rails							
					3 Right hand	6	11 0 0	Total	1 5	12 0	C	Details not known.
					3 Left hand							
119	27th April ...	100 of '84	Tirhoot ...		Carriage, *Russell's patent*, for 41½ lbs. rails ...	12	7 0 0	Per set of two.	0 11	12 6	C	
124	10th July ...	19 of '85	Nagpur-Chhattisgarh ...		*Stroudley's*, crucible, cast steel, for 41½ lbs. rails							
					4 Left	8	14 15 0	Total	0 7	14 11	B	
					4 Right							
125	21st July ...	20 of '85	Eastern Bengal ...		Engine, *Russell's patent*, for 75 lbs. rails ...	30 = 15 sets	9 10 0	Set	4 2	22 6	C	
					Carriage and wagon, ditto ...	10 = 5 sets	7 7 0	„				
137	24th November ...	60 of '85	Naraingunge-Dacca-Mymensingh ...		*Russell's*, for 41½ lbs. rails	20	7 0 0	Pair	0 18	15 0	C	

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of Articles contracted for by the India Office from January to December 1885—(concld.)

CONTRACT. No. B.	CONTRACT. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	REMARKS.
139	22nd December ...	Telegram dated 4th, December 1885. 1 of '86	Cawnpore-Kalpi ...	Ropes wire.	Crucible, steel (flexible), each 5,000 feet long 2½ inch circumference. Full details of the ropes are as follows:— No. of strands ... ... 6 No. of wires in each strand ... 19 Diameter of each wire ... ·051 inch Breaking strain of ditto ... 325 lbs. Extension of ditto in a length of 6 inches. ·006 inch to ·012 inch No. of twist per foot of strand ... 4 No. of twist per foot of finished rope 2½ Breaking strain of each strand ... 6,175 lbs. Breaking strain of finished ropes 16½ tons. Safe working load of ditto 3 „ Weight f r fathom of ditto 6 lbs. Total weight of ditto 10,000 „	2	£ s. d. 1 7 6 or 122 15 4	Cwt. Total	Ton. Cwt. 4 10	S. D. 25 0	B.	
129	26th September ...	40 of '85 ...	Ferozepore Bridge Works	Skips ...	3′ × 3′ × 2′ complete for concrete ...	6	7 2 6	Each	6 10	16 0	K.	
117	11th February ...	47 of '84 ...	Wardha Coal ...	Ventilator, automatic, mine; spare parts of	Recorder and Telltale (of W. H. Bailey and Company's make) for automatically recording variations in mine ventilation, the water gauge and the speed of the fan together with worm and wheel to connect it with the fan shaft.	1	39 10 0	„	0 9	15 0	B.	
					Spare water gauges (Daglish's patent) to be of Bailey and Company's make and indicator connections to the steam cylinders of the fan.	12	18 5 0	Total				
132	15th October ...	49 of '85 ...	Ferozepore Bridge Works	Winches steam.	Five ton, with boilers and wrought-iron carriage complete.	2	416 0 0	Each	25 15	17 3	K	
					300 feet lengths of chain each with hook and link.	2	23 0 0	„				
					Swivel snatch blocks	4	7 10 0	„				

NOTE. B.—Bombay. C.—Calcutta. K.—Karachi. M.—Madras. R.—Rangoon.
For landing charges see Director General of Railway's Circular No. 22, dated 16th December 1885.

G. F. WILSON, Captain, R.E.,
for Director General.

G. C. P. Press, Simla.—No. 316 D. G. R.—2-12-86.—2,000.

Accompaniment to Director General of Railways' Circular No. 14 of 1886.

CLASS B—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

APPENDIX A.

Estimate for diving apparatus complete for one diver.

A three motion diving air pump with three large sized gunmetal cylinders, forged iron crank and two handles, copper cistern with apparatus to keep the cylinders cool, and an arrangement for examination of valves without removing the air pump from chest, the whole fitted in a strong wood chest, with iron caps to protect the crank ends.

1 fly wheel with wrought iron spokes.

Till fitted in interior of chest contains 3 spanners, 1 oil can, 1 screw driver, 2 double connecting union joints, spare valves and springs, and 6 spare helmet nut and screws.

1 strong wood helmet and seamen's chest containing 1 improved helmet with segmental screw to remove the head piece by one-eighth of a turn, strong plate glasses in brass frames, front one to unscrew, brass collar and screws with which the dress is fastened water tight, one outlet valve and one gunmetal inlet valve with regulating valve on head piece.

1 helmet cushion stuffed with horse hair.

1 helmet nut spanner.

100 feet of India rubber air pipe with gunmetal union joints.

2 waterproof diving dresses with vulcanized India rubber collars and cuffs.

12 vulcanized wrist bands.

4 guernsey frocks, 4 pairs drawers.

4 pairs stockings, 1 woollen cap.

1 pair overall stockings, 1 neckerchief.

1 canvas overall dress 90 feet signal line.

1 pair boots, lead soles, 2 lead weights.

1 knife in waterright case.

1 leather belt and gunmetal pipe holder.

1 can solution, 1 sheet prepared canvas.

1 spare brass screw frame for helmet.

2 spare glasses, 1 book of instruction complete.

Class B—Engineer's Plant (Excluding Petty Tools).

APPENDIX B.

	£	s.	d.
Two Worthington "Pressure" pumps.			
Each pump is to have two steam cylinders each 7½″ diameter; two double acting externally packed water plungers each 4¼″ diameter, all of 10″ stroke (7½″ × 4¼″ × 10″) and each capable of delivering 30,000 gallons in ten hours (50 gallons per minute) to a height of 400 feet through about 2½ miles of delivery pipe, the diameter of which shall not be less than 4″ with an effective steam pressure of 85lbs. per square inch, and when running at a piston speed of about 40 feet per minute.			
Pumps to be supplied with the following extras, side pipes and strainers, suitable foot and check valves, vacuum chambers and charging pipes and connections.			
Two duplicate sets of working parts for the above, comprising spare pistons, plungers, rods, rings, cylinder covers, valves, seats, guards, springs, crossheads, links, levers, rock shafts, &c., &c.			
Two duplicate sets of side pipes and strainers, foot and check valves, charging pipes, &c., &c.			
Two 3 × 1½ × 3 Worthington boiler feeding pumps.			
Two sets of duplicate parts for the above.			
Two 16-H. P. Locomotive Multitubular boilers constructed for a working pressure of 120 to 140 lbs. to the square inch, mounted on wrought iron wheels and equipped with enlarged firebox for burning wood and refuse as fuel, firing tools, spanners, check valves and two 1½″ gunmetal stop cocks to connect to pumps, in addition to stop valves on boilers also two Gresham and Craven's injectors with all connections complete.			
Two galvanised wrought iron tanks each 200 gallons.			
Copper pipes and bends for connecting check valves with rising mains of pumps with spare lengths to admit of position of pumps being slightly altered. Connections from boiler feed pump to banks for suction to boilers for delivery steam and exhaust connection for same. Injector connections to tank. A suitable length of 2″ exhaust pipe and bends with a few spare connecting pieces, say 24 feet with sockets. All the above connections and fittings numbered to allow of their being ready re-put together.			
Packing for shipment.			
The whole of the above delivered free on board London for the sum of eight hundred and forty-one pounds twelve shillings nett	841	12	0

N.B.—4″ foot valves have been quoted by the contractors on the understanding that 4″ suction pipe is to be used.

The boiler specified above will be manufactured by Messrs. Marshall Sons and Co. of Gainsborogh and thoroughly tested at their works.

149. W. 18-1-87

B

Communicated to offices concerned, and 100 copies of the rate list distributed as under :—

Supg Engrs (Technical)	72
Supt: of works	5
Consg. architect	5
Chairman H.J. Bd.	5
Ex. P.W. Accts	5
Office use	8
	100

121 Wks
17.1.88

121 J.S.H.
17.1.88

Supg Engrs ✓
Supt. Works I.M.S. ✓
C.A. to Govt ✓
Chairman H.J.B. ✓
Ex. P.W. Accts ✓

FROM

THE DIRECTOR GENERAL
OF RAILWAYS,

To

Circular No. 14.

Dated Simla, November 29, 1886.

Received

B. 149. Wdy 18-1-87

INDIAN STATE RAILWAYS.

Statement showing rates for B class State Railway Stores "Engineer's Plant (excluding Petty Tools)."

G. C. B. Press, Simla.—No. 365 D. G. R.—2-12-86.—2,000.

[*General Distribution.*]

Circular No. 14.

FROM

THE DIRECTOR GENERAL OF RAILWAYS,

To

THE MANAGERS, NORTH-WESTERN AND EASTERN BENGAL STATE RAILWAYS.

THE ENGINEERS-IN-CHIEF, BELLARY-KISTNA, CUDDAPAH-NELLORE, NAGPUR-BENGAL, SIND-PISHIN, BOLAN AND SIND-SAGAR STATE RAILWAYS.

THE ENGINEER-IN-CHIEF, FEROZEPORE BRIDGE WORKS.

THE PORT STOREKEEPERS, STATE RAILWAY DEPARTMENT, CALCUTTA, BOMBAY, AND KARACHI.

Simla, November 29, 1886.

SIR,

I have the honor to forward, for information and guidance, a printed statement showing the rates free on board in England, the gross weight and the entire sea-freight per ton for B class State Railway Stores "Engineer's Plant (excluding Petty Tools)," contracted for by the India Office from January to December 1885.

2. The rates for landing State Railway Stores from vessels at the several ports in India are given in Director General of Railways' Circular No. 22, dated 16th December 1885.

3. The official rate of exchange during the financial year 1885-86 was 1*s.* 7$\frac{1}{4}$*d.* per rupee.

4. In order to arrive at the total cost of materials landed at Port an Insurance charge of one per cent. on the original cost *plus* entire sea-freight should be added in addition to the other incidental charges.

5. In ordering stores, only $\frac{4}{5}$ths of the entire sea-freight should be entered in Indents as payable in England.

I have the honor to be,

SIR,

Your most obedient Servant,

G. F. WILSON, Captain, R.E.,

for Director General.

Document accompanying.
Rate List, Class B.—"Engineer's Plant (excluding Petty Tools)."

