(1) பக்கங்களின் எண்ணிக்கை 26

(2) புதுக்கித் திருப்பிய நாள் 12/89

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம் [illegible]

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

51

PWD துறை

அரசாணை எண். மு. கோப்புத் தாள் எண்.	1143	அச்சகம் பலவகை
நாள் : 29 . 4 . 1989		198 .

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

13 Sheets

ஆவண. எச-1—18,000—15-9-87.

1143

Enclosure to Director General of Railways' Circular No. 4 of 1889.

RATE LIST.

CLASS C.

WORKSHOP MACHINERY AND HEAVY TOOLS.

FOR 1887.

1143

Enclosure to Director General of Railways' Circular No. 4 of 1889.

RATE LIST.

CLASS C.

WORKSHOP MACHINERY AND HEAVY TOOLS.

FOR 1887.

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CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS.

Contracted for in 1887.

Contract Number.	Articles.	Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
C 447	Anvils	Smiths', or pipe and arch, weighing 5 cwt. each	5	12	6	Each.	
248	Ditto	Swage blocks 20″ × 20″ × 7″ with stands complete. The stands are about 15″ high.	3	7	0	"	
478	Bears, punching, duplex ...	To punch up to $\frac{5}{8}$″ diameter. The duplex lever punches are to be of the "open mouth" description, and made entirely of forged steel, and of a size and strength suitable for punching $\frac{5}{8}$″ holes in $\frac{1}{2}$″ steel plates, the centre of the hole being 2″ from the edge of the plate. They are each to be fitted with a set of round punches and dies of the following sizes, *viz.*:— $\frac{3}{8}$″, $\frac{1}{2}$″, $\frac{5}{8}$″.	5	0	0	Each.	
221	Bellows	Hand 10″ × 12″	0	6	6	Each.	
212	Ditto	Smiths', 36″. The bellows are to be Alldays' patent "screw pipe" for Smiths' 36″ wide, and are fitted with a nozzle, and pipe 3 feet long.	0	9	1	"	
C 447	Ditto	Smiths' English, 5′ 0″ × 2′ 10″ wide	9	2	0	"	
476	Blower	Root's patent, fitted with Alldays' patent "Aeolus" sheet steel revolvers for eight Smiths' fires, to deliver 1,000 cubic feet of air per minute; with suitable counter shaft.	44	6	0	Each.	
367	Boilers, steam	Locomotive type multitubular semi-portable, 50 horse-power with all fittings, steam piping and chimneys, complete.	367	10	0	Each.	

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CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS.—*contd.*

Contracted for in 1887.

Contract Number.	Articles.	Details.	Rate—Free on Board. Amount. £	s.	d.	Unit.	Remarks.
360	Cranes	Overhead, travelling, to lift 30 tons through a height of 12 feet ...	505	0	0	Each.	Approximate weight of the crane 14½ tons.
		Photographs	0	2	6	Copy.	
		Tracings	7	10	0	Set.	
135	Cranes	Portable, travelling, 3 ton, hand, with flanged wheels, 14′ radius and 30′ lift.	165	0	0	Each.	
		Tracings	0	15	0	"	
		Photos	0	2	6	"	
220	Crucibles	Plumbago, Morgan's Salamander No. 12	0	3	0	Each.	
"	Ditto	Ditto ditto ditto No. 40	0	10	0	"	
348	Ditto	Plumbago No. 60	0	15	0	"	
G. 1700	Ditto	Ditto Morgan's Salamander No. 60 size	0	15	11	"	
G. 1822	Ditto	Ditto ditto ditto ditto	0	15	8	"	Including casks, packing and delivery.

CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS.—*contd.*

Contracted for in 1887.

