Public Works (1897) Department.

G.O., No. 20630

DATED 29 July 97

[Despatch Abstract.]

Rate List, Class A.- Brick work for 586. Circular from the Director General of Railways forwarding with remarks &c — Copies to Heads of the Prov.

[P.W. 25. 5,000—30-11-96.]

1 - 2E 29-7-97

Indexed.

BACK PAPERS.

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Public Works (1897) Department

CURRENT No. 676

B/Sec

From The Director-General of Railways, Simla

Order No 2063 W 29-7-97

Cir No. 3

Communicated to Offices of the P.W.D. Dept.

Dated 24th June 1897.

Received

Registered 12-7-97

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T. Ha

SUBJECT.

Rate list Class A - Bridgework for 1896

Ch. S. for info. with respect list.

Supdg Engr

C.A. to Govt

Forwarding printed statement showing the actual English rates free on board in England for A class, State Railway Stores viz "Bridgework" contracted for by the Stores Dept of the India Office during 1896.

the 2 copies per P.W. 3 copies sent for by the Stores Dept of the India Office

— do do.

1 — 6 copies per P.W. 3 copies sent for by the Stores Dept of the India Office during 1896.

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O.L.S. 290 12/9/97

BACK PAPERS.

No.	Date.

FURTHER PAPERS.

No.	Date.

[*General Distribution.*]

Circular No. 3.

FROM

THE DIRECTOR GENERAL OF RAILWAYS,

TO

THE MANAGER, NORTH-WESTERN RAILWAY.
THE MANAGER, OUDH AND ROHILKHAND RAILWAY.
THE MANAGER, EASTERN BENGAL STATE RAILWAY.
THE MANAGER, EAST COAST RAILWAY.
THE ENGINEER-IN-CHIEF, KOTRI-ROHRI RAILWAY.
THE ENGINEER-IN-CHIEF, MARI-ATTOCK RAILWAY.
THE ENGINEER-IN-CHIEF, BEZWADA-MADRAS RAILWAY.
THE ENGINEER-IN-CHIEF, RAE BARELI-BENARES RAILWAY.
THE ENGINEER-IN-CHIEF, GODAVERY BRIDGE WORKS.
THE ENGINEER-IN-CHIEF, HURDWAR-DEHRA RAILWAY SURVEY.
THE PORT STOREKEEPER, STATE RAILWAY DEPARTMENT, CALCUTTA.

Rate List, Class A.—Bridgework for 1896.

Simla, the 24th June 1897.

SIR,

I have the honour to forward herewith, for information and guidance, a printed statement showing the actual English rates *free on board* in England for A. Class, State Railway Stores, *viz.*, "Bridgework," contracted for by the Stores Department of the India Office during the year 1896.

2. A statement showing the average rates per ton for entire sea freight, on Bridgework sent out from England to the several ports in India during 1896, is prefixed to the Rate list.

3. In order to arrive at the total cost of the Bridgework landed in India, an insurance charge of one-half* per cent. on the *free on board* cost *plus* entire sea freight, should be added in addition to other incidental charges and exchange, which latter should be calculated at the official rate for the year.

4. A statement, showing the weight and f. o. b. cost of steel and iron for bridge girders, of 250 feet span and upwards, which have been obtained for state railways through the India Office up to end of 1896, has been added at end of the list as Appendix A.

I have the honour to be,

SIR,

Your most obedient Servant,

F. R. UPCOTT,

Offg. Director General of Railways.

Documents accompanying.

1. Statement showing the average rates per ton for entire sea freight on Class A. Stores imported from England to the several ports during 1896.
2. Rate List, Class A.—Bridgework for 1896.

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* *For State Railway Stores and Irrigation Works only classed as Imperial. Stores for Provincial and Local funds and for railways constructed by Native States are charged one per cent. as heretofore.*

The Secretaries to the Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh the Punjab, and Burma, Public Works Department.
The Secretaries to the Chief Commissioners of the Central Provinces, and Assam, Public Works Department.
The Secretaries to the Residents at Hyderabad and in Mysore, Public Works Department.
The Secretaries to the Agents to the Governor General, Rajputana and Central India, and Baluchistan, Public Works Department.
The Superintendent of Port Blair and Chief Commissioner, Andaman and Nicobar Islands.
The Director General of Telegraphs.
The Director General of Military Works.
The Chief Engineer, Kashmir.
The Accountant General, Bengal.
The Consulting Engineers for Railways, Madras and Bombay.
The Consulting Engineers to the Government of India for Railways, Calcutta, Lucknow, Assam and Burma.

Copy forwarded to the Local Governments and Administrations and to the Officers noted in the margin for information, with the intimation that all Railway Administrations have been supplied with copies direct.

F. Nuffcott

Offg. Director General of Railways.

To

THE Secretary to the Government of Madras
Public Works Department
Railway Branch

Enclosure to Director General of Railways' Circular No. 3 of 1897.

RATE LIST.

CLASS A.

BRIDGE WORK

FOR 1896.

STATEMENT showing the average rates per ton for entire Sea Freight on Bridgework sent out from England to the several ports in India for State Railways of both gauges during 1896.

Description of girders.	Karachi.	Bombay.	Calcutta.	Coconada, Vizagapatam or Madras.	Rangoon.	Remarks.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	
Clear span 5 and 6 feet	17 6	...	19 6	23 3	...	
„ 10 „	...	...	19 6	25 0	27 6	
„ 12 „	20 0	...	(*a*) 18 9	33 8	...	(*a*) *The same for 13 ft. spans.*
„ 15 „	20 0	...	18 9	33 6	...	
„ 20 „	20 6	...	(*b*) 30 6	...	35 0	(*b*) *s. d. 22-6 for 21 and 26 ft. spans.*
„ 30 „	20 6	...	(*c*) 40 0	55 9	...	(*c*) *35-3 for 31 ft. spans.*
„ 40 „	29 9	...	50 6	40 0	30 0	
„ 60 „	29 9	...	60 0	31 9	30 0	
„ 100 „	26 10	...	32 6	...	...	
„ 200 „	...	...	...	..	...	

Note.—Where rates have not been quoted, it should be understood that girders of the dimensions specified were not imported during the year.

CLASS OF STORES. A.—BRIDGEWORK.

5′ 6″ Gauge.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.				Rate—Free on board.				Remarks.
									Amount.			Unit.	
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
55/340 25-2-96	5	Eastern Bengal	Upper.	Trough plates and bearing plates, angle bars rivet heads and spare rivets	1	7	0	0	9	5	0	Ton.	
				No. 16 coach screws	0	0	0	14					
				For all service bolts, nuts, and washers	0	0	1	14					
				Trough plates, 5 feet, complete, with all bolts, rivets, &c.	**1**	**7**	**2**	**0**	**12**	**14**	**5**	**Span.**	
54/128 15-1-96	6	Rae Barelli-Benares,	Ditto.	Corrugated plates, bearing plates angle bars, rivets and spare rivets ...	1	6	2	0	8	2	6	Ton.	Westwood, Baillie & Co's. patent flooring for 6 feet clear span complete.
				No. 18 coach screws	0	0	0	14					
				For all service bolts, nuts, and washers	0	0	1	14					
				Trough plates, 6 feet, complete, with all bolts, rivets, &c.	**1**	**7**	**0**	**0**	**10**	**19**	**4**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted *for in* 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.				Rate—Free on board.				Remarks.
									Amount.			Unit.	
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
55/340 25-2-96	6	Eastern Bengal	Upper.	Trough plates and bearing plates, angle bars, rivets and spare rivets ...	1	9	3	21	9	5	0	Ton.	
				No. 16 coach screws	0	0	0	14					
				For all service bolts, nuts, and washers	0	0	1	14					
				Trough, plates 6 feet, complete, with all bolts, rivets, &c.	**1**	**10**	**1**	**21**	**14**	**1**	**7**	**Span.**	
58/30 1-5-96	6	Bezwada-Madras.	Ditto.	Corrugated plates bearing plates, bars rivets and spare rivets	1	6	2	0	11	0	0	Ton	Westwood baillie's patent trough flooring for 6′ clear span, complete.
				No. 18 coach screws	0	0	0	14					
				For all service bolts, nuts, and washers	0	0	1	14					
				Trough plates, 6 feet, complete, with all bolts, rivets, &c.	**1**	**7**	**0**	**0**	**14**	**17**	**0**	**Span.**	
54/32 8-1-96	9	Oudh and Rohilkhand.	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1	3	1	0	8	7	6	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Girders, plate, 9 feet, complete, with all bolts, rivets, &c.	**1**	**4**	**3**	**14**	**10**	**8**	**4**	**Span.**	
54/32 8-1-96	10	Ditto ...	Ditto ...	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1	6	3	21	8	7	6	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Girders, plate 10 feet, complete, with all bolts, rivets, &c.	**1**	**8**	**2**	**7**	**11**	**19**	**2**	**Span.**	
55/340 25-2-96	12	Eastern Bengal	Ditto.	For all steel in girder-work, including rivet heads and spare rivets ...	1	6	1	0	9	5	0	Ton.	
				For all Lewis bolts, and hook bolts...	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Rolled joists, 12 feet, complete, with all bolts, rivets, &c.	**1**	**7**	**3**	**14**	**12**	**17**	**10**	**Span**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Rate—Free on board. Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
58/107 5-5-96	12	Bezwada-Madras.	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1	3	3	0	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Girders, rolled, 12 feet, complete, with all bolts, rivets, &c.	**1**	**5**	**1**	**14**	**11**	**14**	**9**	**Span.**	
59/62 5-6-96	12	North Western	Ditto ...	For all steel in girder-work, including corrugated plates, &c., rivets, spare rivets, and rivet rods	2	17	3	0	9	16	10¾	Ton	
				For all bolts, nuts, and washers, except service bolts	0	0	2	7					
				For all service bolts, nuts, and washers	0	0	3	0					
				Rolled joists, 12 feet, complete, including bracings and corrugated decking bolts, rivets, &c.	**2**	**19**	**0**	**7**	**30**	**0**	**2**	**Span.**	
65/3 2-12-96	12	East Coast ...	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1	3	3	0	10	5	0	Ton	*Quantities the same as Contract No. 58/107, dated 5th May 1896.*
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Rolled joists, 12 feet, complete, with all bolts, rivets, &c.	**1**	**5**	**1**	**14**	**13**	**0**	**1**	**Span.**	
55/340 25-2-96	13	Eastern Bengal	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	1	8	0	0	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Rolled joists, 13 feet, complete, with all bolts, rivets, &c.	**1**	**9**	**2**	**14**	**13**	**14**	**0**	**Span.**	
55/340 25-2-96	15	Ditto.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	2	6	2	21	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	3	0					
				For all service bolts, nuts, and washers	0	0	1	14					
				Rolled joists, 15 feet, complete, with all bolts, rivets, &c.	**2**	**8**	**3**	**7**	**22**	**11**	**6**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
54/130 — 15-1-96	20	Rae Bareli-Benares.	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	3	13	0	0	8	17	6	Ton	*Quantities the same as in Contract No.* $\frac{53}{101}$, *dated 14th November 1895.*
				For all bolts, nuts, and washers, except service bolts	0	2	0	7					
				For all service bolts, nuts, and washers	0	0	1	14					
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3**	**15**	**1**	**21**	**33**	**9**	**6**	**Span.**	
58/107 — 5-5-96	20	Bezwada Madras.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	3	13	0	0	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	2	0	7					
				For all service bolts, nuts, and washer	0	0	1	14					
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3**	**15**	**1**	**21**	**34**	**17**	**9**	**Span.**	
59/62 — 5-6-96	20	North-Western	Ditto.	For all steel in girder-work, including corrugated floor plates rivets, spare rivets, and rivet rods ...	6	10	1	21	9	16	$10\frac{3}{4}$	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	0	2	7					
				For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 20 feet, complete, including bracing and corrugated decking with bolts, rivets, &c.	**6**	**11**	**3**	**0**	**67**	**2**	**9**	**Span.**	
62/210 — 17-9-96	20	Oudh and Rohilkhand.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	3	14	0	7	9	0	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	2	0	7					
				For all service bolts, nuts, and washers	0	0	1	14					
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3**	**16**	**2**	**0**	**34**	**8**	**6**	**Span.**	
56/257 — 17-3-96	21	Eastern-Bengal	Lower.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	7	6	0	21	9	15	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	2	0	7					
				For all service bolts, nuts, and washers	0	1	2	0					
				Girders, plate, 21 feet, complete, with all bolts, rivets, &c.	**7**	**9**	**3**	**0**	**73**	**0**	**1**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span	Railway	Roadway on upper or lower boom	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Rate—Free on board. Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
56/257 — 17-3-96	26	Eastern Bengal	Lower.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	9 7 3 0	9 15 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 2 0 7			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 26 feet, complete, with all bolts, rivets, &c.	**9 11 1 7**	**93 5 0**	**Span.**	
63/276 — 27-10-96	26	North-Western	Upper.	For all steel in girder-work, including angles bars and plates in floor, rivets, spare rivets, and rivet rods...	10 19 1 0	10 0 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 1 2 0			
				For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 26 feet, complete, with floor and bolts, rivets, &c.	**11 1 2 0**	**110 15 0**	**Span.**	
56/47 — 4-3-96	30	Oudh and Rohilkhand.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	8 15 2 21	9 0 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 2 2 21			
				For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 30 feet, complete, with all bolts, rivets, &c.	**8 19 0 14**	**80 12 2**	**Span.**	
59/62 — 5-6-96	30 skew.*	North-Western	Ditto.	For all steel in girder-work, including corrugated floor plates, rivets, spare rivets, and rivet rods	11 19 3 16	9 16 $10\frac{3}{4}$	Ton.	**Angle of skew 35° 30′.*
				For all bolts, nuts, and washers, except service bolts	0 0 2 9			
				For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 30 feet, complete, including bracings and corrugated decking with bolts, rivets, &c. ...	**12 1 0 25**	**119 1 8**	**Span.**	
62/210 — 17-9-96	30	Oudh and Rohilkhand.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	8 15 2 21	9 0 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 2 2 21			
				For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 30 feet, complete, with all bolts, rivets, &c.	**8 19 0 14**	**80 12 2**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Rate—Free on board. Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
56/256 — 17-3-96	31	Eastern Bengal.	Lower.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	11 9 0 21	9 2 6	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 2 1 14			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 31 feet, complete, with all bolts, rivets, &c.	**11 13 0 7**	**106 6 9**	**Span.**	
54/11 — 2-1-96	40	East Coast ...	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	10 11 1 21	9 5 0	Ton.	*Quantities the same as in Contract No. 53/217 of 25th November 1895.*
				For all bolts, nuts, and washers, except service bolts	0 3 1 0			
				For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10 15 1 21**	**99 12 9**	**Span.**	
54/94 — 14-1-96	40	Mushkaf-Bolan	Upper.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	22 3 1 0	8 17 6	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 1 0 7			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 40 feet, complete, including floor plates and bolts, rivets, &c. ...	**22 5 3 7**	**197 16 7**	**Span.**	
54/94 — 14-1-96	40 skew.	Ditto ...	Ditto.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	23 18 3 0	8 17 6	Ton.	*Out of square 30° to the left.*
				For all bolts, nuts, and washers, except service bolts	0 0 2 7			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, steel, 40 feet, complete, including floor plates, &c., with all bolts, rivets, &c.	**24 0 3 7**	**2 13 7 3**	**Span.**	
54/94 — 14-1-96	40	Ditto ...	Ditto.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	21 9 0 22	8 17 6	Ton.	*On curve 1025·5 feet radius.*
				For all bolts, nuts, and washers, except service bolts	0 2 3 27			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 40 feet, complete, including floor plates and all bolts, rivets, &c. ...	**21 13 2 21**	**192 9 0**	**Span.**	

Note.—All girders for the Mushkaf-Bolan railway are specially designed to carry specially heavy ghat engines, having axle-loads of at least 17 tons.

