

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rev 2/11/76

Description *Compound Inverted Surface Condensing*
 Made by *Messrs R & W. Hawthorn*
 When *October 1876* At *Newcastle*
 Diameter of cylinder *one 32" one 62"* Length of stroke *36"*
 No. of revolutions per minute *About 60*
 Point of cut off *About 2/3 of stroke*
 Diameter of screw shaft *10"* *Tunnel shaft 9 1/2"*
 Diameter of crank shaft journals *10"*
 Diameter of screw, ~~on of paddle wheel~~ *15" 0"*
 Pitch of screw *13" 0" to 14" 0"*
 No. of blades, *4* Total surface *58 sq feet*
 No. of bilge pumps *2* and sizes *5 x 15 stroke Single Acting*
 Do they pump from each compartment *from engine room, after tank & after hull.*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *2* and sizes *4 1/2 x 20 stroke Single Acting*
 What gauges are there attached to the engines and boilers ... *3 Steam. 1 Vacuum and 1 Combined gauge*
 Description and size of Donkey Pumps ... *Nº 1 - 8 dia x 14 stroke Double Acting*
Nº 2 - 4 1/2 x 8 " Single Acting
Nº 1 - 7 from after tank & after well
 Where do they pump from *engine room, fore tank & fore hold*
Nº 2 - from engine room & sea
 No. of bilge injections *1* and sizes *4"*
 Are they connected to air, or circulating pumps *Circulating pumps*
 Is there a hand pump in the engine room *Donkeys work by hand*
 Can it be worked by the main engines *No*
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

MAIN BOILERS.

Number *2* Description *Round Multitubular*
 Made by *Messrs R & W. Hawthorn*
 When *Oct 1876* At *Newcastle*
 Working pressure *40 lbs*
 Tested by hydraulic pressure to *140 lbs*, Date *8 July 1876*
 Description of super-heating apparatus *None Steam pressure in uptake*
 Can each boiler be worked separately *Yes*

Can the super-heater be shut off and the boilers worked separately *No Superheaters*
 Description and area of safety valves on each boiler *Two direct spring on each boiler*
Area of two valves 2.5 x 12 sq feet
 No. of square feet of fire-grate surface in each boiler *40 sq feet*
 Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin *Yes*
 Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times. *Suction pipes in fore hold not accessible when ship is loaded*

DONKEY BOILER

Description *Vertical Cylindrical Water tubes in furnace*
 Where fixed *In stokehold*
 Working pressure *50 lbs*

Made by *Park, Napton & Lunn*
 Tested by hydraulic pressure to *120 lbs*, Date *18 July 1876*
 Description and area of safety valves *Direct weight 8.3 sq in*
 No. of square feet of fire grate *15 sq feet*

PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship *Yes*
 Are they Kingston valves or common cocks ... *Kingston valves and common cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *Yes, all except Kingston for St. boiler*
How off which is fitted to upper turn of bilge and easily accessible.
 Are the discharge pipes above or below the deep water line *Below*
 Are they each fitted with a discharge valve on the plating of the vessel *Yes*

What pipes are carried through the bunkers *None*
 How are they protected *"*
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *New*
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Yes*
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *Not watertight. Sluice door fitted*

R. W. Hawthorn

Manufacturer of Engines & Main Boilers only

I hereby certify that the whole of the above are correct particulars of the Machinery and Boilers of the Iron (or Wood) Screw (or Paddle) Steam Vessel *"Whickham"* owned by *J. H. Davison* of the Port of *London* of *1124.07* Tons Register, and *180* Registered Horse Power, and that they have been carefully inspected and examined by me at *Howdon on Tyne* and found to be at this date, viz., *October 4th 1876* in good order and safe working condition.

Amount of Fee for Survey ... £ *9.0.0* Received
 Certificate *9.5.0* by me
 (Travelling Expenses, if any, £ *1.1.0*)
9.5.0 *P. Young*
11/11/76

Engineer Surveyor to Lloyd's Register of Shipping.