(1) பக்கங்களின் எண்ணிக்கை 48

(2) புதுக்கித் திருப்பிய நாள் 22-9-89

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம்

# தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

P.W.D. துறை

| | |
|---|---|
| அரசாணை எண்.<br>மு. கோப்புத் தாள் எண். 964 | அச்சகம்<br>பல்வகை |
| நாள் : 2.4.1889 | 198 . |

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

23
(24). Sheets
23+1 Plan sheet

ஆவண. எ-1—18,000—15-8-87.

964

Enclosure to Director General of Railways' Circular No. 2 of 1889.

# RATE LIST.

## CLASS A.

## IRON BRIDGEWORK.

FOR 1887.

964

Enclosure to Director General of Railways' Circular No. 2 of 1889.

# RATE LIST.

## CLASS A.

## IRON BRIDGEWORK.

FOR 1887.

2

Enclosure to Director General of Railways' Circular No. 2 of 1889.

*Statement shewing the latest average rates per ton for sea-freight on Bridgework sent out from England to the several ports in India for State Railways of both gauges.*

| Description of girders. | Port of Bombay. | Port of Calcutta. | Port of Kurrachee. | Port of Rangoon. | Remarks. |
|---|---|---|---|---|---|
| | s. d. | s. d. | s. d. | s. d. | |
| Clear span 6 feet ... ... ... ... | 26 3 | ... | 25 0 | ... | |
| „ 10 „ ... ... ... ... | ... | ... | 30 0 | 37 6 | |
| „ 12 „ ... ... ... ... | 26 3 | ... | 26 8 | ... | |
| „ 20 „ ... ... ... ... | 35 0 | 26 3 | 29 2 | 35 0 | |
| „ 40 „ ... ... ... ... | 50 0 | 32 6 | 30 8 | 28 2 | |
| „ 60 „ ... ... ... ... | 40 0 | 28 0 | 31 3 | 25 0 | |
| „ 100 „ ... ... ... ... | ... | ... | ... | 27 6 | |
| „ 150 „ ... ... ... ... | ... | ... | 20 7 | 33 4 | |
| „ 200 „ ... ... ... ... | ... | ... | 30 0 | ... | |

NOTE.—It will be observed that freights vary greatly according to the state of the Freight market.—This table has been drawn up merely as a rough guide, from which it may be seen within what limits freights have varied during the past twelve months.

DATED SIMLA;
*The 25th February 1889.*

E. H. STONE,
*for* Director General of Railways.

Enclosure to Director General of Railways' Circular No. 2 of

## CLASS OF STORES A.—IRON BRIDGEWORK.

### For 5′ 6″ Gauge Railways.

*Contracted for in 1887.*

| Contract Number. | Description. | | | | Estimated weight of each span. | | | | Rate—Free on board. | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Clear span. | Gauge. | Roadway on Upper or Lower boom. | Details. | | | | | Amount. | | | Unit. | |
| | | | | | *T.* | *c.* | *qr.* | *lbs.* | £ | *s.* | *d.* | | |
| 516 | 12 feet ... | 5′ 6″ ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 1 | 10 | 1 | 2 | 13 | 13 | 6 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 1 | 10 | 0 | 9 | 8 | 15 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 0 | 0 | 21 | 18 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | 16 | 0 | 0 | „ | |
| 516 | 20 feet ... | 5′ 6″ ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 3 | 5 | 1 | 25 | 29 | 14 | 0 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 3 | 3 | 3 | 20 | 8 | 17 | 6 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 1 | 1 | 12 | 18 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | 0 | 0 | 0 | 21 | 16 | 0 | 0 | „ | |
| A195 | 40 feet ... | 5′ 6″ ... | Lower ... ... | Girders, plate, complete, with cross girders, rail girders, &c., main girders to be 44 feet in length ... ... ... | 15 | 13 | 2 | 5 | 141 | 2 | 0 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 15 | 12 | 0 | 5 | 9 | 0 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 1 | 2 | 0 | | | | | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | | | | | |
| 516 | 40 feet ... | 5′ 6″ ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 9 | 19 | 1 | 10 | 92 | 5 | 9 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 9 | 16 | 0 | 18 | 9 | 2 | 6 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 2 | 1 | 10 | 18 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | 0 | 0 | 3 | 0 | 16 | 0 | 0 | „ | |

## CLASS OF STORES A.—IRON BRIDGEWORK.

### FOR 5′ 6″ GAUGE RAILWAYS—*concld.*

*Contracted for in 1887.*

| Contract Number. | Description. Clear span. | Gauge. | Roadway on Upper or Lower boom. | Details. | Estimated weight of each span. T. | c. | qr. | lbs. | Rate—Free on board. Amount. £ | s. | d. | Unit. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 516 | 60 feet ... | 5′ 6″ ... | Upper, cart road at rail level. | Girders, plate, complete ... ... ... ... | 23 | 10 | 2 | 21 | 222 | 0 | 9 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 22 | 19 | 2 | 13 | 9 | 5 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 6 | 0 | 8 | 18 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | 0 | 5 | 0 | 0 | 16 | 0 | 0 | „ | |
| 195 | ... | 5′ 6″ ... | ... | *Tension bars, &c., between large bed plates*—(Sukkur Bridge). | | | | | | | | | |
| | | | | 20 Flat bars 4″ × ⅞″ with eye at each end bored out for 3″ diameter bolts | 0 | 54 | 2 | 16 | 1 | 10 | 0 | Cwt. | |
| | | | | 5 Flat bars 4″ × 1¾″ ditto ... ... ... | 0 | 22 | 1 | 8 | 1 | 10 | 0 | „ | |
| | | | | 2 Flat bars 8″ × 1″ with 3½″ diameter screwed bar at one end | 0 | 8 | 3 | 20 | 4 | 4 | 0 | „ | |
| | | | | 2 Flat bars attached to L. B. P. ... ... ... | 0 | 6 | 3 | 8 | 1 | 0 | 0 | „ | |
| | | | | 4 Flat bars 8″ × ½″ ... ... ... ... | 0 | 8 | 3 | 0 | 1 | 0 | 0 | „ | |
| | | | | 10 Round bars 3″ diameter screwed at one end with eye at other | 0 | 41 | 2 | 2 | 1 | 10 | 0 | „ | |
| | | | | 10 Nuts for screwed ends 3½″ diameter ... ... | 0 | 1 | 3 | 14 | 1 | 10 | 0 | „ | |
| | | | | 10 Turned bolts and nuts 3″ diameter... ... ... | 0 | 2 | 1 | 8 | 2 | 0 | 0 | „ | |
| | | | | 10 Ditto ditto 3″ „ ... ... ... | 0 | 2 | 0 | 16 | 2 | 0 | 0 | „ | |
| | | | | 1 Screw coupling ... ... ... ... | 0 | 0 | 3 | 6 | 5 | 12 | 0 | „ | |
| | | | | 2 Cast iron washers to take 2 bolts ... ... ... | 0 | 7 | 0 | 16 | 1 | 0 | 0 | „ | |
| | | | | 6 Ditto 1 „ ... ... ... | 0 | 9 | 3 | 12 | 1 | 0 | 0 | „ | |
| | | | | 20 Bore out 20 holes, 4″ diameter, through 1½″ steel plates in yard | | | | 0 | 10 | 0 | Each | | |
| | | | | 4 Bore out 4 holes 4″ diameter in small pillars ... ... | | | | 0 | 3 | 6 | „ | | |
| | | | | 1 Cutaway 6′ × 6″ × ½ A. S. on end plate of large bed plates | | | | 0 | 2 | 6 | „ | | |
| A 199 | ... | 5′ 6″ ... | ... | *Hook bolts for holding down sleepers.* | | | | | | | | | |
| | | | | Galvanized hook bolts, nuts and washers, No. 7,000. Each bolt with its nut and washer to weigh 2·9 lb. before galvanizing. | 9 | 3 | 3 | 24 | 16 | 7 | 6 | Ton. | |