CLASS OF STORES. A.—BRIDGEWORK—*continued.*

5′ 6″ Gauge.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Rate—Free on board. Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
154/194 14-1-96	40 skew.	Mushkaf-Bolan	Upper.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	22 2 2 20	8 17 6	Ton.	*On curve 1025·5 feet radius. Angle out of square varying.*
				For all bolts, nuts, and washers, except service bolts	0 3 0 4			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 40 feet, complete, including floor plates with all bolts, rivets, &c. ...	**22 7 0 24**	**198 9 0**	**Span.**	
54/94 14-1-96	40 skew.	Ditto ...	Ditto.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	23 5 2 0	8 17 6	Ton.	*On curve 1,259 feet radius. Out of square 45° to right.*
				For all bolts, nuts, and washers, except service bolts	0 0 3 17			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plates, 40 feet, complete, including floor plates with all bolts, rivets, &c. ...	**23 7 3 17**	**207 12 8**	**Span.**	
56/47 4-3-96	30	Oudh and Rohilkhand.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	8 15 2 21	9 0 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 2 2 21			
				For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 30 feet, complete, with all bolts, rivets, &c.	**8 19 0 14**	**80 12 2**	**Span.**	
59/62 5-6-96	30 skew.*	North-Western	Ditto.	For all steel in girder-work, including corrugated floor plates, rivets, spare rivets, and rivet rods	11 19 3 16	9 16 $10\frac{3}{4}$	Ton	** Angle of skew 35° 30′.*
				For all bolts, nuts, and washers, except service bolts	0 0 2 9			
				For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 30 feet, complete, including bracings and corrugated decking with bolts, rivets, &c. ...	**12 1 0 25**	**119 1 8**	**Span.**	
62/210 17-9-96	30	Oudh and Rohilkhand.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	8 15 2 21	9 0 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 2 2 21			
				For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 30 feet, complete, with all bolts, rivets, &c.	**8 19 0 14**	**80 12 2**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.				Rate—free on board. Amount.			Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
56/256 17-3-96	31	Eastern Bengal.	Lower.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	11	9	0	21	9	2	6	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	2	1	14					
				For all service bolts, nuts, and washers	0	1	2	0					
				Girders plate, 31 feet, complete, with all bolts, rivets, &c.	**11**	**13**	**0**	**7**	**106**	**6**	**9**	**Span.**	
54/11 2-1-96	40	East Coast ...	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10	11	1	21	9	5	0	Ton	*Quantities the same as in Contract No. 53/111 of 25th November 1895.*
				For all bolts, nuts, and washers, except service bolts	0	3	1	0					
				For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10**	**15**	**1**	**21**	**99**	**12**	**9**	**Span.**	
54/94 14-1-96	40	Mushkaf-Bolan	Upper.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	22	3	1	0	8	17	6	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	0	7					
				For all service bolts, nuts, and washers	0	1	2	0					
				Girders, plate, 40 feet, complete, including floor plates and bolts, rivets, &c. ..	**22**	**5**	**3**	**7**	**197**	**16**	**7**	**Span.**	
54/94 14-1-96	40 skew.	Ditto ...	Ditto.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	23	18	3	0	8	17	6	Ton	*Out of square 30° to the left.*
				For all bolts, nuts, and washers, except service bolts	0	0	2	7					
				For all service bolts, nuts, and washers	0	1	2	0					
				Girders, steel, 40 feet, complete, including floor plates, &c., with all bolts, rivets, &c.	**24**	**0**	**3**	**7**	**213**	**7**	**3**	**Span.**	
54/94 14-1-93	40	Ditto ..	Ditto.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	21	9	0	22	8	17	6	Ton	*On curve 1025·5 feet radius.*
				For all bolts, nuts, and washers, except service bolts	0	2	3	27					
				For all service bolts, nuts, and washers	0	1	2	0					
				Girders, plate, 40 feet, complete, including floor plates and all bolts, rivets, &c. ...	**21**	**13**	**2**	**21**	**192**	**9**	**0**	**Span.**	

Note.—All girders for the Mushkaf-Bolan railway are specially designed to carry specially heavy ghat engines, having axle-loads of at least 17 tons.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Rate—Free on board. Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
54/94 14-1-96	40 skew.	Mushkaf-Bolan	Upper.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	22 2 2 20	8 17 6	Ton	*On curve 1025·5 feet radius. Angle out of square varying.*
				For all bolts, nuts, and washers, except service bolts	0 3 0 4			
				For all service bolts, nuts, and washers.	0 1 2 0			
				Girders, plate, 40 feet, complete, including floor plates with all bolts, rivets, &c. ...	**22 7 0 24**	**198 9 0**	**Span.**	
54/94 14-1-96	40 Skew.	Ditto ...	Ditto.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	23 5 2 0	8 17 6	Ton	*On curve 1,259 feet radius. Out of square 45° to right.*
				For all bolts, nuts, and washers, except service bolts	0 0 3 17			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 40 feet, complete, including floor plates with all bolts, rivets, &c. ...	**23 7 3 17**	**207 12 8**	**Span.**	
54/214 24-1-96	40	Rae Bareli-Benares.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10 11 1 21	9 5 0	Ton	
				For all bolts, nuts, and washers, except service bolts	0 3 1 0			
				For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10 15 1 21**	**99 12 9**	**Span.**	
54/236 28-1-96	40	Mushkaf-Bolan	Ditto.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	21 1 3 7	9 5 0	Ton	*On curve 914 feet radius.*
				For all bolts, nuts, and washers, except service bolts	0 2 2 21			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 40 feet, complete, including floor plates with all bolts, rivets, &c. ...	**21 6 0 0**	**197 0 6**	**Span**	
56/255 17-3-96	40	Eastern Bengal	Lower.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	16 14 3 21	9 7 6	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 2 3 14			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**16 19 1 7**	**159 1 0**	**Span.**	

Note.—All girders for the Mushkaf-Bolan railway are specially designed to carry specially heavy ghat engines, having axle-loads of at least 17 tons.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
				For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10	11	1	21					
				For all bolts, nuts, and washers, except service bolts	0	3	1	0	9	1	6	Ton.	
58/532 — 27-5-96	40	Bezwada-Madras.	Upper.	For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10**	**15**	**1**	**21**	**97**	**15**	**0**	**Span.**	
				For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10	11	1	21					
				For all bolts, nuts, and washers, except service bolts	0	3	1	0	11	2	0	Ton.	
60/376 — 23-7-96	40	Ditto ...	Ditto.	For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10**	**15**	**1**	**21**	**118**	**9**	**10**	**Span.**	
				For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10	11	1	21					
				For all bolts, nuts, and washers, except service bolts	0	3	1	0	9	13	6	Ton.	
65/4 — 2-12-96	40	East Coast ...	Ditto	For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10**	**15**	**1**	**21**	**104**	**5**	**0**	**Span.**	
				For all steel in girder-work, including plates, bars, and corrugated, floor plates and packings and rivets, spare rivets, and rivet rods	15	10	3	21					
				For all bolts, nuts, and washers, except service bolts	0	0	2	7	9	7	6	Ton.	
58/103 — 5-5-96	41′ 6″ over all.	North-Western	Ditto.	For all service bolts, nuts, and washers	0	1	2	0					
				Girders, plate, 41 feet 6 inches (over all), complete, including corrugated floor, with all bolts, rivets, &c. ...	**15**	**13**	**0**	**0**	**146**	**14**	**4**	**Span.**	
				For all steel in girder-work, including plates, bars and floor plates and rivets, spare rivets, and rivet rods ...	42	18	1	14					
				For all bolts, nuts and washers, except service bolts	0	1	3	2	9	0	0	Ton	
54/95 — 14-1-96	60	Mushkaf-Bolan	Ditto.	For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates, with all bolts, rivets, &c. ...	**43**	**3**	**0**	**16**	**388**	**8**	**3**	**Span.**	

Note.—All girders for the Mushkaf-Bolan Railway are specially designed to carry specially heavy ghat engines having axle-loads of at least 17 tons,

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
				For all steel in girder-work, including plates, bars, and floor plates and rivets, spare rivets, and rivet rods ...	42	0	3	0					
				For all bolts, nuts, and washers, except service bolts	0	4	2	23	9	0	0	Ton	
54/95 14-1-96	60	Mushkaf-Bolan	Upper.	For all service bolts, nuts, and washers	0	3	0	0					*Out of square 30 to left.*
				Girders, plate, 60 feet, complete, including floor plates, with all bolts, rivets, &c. ...	**42**	**8**	**1**	**23**	**381**	**16**	**1**	**Span.**	
				For all steel in girder-work, including plates, bars, and floor plates, and rivets, spare rivets, and rivet rods...	42	18	2	14					
				For all bolts, nuts, and washers, except service bolts	0	1	2	14	9	0	0	Ton	*On curve 1,132 feet radius.*
54/95 14-1-96	60	Ditto ...	Ditto.	For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates, with all bolts, rivets, &c. ...	**43**	**3**	**1**	**0**	**388**	**9**	**3**	**Span.**	
				For all steel in girder-work, including plates, bars and floor plates, rivets, spare rivets and rivet rods ...	43	11	1	24					
				For all bolts, nuts, and washers, except service bolts	0	4	1	25	9	0	0	Ton	*45° out of square to left, on curve 941 feet radius.*
54/95 14-1-96	60	Mushkaf-Bolan	Ditto.	For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates with all bolts, rivets, &c.	**43**	**18**	**3**	**21**	**395**	**10**	**5**	**Span.**	
				For all steel in girder-work, including plates, bars and floor plates and rivets, spare rivets, and rivet rods ...	41	17	2	5					
				For all bolts nuts, and washers, except service bolts	0	4	3	3	9	0	0	Ton	*30° out of square to right.*
54/95 14-1-96	60	Ditto ...	Ditto.	For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates with all bolts, rivets, &c. ...	**42**	**5**	**1**	**8**	**380**	**7**	**11**	**Span.**	
				For all steel in girder-work, including rivets, spare rivets, and rivet rods...	25	18	3	0					
				For all bolts, nuts, and washers, except service bolts	0	5	0	21	8	17	6	Ton	*Quantities the same as in Contract No. $\frac{54}{330}$ of 28th November 1895.*
54/129 15-1-96	60	Rai Bareli-Benares.	Ditto.	For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, with all bolts, rivets, &c.	**26**	**6**	**3**	**21**	**233**	**16**	**7**	**Spa n**	

Note.—All girders for the Mushkaf-Bolan railway are specially designed to carry specially heavy ghat engines, having axle-loads of at least 17 tons.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Rate—Free on board. Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
54/236 28-1-96	60	Mushkaf-Bolan	Upper.	For all steel in girder-work, including plates, bars and floor plates, rivets, spare rivets, and rivet rods	43	6	3	14	9	5	0	Ton	*On two curves 941 feet and 914 feet radius and out of square 45° to right.*
				For all bolts, nuts, and washers, except service bolts	0	4	1	21					
				For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates with all bolts, rivets, &c. ...	**43**	**14**	**1**	**7**	**404**	**7**	**5**	**Span**	
62/291 28-9-96	63′ 6″ out to out.	North-Western.	Ditto.	For all steel in girder-work, including plates, bars and corrugated plates and packings, &c., rivets, spare rivets, and rivet rods	31	19	1	7	11	8	6	Ton	
				For all bolts, nuts, and washers, except service bolts	0	1	0	7					
				For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 63 feet 6 inches, (out to out), complete, including corrugated floor with all bolts, rivets, &c. ...	**32**	**3**	**1**	**14**	**367**	**0**	**0**	**Span.**	
54/236 28-1-96	100	Mushkaf-Bolan	Ditto.	For all steel in main girders, deck plates, cross bracing, including rivet heads, spare rivets, rivet rods and plates, and under bearings ...	76	6	3	0	9	5	0	Ton.	
				For all steel in rollers and roller frames	0	16	3	0	19	0	0	,,	
				For all cast-iron	3	12	1	0	7	15	0	,,	
				For all bolts for roller frames, &c., and service bolts, nuts, and washers	0	14	0	0	9	5	0	,,	
				Girders, triangulated, 100 feet, complete, including deck, with all bolts, rivets, &c.	**81**	**9**	**3**	**0**	**756**	**10**	**1**	**Span.**	*(On curve 914 feet radius).*
54/236 28-1-96	100	Ditto† ...	Ditto.	For all steel in main girders, deck plates, cross bracing, including rivet heads, spare rivets, rivet rods and plates and under bearings	76	3	3	0	9	5	0	Ton.	
				For all steel in rollers and roller frames	0	16	3	0	19	0	0	,,	
				For all cast-iron	3	12	1	0	7	15	0	,,	
				For all bolts for roller frames, &c., and service bolts, nuts, and washers	0	13	3	0	9	5	0	,,	
				Girders, triangulated. 100 feet, complete, including deck, with all bolts, rivets, &c.	**81**	**6**	**2**	**0**	**755**	**0**	**0**	**Span.**	
54/236 28-1-96	100	‡Ditto ...	Ditto.	For all steel in main girders, deck plates, &c , and cross bracing, including rivet heads, spare rivets, rivet rods, plates and under bearings ...	76	19	2	14	9	5	0	Ton.	*(On two curves and out of square 45° to right.)*
				For all steel in rollers and roller frames	0	16	3	0	19	0	0	,,	
				For all cast-iron	3	12	1	0	7	15	0	,,	
				For all bolts for roller frames, &c., and service bolts, nuts, and washers...	0	13	3	14	9	5	0	,,	
				Girders, triangulated 100 feet complete, including deck with all bolts, rivets, &c.	**82**	**2**	**2**	**0**	**762**	**0**	**0**	**Span.**	