Contract Number.	Articles.	Details.	Rate—Free on Board. Amount. £	s.	d.	Unit.	Remarks.
C. 448	Drills, twist	Straight Shanks $\frac{1}{8}''$	0	0	6	Each.	
		" " $\frac{3}{16}''$	0	0	8	"	
		" " $\frac{1}{4}''$	0	1	2	"	
		" " $\frac{5}{16}''$	0	1	4	"	
		" " $\frac{7}{16}''$	0	2	3	"	
		" " $\frac{9}{16}''$	0	3	9	"	
		" " $\frac{11}{16}''$	0	5	6	"	Less 45 % discount.
		" " $\frac{13}{16}''$	0	7	7	"	See also Rate List G.—page
		" " $\frac{15}{16}''$	0	9	10	"	
		" " $1\frac{1}{16}''$	0	12	2	"	
		" " $1\frac{3}{16}''$	0	14	9	"	
		" " $1\frac{5}{16}''$	0	18	0	"	
		" " $1\frac{7}{16}''$	1	1	6	"	
		" " $1\frac{9}{16}''$	1	11	6	"	

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CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.	Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
C. 448	Drills, twist	Tapered Shanks $\frac{1}{4}''$	0	2	0	Each.	Less 45 % discount. See also Rate List G—page
		" " $\frac{1}{2}''$	0	3	4	"	
		" " $\frac{5}{8}''$	0	4	9	"	
		" " $\frac{3}{4}''$	0	6	7	"	
		" " $\frac{7}{8}''$	0	8	8	"	
		" " $1''$	0	11	0	"	
		" " $1\frac{1}{2}''$	1	4	0	"	
367	Engine, horizontal ...	50 horse-power, high pressure, non-condensing type with cylinder of 16″ diameter.	385	0	0	Each.	
		Main driving belt, 90′ long, 22″ wide	46	0	0	"	
		Duplicate parts, *viz*:—Spare set of rings for the piston, set of gland and packing box bushes for each cylinder, set of connecting rod brasses for both ends, spare gauge glasses and india-rubber rings, set of fire bars for each boiler and complete set of boiler tubes with steel ferrules for one boiler.	58	0	0	Total.	
		Tracings	5	0	0	Set.	
		Photos	0	2	6	Copy.	

CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS.—*contd.*

Contracted for in 1887.

Contract Number.	Articles.	Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
300	Engine, stationary	Compound, non-condensing, stationary engine indicated up to a load equal to 50 H. P. high and low pressure cylinders to be 10 and 16 inches in diameter, respectively. Duplicate parts consisting of spare set of brasses for both ends of each connecting rod and two spare sets of phosphor bronze piston rings for each piston, photos and tracings.	535	0	0	Each.	Approximate weight of engine $12\frac{1}{2}$ tons. Total weight about 13 tons.
358	Fans, blast, Schieles' patent ...	1 Schieles' fan 9′ 6″ diameter, with engine, with cylinder 20″ diameter and 24″ stroke, fitted with an automatic expansion valve controlled by a direct acting governor. The side walls of the fan to be of wrought-iron.	1,085	0	0	Each.	
C. 447	Forges	Portable, with Roots No. 3 blowers attached, height 2 feet, hearth 2′ 1″ × 21″, of sufficient capacity to deliver 65 cubic feet of air per minute at a speed of 300 revolutions.	9	10	0	Each.	
C. 453	Gauge	Bourdons' duplex standard up to 200 lbs. per square inch for testing boilers.	2	10	0	Each.	
238	Ditto	Mercurial blast pressure with lines on the index to represent ounces and pounds.	2	5	0	"	
C. 442	Ditto	Bourdon's hydraulic for wheel pressure, $2\frac{1}{2}$ tons	6	0	0	"	

