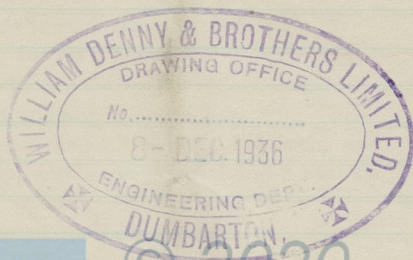


List of Spare Gear for
S. Y. S. "City of Agra".

Engine No. 1045.



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004206-004212-0025

Main Engines -- Spare Gear.

- 2 propeller blades of cast steel.
- 20 ferrules and sets of packing for main Condenses.
- 2 studs and nuts for each size of rotor bearing.
- 2 studs and nuts for gear wheel bearing.
- 2 studs and nuts for each pinion bearing.
- 1/20 total number of bolts, studs and nuts for the gear case joint.
- 1/20 total number of bolts, studs and nuts for each turbine casing joint.
- 2 thermometers for oil circulating system.
- 1 bearing bush in halves for gear wheel shaft.
- 1 bearing bush in halves for one rotor shaft of each size.
- 1 bearing bush in halves for one pinion shaft of each size and design.
- Pads of Michell type sufficient to replace once the ahead face of one adjusting block of each size fitted.
- 5 liners in halves for adjusting block, the liners to be of different thicknesses.
- 1 pinion for each size fitted, together with claw.
- 1 escape valve spring of each size fitted.
- 1 set of bolts and nuts for one shaft coupling.
- 100 bolts and nuts assorted.
- 1 set of studs and nuts for one propeller blade.
- 1 filter cartridge of each size.
- 2 feed check valve lids (2 each size).
- 1 safety valve spring for each boiler.
- 100 furnace bars in rack.
- 1 dozen water gauge glasses.
- 1 bar of 1/2 inch, 5/8 inch, 3/4 inch, 7/8 inch, and 1 inch round iron, with ends screwed and 2 nuts on each.
- 3 plates of iron assorted (one cwt. each).
- 24 woodite gauge glass rings.
- 1 boiler stay tube of each size.
- 6 plain boiler tubes.
- 2 cast iron dead plates.
- 1 set of baffle plates, for one furnace of each size.

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- 2 side bars.
- 3 housing tubes for boiler tube blowers.
- 1 complete set of pads for one main engine Michell thrust block.

FOR CIRCULATING PUMP AND ENGINE.

- 1 piston and rod complete with slipper.
- 1 pair crank pin bushes and bolts.
- 1 valve spindle, complete with nuts.
- 2 bottom half crank shaft bushes.
- 1 set of cylinder piston rings (each size).
- 1 impeller shaft.
- 1 gunmetal impeller.

FOR MAIN FEED PUMP.

- 1 set of cylinder piston rings.
- 1 set of cylinder bucket rings.
- 1 set of suction and delivery valves and seats, complete for one pump.
- 1 piston valve chest complete with spindle and nuts.
- 1 set of spanners in rack.
- 1 set of pump valve springs.

FOR HOTWELL PUMPS.

- 1 set of cylinder piston rings.
- 1 set of cylinder bucket rings.
- 1 set of suction and delivery valves and seats, complete for one pump.
- 1 piston valve chest complete with spindle and nuts.
- 1 set of spanners in rack.
- 1 set of pump valve springs.

FOR AUXILIARY FEED PUMP.

- 1 set of cylinder piston rings.
- 1 set of cylinder bucket rings.
- 1 set of suction and delivery valves and seats, complete for one pump.
- 1 piston valve chest complete with spindle and nuts.



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For Lubricating Oil Purifier:-

2 main rubber bowl rings.

1 gravity " "

1 steel thrust point.

1 pair tread wheels and shaft.

2 springs for top bearing.

1 spring for steel point.

1 pair pump rotors for the Chadburn pump.

For Bilge and Sanitary Pumps:-

1 set of cylinder piston rings.