Note.—All girders for the Mushkaf-Bolan railway are specially designed to carry specially heavy ghat engines, having axle-loads of at least 17 tons.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Unit.	Remarks.
	Ft.				Tons cwt. qr. lbs.	£ s. d.		
54/236 28-1-96	100	*Mushkaf-Bolan.	Upper.	For all steel in main girders, deck plates, &c., and cross bracing, including rivet heads, spare rivets, rivet rods, plates and under bearings ...	77 10 0 0	9 5 0	Ton.	*See foot-note on page 19.*
				For all steel and rollers and roller frames	0 16 3 0	19 0 0	,,	
				For all cast-iron	3 12 1 0	7 15 0	,,	*(Out of square 45° to right.)*
				For bolts for roller frames, &c., including service bolts, nuts, and washers...	0 13 3 14	9 5 0	,,	
				Girders, triangulated 100 feet, complete, including deck with all bolts, rivets, &c. ...	**82 12 3 14**	**767 4 0**	**Span.**	
55/45 3-2-96	100	Rai Bareli-Benares.	Ditto.	For all steel in main girders, cross bracing, flooring, curbs and handrailing, including rivet heads, spare rivets, rivet rods and connecting plates at bearings	67 12 0 14	9 5 0	Ton.	
				For all steel in expansion gear ...	0 14 0 0	29 10 0	,,	
				For all cast-iron	3 4 1 0	9 0 0	,,	
				For all bolts, &c., for saddles and roller frames, including service bolts, nuts, and washers ...	0 16 3 21	9 5 0	,,	
				Girders, triangulated. 100 feet, complete, including corrugated floor with all bolts, rivets, etc. ...	**72 7 1 7**	**682 15 0**	**Span.**	
57/507 29-4-96	Ft. 200	Mari Attock	Upper top flange.	For all steel in bridgework, including corrugated floor plates and rivets, bolts, &c.	208 1 0 0	9 19 0	Ton.	
				For all steel in expansion gear, including knuckle pins, rollers, and roller frames	3 10 0 14	28 15 0	,,	
				For all cast-iron	13 0 0 0	8 0 0	,,	
				Girders, triangulated, 200 feet, complete, including corrugated floor, with all bolts, rivets, &c. ...	**224 11 0 14**	**2,274 18 0**	**Span.**	
58/240 14-5-96	Spare parts.	North-Western	...	Steelwork in 22 cross girders ...	22 7 1 7	10 0 0	Ton	*East Beyne Bridge for two spans of 100 feet.*
				Steelwork in four rail girders ...	20 16 0 0			
				Rivet heads, spare rivets, bolts, service bolts, nuts and washers ...	2 13 1 0			
				Girders, plate, consisting of 22 cross and four rail girders, with all bolts, rivets, &c.	**45 16 2 7**	**458 5 6**	**Span.**	
63/92 13-10-96	...	Eastern Bengal	...	Sixteen rolled steel joists 18″ × 7″ 75 lbs. per foot in lengths of 24 feet	13 2 1 4	7 0 0	Ton	= £ 91-16-0.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Unit.	Remarks.
	Ft.				Tons cwt. qr. lbs.	£ s. d.		
57/148 — 8-4-96	Spare parts—*concld.*	Kotri Bridge	...	Steel work in Caissons, 12 feet high, including bond rings, rivets, &c. ...	43 18 3 23	12 15 0	Ton.	
				Lowering rods, couplings and bolts ...	2 2 3 5	18 0 0	,,	
				Each Caisson, complete, with tie rods, bond rings and bolts, nuts rivets, &c. ...	**46 0 3 0**	**598 16 11**	**Each.**	
59/77 — 9-6-96	...	Kotri Bridge	...	Steel work in one Caisson measuring 34 feet × 20 feet × 54 feet high, each with 2 tubes 10 feet diameter and 98 feet high including rivets service bolts nuts and washers, with 20 per cent. extra rivets for erection purposes	180 0 0 0	12 12 9	Ton.	*For sinking with pneumatic apparatus.*
				For two caissons, complete, with all bolts, nuts, rivets, &c.	**360 0 0 0**	**4,550 0 0**	**Total**	Or £2,275 each.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

METRE GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
56/84 — 6-5-96	10	Burma ...	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	0 15 1 7	9 5 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 1 3 14			
				For all service bolts, nuts, and washers	0 0 0 14			
				Rolled joists, 10 feet, complete, with all bolts, rivets, &c.	**0 17 1 7**	**8 0 2**	**Span.**	
57/498 — 29-4-96	10	Mandalay-Kunlon.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	0 15 1 7	9 5 0	Ton.	*Mogoung Myitkyina Extension.
				For all bolts, nuts, and washers, except service bolts	0 1 3 14			
				For all service bolts, nuts, and washers	0 0 0 14			
				Rolled joists, 10 feet, complete, with all bolts, rivets, &c.	**0 17 1 7**	**8 0 2**	**Span.**	
63/63 — 7-10-96	10	Mu Valley* ...	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	0 15 1 7	9 15 0	Ton.	
				For all bolts, nuts and washers, except service bolts	0 1 3 14			
				For all service bolts, nuts, and washers	0 0 0 14			
				Rolled joists, 10 feet, complete, with all bolts, rivets, &c.	**0 17 1 7**	**8 8 10**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*concluded*).

METRE GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Unit.	Remarks.
	Ft				Tons. cwt. qr. lbs	£ s. d.		
57/498 — 29-4-96	20	Mandalay-Kunlon and Mu Valley.	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	2 17 3 0	9 5 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 2 3 7			
				For all service bolts, nuts, and washers	0 0 0 21			
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3 0 3 0**	**28 2 0**	**Span.**	
63/63 — 7-10-96	20	Mu Valley* ...	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	2 17 3 0	9 15 0	Ton	* *Mogoung Myitkyina Extension.*
				For all bolts, nuts, and washers, except service bolts	0 2 3 7			
				For all service bolts, nuts, and washers	0 0 0 21			
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3 0 3 0**	**29 12 4**	**Span.**	
58/75 — 5-5-96	40	Mu Valley and Mandalay-Kunlon.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	9 6 1 21	9 4 0	Ton	*Mogoung Myitkyina Extension.*
				For all bolts, nuts, and washers, except service bolts	0 4 2 21			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**9 12 2 14**	**87 14 6**	**Span.**	
58/75 — 5-5-96	60	*Mu Valley ...	Ditto.	For all steel in girder-work, including deck plates and rivets, spare rivets, and rivet rods	20 15 2 14	9 4 0	Ton	* *Mogoung Myitkyina Extension.*
				For all bolts, nuts, and washers, except service bolts	0 6 1 14			
				For all service bolts, nuts, and washers	0 3 0 0			
				Girders, plate, 60 feet, complete, including decking, with all bolts, rivets, &c. ...	**21 5 0 0**	**217 7 6**	**Span.**	

Enclosure to Director General of Railways' Circular No. 3, dated 24th June 1897.

Appendix A.

Statement showing bridge girders of 250 feet span and above which have been obtained for State Railways through the India Office up to end of 1896.

Number of India Office contracts.	Name of Contractors.	Clear span feet.	Gauge.	Price f. o. b in England.	For what bridge and railway.	Approximate quantity of steel and iron.	Remarks.
				£ s. d.		Tons.	
A 125 of 1884	Westwood, Baillie & Co.	250 ...	Metre	4,010 0 0	Bellary-Kistna railway. (This span was originally intended for the Jhansi-Manikpur railway.)	Steel ... ... 219 Wrought iron ... ... 36½ Cast iron ... ... 13½ Bolts, screws, etc. ... 4 273	Main girders, cross girders, longitudinal girders, and floor-plates are of steel. The whole of the rivets are of steel.
163 of 1885	Westwood, Baillie & Co	250 ...	Do.	3,991 0 0	Gunduck bridge, Tirhoot State railway.	Steel ... ... 215 Wrought iron ... ... 88½ Cast iron ... ... 13½ Bolts, etc. 3½ 320	Main girders are of steel with the exception of plates and angle bars of diaphragms, cross girders, overhead girders, footways, hand-rails, floor, etc., are of wrought iron. The overhead diagonal bracing and gussets are of steel.
16 ,, ...	Patent Shaft and Axle-tree Company.						
A 41 of 1876	Head, Wrightson & Co.	250 ...	5′ 6″	5,942 0 0 & 5,964 0 0	Sutlej bridge, Adamwahan.	Wrought iron ... ... 383¼ Cast iron ... ... 15¾ Steel 5 204¼	Rollers and knuckle pins only are of steel.
A 42 ,, ...	Westwood, Baillie & Co						
A 76 of 1880	Westwood, Baillie & Co.	257 (centres of bearing.)	5′ 6″	4,463 0 0	Indus bridge at Attock	Steel ... ... 241½ Wrought iron ... ... 144½ Cast iron 12½ 398½	Top and bottom booms of main girders and pillars, bracing between top and bottom booms, resting gear and rivets are of steel.
A 77 ,, ...	Westwood, Baillie & Co.	308 ...	5′ 6″	Not given in the contract.	Ditto.	TOTAL WEIGHT ... 553½	314 feet measured from centre to centre of piers was ordered and the girder supplied was for openings of 308 feet. No schedule of quantities for this contract was received.
A 116 of 1883	Westwood, Baillie & Co	278 ... (centre of bearings)	5′ 6″ ...	8,842 0 0	Indus bridge at Sukkur	Steel .. .. 866 Wrought iron ... ... 136½ Cast iron 19 521½	Main girders are of steel with the exception of plates and angle bars of diaphragms in the top boom, the bracings and connections of angle bars of the vertical struts, the stiffenings of the tension the bars and the tapered packings of the angle bars on the inside of the upper boom which parts are of wrought iron, curb plates, longitudinal girders on the footways, diagonal bracing under roadway, corrugated floor-plates, etc., are of steel.
						Bukkur Cantilever.	
146 of 1885	Westwood, Baillie & Co.	Two Cantilevers, each 310 feet long.	5′ 6″	49,403 0 0 (average for each.)	Ditto.	Steel ... ... 1,417 Iron 13¼ 1,430¼	
						Haji-Motu Cantilever.	
						Steel ... ... 1,433¼ Iron 13¼ 1,446½	All steel except bed-plates for trimmers, the chipping pieces under the bed-plates of the girders span, the tubular portion of the bracing of the large pillar and of No. 3 strut and all bolt and screws, all of which are of wrought iron.
						TOTAL ... 2,876½	
4711 of 1891	P. and W. Mclellan ...	300 ...	5′ 6″	6,459 0 0 & 6,421 0 0	Kistna bridge ...	Total weight, 535½ tons (exclusive of snaps.)	All steel except the saddles, knuckles and bed-plates, which are of cast iron and the rolled frames and service bolts which are either of iron or steel.
4712 ,, ...	Head Wrightson & Co.						

Enclosure to Director General of Railways' Circular No. 3, dated 24th June 1897.

Appendix A.

Statement showing bridge girders of 250 feet span and above which have been obtained for State Railways through the India Office up to end of 1896.

Number of India Office contracts.	Name of Contractors.	Clear span feet.	Gauge.	Price f. o. b in England.	For what bridge and railway.	Approximate quantity of steel and iron.	Remarks.
				£ s. d.		Tons.	
A 125 of 1884	Westwood, Baillie & Co.	250 ...	Metre	4,010 0 0	Bellary-Kistna railway. (This span was originally intended for the Jhansi-Manikpur railway.)	Steel ... ... 219 Wrought iron ... ... 36½ Cast iron ... ... 13½ Bolts, screws, etc. ... 4 273	Main girders, cross girders, longitudinal girders, and floor-plates are of steel. The whole of the rivets are of steel.
163 of 1885	Westwood, Baillie & Co	250 ...	Do.	3,991 0 0	Gunduck bridge, Tirhoot State railway.	Steel ... ... 215 Wrought iron ... ... 88½ Cast iron ... ... 13½ Bolts, etc. 3½ 320	Main girders are of steel with the exception of plates and angle bars of diaphragms, cross girders, overhead girders, footways, hand-rails, floor, etc., are of wrought iron. The overhead diagonal bracing and gussets are of steel.
16 ,, ...	Patent Shaft and Axle-tree Company.						
A 41 of 1876	Head, Wrightson & Co.	250 ...	5′ 6″	5,942 0 0 & 5,964 0 0	Sutlej bridge, Adamwahan.	Wrought iron ... ... 383⅓ Cast iron ... ... 15¾ Steel 5 204¼	Rollers and knuckle pins only are of steel.
A 42 ,, ...	Westwood, Baillie & Co						
A 76 of 1880	Westwood, Baillie & Co	257 (centres of bearing.)	5′ 6″	4,463 0 0	Indus bridge at Attock	Steel ... ... 241½ Wrought iron ... ... 144½ Cast iron 12¾ 398½	Top and bottom booms of main girders and pillars, bracing between top and bottom booms, resting gear and rivets are of steel.
A 77 ,, ...	Westwood, Baillie & Co.	308 ...	5′ 6″	Not given in the contract.	Ditto.	TOTAL WEIGHT ... 553½	314 feet measured from centre to centre of piers was ordered and the girder supplied was for openings of 308 feet. No schedule of quantities for this contract was received.
A 116 of 1883	Westwood, Baillie & Co	278 ... (centre of bearings)	5′ 6″ ...	8,842 0 0	Indus bridge at Sukkur	Steel ... ... 866 Wrought iron ... ... 136½ Cast iron 19 521½	Main girders are of steel with the exception of plates and angle bars of diaphragms in the top boom, the bracings and connections of angle bars of the vertical struts, the stiffenings of the tension the bars and the tapered packings of the angle bars on the inside of the upper boom which parts are of wrought iron, curb plates, longitudinal girders on the footways, diagonal bracing under roadway, corrugated floor-plates, etc., are of steel.
						Bukkur Cantilever.	
146 of 1885	Westwood, Baillie & Co.	Two Cantilevers, each 310 feet long.	5′ 6″	49,403 0 0 (average for each.)	Ditto.	Steel ... ... 1,417 Iron 13¼ 1,430¼	
						Haji Motu Cantilever.	
						Steel ... ... 1,433¼ Iron 13¼ 1,446½	All steel except bed-plates for trimmers, the chipping pieces under the bed-plates of the girders span, the tubular portion of the bracing of the large pillar and of No. 3 strut and all bolt and screws, all of which are of wrought iron.
						TOTAL ... 2,876¾	
4711 of 1891	P. and W. Mclellan ...	300 ...	5′ 6″	6,459 0 0 & 6,421 0 0	Kistna bridge ...	Total weight, 535½ tons (exclusive of snaps.)	All steel except the saddles, knuckles and bed-plates, which are of cast iron and the rolled frames and service bolts which are either of iron or steel.
4712 ,, ...	Head Wrightson & Co.						

The Secretaries to the Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh the Punjab, and Burma, Public Works Department.
The Secretaries to the Chief Commissioners of the Central Provinces, and Assam, Public Works Department.
The Secretaries to the Residents at Hyderabad and in Mysore, Public Works Department.
The Secretaries to the Agents to the Governor General, Rajputana and Central India, and Baluchistan, Public Works Department.
The Superintendent of Port Blair and Chief Commissioner, Andaman and Nicobar Islands.
The Director General of Telegraphs.
The Director General of Military Works.
The Chief Engineer, Kashmir.
The Accountant General, Bengal.
The Consulting Engineers for Railways, Madras and Bombay.
The Consulting Engineers to the Government of India for Railways, Calcutta, Lucknow, Assam and Burma.

