

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S REPORT ON MACHINERY.

### ENGINES.

Rev 1/2/77

Report (if any) on Hull of Vessel. Port *Hartlepool*, No. *5740*

Description *Inverted, Compound Surface Condensing*  
 Made by *Messrs J. Richardson & Sons*  
 When *Jan 4* 1877 At *Hartlepool*  
 Diameter of cylinder *27 1/2* Length of stroke *30*  
 No. of revolutions per minute *about 70*  
 Point of cut off *5 stroke*  
 Diameter of screw shaft *8 1/4*  
 Diameter of crank shaft journals *8 1/4*  
 Diameter of screw, or of paddle wheel *15 0*  
 Pitch of screw *13 6*  
 No. of blades *4* Total surface *50 sq ft*  
 No. of bilge pumps *2* and sizes *2 7/8 dia x 3 1/4 stroke*  
 Do they pump from each compartment *from engine room, aft well, & fore hold*

Are all the bilge suction pipes fitted with roses *yes*  
 No. of feed pumps *2* and sizes *3 1/4 dia x 2 3/4 stroke*  
 What gauges are there attached to the engines and boilers ... *1 steam gauge in stokehole & 1 in the engine room, 1 vacuum gauge*  
 Description and size of Donkey Pumps ... *2 imbricated double acting, large one 4 3/4 dia x 9 stroke small one 3 1/2 x 7*  
 Where do they pump from ... *large one draws from sea and ballast tanks, small one from sea, holdwell, & bilges of engine room, aft well & fore hold*  
 No. of bilge injections *one* and sizes *4 1/2*  
 Are they connected to air, or circulating pumps *to circulating pumps*  
 Is there a hand pump in the engine room *yes*  
 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 *one* Description *Cylindrical & Multitubular*  
 Made by *Messrs J. Richardson & Sons*  
 When *Jan 4* 1877 At *Hartlepool*  
 Working pressure *65 lbs per sq inch*  
 Tested by hydraulic pressure to *130 lbs*, Date *Nov 7 1876*  
 Description of super-heating apparatus *none*  
 Can each boiler be worked separately *only one boiler*

Can the super-heater be shut off and the boilers worked separately  
 Description and area of safety valves on each boiler *2 spring safety valves 4 3/8 dia = 30 sq inches*  
 No. of square feet of fire-grate surface in each boiler *58 1/2*  
 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 *yes, except bilge suction, in fore hold when cargo is in*

### DONKEY BOILER.

Description *Upright Cylindrical with 3 cross tubes*  
 Where fixed *in the stokehole*  
 Working pressure *35 lbs per sq inch*

Tested by hydraulic pressure to \_\_\_\_\_, Date \_\_\_\_\_  
 Description and area of safety valves *1 loaded direct 3 1/2 sq ins 1 lever & weight 3 1/4*  
 No. of square feet of fire grate *16*

### 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 ... *stop valves & cocks*  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *yes*  
 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 *Jan 4 1877*  
 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 *sluice door fitted, Tunnel not watertight*

*Richardson & Sons* Manufacturers  
*Mr. Geo. Smith*

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 *"Austin Friars"* owned by *E. Pembroke & Co* of the Port of *London* of *1015* Tons Register, and *99* Registered Horse Power, and that they have been carefully inspected and examined by me at *Hartlepool* and found to be at this date, viz., *January 23* 1877, in good order and safe working condition.

Amount of Fee for Survey ... £ 4 : 19 :  
 (Travelling Expenses, if any, £ 2 : 5 :)  
 £ 5 : 4  
 Received at *Hartlepool*  
 by *S. 104* 30/1/77

*William Allison*  
 Engineer Surveyor to Lloyd's Register of Shipping.