The Secretaries to the Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab, Public Works Department.
The Secretaries to the Chief Commissioners of the Central Provinces, Burma, Assam and Coorg, Public Works Department.
The Secretaries to the Residents, Hyderabad, and Mysore, Public Works Department.
The Secretaries to the Agents to the Governor General, Rajputana, Central India and Biluchistan, Public Works Department.
The Superintendent of Port Blair and Chief Commissioner, Andaman and Nicobar Islands.
The Director General of Telegraphs.
The Inspector General of Military Works.
The Superintendent of Works, Simla Imperial Circle.
The Accountant General, Public Works Department.
The Director-in-Chief, Indo-European Telegraph.
The Director, Persian Gulf Telegraph.
The Comptroller General.
The Accountant General, Bengal.
The Consulting Engineers for Railways, Madras and Bombay.
The Consulting Engineers to the Government of India for Guaranteed Railways, Calcutta, Agra and Lucknow.
The Agents and Chief Engineers, Bengal Central and Bengal and North-Western Railway Companies, Limited.
The Agent and General Manager, Assam Railways and Trading Company, Limited.

Copy forwarded to the Local Governments, Administrations, and Officers noted in the margin, for information.

G. F. WILSON, Captain, R.E.,
for Director General.

Enclosure to Director General of Railways' Circular No. 14 of 1886.

RATE LIST.

CLASS B.

ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

FOR 1885.

Enclosure to Director General of Railways' Circular No. 14 of 1886.

RATE LIST.

CLASS B.

ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

FOR 1885.

Enclosure to Director General of Railways' Circular No. 14, dated 29th November 1886.

INDIAN STATE RAILWAYS.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885.

CONTRACT. No. B.	CONTRACT. Date. 1885.	No. of Indent.	For what Railway.	Article.	Details.			Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	Remarks.
									£ s. d.		Ton. Cwt.	S.		
127	21st September ...	40 of '85	Ferozepore Bridge Works	Apparatus, diving.	Complete with pumps *as per Appendix A*			Sets 2	96 0 0	Set	2 10	25	K.	
					Spare India rubber dresses ...			No. 4	5 10 0	Each				
					Air hose without couplings (75' each length)...			Lengths 6	7 1 6	,,				
					India rubber wrist rings ...			No. 24	0 0 4	,,				
					Maker's Nos. on pulley blocks.	Lifting capacity of blocks in tons.	Diameter of pulley and sheave.							
122	4th June ...	69 of '84	Rajputana-Malwa ...	Blocks, differential, pulley (Weston's);—pulleys for—	5956	3	13″	6	0 10 0	Each	0 18	...	B.	Freight not known as no tonnage and freight account has been received from India Office.
					96477	3	13″	6						
					125490	2	14″	1						
					125488	2	14″	1						
					46003	2	14″	1						
					105906	2	14″	1						
					125491	2	14″	1						
					125492	2	14″	1	0 9 0	,,				
					125487	2	14″	1						
					No number	2	14″	5						
					2 / 96480	2	7½″	4						
					3 / 96478	2	7½″	4						
					No number	2	7½″	4						
					96484	1½	7½″	6	0 8 0	,,				
					G / 2079	1½	7½″	6						
					B / 4783	1	8″	2						
					B / 4786	1	8″	2						
					B / 4783	1	8″	2	0 4 0	,,				
					B / 4784	1	8″	2						
					34751	1	8″	2						
					65285	1	7½″	2						

INDIAN STATE RAILWAYS.

CLASS B.—ENGINEER'S PLANT, (EXCLUDING PETTY TOOLS).

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

CONTRACT. No. B.	CONTRACT. Date. 1885.	No. of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	Remarks.
							£ s. d.		Ton. Cwt.	S. D.		
120	17th September ...	40 of '85	Ferozepore Bridge Works	Engines, steam, portable.	Six H.P. without reversing gear to burn wood (India Office completion drawing No. B $\frac{160}{1-10}$)	3	580 0 0	Total	19 10	20 0	K.	
Do.	Ditto ...	Do.	Ditto ...		Ten H.P. without reversing gear to burn wood (India Office completion drawing No. B $\frac{161}{1-8}$)	4	1,030 0 0	„	37 10	22 6	K.	
121	4th June ...	16 of '85	Wardha Coal ...	Engines, steam, fire boxes for—	Fire box, Lowmoor, wrought iron, for Clayton and Shuttleworth's portable engine No. 6260, 10-H. P.	1	26 0 0	Each	1 2	13 0	B.	
131	15th October ...	41 of '85	Wardha Coal ...		Fire box, Lowmoor, wrought iron for Robey engine No. 5875 of 12-H.P	1	42 12 0	„	1 12	17 6	B.	
116	13th January ...	68 of '84	Cawnpur-Kalpi ...	Hoists, steam.	Five ton, complete with steel boiler, wrought iron carriages, &c., (India Office completion drawing No. B $\frac{153}{1-7}$)	6	325 0 0	Each	11 14	30 0	C.	
					Boilers, spare (all steel) 4′ × 9′ and cylinders 9″ × 14″.		18 10 0	Per hoist				
128	12th October ...	39 of '85	Indus Valley ...	Jacks, screw, traversing.	Ten ton	12	3 6 6	Each	0 17	18 0	K	
					Spare ratchets with levers complete for ditto	21	0 15 0	„				
140	31st December ...	75 of '85	Ferozepore Bridge Works		Fifteen ton, tested to 19 tons	10	6 0 0	Each	1 8	12 0	K	
123	3rd July ...	19 of '85	Nagpur-Chhattisgarh ...	Jim crows.	With levers complete for 41¼ lbs. rails, steel, flat-footed.	2	5 0 0	Total	0 5	18 0	B	
134	31st October ...	45 of '85	Nagpur-Chhattisgarh ...		With levers complete for 41¼ lbs. rails, steel, flat-footed, weighing 96 lbs. each exclusive of the levers.	2	5 15 0	Total	0 3	20 0	B	

INDIAN STATE RAILWAYS.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS.)

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

CONTRACT. No. B.	CONTRACT. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross Weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	Remarks.
							£ s. d.		Ton Cwt.	S. D.		
135	9th November ...	40 of '85	Ferozepore Bridge Works	Mills, soorkee grinding.	Horizontal cornish crushing rollers, including cast iron bed plates. Each machine is fully capable of producing 50 cubic feet of powder per hour from half bricks.	2	243 0 0	Each	10 13	18 0	K	India Office completion drawing Nos. B $\frac{164}{1-5}$ and B $\frac{165}{1-4}$.
					Ditto supplied with elevator and screw to render them automatic.	2	311 0 0	„	14 0	20 0	K	
G1008	30th March ...	60 of '84	Indus Valley ...	Oars	Ash, 16 feet long	24	12 13 6	Total ...	0 13	15 0	K	
					„ 14 „ „	6						
...	... ...	77 of '85	Bolan ...	Piping, wrought iron and materials for—	4 inch, in 15 and 18 foot lengths	Lengths 4,084 = 71,505 feet.	0 1 6 or 5,362 17 6	Foot Total	336 15	21 0	K	No contract was let. These were supplied by the War Office.
					Flanges, wrought iron, with bolts and nuts ...	25 pairs	1 13 0 or 41 5 0	Pair Total				
					Brushes, tube, fibre, 4″	6	0 1 3 or 0 7 6	Each Total				
					„ „ steel „	6	0 3 3 or 0 19 6	Each Total				
					Gloves, plate layers	30 pairs	0 1 6 or 2 5 0	Pair Total				
					T clips	10	0 11 6 or 5 15 0	Each Total				
					Reinforcing clips	No. 20	0 8 6 or 8 10 0	Each Total				
					Tongs, pipes 4″	6 pairs	1 10 0 or 9 0 0	Pair Total				
					Air vessels, wrought iron, for 4″ pipes with flanges.	2	4 4 7 or 8 9 2	Each Total				
					Cases	6	0 5 0 or 1 10 0	Each Total				
					Expenses at Woolwich in sorting out, packing, &c.	...	41 17 0	Total				
					Total ...	...	5,482 15 8					

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

Contract. No. B.	Contract. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Rate f. o. b. in England as per contract. Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Entire sea freight per ton to Port. Port.	Remarks.
							£ s. d.		Ton Cwt.	S. D.		
133	27th October ...	77 of '85	Bolan ...	Piping, wrought iron, materials for—	Bends, 90° wrought iron	25	0 11 8	Each	1 15	21 0	K	These are required for use with the 4″ wrought iron piping supplied by the War Office.
					„ 120° „ „	70	0 11 8	„				
					Tee pieces, wrought iron	9	0 17 6	„				
					Ditto ditto special	2	1 8 0	„				
					Caps, wrought iron for dead ends of piping ...	20	0 9 6	„				
					Sluice valves (taps) for 1,800 lbs. pressure with 2 flanges each, bolts, &c.	9	8 5 0	„	2 1	20 0	K	
					Pet cocks ¼″ bore of gunmetal with screwed ends	20	0 4 6	„				
136	20th November ...	77 of '85	Bolan ...	Piping, wrought iron, tools for—	Machines, hand power, combined pipecutting and screwing, from 2″ up to 4″ bore, suitable for fixing to a bench, with 2 sets of dies and cutters for each size of pipe for each of the above machines.	2	125 0 0	Total	1 13	14 8	K	
					Taps for recutting dies (one for each machine)	2	26 0 0	„				
					Taps for tapping or clearing the threads in the socket couplings.	2	42 0 0	„				
					Pipe vices	2	4 0 0	„				
					Taps suitable for tapping holes for pet cocks ½″ bore	2	0 4 6	„				
					Dies	4 Sets	11 0 0	„				From the Invoice of S. S. *Marlborough* which sailed on 11th January 1886.
					Special master taps and clearing taps ...	2 of each	24 10 0	„				
					Duplicate cutters for the machines ...	2	0 3 0	„				

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rater free on board in England of articles contracted for by the India Office from January to December 1885—contd.

