

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Comp^d Mtd. S. A. S. Condry*
 Made by *Messrs Laird Brothers*
 When *1877* At *Birkenhead*
 Diameter of cylinders *18" 35"* Length of stroke *42"*
 No. of revolutions per minute *60*
 Point of cut off *3/4*
 Diameter of screw shaft *In bearings 13 1/2"*
 Diameter of crank shaft journals *11 3/4"*
 Diameter of screw, ~~or of paddle wheel~~ *15" 3"*
 Pitch of screw *18" 6"*
 No. of blades, *4* Total surface *66 ft*
 No. of bilge pumps *1* and sizes *plunger 4 1/2" diam*
 Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *1* and sizes *4 1/2" diam*
 What gauges are there attached to the engines and boilers *1 to each boiler in stokehold*
 Description and size of Donkey Pumps *3 3/4" plunger S. Acting*
 Where do they pump from *Sea, bilge & hotwell to boilers*
Deck and overboard
 No. of bilge injections *1* and sizes *6"*
 Are they connected to air, or circulating pumps *Circulating*
 Is there a hand pump in the engine room *Yes*
 Can it be worked by the main engines *Yes*
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

MAIN BOILERS.

Number *Two* Description *Cylindrical Retortubular*
 Made by *Messrs Laird Brothers*
 When *1877* At *Birkenhead*
 Working pressure *65 lbs*
 Tested by hydraulic pressure to *130 lbs*, Date *16th August 1877*
 Description of super-heating apparatus *Cylindrical egg ended*
 Can each boiler be worked separately *Yes*

Can the super-heater be shut off and the boilers worked separately *No*
 Description and area of safety valves on each boiler *Spring valves = 15.9 area each*
 No. of square feet of fire-grate surface in each boiler *63*
 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*

DONKEY BOILER.

Description *Cylindrical Retortubular*
 Where fixed *In stokehold*
 Working pressure *45 lbs*

Tested by hydraulic pressure to *90 lbs*, Date *30th June 1877*
 Description and area of safety valves *Spring valves = 9.62 area*
 No. of square feet of fire grate *18 ft*

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 & chests*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *are cut blow off*
 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 *Yes*
Laird M. P. Manufacturer.

What pipes are carried through the bunkers *Not any Bilge Suction*
 How are they protected *Wood casing*
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *At this time*
 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 *Yes*

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 *"Messaly"* owned by *J. McIvor*
 of the Port of *Liverpool* of *1243.5* Tons Register, and *220* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Birkenhead*
 and found to be at this date, viz., *20th October* 1877 in good order and safe working condition.

Amount of Fee for Survey ... £11 : 4 : 0

(Travelling Expenses, if any, £ ...)

Engineer Surveyor to Lloyd's Register of Shipping.