

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.

Direct Acting. Mounted, 3 Cylinders

11650 H.P.

ENGINES, maker of *Wingate Glasgow*
 „ age of *1864 9 years*
 „ last time taken out
 „ present condition *Good*
 Diameter of Cylinder *35*
 Length of stroke *27*
 No. per minute of Engines *70*
 „ of Screw *70*
 Estimated power *90*
 Effective power
 Diameter of Screw (or Paddle Wheels) *9 feet*
 Pitch of Screw *17 1/2 feet*
 No. of Blades (or Floats) *Three*
 Description of Screw (or Floats) *Ordinary*
 Holding down Bolts, size *1"*
 „ present condition *Good*

Bilge Pumps, No. (*2*) and size *3 3/4*
 Feed „ No. (*2*) and size *3 3/4*
 Spare gear, if usual quantity on board Vessel
 Fuel, where stowed *Fore & Aft*
 „ space between Coal Bunkers and Boilers *4"*
 „ for what quantity is space provided *90 Tons*
 Donkey Engine and Boiler *Yes*
 „ if fitted in Engine Room or on Deck *Engine Room*
 „ can pump be worked by hand
 „ size of pump (*3"*) and stroke *10"*
 „ is hose of sufficient length to reach every part of the Vessel *Yes*
 No. (*1*) and continuation of hand pumps, if fitted in Engine Room *Engine Room*

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.

Tubular Boiler, 3 Furnaces

BOILER, maker of *Wingate Glasgow*
 „ age of *1864 9 years*
 „ when last taken out *Has not been out*
 „ present condition *Good*
 „ working pressure *16 lbs*
 No. of surface Blow off Cocks to each Boiler *One*

Can each Boiler be used separately
 What clear space between top of Boiler and woodwork *2 feet*
 What clear space between Funnel and woodwork *No wood*
 Are Engine and Boiler Keelsons well connected fore and aft *Yes*

SCREW SHAFT length *54 feet* diameter *4"* Tunnel thickness of plating *5/16* height *4 feet*
 width *2.8* if water-tight door on Engine Bulkhead *Yes*

Port *Leith* *9th* day of *July* 18*73*

We hereby certify, that the whole of the above Machinery and Boilers of the Iron (or Wood) Screw (or Paddle) Steam Vessel *Bertha* belonging to *A. L. Seligmann* whereof *Frederick Campbell* is Master, *257* Tons Register, and *90* H.P. have been carefully inspected and examined by *us* at *Leith* and *we* found the same, at this date, in good order and safe working condition.

Marine Engineers.

IRON454-0439

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