

# REPORT ON MACHINERY.

No. 9438

Port of

Glasgow

THURS 24 OCT 1889

Received at London Office

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Glasgow

Date, first Survey 14<sup>th</sup> July

Last Survey 20<sup>th</sup> Oct 1889

Reg. Book.

on the

S. S. Aska

(Number of Visits 15)

Tons 430

Master G Jacobs

Built at Green.

By whom built The S. S. shipbuilding Co

When built 1889

Engines made at Glasgow

By whom made Dunsmin & Jackson

when made 1889

Boilers made at Do

By whom made Do

when made 1889

Registered Horse Power 90

Owners British India S. N. Co

Port belonging to Glasgow

## ENGINES, &c.—

(Triple expansion)  
Description of Engines Inverted Direct Acting Triple Expansion Surface Condensing  
Diameter of Cylinders 16" 26" 42" Length of Stroke 30" No. of Rev. per minute 115 Point of Cut off, High Pressure 75 Low Pressure  
Diameter of Screw shaft 8 1/2" Diam. of Tunnel shaft 7 3/4" Diam. of Crank shaft journals 8 1/2" Diam. of Crank pin 8 1/2" size of Crank webs 5" x 10"  
Diameter of screw 9-0" Pitch of screw 13-6" No. of blades Four state whether moveable No total surface 34 sq ft  
No. of Feed pumps Two diameter of ditto 2 1/2" Stroke 16" Can one be overhauled while the other is at work Yes  
No. of Bilge pumps Two diameter of ditto 2 1/2" Stroke 16" Can one be overhauled while the other is at work Yes  
Where do they pump from Three connections in aft end of Engine room Two in Boiler space also from Tunnel, Aft Fore holds.  
No. of Donkey Engines Two Size of Pumps one 5" 3 1/2" 8" Where do they pump from Small donkey from sea only  
The other has the same bilge connections as the engine bilge pumps and pumps also from sea & hold  
Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes  
No. of bilge injections One and sizes 3 dia Are they connected to condenser, or to circulating pump Circulating  
How are the pumps worked By levers from crosshead  
Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the discharge pipes above or below the deep water line Above  
Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate Yes  
What pipes are carried through the bunkers None How are they protected  
Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times Yes  
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes  
When were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launching  
Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Platform at deck level.

## BOILERS, &c.—

Number of Boilers One Description Cylindrical. Multiple Whether Steel or Iron Steel  
Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test Sept 9<sup>th</sup> 1889  
Description of superheating apparatus or steam chest None  
Can each boiler be worked separately Can the superheater be shut off and the boiler worked separately  
No. of square feet of fire grate surface in each boiler 78 Description of safety valves Direct spring No. to each boiler Two  
Area of each valve 11 sq in Are they fitted with easing gear Yes No. of safety valves to superheater None area of each valve  
Are they fitted with easing gear Smallest distance between boilers and bunkers or woodwork 12" 18" Diameter of boilers 12-0  
Length of boilers 16-0 description of riveting of shell long. seams Butt Three runs circum. seams Lap double at ends Thickness of shell plates 1 1/2"  
Diameter of rivet holes 1 3/32" whether punched or drilled Drilled pitch of rivets 7 3/8" x 3 1/2" Lap of plating 16 1/2" butt  
Percentage of strength of longitudinal joint 85 working pressure of shell by rules 166 lbs size of manholes in shell 12" x 16"  
Size of compensating rings Double riveted plate Mc Nich No. of Furnaces in each boiler Four  
Outside diameter 44" length, top 6-6 bottom thickness of plates 3 3/4" description of joint Weld if rings are fitted  
Greatest length between rings working pressure of furnace by the rules 160 lbs combustion chamber plating, thickness, sides 19/32" back 19/32" top 19/32"  
Pitch of stays to ditto, sides 7 3/4" x 7 3/4" back top 8 1/4" x 7 3/4" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 160 lbs Diameter of stays at smallest part 1 3/8" x 1 1/2" working pressure of ditto by rules 164 lbs end plates in steam space, thickness 27/32" with 23/32" doubling  
Pitch of stays to ditto 16 1/2" x 16" how stays are secured Nuts working pressure by rules 160 lbs diameter of stays at smallest part 3" screws working pressure by rules 210 lbs Front plates at bottom, thickness 13/16" Back plates, thickness  
Greatest pitch of stays working pressure by rules Diameter of tubes 3 1/2" pitch of tubes 4 3/4" x 4 5/8" thickness of tube plates, front 13/16" back 15/16" how stayed Tubes pitch of stays 9 1/2" x 9 1/2" width of water spaces 5 1/2"  
Diameter of Superheater or Steam chest None length thickness of plates description of longitudinal joint diam. of rivet holes  
Pitch of rivets working pressure of shell by rules diameter of flue thickness of plates If stiffened with rings  
Distance between rings working pressure by rules end plates of superheater, or steam chest; thickness how stayed  
Superheater or steam chest; how connected to boiler

