

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.

Compound Inverted Lever Engine of 2 Cylinders

ENGINES, maker of	<i>Alexander Stephen Sons</i>	Bilge Pumps, No. (<i>1</i>) and size	<i>5" diameter 17 1/2" Stroke</i>
„ age of	<i>New</i>	Feed „ No. (<i>1</i>) and size	<i>5" 17 1/2 "</i>
„ last time taken out	—	Spare gear, if usual quantity on board Vessel	<i>Yes</i>
„ present condition	—	Fuel, where stowed	<i>In Bunkers</i>
Diameter of Cylinder	<i>H.P. 23" L.P. 37"</i>	„ space between Coal Bunkers and Boilers	<i>9"</i>
Length of stroke	<i>3 feet 6 inches</i>	„ for what quantity is space provided	<i>50 tons</i>
No. per minute of Engines	<i>70 Revolutions</i>	Donkey Engine and Boiler	<i>Yes</i>
„ of Screw	<i>70</i>	„ if fitted in Engine Room or on Deck	<i>Stokehole</i>
Estimated power	<i>90 HP</i>	„ can pump be worked by hand	<i>Yes</i>
Effective power	<i>360</i>	„ size of pump (<i>3"</i>) and stroke	<i>6 inches</i>
Diameter of Screw (or Paddle Wheels)	<i>10 feet</i>	„ is hose of sufficient length to reach every part of the Vessel	<i>Yes</i>
Pitch of Screw	<i>16 feet</i>	No. (<i>1</i>) and continuation of hand pumps, if fitted in Engine Room	<i>Yes</i>
No. of Blades (or Floats)	<i>4 and</i>		
Description of Screw (or Floats)	<i>Common Geometrical with</i>		
Holding down Bolts, size	<i>1 1/2" Hollow face</i>		
„ present condition	<i>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 fore, or after end of Boiler, &c.

One Round Tubular Boiler with Steam dome, 3 furnaces, fired from forward end of Boiler

BOILER, maker of	<i>Alexander Stephen Sons</i>	Can each Boiler be used separately	—
„ age of	<i>New</i>	What clear space between top of Boiler and woodwork	<i>12 inches</i>
„ when last taken out	—	What clear space between Funnel and woodwork	<i>12 inches</i>
„ present condition	—	Are Engine and Boiler Keelsons well connected fore and aft	<i>Yes</i>
„ working pressure	<i>60 lbs</i>		
No. of surface Blow off Cocks to each Boiler	<i>2</i>		
SCREW SHAFT length	<i>68 feet</i>	diameter	<i>8"</i>
width	<i>3' 6"</i>	if water-tight door on Engine Bulkhead.	<i>Yes</i>
		Tunnel thickness of plating	<i>1/4"</i>
		height	<i>3' 6"</i>

Port *Glasgow*, *14th* day of *March* 18*74*

We hereby certify, that the whole of the above Machinery and Boilers of the Iron (or Wood) Screw (or Paddle) Steam Vessel *Bruce* belonging to *Sir Macfarland* whereof *Sir Macfarland* is Master, *20 1/2 = 60* Tons Register, and *90* H.P. have been carefully inspected and examined by us at *Lithward Geran* and have found the same, at this date, in good order and safe working condition.

Alex Stephen Sons