Copy forwarded to the Local Governments and Administrations and to the Officers noted in the margin for information, with the intimation that all Railway Administrations have been supplied with copies direct.

F. R. UPCOTT,
Offg. Director General of Railways.

To

THE

No. 2063 W 4 29th July 1897.

Communicated to officers of the I. W. department

(Sd) D. M. C
W

CE for Irrigation
Subtg Engineers
C.A. & Govt
Ex. I.W. Accounts

[*General Distribution.*]

Circular No. 3.

FROM

THE DIRECTOR GENERAL OF RAILWAYS,

TO

THE MANAGER, NORTH-WESTERN RAILWAY.
THE MANAGER, OUDH AND ROHILKHAND RAILWAY.
THE MANAGER, EASTERN BENGAL STATE RAILWAY.
THE MANAGER, EAST COAST RAILWAY.
THE ENGINEER-IN-CHIEF, KOTRI-ROHRI RAILWAY.
THE ENGINEER-IN-CHIEF, MARI-ATTOCK RAILWAY.
THE ENGINEER-IN-CHIEF, BEZWADA-MADRAS RAILWAY.
THE ENGINEER-IN-CHIEF, RAE BARELI-BENARES RAILWAY.
THE ENGINEER-IN-CHIEF, GODAVERY BRIDGE WORKS.
THE ENGINEER-IN-CHIEF, HURDWAR-DEHRA RAILWAY SURVEY.
THE PORT STOREKEEPER, STATE RAILWAY DEPARTMENT, CALCUTTA.

Rate List, Class A.—Bridgework for 1896.

Simla, the 24th June 1897.

SIR,

I have the honour to forward herewith, for information and guidance, a printed statement showing the actual English rates *free on board* in England for A. Class, State Railway Stores, *viz.*, "Bridgework," contracted for by the Stores Department of the India Office during the year 1896.

2. A statement showing the average rates per ton for entire sea freight, on Bridgework sent out from England to the several ports in India during 1896, is prefixed to the Rate list.

3. In order to arrive at the total cost of the Bridgework landed in India, an insurance charge of one-half* per cent. on the *free on board* cost *plus* entire sea freight, should be added in addition to other incidental charges and exchange, which latter should be calculated at the official rate for the year.

4. A statement, showing the weight and f. o. b. cost of steel and iron for bridge girders, of 250 feet span and upwards, which have been obtained for state railways through the India Office up to end of 1896, has been added at end of the list as Appendix A.

I have the honour to be,

SIR,

Your most obedient Servant,

F. R. UPCOTT,
Offg. Director General of Railways.

Documents accompanying.

1. Statement showing the average rates per ton for entire sea freight on Class A. Stores imported from England to the several ports during 1896.
2. Rate List, Class A.—Bridgework for 1896.

* *For State Railway Stores and Irrigation Works only classed as Imperial. Stores for Provincial and Local funds and for railways constructed by Native States are charged one per cent. as heretofore.*

[*General Distribution.*]

Circular No. 3.

FROM

THE DIRECTOR GENERAL OF RAILWAYS,

TO

THE MANAGER, NORTH-WESTERN RAILWAY.
THE MANAGER, OUDH AND ROHILKHAND RAILWAY.
THE MANAGER, EASTERN BENGAL STATE RAILWAY.
THE MANAGER, EAST COAST RAILWAY.
THE ENGINEER-IN-CHIEF, KOTRI-ROHRI RAILWAY.
THE ENGINEER-IN-CHIEF, MARI-ATTOCK RAILWAY.
THE ENGINEER-IN-CHIEF, BEZWADA-MADRAS RAILWAY.
THE ENGINEER-IN-CHIEF, RAE BARELI-BENARES RAILWAY.
THE ENGINEER-IN-CHIEF, GODAVERY BRIDGE WORKS.
THE ENGINEER-IN-CHIEF, HURDWAR-DEHRA RAILWAY SURVEY.
THE PORT STOREKEEPER, STATE RAILWAY DEPARTMENT, CALCUTTA.

Rate List, Class A.—Bridgework for 1896.

Simla, the 24th June 1897.

SIR,

I have the honour to forward herewith, for information and guidance, a printed statement showing the actual English rates *free on board* in England for A. Class, State Railway Stores, *viz.*, "Bridgework," contracted for by the Stores Department of the India Office during the year 1896.

2. A statement showing the average rates per ton for entire sea freight, on Bridgework sent out from England to the several ports in India during 1896, is prefixed to the Rate list.

3. In order to arrive at the total cost of the Bridgework landed in India, an insurance charge of one-half* per cent. on the *free on board* cost *plus* entire sea freight, should be added in addition to other incidental charges and exchange, which latter should be calculated at the official rate for the year.

4. A statement, showing the weight and f. o. b. cost of steel and iron for bridge girders, of 250 feet span and upwards, which have been obtained for state railways through the India Office up to end of 1896, has been added at end of the list as Appendix A.

I have the honour to be,

SIR,

Your most obedient Servant,

F. R. UPCOTT,
Offg. Director General of Railways.

Documents accompanying.

1. Statement showing the average rates per ton for entire sea freight on Class A. Stores imported from England to the several ports during 1896.
2. Rate List, Class A.—Bridgework for 1896.

* *For State Railway Stores and Irrigation Works only classed as Imperial. Stores for Provincial and Local funds and for railways constructed by Native States are charged one per cent. as heretofore.*

The Secretaries to the Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh the Punjab, and Burma, Public Works Department.
The Secretaries to the Chief Commissioners of the Central Provinces, and Assam, Public Works Department.
The Secretaries to the Residents at Hyderabad and in Mysore, Public Works Department.
The Secretaries to the Agents to the Governor General, Rajputana and Central India, and Baluchistan, Public Works Department.
The Superintendent of Port Blair and Chief Commissioner, Andaman and Nicobar Islands.
The Director General of Telegraphs.
The Director General of Military Works.
The Chief Engineer, Kashmir.
The Accountant General, Bengal.
The Consulting Engineers for Railways, Madras and Bombay.
The Consulting Engineers to the Government of India for Railways, Calcutta, Lucknow, Assam and Burma.

Copy forwarded to the Local Governments and Administrations and to the Officers noted in the margin for information, with the intimation that all Railway Administrations have been supplied with copies direct.

F. R. UPCOTT,
Offg. Director General of Railways.

No. 2063 W.A./29-7-97
Communicated to officers of the P.W. Dept.
(Sd) D.P.C

To

THE

To Ch. Engr Irrig
" Supdg. Engrs
" C.A. & Genl.
" Ex. Paracts

Enclosure to Director General of Railways' Circular No. 3 of 1897.

RATE LIST.

CLASS A.

BRIDGE WORK

FOR 1896.

G. C. Press, Simla.—No. 1578 P. W. D.—9-7-97.—841.

STATEMENT showing the average rates per ton for entire Sea Freight on Bridgework sent out from England to the several ports in India for State Railways of both gauges during 1896.

Description of girders.	Karachi.	Bombay.	Calcutta.	Coconada, Vizagapatam or Madras.	Rangoon.	Remarks.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	
Clear span 5 and 6 feet	17 6	...	19 6	23 3	...	
„ 10 „	...	...	19 6	25 0	27 6	
„ 12 „	20 0	...	(*a*) 18 9	34 8	...	(*a*) *The same for 13 ft. spans.*
„ 15 „	20 0	...	18 9	33 6	...	
„ 20 „	20 6	...	(*b*) 30 6	...	35 0	*s. d.* (*b*) *22-6 for 21 and 26 ft. spans.*
„ 30 „	20 6	...	(*c*) 40 0	55 9	...	(*c*) *35-3 for 31 ft. spans.*
„ 40 „	29 9	...	50 6	40 0	30 0	
„ 60 „	29 9	...	60 0	31 9	30 0	
„ 100 „	26 10	...	32 6	...	...	
„ 200 „	...	...	...	..	...	

Note.—Where rates have not been quoted, it should be understood that girders of the dimensions specified were not imported during the year.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
55/340 25-2-96	6	Eastern Bengal	Upper.	Trough plates and bearing plates, angle bars, rivets and spare rivets ...	1	9	3	21	9	5	0	Ton.	
				No. 16 coach screws	0	0	0	14					
				For all service bolts, nuts, and washers	0	0	1	14					
				Trough, plates 6 feet, complete, with all bolts, rivets, &c.	**1**	**10**	**1**	**21**	**14**	**1**	**7**	**Span.**	
58/30 1-5-96	6	Bezwada-Madras.	Ditto.	Corrugated plates bearing plates, bars rivets and spare rivets	1	6	2	0	11	0	0	Ton	Westwood baillie's patent trough flooring for 6′ clear span, complete.
				No. 18 coach screws	0	0	0	14					
				For all service bolts, nuts, and washers	0	0	1	14					
				Trough plates, 6 feet, complete, with all bolts, rivets, &c.	**1**	**7**	**0**	**0**	**14**	**17**	**0**	**Span.**	
54/32 8-1-96	9	Oudh and Rohilkhand.	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1	3	1	0	8	7	6	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Girders, plate, 9 feet, complete, with all bolts, rivets, &c.	**1**	**4**	**3**	**14**	**10**	**8**	**4**	**Span.**	
54/32 8-1-96	10	Ditto ...	Ditto ...	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1	6	3	21	8	7	6	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Girders, plate 10 feet, complete, with all bolts, rivets, &c.	**1**	**8**	**2**	**7**	**11**	**19**	**2**	**Span.**	
55/340 25-2-96	12	Eastern Bengal	Ditto.	For all steel in girder-work, including rivet heads and spare rivets ...	1	6	1	0	9	5	0	Ton.	
				For all Lewis bolts, and hook bolts ..	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Rolled joists, 12 feet, complete, with all bolts, rivets, &c.	**1**	**7**	**3**	**14**	**12**	**17**	**10**	**Span**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Rate—Free on board. Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
58/107 5-5-96	12	Bezwada-Madras.	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1	3	3	0	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Girders, rolled, 12 feet, complete, with all bolts, rivets, &c.	**1**	**5**	**1**	**14**	**11**	**14**	**9**	**Span.**	
59/62 5-6-96	12	North Western	Ditto ...	For all steel in girder-work, including corrugated plates, &c., rivets, spare rivets, and rivet rods	2	17	3	0	9	16	$10\frac{3}{4}$	Ton	
				For all bolts, nuts, and washers, except service bolts	0	0	2	7					
				For all service bolts, nuts, and washers	0	0	3	0					
				Rolled joists, 12 feet, complete, including bracings and corrugated decking bolts, rivets, &c.	**2**	**19**	**0**	**7**	**30**	**0**	**2**	**Span.**	
65/3 2-12-96	12	East Coast ...	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1	3	3	0	10	5	0	Ton	*Quantities the same as Contract No. 58/107, dated 5th May 1896.*
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Rolled joists, 12 feet, complete, with all bolts, rivets, &c.	**1**	**5**	**1**	**14**	**13**	**0**	**1**	**Span.**	
55/340 25-2-96	13	Eastern Bengal	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	1	8	0	0	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Rolled joists, 13 feet, complete, with all bolts, rivets, &c.	**1**	**9**	**2**	**14**	**13**	**14**	**0**	**Span.**	
55/340 25-2-96	15	Ditto.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	2	6	2	21	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	3	0					
				For all service bolts, nuts, and washers	0	0	1	14					
				Rolled joists, 15 feet, complete, with all bolts, rivets, &c.	**2**	**8**	**3**	**7**	**22**	**11**	**6**	**Span.**	

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
				For all steel in girder-work, including rivets, spare rivets, and rivet rods...	3 13 0 0			
				For all bolts, nuts, and washers, except service bolts	0 2 0 7	8 17 6	Ton	*Quantities the same as in Contract No.* $\frac{52}{1061}$, *dated 14th November 1895.*
54/130 — 15-1-96	20	Rae Bareli-Benares.	Upper.	For all service bolts, nuts, and washers	0 0 1 14			
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3 15 1 21**	**33 9 6**	**Span.**	
				For all steel in girder-work, including rivets, spare rivets, and rivet rods...	3 13 0 0			
				For all bolts, nuts, and washers, except service bolts	0 2 0 7	9 5 0	Ton.	
58/107 — 5-5-96	20	Bezwada-Madras.	Ditto.	For all service bolts, nuts, and washer	0 0 1 14			
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3 15 1 21**	**34 17 9**	**Span.**	
				For all steel in girder-work, including corrugated floor plates rivets, spare rivets, and rivet rods ...	6 10 1 21			
				For all bolts, nuts, and washers, except service bolts	0 0 2 7	9 16 $10\frac{3}{4}$	Ton.	
59/62 — 5-6-96	20	North-Western	Ditto.	For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 20 feet, complete, including bracing and corrugated decking with bolts, rivets, &c.	**6 11 3 0**	**67 2 9**	**Span.**	
				For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	3 14 0 7			
				For all bolts, nuts, and washers, except service bolts	0 2 0 7	9 0 0	Ton.	
62/210 — 17-9-96	20	Oudh and Rohilkhand.	Ditto.	For all service bolts, nuts, and washers	0 0 1 14			
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3 16 2 0**	**34 8 6**	**Span.**	
				For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	7 6 0 21			
				For all bolts, nuts, and washers, except service bolts	0 2 0 7	9 15 0	Ton.	
56/257 — 17-3-96	21	Eastern-Bengal	Lower.	For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 21 feet, complete, with all bolts, rivets, &c.	**7 9 3 0**	**73 0 1**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Rate—Free on board. Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
56/257 — 17-3-96	26	Eastern Bengal	Lower.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	9 7 3 0	9 15 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 2 0 7			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 26 feet, complete, with all bolts, rivets, &c.	**9 11 1 7**	**93 5 0**	**Span.**	
63/276 — 27-10-96	26	North-Western	Upper.	For all steel in girder-work, including angles bars and plates in floor, rivets, spare rivets, and rivet rods...	10 19 1 0	10 0 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 1 2 0			
				For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 26 feet, complete, with floor and bolts, rivets, &c.	**11 1 2 0**	**110 15 0**	**Span.**	

59/341 — 25-6-96.	Presses. ...	Rail straightening, for mounting on trolly, suitable for rails, steel, flat footed, 75 lbs. per yard with foot 4·2″	26 0 0	Each	Bezwada-Madras.
60/482 — 30-7-96.		Rail straightening, with dies, complete, suitable for rails of Vignoles section, 50 lbs. per yard	23 8 0	,,	Mandalay-Kunlon.
54/275 — 29-1-96	Pulverizers ...	Centrifugal, "Lucops," patent, size F. ...	300 0 0	Each	Mandalay-Kunlon.
		Spare parts for above	125 4 0	Set	
57/386 — 23-4-96		All wearing parts complete for F. size pulverizer, supplied under contract No. $\frac{48}{107}$ ...	125 4 0	,,	Mari-Attock.
		Rollers and rings in addition to the wearing parts of an F. size pulverizer ...	52 6 0	,,	
60/168 — 10-7-96	Pumps ...	Centrifugal, 8″ with single standard, pulley, foot valve and strainer, to lift 30 feet and to deliver 1,200 gallons per minute; to be supplied with 50 feet of W. I. piping and one quarter bend, suitable for either suction or discharge, also 200 feet of additional w. i. piping in 20—nine feet lengths and 4—five feet lengths.	60 12 6	Each	Bezwada-Madras.
61/55 — 7-8-96		Steam, Gwynnes Invincible, centrifugal, double standard, with foot valve and strainer ...			
		4	14 8 0	,,	Mandalay-Kunlon.
		6″	22 5 6	,,	
		8″	32 12 6	,,	

CLASS OF STORES B.—ENGINEERS' PLANT (EXCLUDING PETTY TOOLS)—*continued.*

Contracted for in 1896.