## CLASS OF STORES A.—IRON BRIDGEWORK.

### FOR METRE GAUGE RAILWAYS.

*Contracted for in 1887.*

| Contract Number. | Description. Clear span. | Gauge. | Roadway on Upper or Lower boom. | Details. | Estimated weight of each span. T. | c. | qr. | lbs. | Rate—Free on board. Amount. £ | s. | d. | Unit. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 466 | 6 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 0 | 10 | 2 | 19 | 5 | 0 | 0 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 0 | 9 | 2 | 14 | 8 | 10 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 1 | 0 | 5 | 16 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | | | | | |
| A 192 | 10 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 0 | 18 | 3 | 13 | 8 | 7 | 9 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 0 | 17 | 2 | 0 | 8 | 5 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 1 | 0 | 20 | 16 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | 0 | 0 | 0 | 21 | 14 | 0 | 0 | „ | |
| 16 | 10 feet ... | Metre ... | Upper with military road. | Girders, plate, complete, road at rail level to carry horses and artillery | 2 | 14 | 3 | 23 | 22 | 18 | 6 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 2 | 11 | 0 | 17 | 8 | 5 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 3 | 3 | 6 | 20 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | | | | | |
| 466 | 12 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 1 | 4 | 2 | 24 | 11 | 1 | 6 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 1 | 3 | 0 | 22 | 8 | 10 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 1 | 2 | 2 | 16 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | | | | | |

## CLASS OF STORES A.—IRON BRIDGEWORK.

### For Metre Gauge Railways—*contd.*

*Contracted for in 1887.*

| Contract Number. | Description. Clear span. | Gauge. | Roadway on Upper or Lower boom. | Details. | Estimated weight of each span. T. | c. | qr. | lbs. | Rate—Free on board. Amount. £ | s. | d. | Unit. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A 192 | 20 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 2 | 10 | 1 | 20 | 22 | 2 | 6 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 2 | 8 | 0 | 20 | 8 | 7 | 6 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 2 | 0 | 7 | 16 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | 0 | 0 | 0 | 21 | 14 | 0 | 0 | „ | |
| A 197 | 20 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 2 | 10 | 1 | 20 | 20 | 1 | 0 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 2 | 8 | 0 | 20 | 7 | 15 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 2 | 1 | 0 | 12 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | | | | | |
| 16 | 20 feet ... | Metre ... | Upper with military road. | Girders, plate, complete, road at rail level to carry horses and artillery ... ... ... ... ... | 6 | 0 | 1 | 14 | 51 | 1 | 6 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 5 | 12 | 0 | 12 | 8 | 7 | 6 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 8 | 1 | 2 | 20 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | | | | | |
| 457 | 20 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 2 | 10 | 1 | 20 | 21 | 1 | 1 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 2 | 8 | 0 | 20 | 8 | 15 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 2 | 1 | 0 | 18 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | 14 | 0 | 0 | „ | |

## CLASS OF STORES A.—IRON BRIDGEWORK.

### For Metre Gauge Railways—*contd.*

*Contracted for in 1887.*

| Contract Number. | Description. Clear span. | Gauge. | Roadway on Upper or Lower boom. | Details. | Estimated weight of each span. T. | c. | qr. | lbs. | Rate—Free on board. Amount. £ | s. | d. | Unit. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A198 | 40 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 8 | 0 | 0 | 9 | 69 | 13 | 7 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 7 | 15 | 2 | 0 | 8 | 10 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 4 | 2 | 9 | 16 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | 14 | 0 | 0 | „ | |
| 16 | 40 feet ... | Metre ... | Upper with military road. | Girders, plate, complete, road at rail level to carry horses and artillery ... ... ... ... ... | 15 | 10 | 3 | 12 | 137 | 4 | 2 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 15 | 9 | 2 | 15 | 8 | 15 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 1 | 0 | 25 | 20 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | | | | | |
| 30 | 40 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 15 | 10 | 3 | 12 | 137 | 1 | 0 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 14 | 12 | 0 | 13 | 8 | 15 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 18 | 2 | 27 | 16 | 7 | 6 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | 15 | 7 | 6 | „ | |
| 157 | 40 feet ... | Metre ... | Upper with military road. | Girders, plate, complete, same as on contract No. 16 of 1887 ... | 15 | 10 | 3 | 12 | 137 | 17 | 8 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 15 | 9 | 2 | 15 | 8 | 15 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 1 | 0 | 25 | 20 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | | | | | |

## CLASS OF STORES A.—IRON BRIDGEWORK.

FOR METRE GAUGE RAILWAYS—*contd.*

*Contracted for in 1887.*

| Contract Number. | Description. Clear span. | Gauge. | Roadway on Upper or Lower boom. | Details. | Estimated weight of each span. T. | c. | qr. | lbs. | Rate—Free on board. Amount. £ | s. | d. | Unit. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 301 | 40 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 15 | 10 | 3 | 12 | 131 | 5 | 0 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 14 | 12 | 0 | 13 | 8 | 7 | 6 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 18 | 2 | 27 | 16 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | | | | | |
| 457 | 40 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 8 | 0 | 0 | 9 | 68 | 15 | 2 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 7 | 15 | 2 | 0 | 8 | 15 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 4 | 2 | 9 | 18 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | 14 | 0 | 0 | „ | |
| A192 | 60 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 24 | 10 | 3 | 5 | 236 | 2 | 8 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 24 | 9 | 1 | 5 | 9 | 10 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 0 | 2 | 0 | 16 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | 0 | 1 | 0 | 0 | 14 | 0 | 0 | „ | |
| A194 | 60 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... .. ... | 20 | 12 | 1 | 6 | 200 | 17 | 10 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 20 | 10 | 3 | 6 | 9 | 12 | 6 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 0 | 2 | 0 | 16 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | 0 | 1 | 0 | 0 | 14 | 0 | 0 | „ | |