Contract. No. B.	Contract. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Rate f. o. b. in England as per contract. Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Entire sea freight per ton to Port. Port.	Remarks.
							£ s. d.		Ton. Cwt.	S. D.		
138	23rd December ...	75 of '85	Ferozepore Bridge Works	Press, rail-straightening.	For 62 lbs. flat-footed rails, complete with punching gear (India Office completion drawing No. B166.)	1	26 0 0	Each	0 16	15 0	K	
126	17th September ...	40 of '85	Ferozepore Bridge Works	Pulsometers; boilers for—	With fittings complete for supplying steam to Pulsometers. The boilers to be 25-H. P. nominal each, of the locomotive type and mounted on wheels. Each boiler to be fitted with 100 lineal feet of strong wrought iron gaspiping of 2″ bore fitted with wrought iron flanges faced and drilled to template and fitted with bolts for connecting them. (India Office completion drawing No. B $\frac{163}{1-4}$.)	2	830 0 0	Total	28 7	70 0	K	
130	24th September ...	77 of '85	Bolan ...	Pumps, pressure, Worthington.	Complete with duplicates, boilers, &c., *as per Appendix B.* (India Office original drawing No. B 154.)	2	841 12 0	Total	18 4	41 6	K	
									0 11	16 0	K	Of the duplicate parts.
118	7th March ...	22 of '84	Northern Bengal ...	Ramps.	For 41½ lbs. rails							
					3 Right hand	6	11 0 0	Total	1 5	12 0	C	Details not known.
					3 Left hand							
119	27th April ...	100 of '84	Tirhoot ...		Carriage, *Russell's patent*, for 41½ lbs. rails ...	12	7 0 0	Per set of two.	0 11	12 6	C	
124	10th July ...	19 of '85	Nagpur-Chhattisgarh ...		*Stroudley's*, crucible, cast steel, for 41½ lbs. rails							
					4 Left	8	14 15 0	Total	0 7	14 11	B	
					4 Right							
125	21st July ...	20 of '85	Eastern Bengal ...		Engine, *Russell's patent*, for 75 lbs. rails ...	30 = 15 sets	9 10 0	Set	4 2	22 6	C	
					Carriage and wagon, ditto ...	10 = 5 sets	7 7 0	„				
137	24th November ...	60 of '85	Naraingunge-Dacca-Mymensingh ...		*Russell's*, for 41½ lbs. rails	20	7 0 0	Pair	0 18	15 0	C	

CLASS B—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

APPENDIX B.

£ s. d.

Two Worthington "Pressure" pumps.

Each pump is to have two steam cylinders each 7½" diameter; two double acting externally packed water plungers each 4¼" diameter, all of 10" stroke (7½" × 4¼" × 10") and each capable of delivering 30,000 gallons in ten hours (50 gallons per minute) to a height of 400 feet through about 2½ miles of delivery pipe, the diameter of which shall not be less than 4" with an effective steam pressure of 85lbs. per square inch, and when running at a piston speed of about 40 feet per minute.

Pumps to be supplied with the following extras, side pipes and strainers, suitable foot and check valves, vacuum chambers and charging pipes and connections.

Two duplicate sets of working parts for the above, comprising spare pistons, plungers, rods, rings, cylinder covers, valves, seats, guards, springs, crossheads, links, levers, rock shafts, &c., &c.

Two duplicate sets of side pipes and strainers, foot and check valves, charging pipes, &c., &c.

Two 3 × 1½ × 3 Worthington boiler feeding pumps.

Two sets of duplicate parts for the above.

Two 16-H. P. Locomotive Multitubular boilers constructed for a working pressure of 120 to 140 lbs. to the square inch, mounted on wrought iron wheels and equipped with enlarged firebox for burning wood and refuse as fuel, firing tools, spanners, check valves and two 1½" gunmetal stop cocks to connect to pumps, in addition to stop valves on boilers also two Gresham and Craven's injectors with all connections complete.

Two galvanised wrought iron tanks each 200 gallons.

Copper pipes and bends for connecting check valves with rising mains of pumps with spare lengths to admit of position of pumps being slightly altered. Connections from boiler feed pump to banks for suction to boilers for delivery steam and exhaust connection for same. Injector connections to tank. A suitable length of 2" exhaust pipe and bends with a few spare connecting pieces, say 24 feet with sockets. All the above connections and fittings numbered to allow of their being ready re-put together.

Packing for shipment.

The whole of the above delivered free on board London for the sum of eight hundred and forty-one pounds twelve shillings nett — 841 12 0

N.B.—4" foot valves have been quoted by the contractors on the understanding that 4" suction pipe is to be used.

The boiler specified above will be manufactured by Messrs. Marshall Sons and Co. of Gainsborough and thoroughly tested at their works.

Enclosure to Director General of Railways' Circular No. 14 of 1886.

RATE LIST.

CLASS B.

ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

FOR 1885.

Enclosure to Director General of Railways' Circular No. 14 of 1886.

RATE LIST.

CLASS B.

ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

FOR 1885.

Enclosure to Director General of Railways' Circular No. 14, dated 29th November 1886.

INDIAN STATE RAILWAYS.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885.

Contract. No. B.	Contract. Date. 1885.	No. of Indent.	For what Railway.	Article.	Details.			Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Rate f. o. b. in England as per contract. Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Entire sea freight per ton to Port. Port.	Remarks.
									£ s. d.		Ton. Cwt.	S.		
127	21st September ...	40 of '85	Ferozepore Bridge Works	Apparatus, diving.	Complete with pumps *as per Appendix A*			Sets 2	96 0 0	Set	2 10	25	K.	
					Spare India rubber dresses ...			No. 4	5 10 0	Each				
					Air hose without couplings (75′ each length)...			Lengths 6	7 1 6	„				
					India rubber wrist rings ...			No. 24	0 0 4	„				
					Maker's Nos. on pulley blocks.	Lifting capacity of blocks in tons.	Diameter of pulley and sheave.							
122	4th June ...	69 of '84	Rajputana-Malwa ...	Blocks, differential, pulley (Weston's),—pulleys for—	5956	3	13″	6	0 10 0	Each	0 18	...	B.	Freight not known as no tonnage and freight account has been received from India Office.
					96477	3	13″	6						
					125490	2	14″	1						
					125488	2	14″	1						
					46003	2	14″	1						
					105906	2	14″	1						
					125491	2	14″	1						
					125492	2	14″	1						
					125487	2	14″	1	0 9 0	„				
					No number	2	14″	5						
					2 / 96480	2	7½″	4						
					3 / 96478	2	7½″	4						
					No number	2	7½″	4						
					96484	1½	7½″	6	0 8 0	„				
					G / 2079	1½	7½″	6						
					B / 4783	1	8″	2						
					B / 4786	1	8″	2						
					B / 4783	1	8″	2	0 4 0	„				
					B / 4784	1	8″	2						
					34751	1	8″	2						
					65285	1	7½″	2						

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

CONTRACT. No. B.	CONTRACT. Date. 1885.	No. of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	Remarks.
							£ s. d.		Ton. Cwt.	S. D.		
120	17th September ...	40 of '85	Ferozepore Bridge Works	Engines, steam, portable.	Six H.P. without reversing gear to burn wood (India Office completion drawing No. B $\frac{169}{1-10}$)	3	580 0 0	Total	19 10	20 0	K.	
Do.	Ditto ...	Do.	Ditto ...		Ten H.P. without reversing gear to burn wood (India Office completion drawing No. B $\frac{161}{1-8}$)	4	1,030 0 0	"	37 10	22 6	K.	
121	4th June ...	16 of '85	Wardha Coal ...	Engines, steam, fire boxes for—	Fire box, Lowmoor, wrought iron, for Clayton and Shuttleworth's portable engine No. 6260, 10-H. P.	1	26 0 0	Each	1 2	13 0	B.	
131	15th October ...	41 of '85	Wardha Coal ...		Fire box, Lowmoor, wrought iron for Robey engine No. 5875 of 12-H.P	1	42 12 0	"	1 12	17 6	B.	
116	13th January ...	68 of '84	Cawnpur-Kalpi ...	Hoists, steam.	Five ton, complete with steel boiler, wrought iron carriages, &c., (India Office completion drawing No. B $\frac{153}{1-7}$)	6	325 0 0	Each	11 14	30 0	C.	
					Boilers, spare (all steel) 4′ × 9′ and cylinders 9″ × 14″.		18 10 0	Per hoist				
128	12th October ...	39 of '85	Indus Valley ...	Jacks, screw, traversing.	Ten ton	12	3 6 6	Each	0 17	18 0	K	
					Spare ratchets with levers complete for ditto	21	0 15 0	"				
140	31st December ...	75 of '85	Ferozepore Bridge Works		Fifteen ton, tested to 19 tons	10	6 0 0	Each	1 8	12 0	K	
123	3rd July ...	19 of '85	Nagpur-Chhattisgarh ...	Jim crows.	With levers complete for 41¼ lbs. rails, steel, flat-footed.	2	5 0 0	Total	0 5	18 0	B	
134	31st October ...	45 of '85	Nagpur-Chhattisgarh ...		With levers complete for 41¼ lbs. rails, steel, flat-footed, weighing 96 lbs. each exclusive of the levers.	2	5 15 0	Total	0 3	20 0	B	

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

CONTRACT. No. B.	CONTRACT. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross Weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	Remarks.
							£ s. d.		Ton Cwt.	S. D.		
135	9th November ...	40 of '85	Ferozepore Bridge Works	Mills, sookee grinding.	Horizontal cornish crushing rollers, including cast iron bed plates. Each machine is fully capable of producing 50 cubic feet of powder per hour from half bricks.	2	243 0 0	Each	10 13	18 0	K	India Office completion drawing Nos. B $\frac{164}{1-5}$ and B $\frac{165}{1-4}$.
					Ditto supplied with elevator and screw to render them automatic.	2	311 0 0	"	14 0	20 0	K	
G1008	30th March ...	60 of '84	Indus Valley ...	Oars	Ash, 16 feet long	24	12 13 6	Total ...	0 13	15 0	K	
					" 14 " "	6						
...	... ...	77 of '85	Bolan ...	Piping, wrought iron and materials for—	4 inch, in 15 and 18 foot lengths	Lengths 4,084 = 71,505 feet.	0 1 6 or 5,362 17 6	Foot Total	336 15	21 0	K	No contract was let. These were supplied by the War Office.
					Flanges, wrought iron, with bolts and nuts ...	25 pairs	1 13 0 or 41 5 0	Pair Total				
					Brushes, tube, fibre, 4″	6	0 1 3 or 0 7 6	Each Total				
					" " steel "	6	0 3 3 or 0 19 6	Each Total				
					Gloves, plate layers	30 pairs	0 1 6 or 2 5 0	Pair Total				
					T clips	10	0 11 6 or 5 15 0	Each Total				
					Reinforcing clips	No. 20	0 8 6 or 8 10 0	Each Total				
					Tongs, pipes 4″	6 pairs	1 10 0 or 9 0 0	Pair Total				
					Air vessels, wrought iron, for 4″ pipes with flanges.	2	4 4 7 or 8 9 2	Each Total				
					Cases	6	0 5 0 or 1 10 0	Each Total				
					Expenses at Woolwich in sorting out, packing, &c.	...	41 17 0	Total				
					Total ...	...	5,482 15 8					

