

# 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.

*Inverted, direct acting, compound, surface condensing High Pressure Cylinders & 2 Low Pressure Cylinders.*

ENGINES, maker of *R & W Hawthorne*  
 „ age of *made in 1866. Compounded in 1870*  
 „ last time taken out *Feb 1870*  
 „ present condition *efficient working order*  
 Diameter of Cylinder *High Press Cyls 21 in Sm P. Cyl 40 in*  
 Length of stroke *3 1/4*  
 No. per minute of Engines *60*  
 „ of Screw *60*  
 Estimated power *200 H.P. power*  
 Effective power *570*  
 Diameter of Screw (or Paddle Wheels) *12' - 3"*  
 Pitch of Screw *18 feet to 21 feet*  
 No. of Blades (or Floats) *14*  
 Description of Screw (or Floats) *Ordinary Screw, Solid blades*  
 Holding down Bolts, size *8 Bore 2 1/4 in*  
 „ present condition *efficient condition*

Bilge Pumps, No. ( *2* ) and size *4 in 20 stroke*  
 Feed „ No. ( *2* ) and size *4 in 20 stroke*  
 Spare gear, if usual quantity on board Vessel *usual quantity*  
 Fuel, where stowed *Side Bunkers*  
 „ space between Coal Bunkers and Boilers *6*  
 „ for what quantity is space provided *90 tons*  
 Donkey Engine and Boiler *Donkey 6 in 1/2 & Water Ballast Pump*  
 „ if fitted in Engine Room or on Deck *Engine Room*  
 „ can pump be worked by hand *yes*  
 „ size of pump ( *4 in* ) and stroke *8 stroke (single acting) & 8 in 1 1/2 in double acting*  
 „ 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 Flue; No. of Furnaces; if fitted with superheating apparatus; if Fired athwartships, or from fore, or after end of Boiler, &c.

*2 Multitubular Boilers with 3 furnaces in each Boiler. Superheater. Fired fore & aft & from the fore end of the Boilers*

BOILER, maker of *R & W Hawthorne*  
 „ age of *made July 1870*  
 „ when last taken out  
 „ present condition *efficient working order*  
 „ working pressure *65 lbs per sq in*  
 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 *18*  
 What clear space between Funnel and woodwork *18*  
 Are Engine and Boiler Keelsons well connected fore and aft *yes*

Screw SHAFT length *70 feet* diameter *8 1/4* Tunnel, thickness of plating height *4' - 6"*  
 width *4' - 6* if water-tight door on Engine Bulkhead. *yes*

Port *Newcastle* *19th* day of *October* 1870

*We* hereby certify, that the whole of the above Machinery and Boilers of the Iron (~~or Wood~~) Screw (~~or Paddle~~) Steam Vessel *Charles Howard* belonging to *Lancaster* whereof *W. Withers* is Master, *1021.10* Tons Register, and *200* H.P. have been carefully inspected and examined by us at *Willingham* and we found the same, at this date, in good order and safe working condition.

*R W Hawthorne*  
*Newcastle upon Tyne*  
 Marine Engineers.