## CLASS OF STORES A.—IRON BRIDGEWORK.

FOR METRE GAUGE RAILWAYS—*contd.*

*Contracted for in 1887.*

| Contract Number. | Description. Clear span. | Gauge. | Roadway on upper or lower boom. | Details. | Estimated weight of each span. T. | c. | qr. | lbs. | Rate—Free on board. Amount. £ | s. | d. | Unit. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A196 | 60 feet ... | Metre ... | Lower ... ... | Girders, triangulated, complete, with foot ways outside ... | 35 | 19 | 0 | 9 | 441 | 12 | 0 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 35 | 14 | 3 | 22 | 12 | 5 | 0 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 0 | 4 | 0 | 15 | 17 | 17 | 6 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | | | | | |
| 30 | 60 feet ... | Metre ... | Upper ... ... | Girders, plate, complete ... ... ... ... | 27 | 1 | 3 | 5 | 257 | 16 | 6 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 25 | 7 | 1 | 17 | 9 | 8 | 6 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 1 | 14 | 1 | 16 | 16 | 7 | 6 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | 15 | 7 | 6 | „ | |
| 429 | 60 feet ... | Metre ... | Lower, cart road on rail level. | Girders, triangulated, complete ... ... ... | 37 | 0 | 1 | 18 | 390 | 16 | 6 | Span. | |
| | | | | For wrought iron work ... ... ... ... | 34 | 14 | 1 | 15 | 10 | 12 | 6 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | 2 | 6 | 0 | 3 | 15 | 15 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | 15 | 0 | 0 | „ | |
| 38. | 100 ft. ... | Metre ... | Lower ... ... | Girders, triangulated, complete, with foot ways outside .. | 73 | 14 | 2 | 0 | 734 | 2 | 6 | Span. | |
| | | | | For wrought iron work ... ... ... .. | * | | | | 9 | 17 | 6 | Ton. | |
| | | | | „ bolts, nuts and washers ... ... ... | | | | | 18 | 0 | 0 | „ | |
| | | | | „ service bolts, &c. ... ... ... ... | | | | | 16 | 0 | 0 | „ | |

* Not given in Contract.

964

Enclosure to Director General of Railways' Circular No. 20 of 1888.

# RATE LIST.

## CLASS C.

## WORKSHOP MACHINERY AND HEAVY TOOLS

FOR 1886.

(CONTRACT NOS. C 407 TO C 441.)

10

[*General Distribution.*] 96h

Circular No. 24.

FROM

THE DIRECTOR GENERAL OF RAILWAYS,

TO

THE DIRECTOR, NORTH-WESTERN RAILWAY.
THE SUPERINTENDENT OF WAY AND WORKS, CUDDAPAH-NELLORE STATE RAILWAY.
THE ENGINEER-IN-CHIEF, SIND-PISHIN STATE RAILWAY.
THE PORT STOREKEEPER, STATE RAILWAY DEPARTMENT, CALCUTTA.
THE PORT STOREKEEPER, STATE RAILWAY DEPARTMENT, BOMBAY.

Simla, the 5th December 1888.

SIR,

I have the honour to forward, for information and guidance, a printed statement showing the rates free on board in England, the gross weight and the entire sea freight per ton to Indian Ports, of F Class State Railway Stores—"Station Materials and Fencing"—contracted for by the India Office during the year 1886.

2. The rates for landing State Railway Stores from vessels at the several ports in India and the official rate of exchange during the year are given in the circulars quoted on the margin. An insurance charge of one per cent. should be added in addition to other incidental charges to arrive at the cost of stores delivered at Port.

Director General of Railways' Circular No. 2 of 12th April 1888.
Director General of Railways' Circular No. 6 of 22nd June 1888.

I have the honour to be,

SIR,

Your most obedient Servant,

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

*Document accompanying.*

Rate List, Class F—Station Materials and Fencing for 1886.

A3 11

The Secretaries to the Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab, Public Works Department.
The Secretaries to the Chief Commissioners of the Central Provinces, Burma, Assam, and Coorg, Public Works Department.
The Secretaries to the Residents, Hyderabad and Mysore, Public Works Department.
The Secretaries to the Agents to the Governor General, Rajputana, Central India, and Biluchistan, Public Works Department.
The Superintendent of Port Blair and Chief Commissioner, Andaman and Nicobar Islands.
The Director General of Telegraphs.
The Inspector General of Military Works.
The Accountant General, Public Works Department.
The Comptroller General.
The Accountant General, Bengal.
The Consulting Engineers for Railways, Madras and Bombay.
The Consulting Engineers to the Government of India for Railways, Calcutta and Lucknow.
The Consulting Engineer to the Government of India for Railways, Central Division, Jubbulpore.
The Agent and General Manager, Assam Railways and Trading Company, Limited.

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

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

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FROM

THE DIRECTOR GENERAL
OF RAILWAYS,

TO

THE

Circular No. 24.

Dated Simla, the 5th December 1888.

Received

INDIAN STATE RAILWAYS.
Rate List, Class F—Station Materials and Fencing for 1886.

G. C. Press, Simla.—No. 1361 P. W. D.—18-12-88.—1,900.

[*General Distribution.*]

Circular No. 2.

FROM

THE DIRECTOR GENERAL OF RAILWAYS,

TO

THE DIRECTOR, NORTH-WESTERN RAILWAY.
THE MANAGER, OUDH AND ROHILKHAND STATE RAILWAY.
THE ENGINEER-IN-CHIEF, SIND-PISHIN STATE RAILWAY.
THE PORT STOREKEEPERS, STATE RAILWAY DEPARTMENT, CALCUTTA AND BOMBAY.

Simla, the 25th February 1889.

SIR,

I have the honour to forward herewith, for information and guidance, a printed statement showing the actual rates *free on board* in England, for A Class State Railway Stores, "Iron Bridgework" contracted for by the India Office, from January to December 1887.

2. In order to arrive at the total cost of girder spans landed at the several ports in India, an insurance charge of one per cent. on the *f. o. b.* cost *plus* entire sea freight, should be added in addition to other incidental charges and exchange which should be calculated at the official rate for the year in which the stores are landed.

3. A table showing the latest average rates per ton for sea-freight, on Bridgework sent out from England to the principal ports of India, accompanies the statement.

I have the honour to be,

SIR,

Your most obedient Servant,

E. H. STONE,
*for* Director General.

*Documents accompanying.*

Average rates per ton for sea-freight.
Rate List, Class A.—"Iron Bridgework."