Contract number and date.	Articles.	Details.	Rate—Free on Board. Amount.	Rate—Free on Board. Unit.	For what railway.	Remarks.
			£ s. d.			
62/118 9-9-96	Pumps—*concld.*	Double cylinder hand power with rams $3\frac{1}{2}''$ diameter and 8″ stroke	26 0 0	Each	Burma.	
63/306 29-10-96		Steam, engine, 8 horse power, three throw, diameter of steam cylinders 9 inches, stroke 18″	504 10 0	,,	Rae-Bareli-Benares.	
64/186 10-11-96		Double cylinder, hand power, complete, with $3\frac{1}{2}''$ barrels, 8″ stroke, and 2 fly wheels and capable of delivering 1,000 gallons of water per hour, including 55 feet of $2\frac{1}{4}''$ galvanized iron piping	26 15 6	,,	Rae-Bareli-Benares.	
64/187 10-11-96		Steam, "Worthington," non-compound, duplex, mounted on a hollow *c.i.*, bed plate having two high pressure steam cylinders $5\frac{1}{4}''$ diameter, and two pumps of double action plunger type, capable of delivering 2,500 gallons of water per hour, 80 feet above the source of supply at a piston speed of not more than 75 feet per minute and a boiler pressure of 60 lbs. per square inch.	40 0 0	,,	East Coast.	
64/336 19-11-96		Horizontal, non-compound, duplex, of the "Worthington" regular pattern type, with 2 high pressure steam cylinders $7\frac{1}{2}''$ diameter and 10″ stroke and 2 double action plunger pumps, 6″ cylinders capable of delivering 8,000 gallons of water per hour to a height of 60 feet through a pipe 2,400 feet long	261 10 0	Each	Eastern Bengal.	*Approximate net weight 6 tons.*
61/252 20-8-96 ...		*Spare parts of*:— New valve seat, *gun metal* for the Denaby pumps supplied under contract No. $\frac{4\,3}{10\,6}$ of 12th January 1895	33 0 0	,,	Umaria Colliery.	
		New valve seat, *steel* for the Denaby pumps supplied under contract No. $\frac{4\,3}{10\,6}$ of 12th January 1895 ...	26 0 0	,,		
58/45 1-5-96 ...	Ramps ...	Double sided, suitable for re-railing engines on new 100 lbs. flat-footed steel rails ...	*5 0 0	Pair	North Western.	*Approximate weight per pair =406 lbs.*
		Double sided, suitable for re-railing engines on 75 lbs. flat-footed steel rails ...	3 6 6	,,		*Approximate weight per pair = 286 lbs.*
60/503 30-7-96 ...		Single, (Stroudely type), each set consisting of 2 right and 2 left hand ramps. For re-railing engines, &c., on 50 lb. rails. ...	4 0 0	Set	Mandalay-Kunlon.	
60/507 31-7-96 ...		"Double" Turtleback, (Russel's patent), suitable for re-railing locomotive carriages and wagons on 75 lb. rails of Vignoles section	3 6 6	Pair	Bezwada-Madras ...	*Approximate weight per pair = 286 lbs.*

* *Vide* also Contract No. $\frac{5\,9}{15\,6}$, dated 13th June 1896.

CLASS OF STORES B.—ENGINEERS' PLANT (EXCLUDING PETTY TOOLS)—*continued.*

Contracted for in 1896.

Contract number and date.	Articles.	Details.	Rate—Free on board. Amount.	Unit.	For what railway.	Remarks.
			£. s. d.			
57/45 2-4-96.	Ropes ...	Wire, steel, Lang's lay, 3½″ circumference in coils of 242 fathoms, for middle incline; breaking strain about 54 tons; working strain 5 tons; weight per fathom of rope 14½ lbs.	2 15 0	Cwt.	Dandot Colliery.	
57/45 2-4-96 ...		Wire, steel, Lang's lay, 3¼″ circumference, in coils of 6 00 fathoms for lower incline; breaking strain about 48 tons, working strain 4 tons; weight per fathom of rope 12¼ lbs.	2 15 0	,,		
59/281 23-6-96.		Wire, steel, "Bullivant's" flexible, circumference 4½″ galvanized for mooring caissons; in coils of 60 fathoms or multiples of 60 fathoms; breaking strain about 60 tons; weight per fathom of rope 19 lbs.	2 2 6	,,	Kotri-Rohri for Kotri Bridge.	*Packed on wooden reels to coil 120 fathoms, each reel £ 1-5-0.*
		Wire, steel, "Bullivant's" flexible, circumference 3½″ for working dredgers from steam hoists; in coils of 30 fathoms or multiples of 30 fathoms; breaking strain about 36 tons, weight per fathom of rope 11½ lbs.	2 0 0	,,		*Packed on wooden reels to coil 150 fathoms, each reel £ 1-5-0.*
60/502 30-7-96 ...		Wire, steel, Lang's patent, ⅞″ diameter; 400 feet in length, breaking strain about 21 tons; weight per fathom 7½ lbs.	2 10 3	,,	Umaria Colliery ...	*Pakced on wooden reel, each £ 0-12-6*

54/214	24-1-96	40	Rae Bareli-Benares.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10	11	1	21	9	5	0	Ton	
					For all bolts, nuts, and washers, except service bolts	0	3	1	0					
					For all service bolts, nuts, and washers	0	0	3	0					
					Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10**	**15**	**1**	**21**	**99**	**12**	**9**	**Span.**	
54/236	28-1-96	40	Mushkaf-Bolan	Ditto.	For all steel in girder-work, including floor plates, rivets, spare rivets, and rivet rods	21	1	3	7	9	5	0	Ton	*On curve 914 feet radius.*
					For all bolts, nuts, and washers, except service bolts	0	2	2	21					
					For all service bolts, nuts, and washers	0	1	2	0					
					Girders, plate, 40 feet, complete, including floor plates with all bolts, rivets, &c. ...	**21**	**6**	**0**	**0**	**197**	**0**	**6**	**Span**	
56/255	17-3-96	40	Eastern Bengal	Lower.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	16	14	3	21	9	7	6	Ton.	
					For all bolts, nuts, and washers, except service bolts	0	2	3	14					
					For all service bolts, nuts, and washers	0	1	2	0					
					Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**16**	**19**	**1**	**7**	**159**	**1**	**0**	**Span.**	

Note.—All girders for the Mushkaf-Bolan railway are specially designed to carry specially heavy ghat engines, having axle-loads of at least 17 tons.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.				Rate—Free on board.				Remarks.
									Amount.			Unit.	
	Ft.				Tons.	cwt.	qr.	lbs.	£	*s.*	*d.*		
				For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10	11	1	21					
				For all bolts, nuts, and washers, except service bolts	0	3	1	0	9	1	6	Ton.	
58/532 27-5-96	40	Bezwada-Madras.	Upper.	For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10**	**15**	**1**	**21**	**97**	**15**	**0**	**Span.**	
				For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10	11	1	21					
				For all bolts, nuts, and washers, except service bolts	0	3	1	0	11	2	0	Ton.	
60/376 23-7-96	40	Ditto ...	Ditto.	For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10**	**15**	**1**	**21**	**118**	**9**	**10**	**Span.**	
				For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10	11	1	21					
				For all bolts, nuts, and washers, except service bolts	0	3	1	0	9	13	6	Ton.	
65/4 2-12-96	40	East Coast ...	Ditto	For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10**	**15**	**1**	**21**	**104**	**5**	**0**	**Span.**	
				For all steel in girder-work, including plates, bars, and corrugated, floor plates and packings and rivets, spare rivets, and rivet rods	15	10	3	21					
				For all bolts, nuts, and washers, except service bolts	0	0	2	7	9	7	6	Ton.	
58/103 5-5-96	41′ 6″ over all.	North-Western	Ditto.	For all service bolts, nuts, and washers	0	1	2	0					
				Girders, plate, 41 feet 6 inches (over all), complete, including corrugated floor, with all bolts, rivets, &c. ...	**15**	**13**	**0**	**0**	**146**	**14**	**4**	**Span.**	
				For all steel in girder-work, including plates, bars and floor plates and rivets, spare rivets, and rivet rods ...	42	18	1	14					
				For all bolts, nuts and washers, except service bolts	0	1	3	2	9	0	0	Ton	
54/95 14-1-96	60	Mushkaf-Bolan	Ditto.	For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates, with all bolts, rivets, &c. ...	**43**	**3**	**0**	**16**	**388**	**8**	**3**	**Span.**	

Note.—All girders for the Mushkaf-Bolan Railway are specially designed to carry specially heavy ghat engines having axle-loads of at least 17 tons.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.	RATE—FREE ON BOARD. Amount.	Unit.	REMARKS.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
54/95 14-1-96	60	Mushkaf-Bolan	Upper.	For all steel in girder-work, including plates, bars, and floor plates and rivets, spare rivets, and rivet rods ...	42 0 3 0	9 0 0	Ton	*Out of square 30 to left.*
				For all bolts, nuts, and washers, except service bolts	0 4 2 23			
				For all service bolts, nuts, and washers	0 3 0 0			
				Girders, plate, 60 feet, complete, including floor plates, with all bolts, rivets, &c. ...	**42 8 1 23**	**381 16 1**	**Span.**	
54/95 14-1-96	60	Ditto ...	Ditto.	For all steel in girder-work, including plates, bars, and floor plates, and rivets, spare rivets, and rivet rods...	42 18 2 14	9 0 0	Ton	*On curve 1,132 feet radius.*
				For all bolts, nuts, and washers, except service bolts	0 1 2 14			
				For all service bolts, nuts, and washers	0 3 0 0			
				Girders, plate, 60 feet, complete, including floor plates, with all bolts, rivets, &c. ...	**43 3 1 0**	**388 9 3**	**Span.**	
54/95 14-1-96	60	Mushkaf-Bolan	Ditto.	For all steel in girder-work, including plates, bars and floor plates, rivets, spare rivets and rivet rods ...	43 11 1 24	9 0 0	Ton	*45° out of square to left, on curve 941 feet radius.*
				For all bolts, nuts, and washers, except service bolts	0 4 1 25			
				For all service bolts, nuts, and washers	0 3 0 0			
				Girders, plate, 60 feet, complete, including floor plates with all bolts, rivets, &c.	**43 18 3 21**	**395 10 5**	**Span.**	
54/95 14-1-96	60	Ditto ...	Ditto.	For all steel in girder-work, including plates, bars and floor plates and rivets, spare rivets, and rivet rods ...	41 17 2 5	9 0 0	Ton	*30° out of square to right.*
				For all bolts, nuts, and washers, except service bolts	0 4 3 3			
				For all service bolts, nuts, and washers	0 3 0 0			
				Girders, plate, 60 feet, complete, including floor plates with all bolts, rivets, &c. ...	**42 5 1 8**	**380 7 11**	**Span.**	
54/129 15 1-96	60	Rai Bareli-Benares.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	25 18 3 0	8 17 6	Ton	*Quantities the same as in Contract No. 52/335 of 28th November 1895.*
				For all bolts, nuts, and washers, except service bolts	0 5 0 21			
				For all service bolts, nuts, and washers	0 3 0 0			
				Girders, plate, 60 feet, complete, with all bolts, rivets, &c.	**26 6 3 21**	**233 16 7**	**Span.**	

Note.—All girders for the Mushkaf-Bolan railway are specially designed to carry specially heavy ghat engines, having axle-loads of at least 17 tons.

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Rate—Free on board. Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
54/236 28-1-96	60	Mushkaf-Bolan	Upper.	For all steel in girder-work, including plates, bars and floor plates, rivets, spare rivets, and rivet rods	43 6 3 14	9 5 0	Ton	*On two curves 941 feet and 914 feet radius and out of square 45° to right.*
				For all bolts, nuts, and washers, except service bolts	0 4 1 21			
				For all service bolts, nuts, and washers	0 3 0 0			
				Girders, plate, 60 feet, complete, including floor plates with all bolts, rivets, &c. ...	**43 14 1 7**	**404 7 5**	**Span**	
62/291 28-9-96	63′ 6″ out to out.	North-Western.	Ditto.	For all steel in girder-work, including plates, bars and corrugated plates and packings, &c., rivets, spare rivets, and rivet rods	31 19 1 7	11 8 6	Ton	
				For all bolts, nuts, and washers, except service bolts	0 1 0 7			
				For all service bolts, nuts, and washers	0 3 0 0			
				Girders, plate, 63 feet 6 inches, (out to out), complete, including corrugated floor with all bolts, rivets, &c. ...	**32 3 1 14**	**367 0 0**	**Span.**	
54/236 28-1-96	100	Mushkaf-Bolan	Ditto.	For all steel in main girders, deck plates, cross bracing, including rivet heads, spare rivets, rivet rods and plates, and under bearings ...	76 6 3 0	9 5 0	Ton.	
				For all steel in rollers and roller frames	0 16 3 0	19 0 0	„	
				For all cast-iron	3 12 1 0	7 15 0	„	
				For all bolts for roller frames, &c., and service bolts, nuts, and washers	0 14 0 0	9 5 0	„	
				Girders, triangulated, 100 feet, complete, including deck, with all bolts, rivets, &c.	**81 9 3 0**	**756 10 1**	**Span.**	*(On curve 914 feet radius).*
54/236 28-1-96	100	Ditto† ...	Ditto.	For all steel in main girders, deck plates, cross bracing, including rivet heads, spare rivets, rivet rods and plates and under bearings	76 3 3 0	9 5 0	Ton.	
				For all steel in rollers and roller frames	0 16 3 0	19 0 0	„	
				For all cast-iron	3 12 1 0	7 15 0	„	
				For all bolts for roller frames, &c., and service bolts, nuts, and washers	0 13 3 0	9 5 0	„	
				Girders, triangulated. 100 feet, complete, including deck, with all bolts, rivets, &c.	**81 6 2 0**	**755 0 0**	**Span.**	
54/236 28-1-96	100	‡Ditto ...	Ditto.	For all steel in main girders, deck plates, &c , and cross bracing, including rivet heads, spare rivets, rivet rods, plates and under bearings ...	76 19 2 14	9 5 0	Ton.	*(On two curves and out of square 45° to right.)*
				For all steel in rollers and roller frames	0 16 3 0	19 0 0	„	
				For all cast-iron	3 12 1 0	7 15 0	„	
				For all bolts for roller frames, &c., and service bolts, nuts, and washers...	0 13 3 14	9 5 0	„	
				Girders, triangulated 100 feet complete, including deck with all bolts, rivets, &c.	**82 2 2 0**	**762 0 0**	**Span.**	

