

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Vert^l en^g non-comp. jet condensing.*
 Made by *Richardson & Son.*
 When *1876* At *Hullport*
 Diameter of cylinder *24"* Length of stroke *20"*
 No. of revolutions per minute *84.*
 Point of cut off
 Diameter of screw shaft *5 7/8"*
 Diameter of crank shaft journals *6 7/8" x 7"* (Pins *3 1/16" x 4 3/8"*)
 Diameter of screw, or of paddle wheel *6' 0"*
 Pitch of screw *15' 0"*
 No. of blades, *4* Total surface
 No. of bilge pumps *One* and sizes *3 3/8" x 9"*
 Do they pump from each compartment *No*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *One* and sizes *3 3/8" x 9"*
 What gauges are there attached to the engines and boilers ... *One steam, one vacuum & the usual water gauge.*
 Description and size of Donkey Pumps ... *Out^l single acting 24" 6 1/2" Ram 3/4" Stroke 9"*
 Where ~~do they~~ pump from ... *From Engine room, but go to Sea. and to Boilers, deck, overboard & the donkey boiler*
 No. of bilge injections *One* and sizes *2 1/4" suction pipe.*
 Are they connected to air, or circulating pumps *To air pump.*
 Is there a hand pump in the engine room *No. - but handle to donkey*
 Can it be worked by the main engines
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

MAIN BOILERS.

Number *One* Description *Circular, multitubular.*
 Made by *M. Samuelson*
 When *1873* At *Hull*
 Working pressure *25th pres. inch.*
 Tested by hydraulic pressure to *62 lb.*, Date *26/9. 79*
 Description of super-heating apparatus *None fitted*
 Can each boiler be worked separately *Only one Boiler*

Can the super-heater be shut off and the boilers worked separately *None fitted*
 Description and area of safety valves on each boiler ... *Two of Cameron & Co's patent spring loaded. Each 3 1/2" dia. = 16.59 sq. in. fitted with screw & turning gear.*
 No. of square feet of fire-grate surface in each boiler *35 feet*
 Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin *Yes & guard on outer blow off*
 Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times. *Roses of bilge injection & donkey, not accessible when the Engines are at work.*

DONKEY BOILER.

Description *Vert^l cylindrical internal flow*
 Where fixed *On deck*
 Working pressure *36th pres. inch*

Tested by hydraulic pressure to *70 lb.*, Date *3/10. 79.*
 Description and area of safety valves *Dead load - one of 2 1/2" dia. = 3.3 sq. in.*
 No. of square feet of fire grate *9 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 ... *Common 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 *Above*
 Are they each fitted with a discharge valve on the plating of the vessel *No*

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 *13th Sept. 79.*
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Yes except bilge injection which is a common cock connected with air pump.*
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *No tunnel. Engine's sight shaft.*

Manufacturer.

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 *'Cider'* owned by *Thomas Dennis* of the Port of *London* of *99* Tons Register, and *40* Registered Horse Power, and that they have been carefully inspected and examined by me at *Hull* and found to be at this date, viz., *10th Oct* 18 *79* in good order and safe working condition.

Amount of Fee for Survey ... £ : :

(Travelling Expenses, if any, £)

(1000/31/7/76.)

Engineer Surveyor to Lloyd's Register of Shipping.

at *Hull*