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CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.	Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
C. 442	Gauge	Vacuum 6″ face	1	0	0	Each.	
C. 443	Gauge glasses	For mercurial gauges, with india-rubber rings	3	4	0	Set.	
C. 447	Grindstones	Complete, with trough 5′ × 10″ × 3″ hole, the cane is to be three speeded, each step being 3½″ wide and of the following diameters, 12″, 16″, and 20″.	16	14	6	Each.	
326	Grindstones; spare stones for—	Best Ayrshire 60″ × 8′	2	17	6	Each.	
C. 447	Ditto	Spare, 4′ 6″ × 8″ × 2¾″ hole	2	3	6	"	
484	Hammers, steam	5 cwt., double frame steam hammer. Diameter of cylinder 9″, length of stroke 18″, diameter of rod 3″. Distance from centre of hammer to standard 12″. Height of pallet 2′ 3″. Total height 9′ 5″. Diameter of steam pipe 2″. Weight of falling weight cwt. 5, q. 1, lbs. 4.	100	0	0	Each.	Total weight 5¼ tons.
248	Ditto	10 cwt., double acting. Similar to that supplied on Contract C370 of 1885	201	10	0	Each.	
484	Hammers, steam; spare parts of—	Spare steel anvil	2	9	0	Each.	
		" " hammer	1	6	6	"	
		" " set of piston rings	0	7	6	"	
		" " valve	0	5	0	"	

CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.	Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
		50′ of 2″ steam pipe	3	10	0	Total.	
		25′ of 3″ exhaust	3	17	6	"	
484	Hammers, steam; spare parts of—	Right angle bends 2″ × 3″	1	15	6	Total.	
		6 Photos, each ½ and 1 negative £1	1	9	0	"	
		3 sets of tracings on cloth	5	0	0	"	
479	Lathes, power; self-acting ...	Gap, screw cutting height of centres 9,″ length of bed between centres 14 feet, complete.	89	0	0	Each.	
"	Ditto ...	Gap, screw cutting height of centres 6 inches, and length of bed between centres 8 feet complete, each lathe to be supplied with the following:—1 Clements' Driver, 1 face plate and 4 dogs, 1 travelling stay for fixing to the slide rest, 6 turning tools of Vickers special tool steel also countershaft with pulleys, buckets, &c.	55	0	0	Each.	
"	Ditto ...	The tools for the 9″ lathe are 1⅛″ × ⅝″ × 12″ long and those for the 6 lathe are 1″ × ¾″ × 10″ long.					
115	Ditto ...	10″ centre screw cutting and surfacing gap leather with countershaft, holding down bolts, tools, belting, &c.:—To take 14 ft. between the centres, the width of the gap to be 16″ and the depth of the same to be 12″.	332	10	0	Each.	
438	Ditto ...	Gap, screw cutting and surfacing 12″ centre, to take 16 feet between centres	412	0	0	Each.	(Weight 4½ tons.)

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CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.	Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
440	Lathes, power; self-acting ...	Gap, screw cutting and surfacing 8″ centre, to take 16 feet between centres.	227	10	0	Each.	(Weight 53¾ cwt.)
"	Ditto ...	Screw cutting and surfacing 8″ centre brass finishing lathe, to take 8′ 6″ between centres.	225	10	0	Each.	(Weight 56 cwt.)
"	Ditto ...	Gap, screw cutting and surfacing 6″ centre, to take 5 feet between centres.	167	5	0	Each.	(Weight 23 cwt.)
440	Lathes, power; self-acting ...	Carriers for lathes for work 1½″ diameter	0	4	8	Each.	
	Carriers for— ...	Ditto ditto 1″ "	0	6	6	"	
		Ditto ditto 3″ "	1	8	0	"	
		Ditto ditto 6″ "	2	0	0	"	
C. 444	Lubricators, needle ...	Sizes Nos. 1, 2, 3, 4 and 7 (assorted)	0	0	5	Each.	
255	Ditto ...	Size No. 7, flat	0	0	6	"	
	Ditto ...	Size No. 5, round	0	0	6	"	
C. 450	Ditto ...	Sizes Nos. 6 and 8, round	0	0	5	"	

CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.		Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
488	Machines.	Drilling, bench.	Double geared, suitable of being driven by hand and power, and capable of drilling holes up to 1½ inch diameter and 9″ deep with a traverse of 1 inch in 90 revolutions. The machine is to be of sufficient capacity to admit work on the table up to 20″ diameter, the table to be not less than 18″ diameter. The spindle is 2″ diameter, and has a vertical travel by hand and self-acting feed gearing of 9″, machine is supplied with a complete set of 12 twist drills and sockets from ⅛ of an inch to 1½ inches rising by ⅛ inch.	45	0	0	Each.	
475		Drilling, radial.	The machine is to be double geared, suitable for drilling holes out of the solid up to 2″ diameter and 12″ deep, and boring holes up to 8″ diameter. The base plate of the machine is about 9′ long, 3′ wide, and 2′ 6″ deep. The standard is fitted with a vertical slide about 5′ 6″ long and 16″ wide, with a vertical travel of 2′ by rack and pinion actuated by worm gearing and hand wheel fixed to the standard. The radial arm is 6′ long from the centre of trunnions and 16″ wide, and is fitted with a saddle 20″ wide, carrying the spindle and gearing and moveable along the arm to a maximum radius of spindle of 5′ by screw and hand wheel. The spindle is 2¼″ diameter, and has a vertical travel by hand and self-acting feed gearing of 12″. The cane pulley is to have 4 speeds, each step being 3¼″ wide, and of the following diameters, 14″, 12″, 10″, and 8″. The machine is to have in addition an angle bracket, two small boring bars and a complete set of 14 twist drills and sockets.	216	0	0	Each.	

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CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.		Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
441	Machines—*contd.*	Drilling, radial.	To be (as far as possible) in accordance with the specification attached to Contract No. 435.	216	0	0	Each.	Weight 5½ tons.
			Photos	0	2	0	"	
			Tracings	4	0	0	Set.	
475		Drilling, vertical.	Double geared, suitable for drilling holes out of the solid up to 2″ diameter and 12″ deep, with a traverse of one inch in 90 revolutions, and boring holes up to 8″ diameter, at a distance of 2 feet from the edge of work, 1 ft. 3 in. deep on the table. The distance from the upper face of the base plate to the end of the drill spindle is 5′ 6″. The spindle is of mild steel, 2½ inches diameter, carried in a sleeve with conical necks and is to have a vertical travel by hand and self-acting feed gearing of 12″. The machine is complete and supplied with two steel boring bars, one 2 feet long and 2″ diameter, and one about 5′ 6″ long and 2½″ diameter; the bars to have four cutter holes in each, and a cutter fitted to each hole and 1 set of 14 "Morse" twist drills and sockets from ⅜″ to 2″ diameter, rising by ⅛″.	155	0	0	Each.	

CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.		Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
439	Machines—*contd.*	Emery facing.	The machine is made suitable for facing locomotive slide bars and general work up to 4 feet long, 9 inches wide, and 4 inches deep. The grinding is done by an emery disc having a reciprocating as well as a rotary motion. The machine is supplied with 12 spare emery discs.	164	10	0	Each	Weight 2¼ tons.
347 C. 445		Emery, grinding of sorts, spare discs for—	8½″ × 1¼″ for twist drill grinding machine supplied by L. Steme and Company under Contract C. 438 of 1886.	0	11	5	Each	Less 10%.
			Spare discs for 14″ × 1¾″ × 2″ hole	1	12	0	"	
G. 1730		Emery, grinding of sorts, spare discs for—	Tools diamond stones for turning emery wheels—the tools should be of a description most suitable for turning the emery wheels supplied by Sterne and Company for Indian Railways. The diamonds supplied are to average one carat and must not weigh less than ¾ carat each.	2	14	0	Each.	
447		Grinding, tool, emery.	The centre of the spindle is 34″ from the base, the spindle is of steel 2½″ diameter in the necks and 3″ in the body. The emery wheel is 36″ diameter and 3″ thick. The spindle is supported by two cast-iron bearings, each 10″ long. The driving pulley is 8″ diameter and 5″ wide. The slide rest has a longitudinal travel by hand lever of 7″ and a feed in travel by screw and hand wheel of 3¾″. The counter shaft is fitted with fast and loose pulleys 16″ diameter and 5″ wide, and a driving pulley 15½″ diameter × 5″ wide with belt shafting gear, with vertical rod levers step and turned handle.	75	10	0	Each.	

