

# REPORT ON MACHINERY.

No. 6118

(Received at London Office Dec 28 1883)

No. in Survey held at Glasgow Date, first Survey Dec 2<sup>d</sup> 82 Last Survey May 14<sup>th</sup> 1883  
 Reg. Book. 954 on the new steam vessel "Colindale" (Number of Visits 2001) Tons 1297  
 Master Morrison Built at Glasgow When built 1872  
 Engines made at Glasgow By whom made Barclay & Copley when made 1872  
 Boilers made at " By whom made Lescaudron when made 1883  
 Registered Horse Power 265 Owners Messrs. Donaldson & Co. Port belonging to Glasgow

## ENGINES, &c.—

Description of Engines Compound. Inverted. Surface Condensing  
 Diameter of Cylinders 44" & 48" Length of Stroke 54" No. of Rev. per minute 60 Point of Cut off, High Pressure 1/2" Low Pressure 1/2"  
 Diameter of Screw shaft 12 3/4" Diameter of Tunnel shaft 12 3/4" Diameter of Crank shaft journals 14 1/2" Diameter of Crank pin 14 1/2" size of Crank webs 16 x 9"  
 Diameter of screw 16" 9 Pitch of screw 25" 0 No. of blades 4 state whether moveable Yes total surface 80 sq ft.  
 No. of Feed pumps Two diameter of ditto 5 3/8" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps Two diameter of ditto 5 1/2" Stroke 24" Can one be overhauled while the other is at work Yes  
 Where do they pump from Bilges of Engine Room & All Compartments of Vessel  
 No. of Donkey Engines One Size of Pumps 14 1/2" x 12" Where do they pump from Sea. Bilges of Engine Room. All Compartments of Vessel and through Condenser  
 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 6 1/2" dia Are they connected to condenser, or to circulating pump Circulating  
 How are the pumps worked By Levers attached to Crossheads  
 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 Main Feed How are they protected How casing  
 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 4<sup>th</sup> April 1883  
 Is the screw shaft tunnel watertight No and fitted with a sluice door Yes worked from Yes

## BOILERS, &c.—

Number of Boilers Two Description Cylindrical & Multitubular. (Iron plates)  
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test July 14<sup>th</sup> 1883  
 Description of superheating apparatus or steam chest None  
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately Yes  
 No. of square feet of fire grate surface in each boiler 80 sq ft. Description of safety valves Wich Spring  
 No. to each boiler Two area of each valve 25.7 sq in Are they fitted with easing gear Yes  
 No. of safety valves to superheater None area of each valve None are they fitted with easing gear None  
 Smallest distance between boilers and bunkers or woodwork 12" inches Welded at ends  
 Diameter of boilers 15" 8" Length of boilers 15' 6" description of riveting of shell long. seams rip in butt circum. seams Knock Rap.  
 Thickness of shell plates 1" diameter of rivet holes 1 1/4" whether punched or drilled drill pitch of rivets 6"  
 Lap of plating 18" Straps per centage of strength of longitudinal joint 49 + 96 working pressure of shell by rules 96 lbs  
 Size of manholes in shell 15" x 18" size of compensating rings Flat ring 8" x 1"  
 No. of Furnaces in each boiler 4 outside diameter 4" 1" length, top 5' 6" bottom Through.  
 Thickness of plates 7/16" description of joint Crayated if rings are fitted on bottom greatest length between rings None  
 Working pressure of furnace by the rules 90 lbs  
 Combustion chamber plating, thickness, sides 15/32" back None top 15/32" Girders 8 1/2" x 1 3/4"  
 Pitch of stays to ditto, sides 9 x 9" back None top 9 x 8 1/2"  
 If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 83 lbs  
 Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 111 lbs  
 End plates in steam space, thickness 3/4" pitch of stays to ditto 16 3/4" x 16 3/4" how stays are secured Nuts and riveted washers  
 Working pressure by rules 82 lbs diameter of stays at smallest part 2 3/8" working pressure by rules 94 lbs  
 Front plates at bottom, thickness 3/4" Back plates, thickness None greatest pitch of stays None working pressure by rules None

[State of Report is also sent on the Hull of the Ship]

[Form No. 8-21/5/83] 1000.

