

11484 Lm

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.

a pair of direct acting inverted Cylinder Compound Engines with two Cylinders

ENGINES, maker of <i>William King & Co</i>	Bilge Pumps, No. (<i>1</i>) and size <i>3'</i>
„ age of <i>new</i>	Feed „ No. (<i>1</i>) and size <i>3'</i>
„ last time taken out <i>—</i>	Spare gear, if usual quantity on board Vessel } <i>yes</i>
„ present condition <i>good</i>	Fuel, where stowed <i>Bunkers</i>
Diameter of Cylinder <i>13 1/2' & 23'</i>	„ space between Coal Bunkers and Boilers } <i>6" & 20"</i>
Length of stroke <i>18'</i>	„ for what quantity is space provided <i>20 tons</i>
No. per minute of Engines <i>90.</i>	Donkey Engine and Boiler <i>yes</i>
„ of Screw <i>90.</i>	„ if fitted in Engine Room or on Deck } <i>Engine room</i>
Estimated power <i>25 H.P.</i>	„ can pump be worked by hand <i>yes deck pump</i>
Effective power <i>100 H.P.</i>	„ size of pump (<i>4"</i>) and stroke <i>9"</i>
Diameter of Screw (or Paddle) <i>7' 0"</i>	„ is hose of sufficient length to reach every part of the Vessel } <i>yes</i>
Pitch of Screw <i>18' 6"</i>	No. (<i>1</i>) and continuation of hand pumps, if fitted in Engine Room } <i>one in engine room</i>
No. of Blades (or Paddles) <i>three</i>	
Description of Screw (or Paddle) <i>Common</i>	
Holding down Bolts, size <i>1 1/8"</i>	
„ present condition <i>good new</i>	

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 force, or after end of Boiler, &c.

One Round horizontal tubular boiler with two furnaces fired & having steam chest

BOILER, maker of <i>William King & Co</i>	Can each Boiler be used separately <i>—</i>
„ age of <i>new</i>	What clear space between top of Boiler and woodwork } <i>all round</i>
„ when last taken out <i>—</i>	What clear space between Funnel and woodwork } <i>do</i>
„ present condition <i>good</i>	Are Engine and Boiler Keelsons well connected fore and aft } <i>yes</i>
„ working pressure <i>60 lb</i>	
No. of surface Blow off Cocks to each Boiler } <i>one</i>	
SCREW SHAFT length <i>20 ft</i> diameter <i>5"</i> Tunnel, thickness of plating <i>—</i> height <i>—</i>	
width <i>—</i> if water-tight door on Engine Bulkhead.	

Port *Glasgow* day of *12th June* 187*3*

We hereby certify, that the whole of the above Machinery and Boilers of the Iron (or Wood) Screw (~~or Paddle~~) Steam Vessel *Grunanera* belonging to *Callao* whereof *Jay* is Master, *27.84* Tons Register, and *25* H.P. have been carefully inspected and examined by us at *Glasgow* and we found the same, at this date, in good order and safe working condition.

William King & Co
Dock Engine & Boiler Works
 Marine Engineers.