

# 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 *Messrs Blackwood & Gordon*  
 When *1875* At *Port Glasgow*  
 Diameter of cylinders *one 38" one 40"* 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 1/2" diameter* *17' 0"*  
 Pitch of screw *19' 1"*  
 No. of blades, *4* Total surface *72.6 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 pipes*  
 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/75*  
 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 flues 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/75*  
 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'y 3<sup>rd</sup> 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 single port in side of plating*  
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *Yes*

Manufacturer.

*Messrs Blackwood & Gordon*  
*Andrew McGeachan*

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'y 23<sup>rd</sup> 1876* in good order and safe working condition.

*Fee £5. paid.*

*James M. Miller*  
 Engineer Surveyor to Lloyd's Register of Shipping.



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