

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Inverted, Compound Surface Condensing,*
 Made by *Messrs J. Richardson & Sons.*
 When *Jan'y* 1877 At *Hartlepool*
 Diameter of cylinder *28 x 53* Length of stroke *33*
 No. of revolutions per minute *about 65*
 Point of cut off *1/2 stroke.*
 Diameter of screw shaft *9"*
 Diameter of crank shaft journals *9"*
 Diameter of screw, or of paddle wheel *13'0"*
 Pitch of screw *15'6"*
 No. of blades, *4* Total surface *55 sq. feet*
 No. of bilge pumps *2* and sizes *2 1/2 dia. x 3 1/2 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 1/2 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 double acting inverted, 7 1/2 dia. x 9 stroke and 3 1/2 x 8 stroke.*
 Where do they pump from ... *the large one draws from sea tanks & bilge of engine room. The small one from the sea, fore hold, & bilge of aft well, engine room.*
 No. of bilge injections *one* and sizes *4 1/2 diameter.*
 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'y* 1877 At *Hartlepool.*
 Working pressure *65 lbs per sq. inch*
 Tested by hydraulic pressure to *130 lbs.* Date *Dec 7/76*
 Description of super-heating apparatus *none*
 Can each boiler be worked separately *only 1 boiler.*

Can the super-heater be shut off and the boilers worked separately
 Description and area of safety valves on each boiler ... *2 spring valves 4 3/8 dia. = 30 sq. inches.*
 No. of square feet of fire-grate surface in each boiler *60.*
 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. *all, except the bilge suction of fore hold, when cargo is in.*

DONKEY BOILER.

Description *Upright Cylindrical, with 3 cross tubes.*
 Where fixed *in the stokehole.*
 Working pressure *56 lbs per sq. inch.*

Tested by hydraulic pressure to *130 lbs.* Date *Jan 7/76*
 Description and area of safety valves *one loaded with 2 1/2" one lever & weight 2 1/2" = 7.9 sq. in.*
 No. of square feet of fire grate *12*

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 *at the deep load line.*
 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 *sluice door fitted, and the tunnel caulked.*

J. Richardson & Sons
of Chester

Manufacturer.

Except of the Donkey Boiler I was present when the steam was raised and the engines worked, steam 65 lbs. per sq. inch & revs 80. all worked very satisfactory.
Dec 15th 1876. W. A.

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 *"Evelyn"* owned by *Coverdale & Co.*
 of the Port of *Hartlepool* of *788 2/100* Tons Register, and *110* 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 31st 1877.* in good order and safe working condition.

Amount of Fee for Survey ... £ *5-10-0*
 Certificate *5-5-0*
 (Travelling Expenses, if any, £ *2-5*) *5-15-0* Received at *Hartlepool* by *W. A.*

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