INDIAN STATE RAILWAYS.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

Contract. No. B.	Contract. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Rate f. o. b. in England as per contract. Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Entire sea freight per ton to Port. Port.	Remarks.
							£ s. d.		Ton Cwt.	S. D.		
133	27th October ...	77 of '85	Bolan ...	Piping, wrought iron, materials for—	Bends, 90° wrought iron	25	0 11 8	Each	1 15	21 0	K	These are required for use with the 4″ wrought iron piping supplied by the War Office.
					„ 120° „ „	70	0 11 8	„				
					Tee pieces, wrought iron	9	0 17 6	„				
					Ditto ditto special	2	1 8 0	„				
					Caps, wrought iron for dead ends of piping ...	20	0 9 6	„				
					Sluice valves (taps) for 1,800 lbs. pressure with 2 flanges each, bolts, &c	9	8 5 0	„	2 1	20 0	K	
					Pet cocks ¼″ bore of gunmetal with screwed ends	20	0 4 6	„				
136	20th November ...	77 of '85	Bolan ...	Piping, wrought iron, tools for—	Machines, hand power, combined pipecutting and screwing, from 2″ up to 4″ bore, suitable for fixing to a bench, with 2 sets of dies and cutters for each size of pipe for each of the above machines.	2	125 0 0	Total	1 13	14 8	K	
					Taps for recutting dies (one for each machine)	2	26 0 0	„				
					Taps for tapping or clearing the threads in the socket couplings.	2	42 0 0	„				
					Pipe vices	2	4 0 0	„				
					Taps suitable for tapping holes for pet cocks ¼″ bore	2	0 4 6	„				
					Dies	4 Sets	11 0 0	„				From the Invoice of S. S. *Marlborough* which sailed on 11th January 1886.
					Special master taps and clearing taps ...	2 of each	24 10 0	„				
					Duplicate cutters for the machines ...	2	0 3 0	„				

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

INDIAN STATE RAILWAY.

Statement showing rater free on board in England of articles contracted for by the India Office from January to December 1885—contd.

Contract. No. B.	Contract. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Rate f. o. b. in England as per contract. Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Entire sea freight per ton to Port. Port.	Remarks.
							£ s. d.		Ton. Cwt.	S. D.		
138	23rd December ...	75 of '85	Ferozepore Bridge Works	Press, rail-straightening.	For 62 lbs. flat-footed rails, complete with punching gear (India Office completion drawing No. B166.)	1	26 0 0	Each	0 16	15 0	K	
126	17th September ...	40 of '85	Ferozepore Bridge Works	Pulsometers; boilers for—	With fittings complete for supplying steam to Pulsometers. The boilers to be 25-H. P. nominal each, of the locomotive type and mounted on wheels. Each boiler to be fitted with 100 lineal feet of strong wrought iron gaspiping of 2″ bore fitted with wrought iron flanges faced and drilled to template and fitted with bolts for connecting them. (India Office completion drawing No. B $\frac{163}{1-4}$.)	2	830 0 0	Total	28 7	70 0	K	
130	24th September ...	77 of '85	Bolan ...	Pumps, pressure, Worthington.	Complete with duplicates, boilers, &c., *as per Appendix B.* (India Office original drawing No. B 154.)	2	841 12 0	Total	18 4	41 6	K	
									0 11	16 0	K	Of the duplicate parts.
118	7th March ...	92 of '84	Northern Bengal ...	Ramps.	For 41¼ lbs. rails	6	11 0 0	Total	1 5	12 0	C	Details not known.
					3 Right hand							
					3 Left hand							
119	27th April ...	100 of '84	Tirhoot ...		Carriage, *Russell's patent*, for 41¼ lbs. rails ...	12	7 0 0	Per set of two.	0 11	12 6	C	
124	10th July ...	19 of '85	Nagpur-Chhattisgarh ...		*Stroudley's*, crucible, cast steel, for 41¼ lbs. rails	8	14 15 0	Total	0 7	14 11	B	
					4 Left							
					4 Right							
125	21st July ...	20 of '85	Eastern Bengal ...		Engine, *Russell's patent*, for 75 lbs. rails ...	30 = 15 sets	9 10 0	Set	4 2	22 6	C	
					Carriage and wagon, ditto ...	10 = 5 sets	7 7 0	„				
137	24th November ...	60 of '35	Naraingunge-Dacca-Mymensingh ...		*Russell's*, for 41¼ lbs. rails	20	7 0 0	Pair	0 18	15 0	C	

Statement showing rates free on board in England of Articles contracted for by the India Office from January to December 1885—(concld.)

CONTRACT. No. B.	CONTRACT. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	REMARKS.
139	22nd December ...	Telegram dated 4th, December 1885. 1 of '86	Cawnpore-Kalpi ...	Ropes wire.	Crucible, steel (flexible), each 5,000 feet long 2½ inch circumference.	2	£ s. d. 1 7 6 or 122 15 4	Cwt. Total	Ton. Cwt. 4 10	S. D. 25 0	B.	
					Full details of the ropes are as follows:— No. of strands ... ... 6; No. of wires in each strand ... 19; Diameter of each wire ... ·051 inch; Breaking strain of ditto ... 325 lbs.; Extension of ditto in a length of 6 inches. ·006 inch to ·012 inch; No. of twist per foot of strand ... 4; No. of twist per foot of finished rope 2½; Breaking strain of each strand ... 6,175 lbs.; Breaking strain of finished ropes 16½ tons.; Safe working load of ditto 3 „; Weight f r fathom of ditto 6 lbs.; Total weight of ditto 10,000 „							
129	26th September ...	40 of '85 ...	Ferozepore Bridge Works	Skips ...	3′ × 3′ × 2′ complete for concrete ...	6	7 2 6	Each	6 10	16 0	K.	
117	11th February ...	47 of '84 ...	Wardha Coal ...	Ventilator, automatic, mine; spare parts of—	Recorder and Telltale (of W. H. Bailey and Company's make) for automatically recording variations in mine ventilation, the water gauge and the speed of the fan together with worm and wheel to connect it with the fan shaft.	1	39 10 0	„	0 9	15 0	B.	
					Spare water gauges (Daglish's patent) to be of Bailey and Company's make and indicator connections to the steam cylinders of the fan.	12	18 5 0	Total				
132	15th October ...	40 of '85 ...	Ferozepore Bridge Works	Winches steam.	Five ton, with boilers and wrought-iron carriage complete.	2	416 0 0	Each	25 15	17 3	K	
					300 feet lengths of chain each with hook and link.	2	23 0 0	„				
					Swivel snatch blocks	4	7 10 0	„				

NOTE. B.—Bombay. C.—Calcutta. K.—Karachi. M.—Madras. R.—Rangoon.
For landing charges see Director General of Railway's Circular No. 22, dated 16th December 1885.

G. F. WILSON, Captain, R.E.,
for Director General.

G. C. B. Press, Simla.—No. 316 D. G. R.—2-12-86,—2,000.

Accompaniment to Director General of Railways' Circular No. 14 of 1886.

CLASS B—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

APPENDIX A.

Estimate for diving apparatus complete for one diver.

A three motion diving air pump with three large sized gunmetal cylinders, forged iron crank and two handles, copper cistern with apparatus to keep the cylinders cool, and an arrangement for examination of valves without removing the air pump from chest, the whole fitted in a strong wood chest, with iron caps to protect the crank ends.

1 fly wheel with wrought iron spokes.

Till fitted in interior of chest contains 3 spanners, 1 oil can, 1 screw driver, 2 double connecting union joints, spare valves and springs, and 6 spare helmet nut and screws.

1 strong wood helmet and seamen's chest containing 1 improved helmet with segmental screw to remove the head piece by one-eighth of a turn, strong plate glasses in brass frames, front one to unscrew, brass collar and screws with which the dress is fastened water tight, one outlet valve and one gunmetal inlet valve with regulating valve on head piece.

1 helmet cushion stuffed with horse hair.

1 helmet nut spunner.

100 feet of India rubber air pipe with gunmetal union joints.

2 waterproof diving dresses with vulcanized India rubber collars and cuffs.

12 vulcanized wrist bands.

4 guernsey frocks, 4 pairs drawers.

4 pairs stockings, 1 woollen cap.

1 pair overall stockings, 1 neckerchief.

1 canvas overall dress 90 feet signal line.

1 pair boots, lead soles, 2 lead weights.

1 knife in watertight case.

1 leather belt and gunmetal pipe holder.

1 can solution, 1 sheet prepared canvas.

1 spare brass screw frame for helmet.

2 spare glasses, 1 book of instruction complete.

Enclosure to Director General of Railways' Circular No. 14 of 1886.

RATE LIST.

CLASS B.
ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

FOR 1885.

Enclosure to Director General of Railways' Circular No. 14 of 1886.

RATE LIST.

CLASS B.

ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

FOR 1885.

Enclosure to Director General of Railways' Circular No. 14, dated 29th November 1886.

INDIAN STATE RAILWAYS.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885.

