

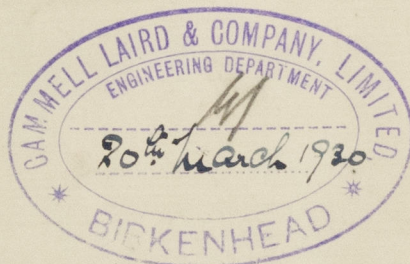
22 MAR 1930

SPARE GEARFORENGINE NO:963.

D.O. = DRAWING OFFICE
E.S. = ENGINE SHOP & STORES.
B.S. = BOILER SHOP & STORES.

NOTE:-

ALL SPARE GEAR TO BE FITTED TO PLACE.

ENGINE ESTIMATING DEPT

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003181-003190-0094

SPARE GEAR.

1.

Numbered
by.

0.0.	1/3	Crank Shaft	
0.0.	1	Piston rod, complete with top and bottom nut.	
0.0.	1	Tail end shaft, complete with liner and nut.	
0.0.	1 pair	Bottom end bushes, fitted with white metal	
0.0.	2	Bronze propeller blades	
0.0.	1	Valve rod for H.P. and I.P. valve, complete with top and bottom washer, keep, top and bottom brass with bolts and nuts, valve nuts, oil cup etc:	
0.0.	1	Valve rod for L.P. valve, complete as above and with nut for balance piston.	
0.0.	1	Head valve plate	} for Air Pump.
0.0.	6	Head valve guards	
0.0.	6 sets	Head valve discs (3 discs to a set)	
0.0.	2 -	Bilge pump rods	} for Main Engine Bilge Pump.
0.0.	4 -	Valve Discs	
0.0.	4 -	Valve Seats	
0.0.	1 -	Relief valve spring	
0.0.	2	Main bearing bolts with top and bottom nuts, 3.3/4" dia 4'11.3/8" overall length.	
0.0.	2	Top end bolts and nuts, 3.1/4" dia. 21.15/16" overall length.	
0.0.	2	Bottom end bolts & nuts, 4.3/8" dia. - 2 ft. 8.7/8 ins overall length.	
0.0.	6	Coupling bolts for crank shaft, 3.1/4" dia. (screwed portion) 12" overall length.	
0.0.	6	" " " tunnel shafts	
S.	18	Bolts and nuts, finished, assorted for engines.	
S.	100	Bolts and nuts, assorted (black)	
S.	18	Bolts and nuts, brass	
0.0.	9	Propeller blade studs and nuts 3" dia. 9.25/32 overall length.	
0.0.	100	Brass ferrules for condenser	
0.0.	50	Condenser Tubes	
0.0.	100	Condenser packings or equivalent cord.	
S.	1 cwt.	Ingot of Stone's Navy white bronze.	
S.	5	Bars of round iron, one of each 1/2, 5/8, 3/4, 7/8 and 1 ins.	

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SPARE GEAR.

2.

- 2 Steel bars, $7/8$ " 4 feet long.
- 3 cwt. Plates of iron, assorted $1/16$, $1/8$, $1/4$ and $3/8$ "
- 12 Junk ring tap bolts, $1.1/4$ " dia. $4.3/8$ " overall length.
- 6 H.P. Piston valve collar set bolts, $3/4$ " dia. $2.3/8$ " overall length.
- ~~1 set Packing rings and springs, complete for H.P. Piston valve i.e. one for top and one for bottom (Lockwood & Carlisle).~~
- 1 H.P. piston ring complete with springs (Lockwood & Carlisle)
- 1 I.P. piston ring complete with springs (Wm. Buckley & Co.)
- 1 L.P. " " " " " " " "
- 12 Wearing rings with garter springs for piston rod packing Copeland patent metallic packing.
- 6 Wearing rings with garter springs for valve rod packing Copeland patent metallic packing.
- 6 Holding down bolts, $1.1/2$ " dia. abt. $9.1/2$ " long, with top and bottom nut.
- 6 Cylinder cover studs and nuts.
- 6 Valve chest cover studs and nuts, $1.3/8$ ins. dia. $5.1/8$ " long.
- 6 Tap bolts for L.P. Slide valve, false face, $5/8$ " dia. $2.3/16$ " overall length.



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3.

100 Fire Bars.

1 set "Trident" bars for one furnace.

8 Wing bars, 4 right and 4 left.

18 Boiler Tubes

20 Retarders for boiler tubes

6 Furnace door baffles

12 Furnace front side baffles (6 right hand - 6 left hand)

3 Furnace front crown baffles

1 Furnace front, complete with door, ash-pit door, valves etc

2 Patterns of fire bars

2 " " wing bars

2 " " baffle plates, (one right hand one left hand).

6 Feed check valves

24 Gauge glasses.



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4.

For Forced Draught Fan. (Jas: Howden & Co.)

- 1 Piston
- 1 Piston rod with slipper crosshead brasses and bolts.
- 1 Valve spindle with nuts.
- 1 Spring for relief valve

For Circulating Pump. (Matthew Paul & Co.)