4 64

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

E. H. STONE,
*for* Director General.

The Secretaries to the Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab, Public Works Department.
The Secretaries to the Chief Commissioners of the Central Provinces, Burma, Assam, and Coorg, Public Works Department.
The Secretaries to the Residents, Hyderabad and Mysore, Public Works Department.
The Secretaries to the Agents to the Governor General, Rajputana 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 Inspector General of Military Works.
The Accountant General, Public Works Department.
The Director, Persian Gulf Telegraph.
The Comptroller General.
The Accountant General, Bengal.
The Consulting Engineers for Railways, Madras and Bombay.
The Consulting Engineers to the Government of India for Railways, Calcutta and Lucknow.
The Consulting Engineer to the Government of India for Railways, Central Division, Jubbulpore.
The Agent and General Manager, Assam Railways and Trading Company, Limited.

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Order No 964 W/S
dated 4th April 1889

Communicated to officers of the Public Works Department in continuation of No 57 A W 29 January 1889.
Dy RRDs
26/3/89

964

FROM

THE DIRECTOR GENERAL
OF RAILWAYS,

TO

THE

Circular No. 2.

Dated Simla, the 25th February 1889.

Received

Executive Engineers
Chapoo
Ex P.W.D.
Cawnpore Jhansi Rys

*Indian State Railways.*

Rate List, Class A.—Iron Bridgework for 1887.

G. C. Press, Simla.—No. 1414 P. W. D.—2-3-89.—1,100

964

Enclosure to Director General of Railways' Circular No. 20 of 1888.

# RATE LIST.

## CLASS C.

## WORKSHOP MACHINERY AND HEAVY TOOLS

FOR 1886.

(CONTRACT NOS. C 407 TO C 441.)

C 4

# INDIAN STATE RAILWAYS.

CLASS C.—WORKSHOP MACHINERY AND HEAVY TOOLS.

CLASS C.—WORKSHOP MACHINERY AND HEAVY TOOLS.

*Statement showing rates free on board in England, gross weight, and Sea freight per ton, of articles contracted for by the India Office from January to December 1886.*

| Contracts. No. C. | Contracts. Date. | For what Railway. | Articles. | Details. | Number or quantity contracted for. | Rate F. O. B. in England. Amount. £ | s. | d. | Unit. | India Office drawings (if any). Original C. | Completion C. | Gross weight of the number contracted for. | Entire Sea freight per ton. Rate. | Port. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | £ | s. | d. | | | | T. Cwt. qr. lbs. | s. | | |
| 411 | 10th April 1886 ... | Punjab Northern ... | Bellows. | Smiths' 36". The bellows are to be Allday's patent "screw pipe" for Smiths' 36" wide and are to be fitted with a nozzle and pipe 3 ft. long ... ... ... | No. 3 | 13 | 7 | 6 | Each | ... | ... | 3 2 2 0 | 15 | K. | |
| 431 | 22nd July 1886 ... | Eastern Bengal ... | Blower. | Root's patent, of power sufficient to blow 44 forges cupola, &c., as per tracing No. 185 W. M. The revolvers to be of sheet steel ... ... ... | No. 1 | 145 | 0 | 0 | Total | ... | ... | ... | ... | ... | Contract since cancelled. |
| 425 | 11th June 1886 ... | Wardha-Coal ... | Boilers, steam. | Cornish: each with fittings, &c., complete. The boilers are to be of the Cornish type, with steam dome, and are each to be 26' long, 5' 3" diameter, with one flue 32 inches diameter. The flues are each to have 3 conical water tubes. The boilers are to be so arranged, that they can be worked separately or together, and in connection with either engine. | No. 2 | 740 | 0 | 0 | Total | 800 | 627 1—2 | 17 0 0 0<br>8 5 0 0 | 60<br>15 | B. | |
| 408 | 4th February 1886 ... | Ditto ... | | Vertical, with fittings, &c., complete ... The boilers are to be of the vertical type, and are to work at a pressure of 60lbs. per square inch. Each boiler is to be 4 ft. external diameter and 9 ft. high, with three conical water tubes in the fire-box. | " 2 | 165 | 0 | 0 | Each | ... | ... | 6 10 1 0 | 25 | B. | £3-6-0 for tracings and photos. |
| 436 | 13th October 1886 ... | Eastern Bengal ... | | Vertical, with injector and fittings ... | " 1 | 130 | 10 | 0 | " | ... | ... | 2 11 3 0 | 20 | C. | |

*Statement showing rates free on board in England, gross weight, and Sea freight per ton, of articles contracted for by the India Office from January to December 1886*—contd.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G-1463 | 30th April 1886 ... | Sind, Punjab & Delhi ... | Boiler, steam. fittings for— | Balances, spring. Salters,' small, for 10 H.-P. boilers, working @ 100 lbs. for safety valves ... ... ... | No. 2 | 1 | 2 | 6 | Each | ... | ... | (a) 2 0 0 0 | ... | K. | (a) Net weight. |
| 440 | 26th November 1886 ... | Nagpur-Chhattisgarh ... | | Tubes 5′ 2″ long × 3¼″ outside diameter 9 B. W. G. for stationary boilers supplied on No. C-221 of 1882. The tubes are of metal similar to that known as "homogeneous" made by Messrs. Howell and Co., Brook Steel Works, Sheffield. ... ... | No. 225 | 105 | 0 | 0 | Total | ... | ... | 3 9 2 0 | 12 6 | B. | |
| 415 | 17th April 1886 ... | Eastern-Bengal ... | Cranes. | Hand-power, overhead, travelling, to lift 30 tons. (Approximate weight 29 tons) | No. 1 | 840 | 0 | 0 | Each | 797 | ... | 68 6 3 13 | 27 6 | C. | The Hydraulic Engineering Company. |
| Do. | Ditto ... | Ditto ... | | 540 ft. of steel rails, in lengths of 18 ft. ... | 6 tons. | 40 | 0 | 0 | Total | 349 | ... | | | | |
| Do. | Ditto ... | Ditto ... | | Rolled Iron Beams— | | | | | | | | | | | |
| Do. | Ditto ... | Ditto ... | | 28 ft. long × 18″ × 6″ × ⅝″ = 270 cwt. | No. 18 | 247 | 0 | 0 | „ | ... | ... | | | | |
| | | | | 18 „ × 18″ × 6″ × ⅝″ = 20¼ „ | „ 2 | | | | | | | | | | |
| Do. | Ditto ... | Ditto ... | | Main girders for hydraulic crane with rails for cross traverse of crane ... ... | „ 2 | 197 | 0 | 0 | „ | ... | ... | | | | |
| Do. | Ditto ... | Ditto ... | | Main cross traversing with brackets complete, arranged for increased length of girder. | Shafts 2 | 46 | 0 | 0 | „ | ... | ... | | | | |
| | | | | The crane is to be worked by hand-power, and is to have wrought-iron main and end girders, and is to be capable of lifting, traversing, and lowering a load of 30 tons. The crane is to run on a rail pathway 46 ft. 7 in. centres. | | | | | | | | | | | |
| Do. | Ditto ... | Ditto ... | | The girders to be each 44′ 7″ long and 3′ 6″ deep at centre, tapering to 1′ 11″ deep at each end, where they are secured to the end carriages. | | | | | | | | | | | |
| | | | | The wheels are to be 2′ 3″ diameter with steel tyres. | | | | | | | | | | | |