Note.—All girders for the Mushkaf-Bolan railway are specially designed to carry specially heavy ghat engines, having axle-loads of at least 17 tons.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.	RATE—FREE ON BOARD. Amount.	Unit.	Remarks.
	Ft.				Tons cwt. qr. lbs.	£ s. d.		
54 / 236 — 28-1-96	100	*Mushkaf-Bolan.	Upper.	For all steel in main girders, deck plates, &c., and cross bracing, including rivet heads, spare rivets, rivet rods, plates and under bearings ...	77 10 0 0	9 5 0	Ton.	*See foot-note on page 19.*
				For all steel and rollers and roller frames	0 16 3 0	19 0 0	,,	
				For all cast-iron	3 12 1 0	7 15 0	,,	*(Out of square 45° to right.)*
				For bolts for roller frames, &c., including service bolts, nuts, and washers...	0 13 3 14	9 5 0	,,	
				Girders, triangulated 100 feet, complete, including deck with all bolts, rivets, &c. ...	**82 12 3 14**	**767 4 0**	**Span.**	
55 / 45 — 3-2-96	100	Rai Bareli-Benares.	Ditto.	For all steel in main girders, cross bracing, flooring, curbs and handrailing, including rivet heads, spare rivets, rivet rods and connecting plates at bearings	67 12 0 14	9 5 0	Ton.	
				For all steel in expansion gear ...	0 14 0 0	29 10 0	,,	
				For all cast-iron	3 4 1 0	9 0 0	,,	
				For all bolts, &c., for saddles and roller frames, including service bolts, nuts, and washers ...	0 16 3 21	9 5 0	,,	
				Girders, triangulated, 100 feet, complete, including corrugated floor with all bolts, rivets, etc. ...	**72 7 1 7**	**682 15 0**	**Span.**	

	Ft.							
57 / 507 — 29-4-96	200	Mari Attock	Upper top flange.	For all steel in bridgework, including corrugated floor plates and rivets, bolts, &c.	208 1 0 0	9 19 0	Ton.	
				For all steel in expansion gear, including knuckle pins, rollers, and roller frames	3 10 0 14	28 15 0	,,	
				For all cast-iron	13 0 0 0	8 0 0	,,	
				Girders, triangulated, 200 feet, complete, including corrugated floor, with all bolts, rivets, &c. ...	**224 11 0 14**	**2,274 18 0**	**Span.**	
58 / 240 — 14-5-96	Spare parts.	North-Western	...	Steelwork in 22 cross girders ...	22 7 1 7	10 0 0	Ton	*East Beyne Bridge for two spans of 100 feet.*
				Steelwork in four rail girders ...	20 16 0 0			
				Rivet heads, spare rivets, bolts, service bolts, nuts and washers ...	2 13 1 0			
				Girders, plate, consisting of 22 cross and four rail girders, with all bolts, rivets, &c.	**45 16 2 7**	**458 5 6**	**Span.**	
63 / 92 — 13-10-96	...	Eastern Bengal	...	Sixteen rolled steel joists 18″ × 7″ 75 lbs. per foot in lengths of 24 feet	13 2 1 4	7 0 0	Ton.	= £ 91-16-0.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ Gauge.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Unit.	Remarks.
	Ft.				Tons cwt. qr. lbs.	£ s. d.		
57/148 — 8-4-96	Spare parts—*concld.*	Kotri Bridge	...	Steel work in Caissons, 12 feet high, including bond rings, rivets, &c. ...	43 18 3 23	12 15 0	Ton.	
				Lowering rods, couplings and bolts ...	2 2 3 5	18 0 0	,,	
				Each Caisson, complete, with tie rods, bond rings and bolts, nuts rivets, &c. ...	**46 0 3 0**	**598 16 11**	**Each.**	
59/77 — 9-6-96	...	Kotri Bridge	...	Steel work in one Caisson measuring 34 feet × 20 feet × 54 feet high, each with 2 tubes 10 feet diameter and 98 feet high including rivets service bolts nuts and washers, with 20 per cent. extra rivets for erection purposes	180 0 0 0	12 12 9	Ton.	*For sinking with pneumatic apparatus.*
				For two caissons, complete, with all bolts, nuts, rivets, &c.	**360 0 0 0**	**4,550 0 0**	**Total.**	Or £2,275 each.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

Metre Gauge.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
56/84 — 6-5-96	10	Burma ...	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	0 15 1 7	9 5 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 1 3 14			
				For all service bolts, nuts, and washers	0 0 0 14			
				Rolled joists, 10 feet, complete, with all bolts, rivets, &c.	**0 17 1 7**	**8 0 2**	**Span.**	
57/498 — 29-4-96	10	Mandalay-Kunlon.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	0 15 1 7	9 5 0	Ton.	**Mogoung Myitkyina Extension.*
				For all bolts, nuts, and washers, except service bolts	0 1 3 14			
				For all service bolts, nuts, and washers	0 0 0 14			
				Rolled joists, 10 feet, complete, with all bolts, rivets, &c.	**0 17 1 7**	**8 0 2**	**Span.**	
63/63 — 7-10-96	10	Mu Valley* ...	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	0 15 1 7	9 15 0	Ton.	
				For all bolts, nuts and washers, except service bolts	0 1 3 14			
				For all service bolts, nuts, and washers	0 0 0 14			
				Rolled joists, 10 feet, complete, with all bolts, rivets, &c.	**0 17 1 7**	**8 8 10**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*concluded*).

METRE GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.				Rate—Free on board.				Remarks.
									Amount.			Unit.	
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
57/498 29-4-96	20	Mandalay-Kunlon and Mu Valley.	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	2	17	3	0	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	2	3	7					
				For all service bolts, nuts, and washers	0	0	0	21					
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3**	**0**	**3**	**0**	**28**	**2**	**0**	**Span.**	
63/63 7-10-96	20	Mu Valley* ...	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	2	17	3	0	9	15	0	Ton	* *Mogoung Myitkyina Extension.*
				For all bolts, nuts, and washers, except service bolts	0	2	3	7					
				For all service bolts, nuts, and washers	0	0	0	21					
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3**	**0**	**3**	**0**	**29**	**12**	**4**	**Span.**	
58/75 5-5-96	40	Mu Valley and Mandalay-Kunlon.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	9	6	1	21	9	4	0	Ton	*Mogoung Myitkyina Extension.*
				For all bolts, nuts, and washers, except service bolts	0	4	2	21					
				For all service bolts, nuts, and washers	0	1	2	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**9**	**12**	**2**	**14**	**87**	**14**	**6**	**Span.**	
58/75 5-5 96	60	*Mu Valley ...	Ditto.	For all steel in girder-work, including deck plates and rivets, spare rivets, and rivet rods	20	15	2	14	9	4	0	Ton	* *Mogoung Myitkyina Extension.*
				For all bolts, nuts, and washers, except service bolts	0	6	1	14					
				For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including decking, with all bolts, rivets, &c. ...	**21**	**5**	**0**	**0**	**217**	**7**	**6**	**Span.**	

Enclosure to Director General of Railways' Circular No. 3, dated 24th June 1897.

Appendix A.

Statement showing bridge girders of 250 feet span and above which have been obtained for State Railways through the India Office up to end of 1896.

Number of India Office contracts.	Name of Contractors.	Clear span feet.	Gauge.	Price f. o. b. in England.	For what bridge and railway.	Approximate quantity of steel and iron.	Remarks.
A 125 of 1884	Westwood, Baillie & Co.	250 ...	Metre	£ s. d. 4,010 0 0	Bellary-Kistna railway. (This span was originally intended for the Jhansi-Manikpur railway.)	Tons. Steel ... ... 219 Wrought iron ... ... 36½ Cast iron ... ... 13½ Bolts, screws, etc. ... 4 273	Main girders, cross girders, longitudinal girders, and floor-plates are of steel. The whole of the rivets are of steel.
163 of 1885	Westwood, Baillie & Co.	250 ...	Do.	3,991 0 0	Gunduck bridge, Tirhoot State railway.	Steel ... ... 215 Wrought iron ... ... 88¼ Cast iron ... ... 13½ Bolts, etc. 3½ 320	Main girders are of steel with the exception of plates and angle bars of diaphragms, cross girders, overhead girders, footways, hand-rails, floor, etc., are of wrought iron. The overhead diagonal bracing and gussets are of steel.
16 ,, ...	Patent Shaft and Axle-tree Company.						
A 41 of 1876	Head, Wrightson & Co.	250 ...	5′ 6″	5,942 0 0 & 5,964 0 0	Sutlej bridge, Adamwahan.	Wrought iron ... ... 383½ Cast iron ... ... 15¼ Steel 5 204¼	Rollers and knuckle pins only are of steel.
A 42 ,, ...	Westwood, Baillie & Co						
A 76 of 1880	Westwood, Baillie & Co.	257 (centres of bearing.)	5′ 6″	4,463 0 0	Indus bridge at Attock	Steel ... ... 241½ Wrought iron ... ... 144½ Cast iron 12¾ 398½	Top and bottom booms of main girders and pillars, bracing between top and bottom booms, resting gear and rivets are of steel.
A 77 ,, ...	Westwood, Baillie & Co.	308 ...	5′ 6″	Not given in the contract.	Ditto.	Total Weight ... 553½	314 feet measured from centre to centre of piers was ordered and the girder supplied was for openings of 308 feet. No schedule of quantities for this contract was received.
A 116 of 1883	Westwood, Baillie & Co.	278 ... (centre of bearings)	5′ 6″ ...	8,842 0 0	Indus bridge at Sukkur	Steel .. .. 866 Wrought iron ... ... 136½ Cast iron 19 521½	Main girders are of steel with the exception of plates and angle bars of diaphragms in the top boom, the bracings and connections of angle bars of the vertical struts, the stiffenings of the tension the bars and the tapered packings of the angle bars on the inside of the upper boom which parts are of wrought iron, curb plates, longitudinal girders on the footways, diagonal bracing under roadway, corrugated floor-plates, etc., are of steel.
146 of 1885	Westwood, Baillie & Co.	Two Cantilevers, each 310 feet long.	5′ 6″	49,403 0 0 (average for each.)	Ditto.	*Bukkur Cantilever.* Steel ... ... 1,417 Iron 13¼ 1,430¼	
						Haji-Motu Cantilever. Steel ... ... 1,433¼ Iron 13¼ 1,446½	All steel except bed-plates for trimmers, the chipping pieces under the bed-plates of the girders span, the tubular portion of the bracing of the large pillar and of No. 3 strut and all bolt and screws, all of which are of wrought iron.
4711 of 1891	P. and W. Mclellan ...	300 ...	5′ 6″	6,459 0 0 & 6,421 0 0	Kistna bridge ...	Total ... 2,876¾ Total weight, 535½ tons (exclusive of snaps.)	All steel except the saddles, knuckles and bed-plates, which are of cast iron and the rolled frames and service bolts which are either of iron or steel.
4712 ,, ...	Head Wrightson & Co.						

Enclosure to Director General of Railways' Circular No. 3 of 1897.

RATE LIST.

CLASS A.

BRIDGE WORK

FOR 1896.

G. C. Press, Simla.—No. 1578 P. W. D.—9-7-97.—841.

STATEMENT showing the average rates per ton for entire Sea Freight on Bridgework sent out from England to the several ports in India for State Railways of both gauges during 1896.

Description of girders.	Karachi.	Bombay.	Calcutta.	Coconada, Vizagapatam or Madras.	Rangoon.	Remarks.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	
Clear span 5 and 6 feet	17 6	...	19 6	23 3	...	
„ 10 „	...	...	19 6	25 0	27 6	
„ 12 „	20 0	...	(*a*) 18 9	34 8	...	(*a*) *The same for 13 ft. spans.*
„ 15 „	20 0	...	18 9	33 6	...	
„ 20 „	20 6	...	(*b*) 30 6	...	35 0	*s. d.* (*b*) *22-6 for 21 and 26 ft. spans.*
„ 30 „	20 6	...	(*c*) 40 0	55 9	...	(*c*) *35-3 for 31 ft. spans.*
„ 40 „	29 9	...	50 6	40 0	30 0	
„ 60 „	29 9	...	60 0	31 9	30 0	
„ 100 „	26 10	...	32 6	...	...	
„ 200 „	...	...	...	..	...	

Note.—Where rates have not been quoted, it should be understood that girders of the dimensions specified were not imported during the year.

CLASS OF STORES. A.—BRIDGEWORK.

