

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rev 24/2/76

Description *Compound Inverted, Direct Acting,*
 Made by *W & A Blackwood & Gordon*
 When *1875* At *Port Glasgow*
 Diameter of cylinders *38" dia* Length of stroke *42"*
 No. of revolutions per minute *about 65*
 Point of cut off *from 15 1/2" to 26" of stroke*
 Diameter of screw shaft *12" Laminated Shafting 11 1/2"*
 Diameter of crank shaft journals *12"*
 Diameter of screw, *and its diameter* *17'0"*
 Pitch of screw *19'1"*
 No. of blades, *4* Total surface *42.6 ft*
 No. of bilge pumps *Two* and sizes *4 1/2" dia x 21" stroke*
 Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *Two* and sizes *4 1/2" dia x 21" stroke*
 What gauges are there attached to the engines and boilers ... *One Steam, one Vacuum & one compound in Engine Room and one to each boiler in stokehold*
 Description and size of Donkey Pumps ... *One Double Acting 4" x 8" stroke*
 Where do they pump from ... *from the sea and from bilge through main bilge pipe*
 No. of bilge injections *One* and sizes *4 1/2"*
 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 *No*
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

MAIN BOILERS.

Number *Two* Description *Hand Horizontal*
 Made by *Blackwood & Gordon*
 When *1875* At *Port Glasgow*
 Working pressure *70 lbs*
 Tested by hydraulic pressure to *140 lbs*, Date *Nov 1875*
 Description of super-heating apparatus *None*
 Can each boiler be worked separately *Yes*

Can the super-heater be shut off and the boilers worked separately *Yes*
 Description and area of safety valves on each boiler ... *Direct Spring loaded, Two on each Boiler, each 19.63" area*
 No. of square feet of fire-grate surface in each boiler *78.5 ft*
 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 the hoses in holds*

DONKEY BOILER.

Description *Horizontal with Round Top, flat sides & Bottom*
 Where fixed *on Main Deck*
 Working pressure *40 lbs*

Tested by hydraulic pressure to *80 lbs*, Date *Nov 1875*
 Description and area of safety valves *Direct weights 9.62" area*
 No. of square feet of fire grate *20 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 ... *Screw down Valves & Cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *They are all fitted above the turn of the bilge*
 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 *None*
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *Feb 3rd 1876*
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Donkey sea & bilge suction cock is open at bottom with simple port in side of plating*
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *Yes*

Manufacturer.

W & A Blackwood & Gordon
Andrew D W & G
Managers

I hereby certify that the whole of the above are correct particulars of the Machinery and Boilers of the Iron (*and Wood*) Screw (*and Wood*) Steam Vessel *"Strathleven"* owned by *Wm Kurrell* of the Port of *Glasgow* of *1588* Tons Register, and *220* Registered Horse Power, and that they have been carefully inspected and examined by me at *Port Glasgow* and found to be at this date, viz., *Feb 23rd 1876* in good order and safe working condition.

Fee £5. paid.

James Muller
 Engineer Surveyor to Lloyd's Register of Shipping.