*Statement showing rates free on board in England, gross weight, and Sea freight per ton, of articles contracted for by the India Office from January to December 1886*—contd.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 429 | 8th July 1886 ... | Eastern Bengal ... | Cranes—*contd.* | Hand-geared to lift 30 tons similar to that supplied on Contract No. C-415 of 1886 ... ... ... | No. 1 | 840 | 0 | 0 | Total | 797 & 349 | ... | 28 17 1 10 | 21 | C. | |
| | | | | Span 46′ 7″ centre to centre of rails ... Pipes not required ... ... | | | | | | | | | | | |
| 412 | 10th April 1886 ... | Punjab Northern ... | | Steam-coal whipping with boiler and wrought-iron carriage complete, to lift a load of 1 ton (weight of crane 330 cwts.) | No. 1 | 556 | 0 | 0 | Each | ... | 825 / 1—4 | 18 12 3 0 | 15 | K. | Cowans, Sheldon and Company. [£6-15-0 for tracings and photos.] |
| „ | Ditto ... | Ditto ... | | Tipping buckets for ditto, to hold ½ ton each (10 cwt. each) ... | „ 6 | 16 | 0 | 0 | „ | | | | | | |
| | | | | The crane is to be mounted on a wrought-iron carriage, running on four wheels on a 5-feet 6-inch gauge railway, and made to hoist, traverse, and swing by steam-power, and lower a weight of one ton at a radius of jib of 25 feet from the centre of the pillar to the centre of the load. The crane is to be fitted with an engine having two steam cylinders ... | | | | | | | | | | | |
| | | | | Description of crane-gearing spur and bevel— | | | | | | | | | | | |
| | | | | Diameter of each cylinder ... 6 inches ... | | | | | | | | | | | |
| | | | | Length of piston stroke ... 10 „ ... | | | | | | | | | | | |
| | | | | Revolutions per minute ... 120 „ ... | | | | | | | | | | | |
| | | | | Length of boiler barrel ... 7 feet ... | | | | | | | | | | | |
| | | | | External diameter of boiler barrel 3 feet 2 inches ... ... ... | | | | | | | | | | | |
| | | | | Length of fire-box 3 feet 10 inches ... | | | | | | | | | | | |

# INDIAN STATE RAILWAYS.

CLASS C.—WORKSHOP MACHINERY AND HEAVY TOOLS.

*Statement showing rates free on board in England, gross weight, and Sea freight per ton, of articles contracted for by the India Office from January to December 1886*—contd.

| Contracts. No. C. | Contracts. Date. | For what Railway. | Articles. | Details. | Number or quantity contracted for. | Rate F. O. B. in England. Amount. £ | s. | d. | Unit. | India Office drawings (if any.) Original C. | Completion C. | Gross weight of the number contracted for. T. Cwt. qr. lbs. | Entire Sea freight per ton. Rate. s. d. | Port. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 432 | 3rd August 1886 ... | Burma ... | Drills, twist. | Tapered— | | | | | | | | | | | |
| | | | | $\frac{1}{2}$", $\frac{9}{16}$", $\frac{5}{8}$", $\frac{11}{16}$", $\frac{3}{4}$", $\frac{7}{8}$", 1", $1\frac{1}{4}$" & $1\frac{1}{2}$" ... | Sets 2 | | | | | | | | | |
| „ | Ditto ... | Do. ... | | Tapered— | | | | | | | | | | | |
| | | | | $\frac{1}{8}$", $\frac{9}{16}$", $\frac{5}{8}$", $\frac{11}{16}$", $\frac{7}{8}$", $\frac{13}{16}$", 1" & 1" ... | „ 10 | 18 | 17 | 0 | Total | ... | ... | 0 1 2 0 | 27·6 | B. | This contract should have been let under G.-a.—Tools. |
| 421 | 13th May 1886 ... | Wardha-Coal ... | Fire-boxes. | For Tangye's vertical boilers with two Galloway tubes ... | No. 2 | 43 | 0 | 0 | Total | ... | ... | 0 12 3 24 | 12·0 | B. | |
| 410 | 30th March 1886 ... | Northern Bengal ... | Gauge. | Hydraulic pressure, to record up to 5 tons to the inch ... ... ... | No. 1 | 3 | 0 | 0 | Each | ... | ... | 0 0 0 24 | 18·0 | C. | Charged by measurement as 1 cubic ft. = $\frac{1}{20}$ of a ton. |
| G 1331 | 23rd February 1886 ... | Punjab Northern ... | Grindstones; spare stones for— | 48" diameter, 8" thick, with hole in centre 3" diameter ... ... ... | No. 2 | 2 | 2 | 0 | Each | ... | ... | 1 0 2 0 | 22·0 | K. | |
| „ 1653 | 18th December 1886 ... | Nagpur-Chhattisgarh ... | | 3 feet diameter without trough. Finest Newcastle, of a suitable degree of hardness and very regular grit so that the grindstones may not glaze; and to wear as evenly as practicable without requiring very frequent dressing up ... ... | „ 6 | 16 | 0 | „ | ... | ... | ... | 1 7 0 0 | 20·0 | B. | |


# INDIAN STATE RAILWAYS.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 423 | 28th May 1886 ... | Bolan ... ... | Hammers, Steam., | 5 cwt. double-acting Steam Hammer, with pipes and duplicate parts complete ... | No. 1 | 139 | 0 | 0 | Each | ... | $\frac{820}{1-3}$ | 4 18 3 0 | 16·6 | K. | |
| 422 | 20th May 1886 ... | Punjab Northern ... | Hammers, Steam; parts of— | Blocks, top and bottom, for 3 Cwt. Steam Hammers ... ... ... | Sets 3 | 11 | 0 | 0 | Total | ... | ... | 1 17 0 0 | 15 3 | K. | |
| | | | | Blocks, top and bottom, for 6 Cwt. Steam Hammers ... ... ... | „ 3 | 24 | 0 | 0 | „ | | | | | | |
| | | | | Blocks, top and bottom, for 20 Cwt. Steam Hammers ... ... ... | „ 3 | 46 | 0 | 0 | „ | | | | | | |
| | | | | Shipments as per completion report— | | | | | | | | | | | |
| | | | | 3 top and 3 bottom Pallets for 3 Cwt. Steam Hammer ... ... | | | | | | | | | | | |
| | | | | 3 top and 3 bottom Pallets for 6 Cwt. Steam Hammer ... ... | | | | | | | | | | | |
| | | | | 3 top and 3 bottom Pallets for 20 Cwt. Steam Hammer ... ... | | | | | | | | | | | |
| 433 | 3rd August 1886 ... | Burma ... ... | | Piston rod for 10 Cwt. Steam Hammer ... | No. 1 | 18 | 0 | 0 | „ | ... | ... | *0 7 0 2 | ... | R. | Net weight. |
| | | | | Piston rings for ditto ditto ... | „ 2 | | | | | | | | | | |