6118 Gls

Diameter of tubes  $3\frac{1}{2}$ " *pitch of tubes*  $5\frac{1}{2} \times 4\frac{1}{8}$ " *thickness of tube plates, front*  $3\frac{1}{4}$ " *back*  $1\frac{1}{16}$ "  
 How stayed *Tube stays* *pitch of stays*  $15" \times 9\frac{1}{4}"$  *width of water spaces*  $6"$   
 Diameter of Superheater or Steam chest *—* *length* *—*  
 Thickness of plates *—* *description of longitudinal joint* *—* *diameter 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 *—*

DONKEY BOILER— Description *Cylindrical & Multitubular (Non-Shell)*  
 Made at *Glasgow* By whom made *Lus Anderson & Co* when made *1883*  
 Where fixed *on deck* working pressure *45 lb* Tested by hydraulic pressure to *150 lb* No. of Certificate *982*  
 Fire grate area *2.2 sq ft* Description of safety valves *Wind-String* No. of safety valves *2000* area of each *4 sq in*  
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*  
 Diameter of donkey boiler *8' 6"* length *8' 0"* description of riveting *touch riv butt. ends milled*  
 thickness of shell plates *5/8"* diameter of rivet holes *7/8"* whether punched or drilled *drilled*  
 pitch of rivets *4"* lap of plating *9 1/2"* per centage of strength of joint *41%*  
 thickness of crown plates *5/8"* stayed by *bar-stays 2" dia pitched 14 1/4" x 14 1/4"*  
 Diameter of furnace, top *2' 4"* bottom *2' 4"* length of furnace *5' 3"*  
 thickness of plates *7/16"* description of joint *double butt straps*  
 thickness of furnace crown plates *15/32"* stayed by *bar-stays 1 1/8" dia pitched 9 x 9" with nuts*  
 Working pressure of shell by rules *45 lb* working pressure of furnace by rules *110 lb*  
 diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

The foregoing is a correct description,  
*Lus Anderson & Co* Manufacturer. of *Main & Donkey Boilers*

General Remarks (State quality of workmanship, opinions as to class, &c. *New Main & Donkey Boilers*)  
 Supplied and fitted on board. Vessel placed in Craving Dock  
 Propellers Shaft examined. wood in outer bush renewed. and  
 new Propeller blades fitted. All sea Connections examined  
 the Cocks on flat of ship's bottom removed to upper turn of bilge  
 A. Gun fitted in H.P. cylinder and new Piston supplied  
 L. P. Cylinder and slides in good condition. Piston turned up—  
 all Piston and slide rods turned up. new neck rings fitted and  
 glands rebushed.  
 Crank & Suned Shafting examined. new Crank Pin brass  
 fitted. Surface Condenser examined and cleaned. defective  
 tubes renewed as required.  
 Air Circulating, Feed and Bilge pumps with their rods  
 pipes. Valves and Connections overhauled and put in  
 good order.

The above Machinery is now in good order and safe  
 working condition and in my opinion eligible to be noted  
 in the Register 1883. *Lloyd's M.C. N.B. 5.83*

The amount of Entry Fee *£ 4: 4: 0* received by me, *(Signature)*  
 Special Certificate (if required) *£ 4: 4: 0*  
 To be sent as per margin.  
 (Travelling Expenses, if any, £ *—*)

*J.M. Egan*  
 Engineer & Surveyor to Lloyd's Register of British & Foreign Shipping.  
*Lloyd's District.*  
*29/5/83*

Committee's Minute *L.M. 25.83 + N.B. 13*  
 TUESDAY 29 MAY 1883 18