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LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER'S CERTIFICATE.

The following is a true Account of the Particulars of the Machinery and Boilers:—

ENGINES.—Here state description of Engines, whether Direct Acting or Geared, Inverted, Horizontal, Diagonal, or Oscillating Cylinders; No. of Cylinders, &c.

The Engines are inverted directacting with two cylinders and now fitted with Surface condenser.

ENGINES, maker of	R & W. Hawthorn Newcastle	Bilge Pumps, No. (2) and size	3 3/4 diam 15 stroke
„ age of	built 1865	Feed „ No. (2) and size	3 3/4 - 15 -
„ last time taken out	most parts taken out & repaired	Spare gear, if usual quantity on	board Vessel	
„ present condition	In thorough repair in 1872.	Fuel, where stowed	In Side bunkers.	
Diameter of Cylinder	38 inches	„ space between Coal Bunkers	and Boilers	
Length of stroke	30	„ for what quantity is space provided	about 100 tons	
No. per minute of Engines	70 revolutions	Donkey Engine and Boiler	Donkey, no Boiler	
„ of Screw	70	„ if fitted in Engine Room or	on Deck	
Estimated power	90 HP. nominal.	„ can pump be worked by hand	yes. A Ballast Donkey	
Effective power	400 HP indicated.	„ size of pump (4) and stroke	8 } is also provided
Diameter of Screw (or Paddle Wheels)	about 12 ft.	„ is hose of sufficient length to	reach every part of the Vessel	
Pitch of Screw	about 18 ft.	No. () and continuation of hand pumps, if fitted in Engine Room	
No. of Blades (or Paddles)	3.			
Description of Screw (or Paddles)	fixed Blades.			
Holding down Bolts, size	2 3/8 diam			
„ present condition	good.			

BOILER.—Here state description of Boiler, and No.; if Tubular, or Flues; No. of Furnaces; if fitted with superheating apparatus; if Fired athwartships, or from fore, or after end of Boiler, &c.

One tubular dry bottom Boiler with semicircular top, four Furnaces, dry uptake and an annular Superheater round base of Funnel. The Boiler is fired from forward end.

BOILER, maker of	Palmer's Shipbuilding & Iron Co. Ltd.	Can each Boiler be used separately	—
„ age of	new	What clear space between top of	Boiler and woodwork
„ when last taken out	—	What clear space between Funnel	and woodwork
„ present condition	—	Are Engine and Boiler Keelsons	well connected fore and aft
„ working pressure	35 lbs.		
No. of surface Blow off Cocks to each Boiler	one		

SCREW SHAFT length ^{The Engines are aft} diameter 8. Tunnel, thickness of plating — height — No Tunnel width — if water-tight door on Engine Bulkhead. Stuffing box for shaft on Engine bulk head, which is watertight and a trapdoor in Cabin floor for getting to Stemtube. Port Newcastle on Tyne 3rd day of May 1872.

We hereby certify, that the whole of the above Machinery and Boilers of the Iron (or Wood) Screw (or Paddle) Steam Vessel James Southern belonging to London whereof is Master, Tons Register, and 90 H.P. have been carefully inspected and examined by us at Farrow on Tyne and we found the same, at this date, in good order and safe working condition.

for Palmer's Shipbuilding & Iron Co. Ltd.
J. H. Farrow
Marine Engineers.