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CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.		Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
447	Machines—*contd.*	Grinding, twist drill.	Suitable for grinding twist drills from $\frac{1}{4}''$ to $1\frac{1}{2}''$ diameter. The frame is a strong hollow casting carrying a headstock in a V slide. The emery wheel is $8\frac{1}{2}''$ diameter × $1\frac{1}{4}''$ broad. The spindle is of steel $1\frac{3}{8}''$ diameter in the body, the end next the emery wheel runs in a conical cast-iron bearing 3″ long and the other in a plain bearing 3″ long. The centre of the spindle is 3′ $10\frac{5}{8}''$ from the base. The counter shaft is fitted with fast and loose pulleys $3\frac{1}{2}''$ diameter and $2\frac{1}{2}''$ wide, and a stepped driving pulley and belt shifting gear, vertical rod, levers, step and handle.	55	5	0	Each.	
389		Planing, hand.	Small hand power planing machine. To plane 24 inches in length, 12 inches in width, and 12 inches in height. It is to be driven by a rack and pinion and X lever for hand power. The machine is to be complete in every respect, and is to be supplied with one dozen tools for inside and one dozen for outside cutting and one dozen roughing tools of steel $\frac{5}{8}'' \times \frac{5}{8}'' \times 9''$.	42	10	6	Each.	
488		Punching and shearing.	Capable of punching $\frac{3}{4}''$ holes through $\frac{5}{8}''$ steel plate and shearing $\frac{5}{8}''$ steel plate 16″ from the edge of the plate. The pulley is of 36″ diameter. The machine is to be complete in every respect and is to be supplied with one spare set of knives for the shears, and one spare set of punches and dies suitable for punching holes for rivets from $\frac{1}{4}$ inch to $\frac{3}{4}$ inch diameter.	110	0	0	Each	

CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.		Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
446	Machines—*contd.*	Punching and Shearing.	The machine is to be single-ended and capable of punching $\frac{3}{4}$ inch holes through $\frac{3}{4}$ inch steel plate and shearing $\frac{3}{4}$ inch steel plates, 12″ from the edge of the plate. A handle must be fitted to the fly wheel, so that the machine can be driven by hand when required. The machine is complete in every respect and supplied with the following. Two sets of knives for the shears and one set of steel punches and dies for rivets $\frac{1}{4}''$, $\frac{3}{8}''$, $\frac{1}{2}''$, $\frac{5}{8}''$ and $\frac{3}{4}''$ diameter.	122	0	0	Each	
402		Sawing, circular bench.	Combined saw bench and moulding machine for sawing, tonguing, grooving, planing and moulding with table 5′ 6″ long by 2′ 9″ wide arranged to carry a saw of any size up to 20″ diameter and to plane and mould up to 3″ thick by 6″ wide. The machine is supplied with one set of wrought-iron case hardened screw keys, requisite belt guide, necessary countershafts, 2 tonguing and 2 grooving cutters, 12″ of mould and plain cutters, 1 pair of drunken washers, 3 circular saws, 20″, 18″ and 16″, respectively, belting 100 feet of 4″ broad, 20′ of $3\frac{1}{2}''$ wide, 20′ of $1\frac{1}{2}''$ wide, 6 belt laces and 1 oil can.	100	0	0	Each	Approximate net weight 35 cwts.
C. 451		Sawing, endless band; saws for—	Band saws endless (30″ saw pulley) one each $\frac{1}{2}''$, $\frac{5}{8}''$, $\frac{3}{4}''$, $\frac{7}{8}''$, 1″ and $1\frac{1}{4}''$ ...	0	15	10	Each.	
452			Saws band endless 24′ × $1\frac{1}{4}''$ × 20 B. W. G.	0	12	0	"	
			Do. 24′ × $1\frac{1}{2}''$ × 20 B. W. G.	0	14	2	"	