*Statement showing rates free on board in England, gross weight, and Sea freight per ton, of articles contracted for by the India Office from January to December 1886*—contd.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G.-1404 | 6th April 1886 ... | Nagpur-Chhattisgarh ... | Indicators' Steam. | Richards' Patent ... ... | Set 1 | 8 | 0 | 0 | Each | | | T. Cwt. qr. lbs. | s. | | |
| | | | | Springs and scales for, as under:— | | | | | | | | | | | |
| | | | | No. 1 1/8 15 × 10 ... | | | | | | | | | | | |
| | | | | „ 2 1/12 15 × 22 ... | | | | | | | | | | | |
| | | | | „ 3 1/16 15 × 35 ... | | | | | | | | | | | |
| | | | | „ 4 1/20 15 × 47 ... | | | | | | | | | | | |
| | | | | „ 5 1/24 15 × 60 ... | Set 1 | 5 | 0 | 0 | Set | ... | ... | 0 0 0 24 | 15 | B. | |
| | | | | „ 6 1/30 15 × 80 ... | | | | | | | | | | | |
| | | | | „ 7 1/32 15 × 85 ... | | | | | | | | | | | |
| | | | | „ 8 1/40 15 × 125 ... | | | | | | | | | | | |
| | | | | „ 9 1/48 15 × 150 ... | | | | | | | | | | | |
| | | | | „ 10 1/56 15 × 175 ... | | | | | | | | | | | |
| „ | Ditto ... | Ditto ... | | Diagram card packets for— ... | „ 2 | 0 | 8 | 0 | Total | | | | | | |
| | | | | Springs, steel, to suit Richards' Indicator, viz.:— | | | | | | | | | | | |
| | | | | No. 3 for pressures lbs. — 15 to lbs. + 35 ... | | | | | | | | | | | |
| | | | | „ 4 do. + 15 to + 47 ... | | | | | | | | | | | |
| | | | | „ 5 do. — 15 to + 60 ... | | | | | | | | | | | |
| G.-1637 | 19th October 1886 ... | Northern Bengal ... | | „ 6 do. 0 to + 86 ... | „ 2 | 3 | 3 | 0 | Set | ... | ... | 0 0 0 21 | ... | C. | Received per Parcel Post, 20th December 1886. |
| | | | | „ 7 do. 0 to + 100 ... | | | | | | | | | | | |
| | | | | „ 8 do. 0 to + 125 ... | | | | | | | | | | | |
| | | | | „ 9 do. 0 to + 150 ... | | | | | | | | | | | |



*Statement showing rates free on board in England, gross weight, and Sea freight per ton, of articles contracted for by the India Office from January to December 1886*—contd.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 426 | 24th June 1886 ... | Jorhat ... | Lathe power self-acting wheel. | 2′ 6″ to take 5′ 6′ between the centres. To turn wheels 30″ diameter and to take 50″ axles.<br>The wheel lathe is to be adapted to turn without torsional strain of axle, a pair of wheels varying from 2 feet to 2 feet 6 inches diameter on their own axle, on axles from 3 feet to 5 feet 6 inches long, or to bore two tyres, or to boss or bore two wheels, or to boss and bore a wheel on one face, and to bore a tyre on the other at the same time. | No. 1 | 375 | 0 | 0 | Each | ... | 828 / 1—5 | T. Cwt. qr. lbs. 9 8 2 0 | s. 30 | C | |
| 435 | 21st September 1886 ... | Eastern Bengal ... | Lathe power self-acting; head stock and slide rests for— | Head stocks for 24″ centre gap lathe ... | No. 2 | 88 | 0 | 0 | Each | ... | ... | 9 6 2 0 | 30 | C | |
| „ | Ditto | Ditto | | Slide rests for 24″ centre gap lathe ... | „ 2 | 86 | 0 | 0 | „ | | | | | | |
| | | | | Two head stocks, double geared 24″ centres to suit beds of gap lathes (gap 4′ × 2′ 6″, 14″ centres). Each head stock to be fitted with a strong face plate for turning, boring and facing wheel centres, or boring tyres of 3′ 7″ carriage wheels.<br>The slide rests will be worked self-acting by the gearing of the existing head stock, or will be worked by hand only. | | | | | | | | | | | |
| 419 | 30th April 1886 ... | Wardha-Coal ... | Lubricators, needle. | No. 1, Lienwain's Patent ... ... | No. 24 | 0 | 17 | 0 | Total | ... | ... | 0 0 2 0 | 13 | B | |

*Statement showing free on board in England, gross weight, and Sea freight per ton, of articles contracted for by the India Office from January to December 1886—contd.*

CLASS C.—WORKSHOP MACHINERY AND HEAVY TOOLS.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 407 | 26th January 1886 ... | Wardha-Coal ... | Machines. | Boring. | Boring bar and heads, each to hold four cutters, self-acting feed to bore 10′ long and from 12″ to 16″ diameter. | No. 1 | 95 | 0 | 0 | Each | ... | 809 1—2 | 2 10 0 0 | 12-0 | B | |
| 437 | 12th October 1886 ... | Eastern Bengal ... | | Drilling. | Wheel and tyre for drilling holes from $\frac{3}{4}$ inch up to $1\frac{1}{8}$ inch diameter in a pair of locomotive, carriage or wagon wheels upon their own axles at the same time. The gauge of the wheels is to be 5 feet 6 inches. | ,, 1 | 169 | 12 | 0 | Each | E-1945 | ... | 3 3 2 0 | 25-0 | C | |
| | | | | | Split drum, or main shaft drum, 2 feet diameter and 12 inches wide. | ,, 1 | 15 | 10 | 0 | ,, | ... | | | | | |
| | | | | | Photos. for ditto, per copy ... ... | ... | 0 | 3 | 0 | ,, | | | | | | |
| | | | | | Tracings ... ... ... | ... | 4 | 0 | 0 | Set | | | | | | |
| 416 | 20th April 1886 ... | Nagpur-Chhattisgarh ... | | Emery Grinding. | For facing up work. The machine to be of the description known, as a "Universal Surface and Periphery Grinder" with an adjustable side table. The machine spindle is to be fitted with an emery disc 12″ diameter and 2″ thick at one end, and with a surfacing emery wheel 10″×4″ mounted in an adjustable shield at the other. The machine is to be supplied with countershaft and belt shafting gear complete. | No. 1 | 38 | 0 | 0 | Each | ... | 810 1—4 | 1 10 1 0 | 13 | B | L. Sterne & Co. |
| 438 | 2nd November 1886 ... | Burma ... | | | Twist drills (Thomson and Sterne's) same as in Contract No. C-59 of 1876. | No. 1 | 48 | 15 | 0 | ,, | ... | ... | 1 0 0 0 | 27-6 | B | Less 10 per cent. £ s. d. = 4 17 6 |
| 414 | 16th April 1886 ... | Sind, Punjab and Delhi | | | Emery discs $\frac{1}{4}$″ thick 12″ diameter ... | ,, 24 | 3 | 14 | 0 | Total | | | | | | |
| | | | | | Ditto $\frac{3}{8}$″ ditto ... | ,, 24 | 5 | 10 | 0 | ,, | | | | | | |
| | | | | | Ditto $\frac{1}{2}$″ ditto ... | ,, 12 | 3 | 13 | 6 | ,, | ... | ... | 0 5 1 0 | 16-3 | K | Less 10 per cent. |
| | | | | | Ditto $\frac{1}{4}$″ ditto ... | ,, 12 | 4 | 12 | 0 | ,, | | | | | | |
| | | | | | Ditto $\frac{1}{2}$″ ditto ... | ,, 12 | 5 | 10 | 6 | ,, | | | | | | |
| | | | | | Spindle hole in each to be one inch diameter. | | | | | | | | | | | |

