

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rev 1/3/77

Description *Compound Inverted 2 cyl^{ds} S. C.*
 Made by *George Clark Sunderland*
 When *Jan'y* 1873 At *Sunderland*
 Diameter of cylinders *26" & 44"* Length of stroke *38"*
 No. of revolutions per minute *60*
 Point of cut off *3/4*
 Diameter of screw shaft *8 1/4"*
 Diameter of crank shaft journals *8 1/4"*
 Diameter of screw, or of paddle wheel *12 feet*
 Pitch of screw *14 feet*
 No. of blades, *(14)* Total surface *39 sq. feet*
 No. of bilge pumps *(2)* and sizes *4 1/4" dia, 16" stroke*
 Do they pump from each compartment *Engine room, aft. Well - Main hold & Tanks*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *(2)* and sizes *4 1/4" dia 16" stroke*
 What gauges are there attached to the engines and boilers ... *1 Steam gauge Engine room, 1 "vacuum" gauge in engine room, 1 Ballast pump 6" dia, 12" stroke, (2) Boiler pump 4" dia, 8" stroke, 1 from Engine Room Bilge Tanks, main hold, and - aft. Well*
 Description and size of Donkey Pumps ... *(2) from Sea only*
 Where do they pump from ... *(2) from Sea only*
 No. of bilge injections *(1)* and sizes *3 3/4" dia*
 Are they connected to air, or circulating pumps *Circulating*
 Is there a hand pump in the engine room *No*
 Can it be worked by the main engines *Donkey used*
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

MAIN BOILERS.

Number *(1)* Description *Cylindrical Tubular*
 Made by *George Clark*
 When *1873* At *Sunderland*
 Working pressure *60 lbs.*
 Tested by hydraulic pressure to *120*, Date *Jan'y 73*
 Description of super-heating apparatus *None Done*
 Can each boiler be worked separately *1 Boiler only*

Can the super-heater be shut off and the boilers worked separately *(1) Boiler*
 Description and area of safety valves on each boiler ... *(1) Low & High 6" dia = 28.2 sq inches*
 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 ... *All except rose in Main hold*

DONKEY BOILER.

Description *Vertical Tubular 2 cross tubes*
 Where fixed *Upper Deck*
 Working pressure *40 lbs per sq inch*

Tested by hydraulic pressure to *not ascertained*, Date *—*
 Description and area of safety valves *1 Low & High 1 dead weight, = 4.5 sq inches and*
 No. of square feet of fire grate *12.5 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 ... *1 Stop Valve, rest common Cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *Below stoke hold plates*
 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 *Propeller & connections Examined Jan'y - 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 *Yes*

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 *"Ullswater"* owned by *H. Strachan & Co* of the Port of *Lanark* of *548* Tons Register, and *90* Registered Horse Power, and that they have been carefully inspected and examined by me at *North Shields & Tyne Docks* and found to be at this date, viz., *Feb'y 23^d* 1877 in good order and safe working condition.

Amount of Fee for Survey ... £ *—*

(Travelling Expenses, if any, £ *—*)

George W. Marshall
 Engineer Surveyor to Lloyd's Register of Shipping.

North Shields