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CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.		Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
C. 445	Machines—*contd.*	Saw sharpening; emery discs for—	Emery discs for:— 12″ × 1/4″ × 3/4″ hole	0	3	3	Each	Less 10 per cent.
			12″ × 5/8″ × 3/4″ „	0	4	9	„	
			12″ × 1/2″ × 3/4″ „	0	6	4	„	
			12″ × 5/8″ × 3/4″ „	0	7	11	„	
			12″ × 3/4″ × 1/4″ „	0	9	5	„	
			12″ × 1″ × 3/4″ „	0	12	6	„	
467		Screwing.	Double geared, screwing machine Brown's patent for screwing bolts and tapping nuts from 1/4″ to 1 1/2″ diameter, both inclusive by once passing through the dies. Driving cone having three speeds, 7 1/2″, 10 1/2″, and 13 1/2″ diameter, each step 3 1/2″ wide. The machine is complete in every respect with taps, dies, &c.	109	0	0	Each.	
437		Shaping ...	8″ Stroke	132	0	0	Each.	(Weight 50 cwt.)
			Photos	0	1	0	Copy.	
			Tracings	3	0	0	Set.	

CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.		Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
436	Machines—*concld.*	Slotting ...	6″ Stroke	97	0	0	Each.	(Weight 40 cwt.)
			Photos	0	2	6	Copy.	
			Tracings	7	10	0	Set.	
380		Slotting and key way cutting.	Portable, with tools, complete, for steam or hand power with a length of stroke 12″ and to cut a key way 1 1/2″ wide, with a complete set of 15 tools of the following sizes, *viz.*:—3/8″, 7/16″, 1/2″, 9/16″, 5/8″, 11/16″, 3/4″, 13/16″, 7/8″, 15/16″, 1″, 1 1/8″, 1 1/4″, 1 3/8″ and 1 1/2″.	33	0	0	Each.	
402		Tenoning ...	Suitable for tenoning doors, windows, sashes, venetians, &c., of carriages and general use, arranged to cut single tenons up to 14″ wide by 6″ long and double tenons 14″ wide by 3 1/2″ long. The machine is provided with one set of screw keys, requisite belt guide, necessary countershafts, tenoning and scribing cutters, oil can, belting, and belt laces.	76	10	0	Each ...	Approximate net weight 27 1/2 cwt.
435		Wheel cutting ...	Suitable for cutting spur and worm wheels up to 2′ 6″ diameter and bevil wheels up to 18″ diameter. The machine has a self-acting feed motion and a quick return motion by hand. It is supplied with a complete set of circular cutters. The machine is illustrated in Messrs. Kendal and Gent's catalogue size "B."	236	0	0	Each.	
			Photos	0	10	6	„	
			Tracings	1	1	0	Set.	

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CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*contd.*

Contracted for in 1887.