- 1 Piston with ring
- 1 Piston rod with slipper.
- 1 Valve spindle
- 1 Spring for escape valve
- 1 Gunmetal impeller and bronze spindle.

For Main Feed Pumps (G. & J. Weir Ltd.)

- 1 set Suction and discharge group valves for one pump
- 1 Steam slide valve chest (complete)
- 1 Piston rod and pump rod with crosshead and nuts complete.
- 1 Auxiliary slide valve spindle.

For Ballast Pump. (J.H. Carruthers & Co.)

- 1 Piston rod
- 1 Pump rod
- 1 Valve spindle.
- 2 Dexine rings
- 4 Pump valves

For General Service Pump. (J.H. Carruthers & Co.)

- 1 Piston rod
- 1 Pump rod
- 1 Valve spindle
- 1 set Ebonite rings (4 in number)
- 4 Pump valves.

For Winch Condenser Circulating Pump. (J.H. Carruthers & Co.)

- 1 Piston rod
- 1 Pump rod
- 1 Valve spindle
- 2 Dexine rings
- 4 Pump valves.



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5.

For Harbour Feed Pump. (Frank Pearn & Co.Ltd).

- 1 Piston rod with piston and rings
- 1 Pump rod with bucket and rings
- 1 Valve spindle
- 1 Suction valve and seat
- 1 Delivery " " "
- 4 Auxiliary piston rings
- 4 Packing rings
- 1 Spring for relief valve.

For Fresh Water Pump. (Frank Pearn & Co.Ltd.)

- 1 Piston rod with piston rings, complete with ram.
- 2 Complete valves and seats.
- 1 Valve spindle
- 1 Valve spindle

For Superheaters. (Superheater Co.Ltd).

- 36 Blind caps for superheater headers
- 18 Dogs for superheater headers.
- 18 Studs " " "

For Diamond Blowers.

- 2 Back end type "Diamond" blowers to suit 14.1/2" long x 3" intl. dia. tubes.
- 1 " " " " blower " " 15.3/8" long x 3" intl. dia. tubes.
- 2 Spindles and forks for centre furnaces
- 4 " " " " wing "
- 18 Jets

For Exhaust Steam Feed Heater. (Liverpool Engg. & Condr. Co.Ltd.)

- 12 Heater tubes
- 1 Spring for relief valve.



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6.

For H.P. Steam Feed Heater. (Liverpool Engg. & Cond. Co.Ltd).

12 Heater tubes

1 Spring for relief valve.

For Feed Water Filter. (Liverpool Engg. & Cond. Co.Ltd.).

1 set Perforated mild steel frames (enough to fill one compartment).

2 sets Filter cloths (one set would fill one compartment).

For Feed Make-up Filter. (Hocking & Co.Ltd.)

1 Filtering bag (complete)

For Ash Hoist. (Crompton).

3 Rubber piston cups

For Water Gauge Mountings. (Dewrance & Co.)

24 Patent round box Woodite conical packing rings.

For Combined Regulating, Throttle & Emergency Valve.
(Cockburn).

1 Diaphragm.

For Evaporator & Pump. (Andrew & Cameron).

1 Spring for Safety valve

1 " " Relief valve



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7.

SPRINGS.

- | | | |
|---|---|------------------|
| 1 | Spring for H.P. Cylinder relief valve. | E.N. 13, 14 |
| 1 | " " I.P. " " " | E.N. 15, 16 |
| 1 | " " I.P. Valve casing relief valve | E.N. 17. |
| 1 | " " L.P. Cylinder and Valve casing relief valve | E.N. 18, 19, 20. |
| 1 | " " Governor gear, | E.N. 22 |
| 1 | " " Starting valve | E.N. 23 |
| 1 | " " Bilge pump delivery valves, | E.N. 32 |
| 2 | " " Safety valves | |
| 1 | " " Superheater safety valves | |
| 1 | " " Feed discharge, | E.F.D. 5, 6 |
| 1 | " " Ballast pump discharge, | E.B. 9 |
| 1 | " " Refrig: circ: conns. | E.B. 73. |
| 1 | " " Atmospheric exhaust, | E.L.1 |
| 4 | Spring for reducing valves | i.e. |

- | | | | |
|---------|---|------------------------------------|---------|
| One for | { | Steam to circulating pump | E.S. 8 |
| | | " " refri g : machinery | E.S. 11 |
| | | " " steering gear | E.S. 12 |
| | | " " dynamo engine | E.S. 13 |
| | | " " galley | E.S. 15 |

One for steam to engine room auxiliaries E.S. 10

One " " " winches E.S. 14

One " " " bath, E.S. 16

3 Springs for relief valves i.e. one for each of the following:-

Steam to winches	E.S.14
" " galley	E.S.15
" " bath	E.S.16

For Reducing Valves.

16 Rubber diaphragms i.e. two for each reducing valve.



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