Contract. No. B.	Contract. Date. 1885.	No. of Indent.	For what Railway.	Article.	Details.	Maker's Nos. on pulley blocks.	Lifting capacity of blocks in tons.	Diameter of pulley and sheave.	Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Port.	Remarks.
										£ s. d.		Ton. Cwt.	S.		
127	21st September ...	40 of '85	Ferozepore Bridge Works	Apparatus, diving.	Complete with pumps *as per Appendix A*				Sets 2	96 0 0	Set	2 10	25	K.	
					Spare India rubber dresses ...				No. 4	5 10 0	Each				
					Air hose without couplings (75' each length)...				Lengths 6	7 1 6	„				
					India rubber wrist rings ...				No. 24	0 0 4	„				
122	4th June ...	69 of '84	Rajputana-Malwa ...	Blocks, differential, pulley (Weston's) ;—pulleys for—		5956	3	13″	6	0 10 0	Each	0 18	...	B.	Freight not known as no tonnage and freight account has been received from India Office.
						96477	3	13″	6						
						125490	2	14″	1						
						125488	2	14″	1						
						46003	2	14″	1						
						105906	2	14″	1						
						125491	2	14″	1						
						125492	2	14″	1						
						125487	2	14″	1	0 9 0	„				
						No number	2	14″	5						
						2 / 96480	2	7½″	4						
						3 / 96478	2	7½″	4						
						No number	2	7½″	4						
						96484	1½	7½″	6						
						G / 2079	1½	7½″	6	0 8 0	„				
						B / 4783	1	8″	2						
						B / 4786	1	8″	2						
						B / 4783	1	8″	2	0 4 0	„				
						B / 4784	1	8″	2						
						34751	1	8″	2						
						65285	1	7½″	2						

CLASS B.—ENGINEER'S PLANT, (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

CONTRACT. No. B.	CONTRACT. Date. 1885.	No. of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	Remarks.
							£ s. d.		Ton. Cwt.	S. D.		
120	17th September ...	40 of '85	Ferozepore Bridge Works	Engines, steam, portable.	Six H.P. without reversing gear to burn wood (India Office completion drawing No. B $\frac{160}{1-10}$)	3	580 0 0	Total	19 10	20 0	K.	
Do.	Ditto ...	Do.	Ditto ...		Ten H.P. without reversing gear to burn wood (India Office completion drawing No. B $\frac{161}{1-8}$)	4	1,030 0 0	„	37 10	22 6	K.	
121	4th June ...	16 of '85	Wardha Coal ...	Engines, steam, fire boxes for—	Fire box, Lowmoor, wrought iron, for Clayton and Shuttleworth's portable engine No. 6260, 10-H. P.	1	26 0 0	Each	1 2	13 0	B.	
131	15th October ...	41 of '85	Wardha Coal ...		Fire box, Lowmoor, wrought iron for Robey engine No. 5875 of 12-H.P	1	42 12 0	„	1 12	17 6	B.	
116	13th January ...	68 of '84	Cawnpur-Kalpi ...	Hoists, steam.	Five ton, complete with steel boiler, wrought iron carriages, &c., (India Office completion drawing No. B $\frac{153}{1-7}$)	6	325 0 0	Each	11 14	30 0	C.	
					Boilers, spare (all steel) 4′ × 9′ and cylinders 9″ × 14″.		18 10 0	Per hoist				
128	12th October ...	39 of '85	Indus Valley ...	Jacks, screw, traversing.	Ten ton	12	3 6 6	Each	0 17	18 0	K	
					Spare ratchets with levers complete for ditto	21	0 15 0	„				
140	31st December ...	75 of '85	Ferozepore Bridge Works		Fifteen ton, tested to 19 tons	10	6 0 0	Each	1 8	12 0	K	
123	3rd July ...	19 of '85	Nagpur-Chhattisgarh ...	Jim crows.	With levers complete for 41¼ lbs. rails, steel, flat-footed.	2	5 0 0	Total	0 5	18 0	B	
134	31st October ...	45 of '85	Nagpur-Chhattisgarh ...		With levers complete for 41¼ lbs. rails, steel, flat-footed, weighing 96 lbs. each exclusive of the levers.	2	5 15 0	Total	0 3	20 0	B	

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS.)

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

CONTRACT. No. B.	CONTRACT. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross Weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	Remarks.
							£ s. d.		Ton Cwt.	S. D.		
135	9th November ...	40 of '85	Ferozepore Bridge Works	Mills, sorkee grinding.	Horizontal cornish crushing rollers, including cast iron bed plates. Each machine is fully capable of producing 50 cubic feet of powder per hour from half bricks.	2	243 0 0	Each	10 13	18 0	K	India Office completion drawing Nos. B $\frac{164}{1-5}$ and B $\frac{165}{1-4}$.
					Ditto supplied with elevator and screw to render them automatic.	2	311 0 0	„	14 0	20 0	K	
G1008	30th March ...	60 of '84	Indus Valley ...	Oars	Ash, 16 feet long	24	12 13 6	Total ...	0 13	15 0	K	
					„ 14 „ „	6						
...	... ...	77 of '85	Bolan ...	Piping, wrought iron and materials for—	4 inch, in 15 and 18 foot lengths	Lengths 4,084 = 71,505 feet.	0 1 6 / or / 5,362 17 6	Foot / Total	336 15	21 0	K	No contract was let. These were supplied by the War Office.
					Flanges, wrought iron, with bolts and nuts ...	25 pairs	1 13 0 / or / 41 5 0	Pair / Total				
					Brushes, tube, fibre, 4″	6	0 1 3 / or / 0 7 6	Each / Total				
					„ „ steel „	6	0 3 3 / or / 0 19 6	Each / Total				
					Gloves, plate layers	30 pairs	0 1 6 / or / 2 5 0	Pair / Total				
					T clips	10	0 11 6 / or / 5 15 0	Each / Total				
					Reinforcing clips	No. 20	0 8 6 / or / 8 10 0	Each / Total				
					Tongs, pipes 4″	6 pairs	1 10 0 / or / 9 0 0	Pair / Total				
					Air vessels, wrought iron, for 4″ pipes with flanges.	2	4 4 7 / or / 8 9 2	Each / Total				
					Cases	6	0 5 0 / or / 1 10 0	Each / Total				
					Expenses at Woolwich in sorting out, packing, &c.	...	41 17 0	Total				
					Total ...	...	5,482 15 8					

INDIAN STATE RAILWAYS.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

Contract. No. B.	Contract. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Rate f. o. b. in England as per contract. Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Entire sea freight per ton to Port. Port.	Remarks.
							£ s. d.		Ton Cwt.	S. D.		
133	27th October ...	77 of '85	Bolan ...	Piping, wrought iron, materials for—	Bends, 90° wrought iron	25	0 11 8	Each	1 15	21 0	K	These are required for use with the 4″ wrought iron piping supplied by the War Office.
					„ 120° „ „	70	0 11 8	„				
					Tee pieces, wrought iron	9	0 17 6	„				
					Ditto ditto special	2	1 8 0	„				
					Caps, wrought iron for dead ends of piping ...	20	0 9 6	„				
					Sluice valves (taps) for 1,800 lbs. pressure with 2 flanges each, bolts, &c	9	8 5 0	„	2 1	20 0	K	
					Pet cocks ¼″ bore of gunmetal with screwed ends	20	0 4 6	„				
136	20th November ...	77 of '85	Bolan ...	Piping, wrought iron, tools for—	Machines, hand power, combined pipecutting and screwing, from 2″ up to 4″ bore, suitable for fixing to a bench, with 2 sets of dies and cutters for each size of pipe for each of the above machines.	2	125 0 0	Total	1 13	14 8	K	From the Invoice of S. S. *Marlborough* which sailed on 11th January 1886.
					Taps for recutting dies (one for each machine)	2	26 0 0	„				
					Taps for tapping or clearing the threads in the socket couplings.	2	42 0 0	„				
					Pipe vices	2	4 0 0	„				
					Taps suitable for tapping holes for pet cocks ¼″ bore	2	0 4 6	„				
					Dies	4 Sets	11 0 0	„				
					Special master taps and clearing taps ...	2 of each	24 10 0	„				
					Duplicate cutters for the machines ...	2	0 3 0	„				

INDIAN STATE RAILWAY.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

Contract. No. B.	Contract. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Rate f. o. b. in England as per contract. Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Entire sea freight per ton to Port. Port.	Remarks.
							£ s. d.		Ton. Cwt.	S. D.		
138	23rd December ...	75 of '85	Ferozepore Bridge Works	Press, rail-straightening.	For 62 lbs. flat-footed rails, complete with punching gear (India Office completion drawing No. B166.)	1	26 0 0	Each	0 16	15 0	K	
126	17th September ...	40 of '85	Ferozepore Bridge Works	Pulsometers; boilers for—	With fittings complete for supplying steam to Pulsometers. The boilers to be 25-H. P. nominal each, of the locomotive type and mounted on wheels. Each boiler to be fitted with 100 lineal feet of strong wrought iron gaspiping of 2″ bore fitted with wrought iron flanges faced and drilled to template and fitted with bolts for connecting them. (India Office completion drawing No. B $\frac{163}{1-4}$.)	2	830 0 0	Total	28 7	70 0	K	
130	24th September ...	77 of '85	Bolan ...	Pumps, pressure, Worthington.	Complete with duplicates, boilers, &c., *as per Appendix B.* (India Office original drawing No. B 154.)	2	841 12 0	Total	18 4 0 11	41 6 16 0	K K	Of the duplicate parts.
118	7th March ...	92 of '84	Northern Bengal ...	Ramps.	For 41½ lbs. rails	6	11 0 0	Total	1 5	12 0	C	Details not known.
					3 Right hand							
					3 Left hand							
112	27th April ...	100 of '84	Tirhoot ...		Carriage, *Russell's patent*, for 41½ lbs. rails ...	12	7 0 0	Per set of two.	0 11	12 6	C	
124	10th July ...	19 of '85	Nagpur-Chhattisgarh ...		*Stroudley's*, crucible, cast steel, for 41½ lbs. rails							
					4 Left	8	14 15 0	Total	0 7	14 11	B	
					4 Right							
125	21st July ...	20 of '85	Eastern Bengal ...		Engine, *Russell's patent*, for 75 lbs. rails ...	30 = 15 sets	9 10 0	Set	4 2	22 6	C	
					Carriage and wagon, ditto ...	10 = 5 sets	7 7 0	„				
137	24th November ...	60 of '35	Naraingunge-Dacca-Mymensingh ...		*Russell's*, for 41½ lbs. rails	20	7 0 0	Pair	0 18	15 0	C	

Statement showing rates free on board in England of Articles contracted for by the India Office from January to December 1885—(concld.)

