



Engine No. 969.



LIST OF SPARE GEAR.

For Working Cylinder.

- 1 <sup>Piston Rod</sup> cylinder liner.
- 1 piston complete for main cylinder (with rings).
- 12 piston rings in all for main cylinder (rings in piston included)
- 2 fuel valve cams.
- 1 roller container complete for starting valve.
- 1 " " fuel valve.
- 1 set of main skew wheels, top and bottom.
- 2 main bearing bushes, one of each size, with two bolts and nuts of each size.
- 1 bush (two halves) with bolts and nuts for one main connecting rod, bottom end.
- 2 bushes (4 halves) with bolts and nuts for one main connecting rod, top end.
- 2 lubricator distance pieces for cylinder liner lubrication.
- 2 moving and 2 stationary pipes for crosshead lubrication.
- 2 moving pipes for piston cooling.
- 18 studs and nuts for main cylinder cover.
- 36 <sup>Piston Rings of "Perlit"</sup>

For Cylinder Cover and Mountings.

- 1 cylinder cover complete with starting and running valves.
- 1 fuel non-return and overflow valve chest.
- 6 valves for ditto.
- 1 valve casing complete, containing fuel, starting and pre-starting valves.
- 3 fuel needle valves.
- 1 spring of each size for fuel needle valve.
- 1 pre-starting air lever.
- 1 fuel valve lever.
- 6 seats for cylinder safety valves.
- 60 per cent copper joints.
- 1 set studs and nuts of each size for one cover.

For Air Compressor (Engine).

- 1 set of bushes with bolts and nuts for one connecting rod for air pump (top and bottom).
- 1 set of piston rings for each stage.
- 2 scraper rings.
- 12 spare tubes of each size for coolers.
- 1 cylinder liner for H.P. stage.
- 4 valve seats (1 off H.P. suction, 1 off H.P. discharge, 1 right and 1 left for M.P. or L.P.)
- 1 suction and 1 discharge valve for H.P. stage.
- 1 set of suction and discharge valves for M.P. stage.
- 1/2 " " " " " " L.P.

For Scavenge Pump.

- 1 piston ring.
- 1 complete nest ~~minimum~~ of suction valves for scavenge receiver.
- 1 nest of each air inlet and discharge valves with necessary covers, top.
- 1 nest -ditto- -ditto- bottom.
- 42 additional scavenge pump valves.

For Fuel Pump.

- 6 suction valves and springs.
- 6 discharge " " "
- 6 valve seats.
- 6 plungers with glands.

For Oil and Water Pumps driven by Main Engine.

- 1 set of suction and discharge valves for each pump driven off the engine.

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Water Capac  
Tons.  
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For Turning and Starting Engine.

- 4 piston rings.
- 1 top end bush.
- 1 pair of bottom end bushes.
- Bolts and Nuts for bushes.
- Above spare gear for turning engine to be repeated for starting engine.
- 1 thrust ball bearing for turning or starting gear shaft.

For Vertical Shaft.

- 2 half rings for vertical shaft thrust.
- 4 half adjusting liners for vertical shaft thrust.

For Thrust Block.

- 8 spring discs.
- 8 kidney pads.
- Adjusting liners.

Miscellaneous. (For Main Machinery).

- 1 set of coupling bolts and nuts for crank shaft.
- 1 set of coupling bolts and nuts for intermediate shafting.
- 1 thrust ball bearing for cam shaft.
- 1 ball bearing for tachometer.
- Lengths of pipes with suitable unions and flanges for H.P. fuel and air pipes.
- Assorted bolts and nuts for engine.
- 1 spring of each size in engine except where otherwise referred to.
- Cast iron propeller.
- 1/6th of working quantities of rubber packing.
- 1 cartridge for engine oil fuel delivery filter.
- 6 Reducing valve diaphragms (Supplied by Shipyard).

For Condenser.

- 25 tubes.
- 25 ferrules.
- 50 cotton packings.

For Condenser Air Pump.

- 1 set of suction and discharge valves for air pump.

For Circulating Pump and Engine.

- 1 pump impeller and shaft.

For Pumps. (Steam-driven, including two Transfer Pumps.)

- 1 set of suction and discharge valves, piston rings and bucket rings for each size of pump.
- 1 bucket complete for auxiliary lubricating oil pump.

For Oil Purifiers.

- 2 spindles and screws.
- 2 male and female clutches.
- 24 drag bushes.
- 12 driving belts.
- 6 bowl boss sleeves.
- 6 bowl gaskets.
- 12 rubber couplings.
- 2 drag springs.
- 6 palmetto packings.
- 12 rubber pulley gaskets.
- 4 H.B. bearing races.
- 2 male and female drag ferrules.
- 1 pulley cam assembly.
- 2 set motor brushes.
- 2 set motor bearings.



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For Auxiliary Air Compressor.

- 1 set of main bearing bushes.
- 1 pair of crank pin bushes.
- 1 " " gudgeon " "
- 1 set of air inlet and delivery valves complete.
- 1 set of air piston rings.
- 1 " " steam " "

For Oil Fuel Installation.

- 1 set of suction strainer bags.
- 1 " " discharge " "
- 1 " " thermometers.
- 2 burners.
- 4 burner springs.
- 12 burner nozzles (2 for lighting-up).
- 2 flame controls.
- 1 set gauge glasses.
- 2 coloured hand glasses and frames for sighting furnaces, and 2 spare glasses.
- 1/2 set of group valves and springs for each pump.
- 1 set of steam piston rings for each pump.
- 1 " " oil " "

For Boilers.

- 6 tubes for each boiler.
- 1 valve for main feed check for each boiler.
- 1 " " auxy. " "
- 1 safety valve spring for each boiler.
- 4 gauge glasses.
- 4 woodite washers for same.



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