Contract Number.	Articles.	Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
487	Shafting	20′ lengths of 3″ diameter finished bright shafting, with 1½ disc, coupling keyed on each end of every length.	6	10	0	Length.	
401	Ditto	10′ length of 3″ diameter finished bright, shafting, with one-half disc, coupling keyed on each end.	2	19	0	"	
		21′ length of 3″ diameter shafting, with one-half disc coupling keyed on each end, finished bright.	4	15	0	Each	Approximate weight of each c. q. lbs. 5 2 0
		6′ length of 3″ diameter shafting, with one-half disc coupling keyed on each end, finished bright.	3	18	0	"	Ditto ditto 2 1 0
401	Ditto	Wall boxes, with bearings, &c., complete	2	0	0	"	Ditto ditto 2 2 0
401	Ditto, brackets; hanging for—	Complete	1	14	0	"	Ditto ditto 1 2 0
401	Sh ating, brackets; hanging for—	Complete	1	14	0	Each	Ditto ditto 1 2 0
487	Wall for—	With swivel bearings, complete	4	3	4	"	Ditto ditto 4 3 0
401	Shafting; drums for— ...	Main shaft drum, 4′ 0″ diameter × 18″ wide	6	10	0	"	Ditto ditto 2 2 0
"	Ditto ditto ...	Ditto 3′ 0″ ditto × 10″ ditto...	2	12	0	"	Ditto ditto 2 1 6

CLASS OF STORES C.—WORKSHOP MACHINERY AND HEAVY TOOLS—*concld.*

Contracted for in 1887.

Contract Number.	Articles.	Details.	Rate—Free on board. Amount. £	s.	d.	Unit.	Remarks.
401	Shafting; drums for— ...	Main shaft drum, 2′ 6″ diameter × 13 inches wide	2	14	0	Each	Approximate weight of each c. q. lbs. 1 3 7
"	Ditto ditto ...	Ditto 2 6″ ditto × 8 ditto	1	18	0	"	Ditto ditto 1 1 24
"	Ditto ditto ...	Ditto 2′ 0″ ditto × 10 ditto	1	10	0	"	Ditto ditto 0 1 20
"	Ditto ditto ...	Ditto 1′ 0″ ditto × 6 ditto	0	12	0	"	Ditto ditto 3 1 14
439	Ditto ditto ...	Ditto ditto ditto	3	10	0	"	
487	Ditto ditto ...	Ditto 3′ 0″ ditto × 20 ditto	5	9	0	"	
"	Ditto ditto ...	Ditto 3′ 0″ ditto × 12 ditto	4	0	0	"	
"	Ditto ditto ...	Ditto 3′ 0″ ditto × 8 ditto	3	15	0	"	
"	Ditto ditto ...	Ditto 3′ 0″ ditto × 6 ditto	3	7	6	"	
271	Surface plates	Plates, surface 24″ × 18″	7	15	0	Each.	
"	Ditto	Ditto 15″ × 12″	4	15	0	"	

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1143

E. H. STONE,

for Dy. Director General of Railways.

1143

[*General Distribution.*]

Circular No. 4.

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 22nd March 1889.

SIR,

I have the honour to forward, for information and guidance, a printed statement showing the actual English rates, *free on board*, for C Class "State Railway Stores—"Workshop Machinery and Heavy Tools" contracted for by the India Office, during the year 1887.

2. An allowance of 20*s*. per ton for entire sea-freight to any of the Indian Ports is sufficient for stores of this Class, and may be added to the original cost in estimating the value of Stores delivered at Port.

I have the honour to be,

SIR,

Your most obedient Servant,

E. H. STONE,

for Dy. Director General.

Documents accompanying.
Rate List, Class C.—"Workshop Machinery and Heavy Tools" for 1887.

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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 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, noted on the margin, for information.

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

1143

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No. 1143 W d/29. April 1889

Communicated to

Officers of the Public Works

Department for information
in continuation of G.O. No 983 W
d/5th April 1889.

/Sd/ R.R.E.D.B

W.

FROM

THE DIRECTOR GENERAL
OF RAILWAYS,

TO

THE

Circular No. 4.

Dated Simla, the 22nd March 1889.

Received

No. 1143 W d/29. April 1889

Indian State Railways.

Rate List, Class C.—"Workshop Machinery and Heavy Tools for 1887."

G. C. Press, Simla.—No. 1493 P. W. D.—28-3-89.—1,100.

Engineer
C.A to Govt
Engr. P.W.D
C.E. for Rys

(13)