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

CONTRACT. No. B.	CONTRACT. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	REMARKS.
139	22nd December ...	Telegram dated 4th, December 1885. 1 of '86	Cawnpore-Kalpi ...	Ropes wire.	Crucible, steel (flexible), each 5,000 feet long 2¼ inch circumference.	2	£ s. d. 1 7 6 or 122 15 4	Cwt. Total	Ton. Cwt. 4 10	S. D. 25 0	B.	
					Full details of the ropes are as follows:— No. of strands ... ... 6; No. of wires in each strand ... 19; Diameter of each wire ... ·051 inch; Breaking strain of ditto ... 325 lbs.; Extension of ditto in a length of 6 inches. ·006 inch to ·012 inch; No. of twist per foot of strand ... 4; No. of twist per foot of finished rope 2½; Breaking strain of each strand ... 6,175 lbs.; Breaking strain of finished ropes 16½ tons.; Safe working load of ditto 3 „; Weight f r fathom of ditto 6 lbs.; Total weight of ditto 10,000 „							
129	26th September ...	40 of '85 ...	Ferozepore Bridge Works	Skips ...	3′ × 3′ × 2′ complete for concrete ...	6	7 2 6	Each	6 10	16 0	K.	
117	11th February ...	47 of '84 ...	Wardha Coal ...	Ventilator, automatic, mine; spare parts of—	Recorder and Telltale (of W. H. Bailey and Company's make) for automatically recording variations in mine ventilation, the water gauge and the speed of the fan together with worm and wheel to connect it with the fan shaft.	1	39 10 0	„	0 9	15 0	B.	
					Spare water gauges (Daglish's patent) to be of Bailey and Company's make and indicator connections to the steam cylinders of the fan.	12	18 5 0	Total				
132	15th October ...	40 of '85 ...	Ferozepore Bridge Works	Winches steam.	Five ton, with boilers and wrought-iron carriage complete.	2	416 0 0	Each	25 15	17 3	K	
					300 feet lengths of chain each with hook and link.	2	23 0 0	„				
					Swivel snatch blocks	4	7 10 0	„				

NOTE. B.—Bombay. C.—Calcutta. K.—Karachi. M.—Madras. R.—Rangoon.
For landing charges see Director General of Railway's Circular No. 22, dated 16th December 1885.

G. F. WILSON, Captain, R.E.,
for Director General.

G. C. B. Press, Simla.—No. 316 D. G. R.—2-12-86,—2,000.

CLASS B—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

APPENDIX A.

Estimate for diving apparatus complete for one diver.

A three motion diving air pump with three large sized gunmetal cylinders, forged iron crank and two handles, copper cistern with apparatus to keep the cylinders cool, and an arrangement for examination of valves without removing the air pump from chest, the whole fitted in a strong wood chest, with iron cops to protect the crank ends.

1 fly wheel with wrought iron spokes.

Till fitted in interior of chest contains 3 spanners, 1 oil can, 1 screw driver, 2 double connecting union joints, spare valves and springs, and 6 spare helmet nut and screws.

1 strong wood helmet and seamen's chest containing 1 improved helmet with segmental screw to remove the head piece by one-eighth of a turn, strong plate glasses in brass frames, front one to unscrew, brass collar and screws with which the dress is fastened water tight, one outlet valve and one gunmetal inlet valve with regulating valve on head piece.

1 helmet cushion stuffed with horse hair.

1 helmet nut spanner.

100 feet of India rubber air pipe with gunmetal union joints.

2 waterproof diving dresses with vulcanized India rubber collars and cuffs.

12 vulcanized wrist bands.

4 guernsey frocks, 4 pairs drawers.

4 pairs stockings, 1 woollen cap.

1 pair overall stockings, 1 neckerchief.

1 canvas overall dress 90 feet signal line.

1 pair boots, lead soles, 2 lead weights.

1 knife in watertight case.

1 leather belt and gunmetal pipe holder.

1 can solution, 1 sheet prepared canvas.

1 spare brass screw frame for helmet.

2 spare glasses, 1 book of instruction complete.

CLASS B—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

APPENDIX B.

	£	s.	d.
Two Worthington "Pressure" pumps.			
Each pump is to have two steam cylinders each 7½" diameter; two double acting externally packed water plungers each 4¼" diameter, all of 10" stroke (7½" × 4¼" × 10") and each capable of delivering 30,000 gallons in ten hours (50 gallons per minute) to a height of 400 feet through about 2½ miles of delivery pipe, the diameter of which shall not be less than 4" with an effective steam pressure of 85lbs. per square inch, and when running at a piston speed of about 40 feet per minute.			
Pumps to be supplied with the following extras, side pipes and strainers, suitable foot and check valves, vacuum chambers and charging pipes and connections.			
Two duplicate sets of working parts for the above, comprising spare pistons, plungers, rods, rings, cylinder covers, valves, seats, guards, springs, crossheads, links, levers, rock shafts, &c., &c.			
Two duplicate sets of side pipes and strainers, foot and check valves, charging pipes, &c., &c.			
Two 3 × 1½ × 3 Worthington boiler feeding pumps.			
Two sets of duplicate parts for the above.			
Two 16-H. P. Locomotive Multitubular boilers constructed for a working pressure of 120 to 140 lbs. to the square inch, mounted on wrought iron wheels and equipped with enlarged firebox for burning wood and refuse as fuel, firing tools, spanners, check valves and two 1½" gunmetal stop cocks to connect to pumps, in addition to stop valves on boilers also two Gresham and Craven's injectors with all connections complete.			
Two galvanised wrought iron tanks each 200 gallons.			
Copper pipes and bends for connecting check valves with rising mains of pumps with spare lengths to admit of position of pumps being slightly altered. Connections from boiler feed pump to banks for suction to boilers for delivery steam and exhaust connection for same. Injector connections to tank. A suitable length of 2" exhaust pipe and bends with a few spare connecting pieces, say 24 feet with sockets. All the above connections and fittings numbered to allow of their being ready re-put together.			
Packing for shipment.			
The whole of the above delivered free on board London for the sum of eight hundred and forty-one pounds twelve shillings nett	841	12	0

* *N.B.*—4" foot valves have been quoted by the contractors on the understanding that 4" suction pipe is to be used.

The boiler specified above will be manufactured by Messrs. Marshall Sons and Co. of Gainsborogh and thoroughly tested at their works.

From

THE DIRECTOR GENERAL
OF RAILWAYS,

To

Circular No. 14.

Dated Simla, November 29, 1886.

Received

B/c 1495 & 18/4/87

INDIAN STATE RAILWAYS.

Statement showing rates for B class State Railway Stores "Engineer's Plant (excluding Petty Tools)."

G. C. B. Press, Simla.—No. 365 D. G. R.—2-12-86.—2,000.

[*General Distribution.*]

Circular No. 14.

FROM

THE DIRECTOR GENERAL OF RAILWAYS,

To

THE MANAGERS, NORTH-WESTERN AND EASTERN BENGAL STATE RAILWAYS.

THE ENGINEERS-IN-CHIEF, BELLARY-KISTNA, CUDDAPAH-NELLORE, NAGPUR-BENGAL, SIND-PISHIN, BOLAN AND SIND-SAGAR STATE RAILWAYS.

THE ENGINEER-IN-CHIEF, FEROZEPORE BRIDGE WORKS.

THE PORT STOREKEEPERS, STATE RAILWAY DEPARTMENT, CALCUTTA, BOMBAY, AND KARACHI.

Simla, November 29, 1886.

SIR,

I have the honor to forward, for information and guidance, a printed statement showing the rates free on board in England, the gross weight and the entire sea-freight per ton for B class State Railway Stores "Engineer's Plant (excluding Petty Tools)," contracted for by the India Office from January to December 1885.

2. The rates for landing State Railway Stores from vessels at the several ports in India are given in Director General of Railways' Circular No. 22, dated 16th December 1885.

3. The official rate of exchange during the financial year 1885-86 was 1*s.* 7¼*d.* per rupee.

4. In order to arrive at the total cost of materials landed at Port an Insurance charge of one per cent. on the original cost *plus* entire sea-freight should be added in addition to the other incidental charges.

5. In ordering stores, only ⅘ths of the entire sea-freight should be entered in Indents as payable in England.

I have the honor to be,

SIR,

Your most obedient Servant,

G. F. WILSON, Captain, R.E.,

for Director General.

Document accompanying.
Rate List, Class B.—"Engineer's Plant (excluding Petty Tools)."

The Secretaries to the Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab, Public Works Department.
The Secretaries to the Chief Commissioners of the Central Provinces, Burma, Assam and Coorg, Public Works Department.
The Secretaries to the Residents, Hyderabad, and Mysore, Public Works Department.
The Secretaries to the Agents to the Governor General, Rajputana, Central India and Biluchistan, Public Works Department.
The Superintendent of Port Blair and Chief Commissioner, Andaman and Nicobar Islands.
The Director General of Telegraphs.
The Inspector General of Military Works.
The Superintendent of Works, Simla Imperial Circle.
The Accountant General, Public Works Department.
The Director-in-Chief, Indo-European Telegraph.
The Director, Persian Gulf Telegraph.
The Comptroller General.
The Accountant General, Bengal.
The Consulting Engineers for Railways, Madras and Bombay.
The Consulting Engineers to the Government of India for Guaranteed Railways, Calcutta, Agra and Lucknow.
The Agents and Chief Engineers, Bengal Central and Bengal and North-Western Railway Companies, Limited.
The Agent and General Manager, Assam Railways and Trading Company, Limited.

Copy forwarded to the Local Governments, Administrations, and Officers noted in the margin, for information.

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for Director General.

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FROM
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OF RAILWAYS,

To

195 C for
C Section
18-1-87 Voo. C.
P.W. 255/87

Circular No. 14.

Dated Simla, November 29, 1886.

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[*General Distribution.*]

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The Inspector General of Military Works.
The Superintendent of Works, Simla Imperial Circle.
The Accountant General, Public Works Department.
The Director-in-Chief, Indo-European Telegraph.
The Director, Persian Gulf Telegraph.
The Comptroller General.
The Accountant General, Bengal.
The Consulting Engineers for Railways, Madras and Bombay.
The Consulting Engineers to the Government of India for Guaranteed Railways, Calcutta, Agra and Lucknow.
The Agents and Chief Engineers, Bengal Central and Bengal and North-Western Railway Companies, Limited.
The Agent and General Manager, Assam Railways and Trading Company, Limited.

Copy forwarded to the Local Governments, Administrations, and Officers noted in the margin, for information.

G. F. WILSON, Captain, R.E.,
for Director General.

Enclosure to Director General of Railways' Circular No. 14 of 1886.

RATE LIST.

CLASS B.
ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

FOR 1885.

Enclosure to Director General of Railways' Circular No. 14 of 1886.

RATE LIST.

CLASS B.

ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

FOR 1885.

Enclosure to Director General of Railways' Circular No. 14, dated 29th November 1886.