INDIAN STATE RAILWAYS.

CLASS C.—WORKSHOP MACHINERY AND HEAVY TOOLS.

*Statement showing rates free on board in England, gross weight, and Sea freight per ton, of articles contracted for by the India Office from January to December 1886—contd.*

CLASS C.—WORKSHOP MACHINERY AND HEAVY TOOLS.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 427 | 25th June 1886 ... | Wardha-Coal ... | Machines—*contd.* | Emery grinding. | Emery discs, 12″ diameter × $\frac{1}{4}$″ thick, diameter of spindle $\frac{3}{4}$″ | No. 6 | 1 | 7 | 0 | Total | ... | ... | 0 0 1 3 | 10-9 | B. | |
| 417 | 22nd April 1886 ... | Nagpur-Chhattisgarh... | | Grinding Twist drill. | Combined Tool and Twist Drill grinder. The machine to be for drills $\frac{1}{2}$″ to 2″ rising by $\frac{1}{8}$″. The machine to be supplied with countershaft and belt shifting gear complete. | No. 1 | 116 | 6 | 8 | Each | ... | 823 1—3 | 2 19 0 0 | 12-0 | B. | |
| 428 | 1st July 1886 ... | Northern Bengal ... | | | Patent Twist Drill grinding apparatus, to grind drills from $\frac{1}{2}$″ to 2″ for firing to side of a 48″ grindstone. | ,, 1 | 33 | 0 | 0 | ,, | ... | ... | 0 5 3 4 | 16-0 | C. | Charged by measurement as 16 cub. feet = $\frac{1}{40}$ tons. |
| 434 | 4th September 1886 ... | Sind-Sagar and Sind-Pishin. | | Sawing. | Circular, cold, hand-power for sawing rails by Messrs. Selig, Sonnenthal & Co. To be suitable for cutting steel rails of Vignole's and double-headed sections weighing 75 lbs. per yard, each machine to be fitted with a drilling arrangement and six spare drills and with a compound slide rest; no trolly is required. | No. 7 | 41 | 10 | 0 | Each | ... | ... | 5 14 1 22 | 25-0 | K. | Includes gross weight of 4 saw sharpening machines and 9 spare saws. |
| 441 | 1st December 1886 ... | Bellary-Kistna ... | | | Circular, cold, hand-power for sawing rails. The machines are of the same description as those included in Contract No. C-434 above. | ,, 2 | 41 | 10 | 0 | ,, | ... | ... | 2 7 2 0 | 18-0 | M. | Includes gross weight of 2 saw sharpening machines. |

*Statement showing rates free on board in England, gross weight, and Sea freight per ton, of articles contracted for by the India Office from January to December 1886*—contd.

CLASS C.—WORKSHOP MACHINERY AND HEAVY TOOLS.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 434 | 4th September 1886 ... | Sind-Sagar and Sind-Pishin. | Machines—*contd.* Saw Sharpenings. | Cold, for sharpening the saws of sawing Circular cold supplied under this contract. | No. 4 | 4 7 6 | Each | ... | ... | 5 14 1 22 | 25-0 | K. | |
| " | Ditto ... | Ditto ... | | Saws, spare, for above 4-18″ diameter and 5-20″ diameter. | " 9 | 17 0 0 | Total | ... | ... | | | | |
| 441 | 1st December 1886 ... | Bellary-Kistna ... | | Cold, for sharpening saws supplied under this contract. | " 2 | 4 7 6 | Each | | | | | | |
| | | | | With spare emery discs ... ... | " 6 | 0 6 6 | " | ... | ... | 2 7 2 0 | 18-0 | M. | Includes gross weight of 2 sawing machines. |
| 430 | 22nd July 1886 ... | Burma ... ... | | Saws, spare, 18″ diameter ... ... | " 5 | 1 15 0 | " | | | | | | |
| | | | | Emery discs for, as under— | | | | | | | | | |
| | | | | 12″ × ⅜″ ... ... | " 24 | 5 14 0 | Total | | | | | | |
| | | | | 12″ × ½″ ... ... | " 24 | 7 12 0 | " | | | | | | |
| | | | | 12″ × ⅝″ ... ... | 24 | 9 12 0 | " | ... | ... | 0 7 1 0 | 18-4 | R. | Less 12½ % discount. |
| | | | | 12″ × ¾″ ... ... | " 24 | 11 8 0 | " | | | | | | |
| 439 | 12th November 1886 ... | Nagpur-Chhattisgarh ... | Screwing. | Spiral springs for Seller's Patent Screwing machine— No. 428 to screw from ¼″ to 1″. The spirings are 12″ long by B. W. G. No. 10, diameter outside ⅛″. | No. 24 | 0 2 0 | Each | ... | ... | 0 0 2 0 | 16-0 | B. | |

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*Statement showing rates free on board in England, gross weight, and Sea freight per ton, of articles contracted for by the India Office from January to December 1886*—contd.