1 " " " bucket "

1 " " suction & delivery valves & seats

1 piston valve chest complete with spindle & nuts.

1 set of spanners in rack.

1 " " pump valve springs

For
one
pump

- 1 set of spanners in rack.
- 1 set of pump valve springs.

FOR LUBRICATING OIL PUMPS.

- 1 set of cylinder piston rings.
- 1 set of cylinder bucket rings.
- 1 set of suction and delivery valves and seats, complete for one pump.
- 1 piston valve chest complete with spindle and nuts.
- 1 set of spanners in rack.
- 1 set of pump valve springs.

FOR OIL COOLER.

- 1 tube stack, and tubes for retubing (Makers' standard outfit).

FOR BALLAST PUMP.

- 1 set of cylinder piston rings.
- 1 set of cylinder bucket rings.
- 1 set of suction and delivery valves and seats, complete for one pump.
- 1 piston valve chest complete with spindle and nuts.
- 1 set of spanners in rack.
- 1 set of pump valve springs.

FOR AIR PUMP.

- 1 set of cylinder piston rings.
- 1 set of cylinder bucket rings.
- 1 set of suction and delivery valves and seats complete.
- 1 set of spanners in rack.
- 1 piston valve chest complete with spindle and nuts.

FOR FAN ENGINE.

- 1 piston and rod, complete with slipper.
- 1 pair crank pin bushes and bolts.
- 1 valve spindle complete with nuts.
- 1 set of cylinder piston rings (each size).
- 2 bottom half crank shaft bushes.

SUPERHEATERS.

- 20 per cent. total number of jointing washers.
- 10 per cent. steel plugs for closing holes in headers.
- 5 per cent. studs or bolts and nuts.
- 2 per cent. clamps.
- 50 per cent. total number of drain and blower valve lids.
- 2 safety valve springs.

PATTERNS.

- 3 furnace bars.
 - 2 side bars.
 - 1 front deadplate, 3 sections.
 - 1 full set of baffle plates for each type and size.
- Each piece of spare gear is to be fastened or supported in selected positions, and in such a manner that each piece, with few exceptions, can be removed without removing the fastenings; these fastenings to be enumerated.

~~77. Furnishings.~~

- ~~1 set of taps and dies, 1/4 inch to 1 1/4 inch in hard wood case (3 taps to a set); Makers' name stamped on each.~~
- ~~1 set single ended wrenches, 3/8 inch to 1 1/2 inch.~~
- ~~1 brass clock with seconds hand, approved quality.~~
- ~~1 brass service oil tank, in three divisions, fitted with lock cocks; each division to hold two gallons.~~
- ~~1 brass saveall.~~
- ~~1 tallow tank, 1 cwt. capacity.~~
- ~~1 soft soap tank, 2 cwts. capacity.~~
- ~~1 soda tank, 6 cwts. capacity.~~
- ~~3 lubricating oil storage tanks, 250 gallons capacity each.~~
- ~~1 cylinder oil tank, 100 gallons capacity.~~
- ~~1 colza oil tank, 100 gallons capacity.~~
- ~~1 mineral sperm oil tank, 100 gallons capacity.~~

OIL BURNING EQUIPMENT.

- 15 Wallsend-Howden patent forced draught Air Directors.
- 15 Burner Carriers.
- 15 Burner Safety Shut-off Cocks.
- 15 Special Cast Iron Quails.
- 15 Burner bodies complete with caps, nozzles and diaphragms.
- 1 Instruction Plate.
- 4 Torches & Torch extinguishers.
- 4 Master Valves for Boiler Fronts.
- 4 Thermometer Branch Pieces.
- 4 Brass cased Thermometers.
- Necessary Oil Distribution Valves.
- 15 lengths 3/8" S.D. Steel Tubing with couplings for burner supply.
- 4 Oil Circulating Valves.

Lighting up Equipment.

- 1 Rotary Pump.
- 1 Aux. Coil Heater with paraffin container & pump, also paraffin burner & O.F. disch. strainer & fittings for conn^g to oil disch. line.



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