INDIAN STATE RAILWAYS.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885.

CONTRACT. No. B.	CONTRACT. Date. 1885.	No. of Indent.	For what Railway.	Article.	Details.			Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	Remarks.
									£ s. d.		Ton. Cwt.	S.		
127	21st September ...	40 of '85	Ferozepore Bridge Works	Apparatus, diving.	Complete with pumps *as per Appendix A*			Sets 2	96 0 0	Set	2 10	25	K.	
					Spare India rubber dresses ...			No. 4	5 10 0	Each				
					Air hose without couplings (75' each length)...			Lengths 6	7 1 6	,,				
					India rubber wrist rings ...			No. 24	0 0 4	,,				
					Maker's Nos. on pulley blocks.	Lifting capacity of blocks in tons.	Diameter of pulley and sheave.							
122	4th June ...	69 of '84	Rajputana-Malwa ...	Blocks, differential, pulley (Weston's) ;—pulleys for—	5956	3	13″	6	0 10 0	Each	0 18	...	B.	Freight not known as no tonnage and freight account has been received from India Office.
					96477	3	13″	6						
					125490	2	14″	1						
					125488	2	14″	1						
					46003	2	14″	1						
					105906	2	14″	1						
					125491	2	14″	1						
					125492	2	14″	1						
					125487	2	14″	1	0 9 0	,,				
					No number	2	14″	5						
					2 / 96480	2	7½″	4						
					3 / 96478	2	7½″	4						
					No number	2	7½″	4						
					96484	1½	7½″	6						
					G / 2079	1½	7½″	6	0 8 0	,,				
					B / 4783	1	8″	2						
					B / 4786	1	8″	2						
					B / 4783	1	8″	2	0 4 0	,,				
					B / 4784	1	8″	2						
					34751	1	8″	2						
					65285	1	7½″	2						

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

CONTRACT. No.	CONTRACT. Date. 1885.	No. of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	Unit.	Gross weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	Port.	Remarks.
							£ s. d.		Ton. Cwt.	S. D.		
	h September ...	40 of '85	Ferozepore Bridge Works	Engines, steam, portable.	Six H.P. without reversing gear to burn wood (India Office completion drawing No. B $\frac{160}{1-10}$)	3	580 0 0	Total	19 10	20 0	K.	
	Ditto ...	Do.	Ditto ...		Ten H.P. without reversing gear to burn wood (India Office completion drawing No. B $\frac{161}{1-8}$)	4	1,030 0 0	,,	37 10	22 6	K.	
	h June ...	16 of '85	Wardha Coal ...	Engines, steam, fire boxes for—	Fire box, Lowmoor, wrought iron, for Clayton and Shuttleworth's portable engine No. 6260, 10-H. P.	1	26 0 0	Each	1 2	13 0	B.	
	th October ...	41 of '85	Wardha Coal ...		Fire box, Lowmoor, wrought iron for Robey engine No. 5875 of 12-H.P	1	42 12 0	,,	1 12	17 6	B.	
	th January ...	68 of '84	Cawnpur-Kalpi ...	Hoists, steam.	Five ton, complete with steel boiler, wrought iron carriages, &c., (India Office completion drawing No. B $\frac{153}{1-7}$)	6	325 0 0	Each	11 14	30 0	C.	
					Boilers, spare (all steel) 4' × 9' and cylinders 9" × 14".		18 10 0	Per hoist				
	th October ...	39 of '85	Indus Valley ...	Jacks, screw, traversing.	Ten ton	12	3 6 6	Each	0 17	18 0	K	
					Spare ratchets with levers complete for ditto	21	0 15 0	,,				
	last December ...	75 of '85	Ferozepore Bridge Works		Fifteen ton, tested to 19 tons	10	6 0 0	Each	1 8	12 0	K	
	rd July ...	19 of '85	Nagpur-Chhattisgarh ...	Jim crows.	With levers complete for 41½ lbs. rails, steel, flat-footed.	2	5 0 0	Total	0 5	18 0	B	
	1st October ...	45 of '85	Nagpur-Chhattisgarh ...		With levers complete for 41½ lbs. rails, steel, flat-footed, weighing 96 lbs. each exclusive of the levers.	2	5 15 0	Total	0 3	20 0	B	

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

CONTRACT. No. B.	CONTRACT. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	Unit.	Gross Weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	Port.	Remarks.
							£ s. d.		Ton Cwt.	S. D.		
135	9th November ...	40 of '85	Ferozepore Bridge Works	Mills, scorkee grinding.	Horizontal cornish crushing rollers, including cast iron bed plates. Each machine is fully capable of producing 50 cubic feet of powder per hour from half bricks.	2	243 0 0	Each	10 13	18 0	K	India Office comp'etion drawing Nos. B $\frac{164}{1-5}$ and B $\frac{165}{1-4}$.
					Ditto supplied with elevator and screw to render them automatic.	2	311 0 0	,,	14 0	20 0	K	
G1008	30th March ...	60 of '84	Indus Valley ...	Oars	Ash, 16 feet long	24	12 13 6	Total ...	0 13	15 0	K	
					,, 14 ,, ,, ...	6						
...	... ...	77 of '85	Bolan ...	Piping, wrought iron and materials for—	4 inch, in 15 and 18 foot lengths	Lengths 4,084 = 71,505 feet.	0 1 6 / or / 5,362 17 6	Foot / Total	336 15	21 0	K	No contract was let. These were supplied by the War Office.
					Flanges, wrought iron, with bolts and nuts ...	25 pairs	1 13 0 / or / 41 5 0	Pair / Total				
					Brushes, tube, fibre, 4"	6	0 1 3 / or / 0 7 6	Each / Total				
					,, ,, steel ,, ...	6	0 3 3 / or / 0 19 6	Each / Total				
					Gloves, plate layers	30 pairs	0 1 6 / or / 2 5 0	Pair / Total				
					T clips	10	0 11 6 / or / 5 15 0	Each / Total				
					Reinforcing clips	No. 20	0 8 6 / or / 8 10 0	Each / Total				
					Tongs, pipes 4"	6 pairs	1 10 0 / or / 9 0 0	Pair / Total				
					Air vessels, wrought iron, for 4" pipes with flanges.	2	4 4 7 / or / 8 9 2	Each / Total				
					Cases	6	0 5 0 / or / 1 10 0	Each / Total				
					Expenses at Woolwich in sorting out, packing, &c.	...	41 17 0	Total				
					Total ...	...	5,482 15 8					

INDIAN STATE RAILWAYS.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

Contract. No. B.	Contract. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Rate f. o. b. in England as per contract. Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Entire sea freight per ton to Port. Port.	Remarks.
							£ s. d.		Ton Cwt.	S. D.		
133	27th October ...	77 of '85	Bolan ...	Piping, wrought iron, materials for—	Bends, 90° wrought iron	25	0 11 8	Each	1 15	21 0	K	These are required for use with the 4" wrought iron piping supplied by the War Office.
					„ 120° „ „	70	0 11 8	„				
					Tee pieces, wrought iron	9	0 17 6	„				
					Ditto ditto special	2	1 8 0	„				
					Caps, wrought iron for dead ends of piping ...	20	0 9 6	„				
					Sluice valves (taps) for 1,800 lbs. pressure with 2 flanges each, bolts, &c.	9	8 5 0	„	2 1	20 0	K	
					Pet cocks ¼" bore of gunmetal with screwed ends	20	0 4 6	„				
136	20th November ...	77 of '85	Bolan ...	Piping, wrought iron, tools for—	Machines, hand power, combined pipecutting and screwing, from 2" up to 4" bore, suitable for fixing to a bench, with 2 sets of dies and cutters for each size of pipe for each of the above machines.	2	125 0 0	Total	1 13	14 8	K	From the Invoice of S. S. *Marlborough* which sailed on 11th January 1886.
					Taps for recutting dies (one for each machine)	2	26 0 0	„				
					Taps for tapping or clearing the threads in the socket couplings.	2	42 0 0	„				
					Pipe vices	2	4 0 0	„				
					Taps suitable for tapping holes for pet cocks ¼" bore	2	0 4 6	„				
					Dies	4 Sets	11 0 0	„				
					Special master taps and clearing taps ...	2 of each*	24 10 0	„				
					Duplicate cutters for the machines ...	2	0 3 0	„				

INDIAN STATE RAILWAY.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

Statement showing rates free on board in England of articles contracted for by the India Office from January to December 1885—contd.

Contract. No. B.	Contract. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	Rate f. o. b. in England as per contract. Amount.	Rate f. o. b. in England as per contract. Unit.	Gross weight.	Entire sea freight per ton to Port. Rate.	Entire sea freight per ton to Port. Port.	Remarks.
							£ s. d.		Ton. Cwt.	S. D.		
138	23rd December ...	75 of '85	Ferozepore Bridge Works	Press, rail-straightening.	For 62 lbs. flat-footed rails, complete with punching gear (India Office completion drawing No. B166.)	1	26 0 0	Each	0 16	15 0	K	
126	17th September ...	40 of '85	Ferozepore Bridge Works	Pulsometers; boilers for—	With fittings complete for supplying steam to Pulsometers. The boilers to be 25-H. P. nominal each, of the locomotive type and mounted on wheels. Each boiler to be fitted with 100 lineal feet of strong wrought iron gaspiping of 2" bore fitted with wrought iron flanges faced and drilled to template and fitted with bolts for connecting them. (India Office completion drawing No. B $\frac{163}{1-4}$.)	2	830 0 0	Total	28 7	70 0	K	
130	24th September ...	77 of '85	Bolan ...	Pumps, pressure, Worthington.	Complete with duplicates, boilers, &c., *as per Appendix B.* (India Office original drawing No. B 154.)	2	841 12 0	Total	18 4	41 6	K	
									0 11	16 0	K	Of the duplicate parts.
118	7th March ...	92 of '84	Northern Bengal ...	Ramps.	For 41½ lbs. rails							
					3 Right hand	6	11 0 0	Total	1 5	12 0	C	Details not known.
					3 Left hand							
119	27th April ...	100 of '84	Tirhoot ...		Carriage, *Russell's patent*, for 41½ lbs. rails ...	12	7 0 0	Per set of two.	0 11	12 6	C	
124	10th July ...	19 of '85	Nagpur-Chhattisgarh ...		*Stroudley's*, crucible, cast steel, for 41½ lbs. rails							
					4 Left	8	14 15 0	Total	0 7	14 11	B	
					4 Right							
125	21st July ...	20 of '85	Eastern Bengal ...		Engine, *Russell's patent*, for 75 lbs. rails ...	30 = 15 sets	9 10 0	Set	4 2	22 6	C	
					Carriage and wagon, ditto ...	10 = 5 sets	7 7 0	„				
137	24th November ...	60 of '85	Naraingunge-Dacca-Mymensingh ...		*Russell's*, for 41½ lbs. rails	20	7 0 0	Pair	0 18	15 0	C	

INDIAN STATE RAILWAY.

