

10458 Iron.

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, Surface Condensing, Inverted, Direct acting screw Engines — Cylinders 2 in number of 26" + 48" dia" respectively —

ENGINES, makers of *Hawks Cramshaw & Sons*
 „ age of *New*
 „ last time taken out
 „ present condition
 Diameter of Cylinders *26" & 48"*
 Length of stroke *2.6*
 Revolutions per minute of Engines *70*
 „ of Screw *70-*
 Estimated power *90*
 Effective power *400*
 Diameter of Screw (or Paddle Wheels) *12.0*
 Pitch of Screw *13.0 to 16.0*
 No. of Blades (or Floats) *4*
 Description of Screw (or Floats) *Cast iron*
 Holding down Bolts, size *2 1/4" dia" 8 in number*
 „ present condition *New*

Bilge Pumps, No. (*2*) and size *4" dia" x 15" stroke*
 Feed „ No. (*2*) and size *20" x 20"*
 Spare gear, if usual quantity on board Vessel
 Fuel, where stowed *13 bunkers in engine space*
 „ space between Coal Bunkers and Boilers *6 inches*
 „ for what quantity is space provided *about 190 tons*
 Donkey Engine and Boiler
 „ if fitted in Engine Room or on Deck *Donkey engine in engine room - Boiler in main stoke hole*
 „ can pump be worked by hand *no*
 „ size of pump (*6 1/2*) and stroke *10"*
 „ is hose of sufficient length to reach every part of the Vessel *yes*
 No. () and continuation of hand pumps, if fitted in 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.

Boilers 2 in number of the cylindrical multitubular class, each having 2 furnaces — and fired from the fore end of Boilers — and without superheating apparatus —

BOILER, makers of *Hawks Cramshaw & Sons*
 „ age of *New*
 „ when last taken out
 „ present condition
 „ working pressure *65 lbs*
 No. of surface Blow off Cocks to each boiler *one*

Can each Boiler be used separately *yes*
 What clear space between top of Boiler and woodwork *5' 3"*
 What clear space between Funnel and woodwork *2' 3"*
 Are Engine and Boiler Keelsons well connected fore and aft *very*

SCREW SHAFT length *69.1* diameter *8 1/4"* Tunnel, thickness of plating *1/16* height *4 feet*
 width *4 feet* if water-tight door on Engine Bulkhead *yes*

Port *Newcastle* 15th day of *August* 1872

We hereby certify, that the whole of the above Machinery and Boilers of the Iron (~~or Wood~~) Screw (~~or Paddle~~) Steam Vessel *Benton* belonging to *London* thereof *Capt. Levett* is Master, *489.03* Tons Register, and *90* H.P. have been carefully inspected and examined by *us* at *Gateshead* and we found the same, at this date, in good order and safe working condition.

Hawks Cramshaw & Sons
 per *John Worsley*
Gateshead on Tyne
 Marine Engineers.