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
55/340 25-2-96	5	Eastern Bengal	Upper.	Trough plates and bearing plates, angle bars rivet heads and spare rivets	1 7 0 0	9 5 0	Ton.	
				No. 16 coach screws	0 0 0 14			
				For all service bolts, nuts, and washers	0 0 1 14			
				Trough plates, 5 feet, complete, with all bolts, rivets, &c.	**1 7 2 0**	**12 14 5**	**Span.**	
54/128 15-1-96	6	Rae Barelli-Benares.	Ditto.	Corrugated plates, bearing plates angle bars, rivets and spare rivets ...	1 6 2 0	8 2 6	Ton.	Westwood, Baillie & Co's. patent flooring for 6 feet clear span complete.
				No. 18 coach screws	0 0 0 14			
				For all service bolts, nuts, and washers	0 0 1 14			
				Trough plates, 6 feet, complete, with all bolts, rivets, &c.	**1 7 0 0**	**10 19 4**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
55/340 — 25-2-96	6	Eastern Bengal	Upper.	Trough plates and bearing plates, angle bars, rivets and spare rivets ...	1 9 3 21	9 5 0	Ton.	
				No. 16 coach screws	0 0 0 14			
				For all service bolts, nuts, and washers	0 0 1 14			
				Trough, plates 6 feet, complete, with all bolts, rivets, &c.	**1 10 1 21**	**14 1 7**	**Span.**	
58/30 — 1-5-96	6	Bezwada-Madras.	Ditto.	Corrugated plates bearing plates, bars rivets and spare rivets	1 6 2 0	11 0 0	Ton	Westwood baillie's patent trough flooring for 6′ clear span, complete.
				No. 18 coach screws	0 0 0 14			
				For all service bolts, nuts, and washers	0 0 1 14			
				Trough plates, 6 feet, complete, with all bolts, rivets, &c.	**1 7 0 0**	**14 17 0**	**Span.**	
54/32 — 8-1-96	9	Oudh and Rohilkhand.	Upper,	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1 3 1 0	8 7 6	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 1 2 0			
				For all service bolts, nuts, and washers	0 0 0 14			
				Girders, plate, 9 feet, complete, with all bolts, rivets, &c.	**1 4 3 14**	**10 8 4**	**Span.**	
54/32 — 8-1-96	10	Ditto ...	Ditto ...	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1 6 3 21	8 7 6	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 1 2 0			
				For all service bolts, nuts, and washers	0 0 0 14			
				Girders, plate 10 feet, complete, with all bolts, rivets, &c.	**1 8 2 7**	**11 19 2**	**Span.**	
55/340 — 25-2-96	12	Eastern Bengal	Ditto.	For all steel in girder-work, including rivet heads and spare rivets ...	1 6 1 0	9 5 0	Ton.	
				For all Lewis bolts, and hook bolts ..	0 1 2 0			
				For all service bolts, nuts, and washers	0 0 0 14			
				Rolled joists, 12 feet, complete, with all bolts, rivets, &c.	**1 7 3 14**	**12 17 10**	**Span**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	*s.*	*d.*		
58/107 5-5-96	12	Bezwada-Madras.	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1	3	3	0	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Girders, rolled, 12 feet, complete, with all bolts, rivets, &c.	**1**	**5**	**1**	**14**	**11**	**14**	**9**	**Span.**	
59/62 5-6-96	12	North Western	Ditto ...	For all steel in girder-work, including corrugated plates, &c., rivets, spare rivets, and rivet rods	2	17	3	0	9	16	$10\frac{3}{4}$	Ton	
				For all bolts, nuts, and washers, except service bolts	0	0	2	7					
				For all service bolts, nuts, and washers	0	0	3	0					
				Rolled joists, 12 feet, complete, including bracings and corrugated decking bolts, rivets, &c.	**2**	**19**	**0**	**7**	**30**	**0**	**2**	**Span.**	
65/3 2-12-96	12	East Coast ...	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	1	3	3	0	10	5	0	Ton	*Quantities the same as Contract No. 58/107, dated 5th May 1896.*
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Rolled joists, 12 feet, complete, with all bolts, rivets, &c.	**1**	**5**	**1**	**14**	**13**	**0**	**1**	**Span.**	
55/340 25-2-96	13	Eastern Bengal	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	1	8	0	0	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	2	0					
				For all service bolts, nuts, and washers	0	0	0	14					
				Rolled joists, 13 feet, complete, with all bolts, rivets, &c.	**1**	**9**	**2**	**14**	**13**	**14**	**0**	**Span.**	
55/340 25-2-96	15	Ditto.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	2	6	2	21	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	1	3	0					
				For all service bolts, nuts, and washers	0	0	1	14					
				Rolled joists, 15 feet, complete, with all bolts, rivets, &c.	**2**	**8**	**3**	**7**	**22**	**11**	**6**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ Gauge.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Unit.	Remarks.
		Ft.			Tons.	cwt.	qr.	lbs.	£	s.	d.		
54/130 — 15-1-96	20	Rae Bareli-Benares.	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	3	13	0	0	8	17	6	Ton	*Quantities the same as in Contract No. 52/191, dated 14th November 1895.*
				For all bolts, nuts, and washers, except service bolts	0	2	0	7					
				For all service bolts, nuts, and washers	0	0	1	14					
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3**	**15**	**1**	**21**	**33**	**9**	**6**	**Span.**	
58/107 — 5-5-96	20	Bezwada-Madras.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ..	3	13	0	0	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	2	0	7					
				For all service bolts, nuts, and washer	0	0	1	14					
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3**	**15**	**1**	**21**	**34**	**17**	**9**	**Span.**	
59/62 — 5-6-96	20	North-Western	Ditto.	For all steel in girder-work, including corrugated floor plates rivets, spare rivets, and rivet rods ...	6	10	1	21	9	16	10¾	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	0	2	7					
				For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 20 feet, complete, including bracing and corrugated decking with bolts, rivets, &c.	**6**	**11**	**3**	**0**	**67**	**2**	**9**	**Span.**	
62/210 — 17-9-96	20	Oudh and Rohilkhand.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	3	14	0	7	9	0	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	2	0	7					
				For all service bolts, nuts, and washers	0	0	1	14					
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3**	**16**	**2**	**0**	**34**	**8**	**6**	**Span.**	
56/257 — 17-3-96	21	Eastern-Bengal	Lower.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	7	6	0	21	9	15	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	2	0	7					
				For all service bolts, nuts, and washers	0	1	2	0					
				Girders, plate, 21 feet, complete, with all bolts, rivets, &c.	**7**	**9**	**3**	**0**	**73**	**0**	**1**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ Gauge.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Rate—Free on board. Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
56/257 17-3-96	26	Eastern Bengal	Lower.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	9 7 3 0	9 15 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 2 0 7			
				For all service bolts, nuts, and washers	0 1 2 0			
				Girders, plate, 26 feet, complete, with all bolts, rivets, &c.	**9 11 1 7**	**93 5 0**	**Span.**	
63/276 27-10-96	26	North-Western	Upper.	For all steel in girder-work, including angles bars and plates in floor, rivets, spare rivets, and rivet rods...	10 19 1 0	10 0 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 1 2 0			
				For all service bolts, nuts, and washers	0 0 3 0			
				Girders, plate, 26 feet, complete, with floor and bolts, rivets, &c.	**11 1 2 0**	**110 15 0**	**Span.**	

59/341 25-6-96.	Presses. ...	Rail straightening, for mounting on trolly, suitable for rails, steel, flat footed, 75 lbs. per yard with foot 4·2″	26 0 0	Each	Bezwada-Madras.	
60/482 30-7-96.		Rail straightening, with dies, complete, suitable for rails of Vignoles section, 50 lbs. per yard	23 8 0	,,	Mandalay-Kunlon.	
54/275 29-1-96	Pulverizers ...	Centrifugal, "Lucops," patent, size F. ...	300 0 0	Each	Mandalay-Kunlon.	
		Spare parts for above	125 4 0	Set		
57/386 23-4-96		All wearing parts complete for F. size pulverizer, supplied under contract No. $\frac{45}{107}$ ...	125 4 0	,,	Mari-Attock.	
		Rollers and rings in addition to the wearing parts of an F. size pulverizer ...	52 6 0	,,		
60/168 10-7-96	Pumps ...	Centrifugal, 8″ with single standard, pulley, foot valve and strainer, to lift 30 feet and to deliver 1,200 gallons per minute; to be supplied with 50 feet of W. I. piping and one quarter bend, suitable for either suction or discharge, also 200 feet of additional w. i. piping in 20—nine feet lengths and 4—five feet lengths.	60 12 6	Each	Bezwada-Madras.	
61/55 7-8-96		Steam, Gwynnes Invincible, centrifugal, double standard, with foot valve and strainer ...				
		4	14 8 0	,,	Mandalay-Kunlon.	
		6″	22 5 6	,,		
		8″	32 12 6	,,		

CLASS OF STORES B.—ENGINEERS' PLANT (EXCLUDING PETTY TOOLS)—*continued.*

Contracted for in 1896.

Contract number and date.	Articles.	Details.	Rate—Free on Board. Amount.	Rate—Free on Board. Unit.	For what railway.	Remarks.
			£ s. d.			
62/118 9-9-96	Pumps—*contd.* ...	Double cylinder hand power with rams $3\frac{1}{2}$″ diameter and 8″ stroke	26 0 0	Each	Burma.	
63/306 29-10-96		Steam, engine, 8 horse power, three throw, diameter of steam cylinders 9 inches, stroke 18″	504 10 0	,,	Rae-Bareli-Benares.	
64/186 10-11-96		Double cylinder, hand power, complete, with $3\frac{1}{2}$″ barrels, 8″ stroke, and 2 fly wheels and capable of delivering 1,000 gallons of water per hour, including 55 feet of $2\frac{1}{4}$″ galvanized iron piping	26 15 6	,,	Rae-Bareli-Benares.	
64/187 10-11-96		Steam, "Worthington," non-compound, duplex, mounted on a hollow *c.i.*, bed plate having two high pressure steam cylinders $5\frac{1}{4}$″ diameter, and two pumps of double action plunger type, capable of delivering 2,500 gallons of water per hour, 80 feet above the source of supply at a piston speed of not more than 75 feet per minute and a boiler pressure of 60 lbs. per square inch.	40 0 0	,,	East Coast.	
64/336 19-11-96		Horizontal, non-compound, duplex, of the "Worthington" regular pattern type, with 2 high pressure steam cylinders $7\frac{1}{2}$″ diameter and 10″ stroke and 2 double action plunger pumps, 6″ cylinders capable of delivering 8,000 gallons of water per hour to a height of 60 feet through a pipe 2,400 feet long	261 10 0	Each	Eastern Bengal.	*Approximate net weight 6 tons.*
61/252 20-8-96 ...		*Spare parts of* :— New valve seat, *gun metal* for the Denaby pumps supplied under contract No. $\frac{42}{106}$ of 12th January 1895	33 0 0	,,	Umaria Colliery.	
		New valve seat, *steel* for the Denaby pumps supplied under contract No. $\frac{42}{106}$ of 12th January 1895 ...	26 0 0	,,		
58/45 1-5-96 ...	Ramps ...	Double sided, suitable for re-railing engines on new 100 lbs. flat-footed steel rails ...	*5 0 0	Pair	North Western.	*Approximate weight per pair =406 lbs.*
		Double sided, suitable for re-railing engines on 75 lbs. flat-footed steel rails ...	3 6 6	,,		*Approximate weight per pair = 286 lbs.*
60/503 30-7-96 ...		Single, (Stroudely type), each set consisting of 2 right and 2 left hand ramps. For re-railing engines, &c., on 50 lb. rails. ...	4 0 0	Set	Mandalay-Kunlon.	
60/507 31-7-96 ...		"Double" Turtleback, (Russel's patent), suitable for re-railing locomotive carriages and wagons on 75 lb. rails of Vignoles section	3 6 6	Pair	Bezwada-Madras ...	*Approximate weight per pair = 286 lbs.*

* *Vide* also Contract No. $\frac{60}{186}$, dated 13th June 1896.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
				For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10	11	1	21					
				For all bolts, nuts, and washers, except service bolts	0	3	1	0	9	1	6	Ton.	
58/532 — 27-5-96	40	Bezwada-Madras.	Upper.	For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10**	**15**	**1**	**21**	**97**	**15**	**0**	**Span.**	
				For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10	11	1	21					
				For all bolts, nuts, and washers, except service bolts	0	3	1	0	11	2	0	Ton.	
60/376 — 23-7-96	40	Ditto ...	Ditto.	For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10**	**15**	**1**	**21**	**118**	**9**	**10**	**Span.**	
				For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	10	11	1	21					
				For all bolts, nuts, and washers, except service bolts	0	3	1	0	9	13	6	Ton.	
65/4 — 2-12-96	40	East Coast ...	Ditto	For all service bolts, nuts, and washers	0	0	3	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**10**	**15**	**1**	**21**	**104**	**5**	**0**	**Span.**	
				For all steel in girder-work, including plates, bars, and corrugated, floor plates and packings and rivets, spare rivets, and rivet rods	15	10	3	21					
				For all bolts, nuts, and washers, except service bolts	0	0	2	7	9	7	6	Ton.	
58/103 — 5-5-96	41′ 6″ over all.	North-Western	Ditto.	For all service bolts, nuts, and washers	0	1	2	0					
				Girders, plate, 41 feet 6 inches (over all), complete, including corrugated floor, with all bolts, rivets, &c. ...	**15**	**13**	**0**	**0**	**146**	**14**	**4**	**Span.**	
				For all steel in girder-work, including plates, bars and floor plates and rivets, spare rivets, and rivet rods ...	42	18	1	14					
				For all bolts, nuts and washers, except service bolts	0	1	3	2	9	0	0	Ton	
54/95 — 14-1-96	60	Mushkaf-Bolan	Ditto.	For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates, with all bolts, rivets, &c. ...	**43**	**3**	**0**	**16**	**388**	**8**	**3**	**Span.**	

Note.—All girders for the Mushkaf-Bolan Railway are specially designed to carry specially heavy ghat engines having axle-loads of at least 17 tons.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
54/95 14-1-96	60	Mushkaf-Bolan	Upper.	For all steel in girder-work, including plates, bars, and floor plates and rivets, spare rivets, and rivet rods ...	42	0	3	0	9	0	0	Ton	*Out of square 30 to left.*
				For all bolts, nuts, and washers, except service bolts	0	4	2	23					
				For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates, with all bolts, rivets, &c. ...	**42**	**8**	**1**	**23**	**381**	**16**	**1**	**Span.**	
54/95 14-1-96	60	Ditto ...	Ditto.	For all steel in girder-work, including plates, bars, and floor plates, and rivets, spare rivets, and rivet rods...	42	18	2	14	9	0	0	Ton	*On curve 1,132 feet radius.*
				For all bolts, nuts, and washers, except service bolts	0	1	2	14					
				For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates, with all bolts, rivets, &c. ...	**43**	**3**	**1**	**0**	**388**	**9**	**3**	**Span.**	
54/95 14-1-96	60	Mushkaf-Bolan	Ditto.	For all steel in girder-work, including plates, bars and floor plates, rivets, spare rivets and rivet rods ...	43	11	1	24	9	0	0	Ton	*45° out of square to left, on curve 941 feet radius.*
				For all bolts, nuts, and washers, except service bolts	0	4	1	25					
				For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates with all bolts, rivets, &c.	**43**	**18**	**3**	**21**	**395**	**10**	**5**	**Span.**	
54/95 14-1-96	60	Ditto ...	Ditto.	For all steel in girder-work, including plates, bars and floor plates and rivets, spare rivets, and rivet rods ...	41	17	2	5	9	0	0	Ton	*30° out of square to right.*
				For all bolts, nuts, and washers, except service bolts	0	4	3	3					
				For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates with all bolts, rivets, &c. ...	**42**	**5**	**1**	**8**	**380**	**7**	**11**	**Span.**	
54/129 15 1-96	60	Rai Bareli-Benares.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	25	18	3	0	8	17	6	Ton	*Quantities the same as in Contract No. 52/339 of 28th November 1895.*
				For all bolts, nuts, and washers, except service bolts	0	5	0	21					
				For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, with all bolts, rivets, &c.	**26**	**6**	**3**	**21**	**233**	**16**	**7**	**Span.**	