CLASS C.—WORKSHOP MACHINERY AND HEAVY TOOLS.

| Contracts. No. C. | Contracts. Date. | For what Railway. | Articles. | Details. | Number or quantity contracted for. | Rate F. O. B. in England. Amount. £ s. d. | Rate F. O. B. in England. Unit. | India Office drawings (if any). Original. C. | India Office drawings (if any). Completion. C. | Gross weight of the number contracted for. T. Cwt. qr. lb. | Entire Sea freight per ton. Rate. s. d. | Entire Sea freight per ton. Port. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 424 | 10th June 1886 ... | Bilaspur-Etawah, Katni-Umaria Section. | Pump. | Hydraulic—for testing boilers with pipes and connections complete, "No. 1 B." | No. 1 | 21 0 0 | Each. | 367,368 369,370 | 821 | 0 7 2 0 | 12-0 | B. | |
| | | | | For photos and tracings ... | ... | 1 10 0 | | | | | | | |
| 420 | 29th April 1886 ... | Wardha-Coal ... | Steam, jet. | Korting's patent under grate of boilers with spindle size number 1. | No. 1 | 14 0 0 | Total | ... | ... | 0 2 0 14 | 12 | B. | |
| | | | | | | | | | | | | | Contracts should have been let under class G.— |
| 409 | 12th February 1886 ... | Punjab Northern ... | Stocks, taps and dies. | Blank dies to suit stock by Whitworth marked B-893 ¼″ to ⅜″ advancing by $\frac{1}{16}$″. | Sets 6 | 0 10 6 | Set. | ... | ... | 0 10 2 0 | 16 3 | K. | Includes also the gross weight of another set of the standard thread supplied under the same contract as well as of 6 hot iron saws 36″ diameter on Contract No. G. 1389. |
| " | Ditto ... | Ditto ... | | Blank dies to suit stock by Whitworth marked D-3487-½″ to 1″ advancing by ⅛″. | " 6 | 1 12 6 | " | ... | ... | | | | |
| 413 | 10th April 1886 ... | Nagpur-Chhattisgarh... | | Stocks, taps and dies. Gas thread to screw from ⅜″ to 2″ inclusive. | " 1 | 38 5 0 | " | ... | ... | 0 14 2 0 | 15-9 | B. | Includes gross weight of a set of master-tap and a set of die nuts. |
| 409 | 12th February 1886 ... | Punjab-Northern ... | | Stocks, taps and dies. Standard thread ¼″ to 1½″ rising by ⅛′ fitted into a box with lock and key. | " 1 | 28 0 0 | " | ... | ... | * | 16-3 | K. | Cwt. qr. lbs. *Included in the 10 2 0 v.s. |
| 413 | 10th April 1886 ... | Nagpur-Chhattisgarh ... | | Taps, master, gas thread ¼″ to 2″, rising by ⅛″ inclusive. | " 1 | 13 15 0 | " | ... | ... | 0 14 2 0 | 15-9 | B. | Includes gross weight of a set of tap screw ⅜″ to 2″ and a set of die nuts. |
| 409 | 12th February 1886 ... | Eastern Bengal ... | | Taps, steel, for engine and mud plug holes, each consisting of 9. | " 3 | 9 0 0 | " | ... | ... | 0 0 3 0 | 17-0 | C. | |

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## INDIAN STATE RAILWAYS.

CLASS C.—WORKSHOP MACHINERY AND HEAVY TOOLS.

*Statement showing rates free on board in England, gross weight, and Sea freight per ton, of articles contracted for by the India Office from January to December 1886*—concld.



| Contracts. No. C. | Contracts. Date. | For what Railway. | Articles. | Details. | Number or quantity contracted for. | Rate F. O. B. in England. Amount. £ | s. | d. | Unit. | India Office drawings (if any). Original C. | Completion C. | Gross weight of the number contracted for. | Entire Sea freight per ton. Rate. | Port. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | T. Cwt. qr. lbs. | s. | | |
| 413 | 10th April 1886 ... | Nagpur-Chhattisgarh... | Stocks, taps and dies —*contd.* | Die nuts ¼" to 2" (rising by ⅛") inclusive | Set 1 | 11 | 5 | 0 | Set | ... | ... | 0 14 2 0 | 15·9 | B. | Includes gross weight of a set of Tap screw and a set of master tap. |
| 418 | 30th April 1886 ... | Wardha-Coal ... | Tool holders. | Smith and Coventry's patent ¾" left hand<br>Ditto ¾" right hand<br>The dimensions given is the diameter of the cutters in the holders, the size of holder required for them is 1¼" square in the shank, and suitable for 12" centre lathe. | No. 3<br>„ 3 | 2 12 0<br>2 12 0 | | | Total<br>„ | ...<br>... | ...<br>... | 0 0 2 4 | 12·0 | B. | |

Ports :—B—Bombay. C—Calcutta K—Kurrachee. M—Madras. R—Rangoon.

L. CONWAY-GORDON,
Director General of Railways.

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[*General Distribution.*]

Circular No. 2.

FROM

THE DIRECTOR GENERAL OF RAILWAYS,

To

THE DIRECTOR, NORTH-WESTERN RAILWAY.
THE MANAGER, OUDH AND ROHILKHAND STATE RAILWAY.
THE ENGINEER-IN-CHIEF, SIND-PISHIN STATE RAILWAY.
THE PORT STOREKEEPERS, STATE RAILWAY DEPARTMENT, CALCUTTA AND BOMBAY.

Simla, the 25th February 1889.

SIR,

I have the honour to forward herewith, for information and guidance, a printed statement showing the actual rates *free on board* in England, for A Class State Railway Stores, "Iron Bridgework" contracted for by the India Office, from January to December 1887.

2. In order to arrive at the total cost of girder spans landed at the several ports in India, an insurance charge of one per cent. on the *f. o. b.* cost *plus* entire sea freight, should be added in addition to other incidental charges and exchange which should be calculated at the official rate for the year in which the stores are landed.

3. A table showing the latest average rates per ton for sea-freight, on Bridgework sent out from England to the principal ports of India, accompanies the statement.

I have the honour to be,

SIR,

Your most obedient Servant,

E. H. STONE,
*for* Director General.

*Documents accompanying.*

Average rates per ton for sea-freight.
Rate List, Class A.—"Iron Bridgework."

4/64

The Secretaries to the Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab, Public Works Department.
The Secretaries to the Chief Commissioners of the Central Provinces, Burma, Assam, and Coorg, Public Works Department.
The Secretaries to the Residents, Hyderabad and Mysore, Public Works Department.
The Secretaries to the Agents to the Governor General, Rajputana 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 Inspector General of Military Works.
The Accountant General, Public Works Department.
The Director, Persian Gulf Telegraph.
The Comptroller General.
The Accountant General, Bengal.
The Consulting Engineers for Railways, Madras and Bombay.
The Consulting Engineers to the Government of India for Railways, Calcutta and Lucknow.
The Consulting Engineer to the Government of India for Railways, Central Division, Jubbulpore.
The Agent and General Manager, Assam Railways and Trading Company, Limited.

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

E. A. Stone
*for* Director General.

To

The Secretary to the Government of Madras
Public Works Department.

with 60 Spare Covers
× per packet post-

23

A64

D4 27

Z4

FROM

THE DIRECTOR GENERAL
OF RAILWAYS,

TO

THE

SECRETARY TO GOVERNMENT
25 MAR. 89
P. W. DEPARTMENT, MADRAS.

Circular No. 2.

Dated Simla, the 25th February 1889.

Received 25-3-89

*Indian State Railways.*

Rate List, Class A.—Iron Bridgework for 1887.

G. C. Press, Simla.—No. 1414 P. W. D.—2-3-89.—1,100