Statement showing rates free on board in England of Articles contracted for by the India Office from January to December 1885—(concld.)

CONTRACT. No. B.	CONTRACT. Date. 1885.	Number of Indent.	For what Railway.	Article.	Details.	Quantity contracted for.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Amount.	RATE f. o. b. IN ENGLAND AS PER CONTRACT. Unit.	Gross weight.	ENTIRE SEA FREIGHT PER TON TO PORT. Rate.	ENTIRE SEA FREIGHT PER TON TO PORT. Port.	REMARKS.
139	22nd December ...	Telegram dated 4th, December 1885. 1 of '86	Cawnpore-Kalpi ...	Ropes wire.	Crucible, steel (flexible), each 5,000 feet long 2½ inch circumference.	2	£ s. d. 1 7 6 or 122 15 4	Cwt. Total	Ton. Cwt. 4 10	S. D. 25 0	B.	
					Full details of the ropes are as follows:— No. of strands ... ... 6; No. of wires in each strand ... 19; Diameter of each wire ... ·051 inch; Breaking strain of ditto ... 325 lbs.; Extension of ditto in a length of 6 inches. ·006 inch to ·012 inch; No. of twist per foot of strand ... 4; No. of twist per foot of finished rope 2½; Breaking strain of each strand ... 6,175 lbs.; Breaking strain of finished ropes 16½ tons.; Safe working load of ditto 3 „; Weight for fathom of ditto 6 lbs.; Total weight of ditto 10,000 „							
129	26th September ...	40 of '85 ...	Ferozepore Bridge Works	Skips ...	3′ × 3′ × 2′ complete for concrete ...	6	7 2 6	Each	6 10	16 0	K.	
117	11th February ...	47 of '84 ...	Wardha Coal ...	Ventilator, automatic, mine; spare parts of—	Recorder and Telltale (of W. H. Bailey and Company's make) for automatically recording variations in mine ventilation, the water gauge and the speed of the fan together with worm and wheel to connect it with the fan shaft.	1	39 10 0	„	0 9	15 0	B.	
					Spare water gauges (Daglish's patent) to be of Bailey and Company's make and indicator connections to the steam cylinders of the fan.	12	18 5 0	Total				
132	15th October ...	40 of '85 ...	Ferozepore Bridge Works	Winches steam.	Five ton, with boilers and wrought-iron carriage complete.	2	416 0 0	Each	25 15	17 3	K	
					300 feet lengths of chain each with hook and link.	2	23 0 0	„				
					Swivel snatch blocks	4	7 10 0	„				

NOTE. B.—Bombay. C.—Calcutta. K.—Karachi. M.—Madras. R.—Rangoon.
For landing charges see Director General of Railway's Circular No. 22, dated 16th December 1885.

G. C. B. Press, Simla.—No. 316 D. G. R.—2-12-86,—2,000.

G. F. WILSON, Captain, R.E.,
for Director General.

Accompaniment to Director General of Railways' Circular No. 14 of 1886.

CLASS B.—ENGINEER'S PLANT (EXCLUDING PETTY TOOLS).

APPENDIX A.

Estimate for diving apparatus complete for one diver.

A three motion diving air pump with three large sized gunmetal cylinders, forged iron crank and two handles, copper cistern with apparatus to keep the cylinders cool, and an arrangement for examination of valves without removing the air pump from chest, the whole fitted in a strong wood chest, with iron caps to protect the crank ends.

1 fly wheel with wrought iron spokes.

Till fitted in interior of chest contains 3 spanners, 1 oil can, 1 screw driver, 2 double connecting union joints, spare valves and springs, and 6 spare helmet nut and screws.

1 strong wood helmet and seamen's chest containing 1 improved helmet with segmental screw to remove the head piece by one-eighth of a turn, strong plate glasses in brass frames, front one to unscrew, brass collar and screws with which the dress is fastened water tight, one outlet valve and one gunmetal inlet valve with regulating valve on head piece.

1 helmet cushion stuffed with horse hair.

1 helmet nut spunner.

100 feet of India rubber air pipe with gunmetal union joints.

2 waterproof diving dresses with vulcanized India rubber collars and cuffs.

12 vulcanized wrist bands.

4 guernsey frocks, 4 pairs drawers.

4 pairs stockings, 1 woollen cap.

1 pair overall stockings, 1 neckerchief.

1 canvas overall dress 90 feet signal line.

1 pair boots, lead soles, 2 lead weights.

1 knife in watertight case.

1 leather belt and gunmetal pipe holder.

1 can solution, 1 sheet prepared canvas.

1 spare brass screw frame for helmet.

2 spare glasses, 1 book of instruction complete.

Accompaniment to Director General of Railways' Circular No. 14 of 1886.

Class B—Engineer's Plant (Excluding Petty Tools).

APPENDIX B.

	£	s.	d.
Two Worthington "Pressure" pumps.			
Each pump is to have two steam cylinders each 7½″ diameter; two double acting externally packed water plungers each 4¼″ diameter, all of 10″ stroke (7½″ × 4¼″ × 10″) and each capable of delivering 30,000 gallons in ten hours (50 gallons per minute) to a height of 400 feet through about 2½ miles of delivery pipe, the diameter of which shall not be less than 4″ with an effective steam pressure of 85lbs. per square inch, and when running at a piston speed of about 40 feet per minute.			
Pumps to be supplied with the following extras, side pipes and strainers, suitable foot and check valves, vacuum chambers and charging pipes and connections.			
Two duplicate sets of working parts for the above, comprising spare pistons, plungers, rods, rings, cylinder covers, valves, seats, guards, springs, crossheads, links, levers, rock shafts, &c., &c.			
Two duplicate sets of side pipes and strainers, foot and check valves, charging pipes, &c., &c.			
Two 3 × 1½ × 3 Worthington boiler feeding pumps.			
Two sets of duplicate parts for the above.			
Two 16-H. P. Locomotive Multitubular boilers constructed for a working pressure of 120 to 140 lbs. to the square inch, mounted on wrought iron wheels and equipped with enlarged firebox for burning wood and refuse as fuel, firing tools, spanners, check valves and two 1½″ gunmetal stop cocks to connect to pumps, in addition to stop valves on boilers also two Gresham and Craven's injectors with all connections complete.			
Two galvanised wrought iron tanks each 200 gallons.			
Copper pipes and bends for connecting check valves with rising mains of pumps with spare lengths to admit of position of pumps being slightly altered. Connections from boiler feed pump to banks for suction to boilers for delivery steam and exhaust connection for same. Injector connections to tank. A suitable length of 2″ exhaust pipe and bends with a few spare connecting pieces, say 24 feet with sockets. All the above connections and fittings numbered to allow of their being ready re-put together.			
Packing for shipment.			
The whole of the above delivered free on board London for the sum of eight hundred and forty-one pounds twelve shillings nett	841	12	0

N.B.—4″ foot valves have been quoted by the contractors on the understanding that 4″ suction pipe is to be used.

The boiler specified above will be manufactured by Messrs. Marshall Sons and Co. of Gainsborogh and thoroughly tested at their works.

Engineer's Plant (Excluding Petty Tools).

B No 149 W 7181/187

The Secretaries to the Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab, Public Works Department.
The Secretaries to the Chief Commissioners of the Central Provinces, Burma, Assam and Coorg, Public Works Department.
The Secretaries to the Residents, Hyderabad, and Mysore, Public Works Department.
The Secretaries to the Agents to the Governor General, Rajputana, Central India and Biluchistan, Public Works Department.
The Superintendent of Port Blair and Chief Commissioner, Andaman and Nicobar Islands.
The Director General of Telegraphs.
The Inspector General of Military Works.
The Superintendent of Works, Simla Imperial Circle.
The Accountant General, Public Works Department.
The Director-in-Chief, Indo-European Telegraph.
The Director, Persian Gulf Telegraph.
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Copy forwarded to the Local Governments, Administrations, and Officers noted in the margin, for information.

L. J. Nicholson

Captain, R.E.,
for Director General.

[*General Distribution.*]

Circular No. 14.

FROM

THE DIRECTOR GENERAL OF RAILWAYS,

To

THE MANAGERS, NORTH-WESTERN AND EASTERN BENGAL STATE RAILWAYS.

THE ENGINEERS-IN-CHIEF, BELLARY-KISTNA, CUDDAPAH-NELLORE, NAGPUR-BENGAL, SIND-PISHIN, BOLAN AND SIND-SAGAR STATE RAILWAYS.

THE ENGINEER-IN-CHIEF, FEROZEPORE BRIDGE WORKS.

THE PORT STOREKEEPERS, STATE RAILWAY DEPARTMENT, CALCUTTA, BOMBAY, AND KARACHI.

Simla, November 29, 1886.

SIR,

I have the honor to forward, for information and guidance, a printed statement showing the rates free on board in England, the gross weight and the entire sea-freight per ton for B class State Railway Stores "Engineer's Plant (excluding Petty Tools)," contracted for by the India Office from January to December 1885.

2. The rates for landing State Railway Stores from vessels at the several ports in India are given in Director General of Railways' Circular No. 22, dated 16th December 1885.

3. The official rate of exchange during the financial year 1885-86 was 1*s.* $7\frac{1}{4}$*d.* per rupee.

4. In order to arrive at the total cost of materials landed at Port an Insurance charge of one per cent. on the original cost *plus* entire sea-freight should be added in addition to the other incidental charges.

5. In ordering stores, only $\frac{4}{5}$ths of the entire sea-freight should be entered in Indents as payable in England.

I have the honor to be,

SIR,

Your most obedient Servant,

G. F. WILSON, Captain, R.E.,

for Director General.

Document accompanying.
Rate List, Class B.—"Engineer's Plant (excluding Petty Tools)."

No,
The Secretary to the Government of Madras
Public Works Department