Description of furnaces (stove) specially constructed.



9438 gfs.

**DONKEY BOILER—** Description *Vertical. Mult<sup>2</sup>* *Blakes patent* *Steel plates & rivets*  
Made at *Manchester* by whom made *J. Blake* when made *23/9/89* where fixed *In Dockhold*  
Working pressure *80lb* tested by hydraulic pressure to *160lb* No. of Certificate *826* fire grate area *829/ft* description of safe  
valves *Direct springs* No. of safety valves *Two* area of each *3.125/ft<sup>2</sup>* if fitted with easing gear *Yes* if steam from main boilers can  
enter the donkey boiler *No* diameter of donkey boiler *4-6* length *9-2* description of riveting *Lap joints*  
Thickness of shell plates *3/8"* diameter of rivet holes *13/16"* whether punched or drilled *Drilled* pitch of rivets *2 3/4"* lap of plating  
per centage of strength of joint *70* thickness of crown plates *1/2"* stayed by *Lugs*  
Diameter of furnace, top *1-7"* bottom *3-0"* length of furnace *2-3"* thickness of plates *13/32"* description of joint *Laps - single line*  
Thickness of ~~furnace crown~~ *combustion* plates *1/2"* stayed by *A gusset & two ordinary bar stays* working pressure of shell by rules *97*  
Working pressure of furnace by rules *90lb* diameter of uptake *16"* thickness of plates *3/16"* thickness of water tubes *-*

**SPARE GEAR.** State the articles supplied:— *one part crank shaft - one propeller shaft & propeller comp<sup>t</sup>*  
*Lignum vitae lining for stern tube - one air pump rod & bucket complete - one pair crown*  
*brasses - one set of link brasses - one cylinder escape valve & set of springs - one eccentric strap comp<sup>t</sup>*  
*with two bolts & pair of bushes - two connecting rod bolts & nuts - two piston rod bolts & nuts - two m<sup>an</sup>*  
The foregoing is a correct description, *bearing bolts - one set of coupling bolts - one set of feed &*  
*Demomau & Jackson* Manufacturer. *pump valves - one set of piston valve packing rings - six j<sup>oints</sup>*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *ring bolts - one circulating rod & bucket -*  
*one high & one low-pressure valve spindle - one set of feed check valves - one pair connecting rod bolts*  
*two dozen boiler tubes & three dozen condenser do - one set of safety valve springs for main & one set for*  
*donkey boiler - one quadrant bush complete - Fire bar, gauge glasses and a quantity of assorted*  
*bolts, nuts &c.*

*These engines & boilers have been constructed*  
*special survey - they are of good material & workmanship*  
*they have been well fitted on board - satisfactorily tested under*  
*steam and I am of opinion they are eligible to be classed*  
*+ L.M.C. 10-89 in the Register Book*

*It is submitted that this vessel*  
*is eligible to have + L.M.C. 10-89*  
*recorded.* *M.A.*  
*24-10-89*

The amount of Entry Fee ... £ *1* : - : - received by me,  
Special ... £ *13* : *10* : -  
Donkey Boiler Fee ... £ : : :  
Certificate (if required) ... £ : : : *28/10/89*  
To be sent as per margin.

(Travelling Expenses, if any, £ - *10/10*)

Committee's Minute

FRIDAY 25 OCT 1889

*Walter E. Robson*  
Engineer Surveyor to Lloyd's Register of British

*Machinery Certificate*  
*Written:*

*+ L.M.C. 10/89*