Note.—All girders for the Mushkaf-Bolan railway are specially designed to carry specially heavy ghat engines, having axle-loads of at least 17 tons.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
54/236 28-1-96	60	Mushkaf-Bolan	Upper.	For all steel in girder-work, including plates, bars and floor plates, rivets, spare rivets, and rivet rods	43	6	3	14	9	5	0	Ton	*On two curves 941 feet and 914 feet radius and out of square 45° to right.*
				For all bolts, nuts, and washers, except service bolts	0	4	1	21					
				For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including floor plates with all bolts, rivets, &c. ...	**43**	**14**	**1**	**7**	**404**	**7**	**5**	**Span**	
62/291 28-9-96	63′ 6″ out to out.	North-Western.	Ditto.	For all steel in girder-work, including plates, bars and corrugated plates and packings, &c., rivets, spare rivets, and rivet rods	31	19	1	7	11	8	6	Ton	
				For all bolts, nuts, and washers, except service bolts	0	1	0	7					
				For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 63 feet 6 inches, (out to out), complete, including corrugated floor with all bolts, rivets, &c. ...	**32**	**3**	**1**	**14**	**367**	**0**	**0**	**Span.**	
54/236 28-1-96	100	Mushkaf-Bolan	Ditto.	For all steel in main girders, deck plates, cross bracing, including rivet heads, spare rivets, rivet rods and plates, and under bearings ...	76	6	3	0	9	5	0	Ton.	
				For all steel in rollers and roller frames	0	16	3	0	19	0	0	,,	
				For all cast-iron	3	12	1	0	7	15	0	,,	
				For all bolts for roller frames, &c., and service bolts, nuts, and washers	0	14	0	0	9	5	0	,,	
				Girders, triangulated, 100 feet, complete, including deck, with all bolts, rivets, &c.	**81**	**9**	**3**	**0**	**756**	**10**	**1**	**Span.**	*(On curve 914 feet radius).*
54/236 28-1 96	100	Ditto† ...	Ditto.	For all steel in main girders, deck plates, cross bracing, including rivet heads, spare rivets, rivet rods and plates and under bearings	76	3	3	0	9	5	0	Ton.	
				For all steel in rollers and roller frames	0	16	3	0	19	0	0	,,	
				For all cast-iron	3	12	1	0	7	15	0	,,	
				For all bolts for roller frames, &c., and service bolts, nuts, and washers	0	13	3	0	9	5	0	,,	
				Girders, triangulated. 100 feet, complete, including deck, with all bolts, rivets, &c.	**81**	**6**	**2**	**0**	**755**	**0**	**0**	**Span.**	
54/236 28-1-96	100	‡Ditto ...	Ditto.	For all steel in main girders, deck plates, &c , and cross bracing, including rivet heads, spare rivets, rivet rods, plates and under bearings ...	76	19	2	14	9	5	0	Ton.	*(On two curves and out of square 45° to right.)*
				For all steel in rollers and roller frames	0	16	3	0	19	0	0	,,	
				For all cast-iron	3	12	1	0	7	15	0	,,	
				For all bolts for roller frames, &c., and service bolts, nuts, and washers...	0	13	3	14	9	5	0	,,	
				Girders, triangulated 100 feet complete, including deck with all bolts, rivets, &c.	**82**	**2**	**2**	**0**	**762**	**0**	**0**	**Span.**	

Note.—All girders for the Mushkaf-Bolan railway are specially designed to carry specially heavy ghat engines, having axle-loads of at least 17 tons.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper *or* lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Rate—Free on board. Unit.	Remarks.
	Ft.				Tons cwt. qr. lbs.	£ s. d.		
54/236 28-1-96	100	*Mushkaf-Bolan.	Upper.	For all steel in main girders, deck plates, &c., and cross bracing, including rivet heads, spare rivets, rivet rods, plates and under bearings ...	77 10 0 0	9 5 0	Ton.	*See foot-note on page 19.*
				For all steel and rollers and roller frames	0 16 3 0	19 0 0	,,	
				For all cast-iron	3 12 1 0	7 15 0	,,	*(Out of square 45° to right.)*
				For bolts for roller frames, &c., including service bolts, nuts, and washers...	0 13 3 14	9 5 0	,,	
				Girders, triangulated 100 feet, complete, including deck with all bolts, rivets, &c. ...	**82 12 3 14**	**767 4 0**	**Span.**	
55/45 3-2-96	100	Rai Bareli-Benares.	Ditto.	For all steel in main girders, cross bracing, flooring, curbs and handrailing, including rivet heads, spare rivets, rivet rods and connecting plates at bearings	67 12 0 14	9 5 0	Ton.	
				For all steel in expansion gear ...	0 14 0 0	29 10 0	,,	
				For all cast-iron	3 4 1 0	9 0 0	,,	
				For all bolts, &c., for saddles and roller frames, including service bolts, nuts, and washers ...	0 16 3 21	9 5 0	,,	
				Girders, triangulated, 100 feet, complete, including corrugated floor with all bolts, rivets, etc. ...	**72 7 1 7**	**682 15 0**	**Span.**	
57/507 29-4-96	Ft. 200	Mari Attock	Upper top flange.	For all steel in bridgework, including corrugated floor plates and rivets, bolts, &c.	208 1 0 0	9 19 0	Ton.	
				For all steel in expansion gear, including knuckle pins, rollers, and roller frames	3 10 0 14	28 15 0	,,	
				For all cast-iron	13 0 0 0	8 0 0	,,	
				Girders, triangulated, 200 feet, complete, including corrugated floor, with all bolts, rivets, &c. ...	**224 11 0 14**	**2,274 18 0**	**Span.**	
58/240 14-5-96	Spare parts.	North-Western	...	Steelwork in 22 cross girders ...	22 7 1 7	10 0 0	Ton	*East Beyne Bridge for two spans of 100 feet.*
				Steelwork in four rail girders ...	20 16 0 0			
				Rivet heads, spare rivets, bolts, service bolts, nuts and washers ...	2 13 1 0			
				Girders, plate, consisting of 22 cross and four rail girders, with all bolts, rivets, &c.	**45 16 2 7**	**458 5 6**	**Span.**	
63/92 13-10-96	...	Eastern Bengal	...	Sixteen rolled steel joists 18″ × 7″ 75 lbs. per foot in lengths of 24 feet	13 2 1 4	7 0 0	Ton.	= £ 91-16-0.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

5′ 6″ Gauge.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Rate—Free on board. Unit.	Remarks.
	Ft.				Tons cwt. qr. lbs.	£ s. d.		
57/148 8-4-96	Spare parts—*concld.*	Kotri Bridge	...	Steel work in Caissons, 12 feet high, including bond rings, rivets, &c. ...	43 18 3 23	12 15 0	Ton.	
				Lowering rods, couplings and bolts ...	2 2 3 5	18 0 0	,,	
				Each Caisson, complete, with tie rods, bond rings and bolts, nuts rivets, &c. ...	**46 0 3 0**	**598 16 11**	**Each.**	
59/77 9-6-96	...	Kotri Bridge	...	Steel work in one Caisson measuring 34 feet × 20 feet × 54 feet high, each with 2 tubes 10 feet diameter and 98 feet high including rivets service bolts nuts and washers, with 20 per cent. extra rivets for erection purposes	180 0 0 0	12 12 9	Ton.	*For sinking with pneumatic apparatus.*
				For two caissons, complete, with all bolts, nuts, rivets, &c.	**360 0 0 0**	**4,550 0 0**	**Total.**	Or £2,275 each.

CLASS OF STORES. A.—BRIDGEWORK—(*continued*).

Metre Gauge.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.	Rate—Free on board. Amount.	Rate—Free on board. Unit.	Remarks.
	Ft.				Tons. cwt. qr. lbs.	£ s. d.		
56/84 6-5-96	10	Burma ...	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	0 15 1 7	9 5 0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0 1 3 14			
				For all service bolts, nuts, and washers	0 0 0 14			
				Rolled joists, 10 feet, complete, with all bolts, rivets, &c.	**0 17 1 7**	**8 0 2**	**Span.**	
57/498 29-4-96	10	Mandalay-Kunlon.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	0 15 1 7	9 5 0	Ton.	**Mogoung Myitkyina Extension.*
				For all bolts, nuts, and washers, except service bolts	0 1 3 14			
				For all service bolts, nuts, and washers	0 0 0 14			
				Rolled joists, 10 feet, complete, with all bolts, rivets, &c.	**0 17 1 7**	**8 0 2**	**Span.**	
63/63 7-10-96	10	Mu Valley* ...	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	0 15 1 7	9 15 0	Ton.	
				For all bolts, nuts and washers, except service bolts	0 1 3 14			
				For all service bolts, nuts, and washers	0 0 0 14			
				Rolled joists, 10 feet, complete, with all bolts, rivets, &c.	**0 17 1 7**	**8 8 10**	**Span.**	

CLASS OF STORES. A.—BRIDGEWORK—(*concluded*).

METRE GAUGE.

Contracted for in 1896.

Contract number and date.	Clear span.	Railway.	Roadway on upper or lower boom.	Details.	Estimated weight of each span.				Rate—Free on board. Amount.			Unit.	Remarks.
	Ft.				Tons.	cwt.	qr.	lbs.	£	s.	d.		
57/498 29-4-96	20	Mandalay-Kunlon and Mu Valley.	Upper.	For all steel in girder-work, including rivets, spare rivets, and rivet rods...	2	17	3	0	9	5	0	Ton.	
				For all bolts, nuts, and washers, except service bolts	0	2	3	7					
				For all service bolts, nuts, and washers	0	0	0	21					
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3**	**0**	**3**	**0**	**28**	**2**	**0**	**Span.**	
63/63 7-10-96	20	Mu Valley* ...	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods	2	17	3	0	9	15	0	Ton	* *Mogoung Myitkyina Extension.*
				For all bolts, nuts, and washers, except service bolts	0	2	3	7					
				For all service bolts, nuts, and washers	0	0	0	21					
				Girders, plate, 20 feet, complete, with all bolts, rivets, &c.	**3**	**0**	**3**	**0**	**29**	**12**	**4**	**Span.**	
58/75 5-5-96	40	Mu Valley and Mandalay-Kunlon.	Ditto.	For all steel in girder-work, including rivets, spare rivets, and rivet rods ...	9	6	1	21	9	4	0	Ton	*Mogoung Myitkyina Extension.*
				For all bolts, nuts, and washers, except service bolts	0	4	2	21					
				For all service bolts, nuts, and washers	0	1	2	0					
				Girders, plate, 40 feet, complete, with all bolts, rivets, &c.	**9**	**12**	**2**	**14**	**87**	**14**	**6**	**Span.**	
58/75 5-5 96	60	*Mu Valley ...	Ditto.	For all steel in girder-work, including deck plates and rivets, spare rivets, and rivet rods	20	15	2	14	9	4	0	Ton	* *Mogoung Myitkyina Extension.*
				For all bolts, nuts, and washers, except service bolts	0	6	1	14					
				For all service bolts, nuts, and washers	0	3	0	0					
				Girders, plate, 60 feet, complete, including decking, with all bolts, rivets, &c. ...	**21**	**5**	**0**	**0**	**217**	**7**	**6**	**Span.**	

Enclosure to Director General of Railways' Circular No. 3, dated 24th June 1897.

Appendix A.

Statement showing bridge girders of 250 feet span and above which have been obtained for State Railways through the India Office up to end of 1896.

Number of India Office contracts.	Name of Contractors.	Clear span feet.	Gauge.	Price f. o. b. in England.	For what bridge and railway.	Approximate quantity of steel and iron.	Remarks.
				£ s. d.		Tons.	
A 125 of 1884	Westwood, Baillie & Co.	250 ...	Metre	4,010 0 0	Bellary-Kistna railway. (This span was originally intended for the Jhansi-Manikpur railway.)	Steel ... ... 219 Wrought iron ... ... 36½ Cast iron ... ... 13½ Bolts, screws, etc. ... 4 273	Main girders, cross girders, longitudinal girders, and floor-plates are of steel. The whole of the rivets are of steel.
163 of 1885	Westwood, Baillie & Co.	250 ...	Do.	3,991 0 0	Gunduck bridge, Tirhoot State railway.	Steel ... ... 215 Wrought iron ... ... 88¼ Cast iron ... ... 13¼ Bolts, etc. 3½ 320	Main girders are of steel with the exception of plates and angle bars of diaphragms, cross girders, overhead girders, footways, hand-rails, floor, etc., are of wrought iron. The overhead diagonal bracing and gussets are of steel.
16 ,, ...	Patent Shaft and Axle-tree Company.						
A 41 of 1876	Head, Wrightson & Co.	250 ...	5′ 6″	5,942 0 0 & 5,964 0 0	Sutlej bridge, Adamwahan.	Wrought iron ... ... 383½ Cast iron ... ... 15¾ Steel 5 204¼	Rollers and knuckle pins only are of steel.
A 42 ,, ...	Westwood, Baillie & Co						
A 76 of 1880	Westwood, Baillie & Co.	257 (centres of bearing.)	5′ 6″	4,463 0 0	Indus bridge at Attock	Steel ... ... 241½ Wrought iron ... ... 144¼ Cast iron 12¾ 398½	Top and bottom booms of main girders and pillars, bracing between top and bottom booms, resting gear and rivets are of steel.
A 77 ,, ...	Westwood, Baillie & Co.	308 ...	5′ 6″	Not given in the contract.	Ditto.	Total Weight ... 553½	314 feet measured from centre to centre of piers was ordered and the girder supplied was for openings of 308 feet. No schedule of quantities for this contract was received.
A 116 of 1883	Westwood, Baillie & Co.	278 ... (centre of bearings)	5′ 6″ ...	8,842 0 0	Indus bridge at Sukkur	Steel ... ... 866 Wrought iron ... ... 136½ Cast iron 19 521½	Main girders are of steel with the exception of plates and angle bars of diaphragms in the top boom, the bracings and connections of angle bars of the vertical struts, the stiffenings of the tension the bars and the tapered packings of the angle bars on the inside of the upper boom which parts are of wrought iron, curb plates, longitudinal girders on the footways, diagonal bracing under roadway, corrugated floor-plates, etc., are of steel.
						Bukkur Cantilever.	
146 of 1885	Westwood, Baillie & Co.	Two Cantilevers, each 310 feet long.	5′ 6″	49,403 0 0 (average for each.)	Ditto.	Steel ... ... 1,417 Iron 13¼ 1,430¼	
						Haji-Motu Cantilever.	
						Steel ... ... 1,433¼ Iron 13¼ 1,446½	All steel except bed-plates for trimmers, the chipping pieces under the bed-plates of the girders span, the tubular portion of the bracing of the large pillar and of No. 3 strut and all bolt and screws, all of which are of wrought iron.
						Total ... 2,876¾	
4711 of 1891	P. and W. Mclellan ...	300 ...	5′ 6″	6,459 0 0 & 6,421 0 0	Kistna bridge ...	Total weight, 535½ tons (exclusive of snaps.)	All steel except the saddles, knuckles and bed-plates, which are of cast iron and the rolled frames and service bolts which are either of iron or steel.
4712 ,, ...	Head Wrightson & Co.						

CS

The correspondence slip should be distributed to all officers who receive No. 2063/W of 29.7.87

Same no. of spare copies of the slip should be sent to the distribution list.

One copy of the slip should be attached to No. 2063/W.

CS
13.8.87

Despatcher

Please note this & return me the slip into paper

SPG
13/8/87

RK Returned to Records

SPG
20/8/87