

# REPORT ON MACHINERY.

3505  
MON 3 DEC 1888

No. 8899  
Port of Glasgow  
Date, first Survey 2<sup>nd</sup> June  
Last Survey 29<sup>th</sup> Nov<sup>r</sup> 1888  
Reg. Book. Glasgow  
(Number of Visits 10) 1250  
Tons  
on the S. S. Lady Martin  
Master Mr. Watts Built at Belfast By whom built Northman Clark & Co When built 1888  
Engines made at Glasgow By whom made Dummin & Jackson when made 1888  
Boilers made at Do By whom made Do when made 1888  
Registered Horse Power 220 Owners British & Irish Steam Packet Co. Port belonging to Dublin

## ENGINES, &c.—

Description of Engines Inverted Direct Acting - Triple Expansion - Surface Condensing  
Diameter of Cylinders 24, 36, 64 Length of Stroke 45 No. of Rev. per minute 80 Point of Cut off, High Pressure .76 Low Pressure .75  
Diameter of Screw shaft 12 Diam. of Tunnel shaft 11 1/2 Diam. of Crank shaft journals 12 Diam. of Crank pin 12 size of Crank webs 15 x 8 1/2  
Diameter of screw 13-6 Pitch of screw 2-0 No. of blades Four state whether moveable yes total surface 65 sq ft  
No. of Feed pumps Two diameter of ditto 3 1/2 Stroke 21 Can one be overhauled while the other is at work yes  
No. of Bilge pumps Two diameter of ditto 3 1/2 Stroke 21 Can one be overhauled while the other is at work yes  
Where do they pump from Engine Room, Mt Well & Fore Holds  
No. of Donkey Engines Two Size of Pumps Ballast 7 1/2 cwt, 8 pump x 10 stroke Where do they pump from Ballast from Sea & all bilges  
Mt & Fore Holds - Donkey from Sea, bilges, & holds.  
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 Port Forward - yes  
No. of bilge injections One and sizes 3 1/2 Are they connected to condenser, or to circulating pump Circulating pump. Port Aft - No  
How are the pumps worked By levers from crosshead of Intermediate Engine  
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 Below  
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. See Belfast Report  
Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Engine room platform at deck.

## OILERS, &c.—

Number of Boilers Two Description Cylindrical - Mult<sup>l</sup> Whether Steel or Iron Steel  
Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs. Date of test October 18<sup>th</sup> + 22<sup>nd</sup> 1888  
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 76 Description of safety valves Direct spring No. to each boiler Two  
Area of each valve 11 sq ins Are they fitted with easing gear yes No. of safety valves to superheater ✓ area of each valve ✓  
Are they fitted with easing gear ✓ Smallest distance between boilers and bunkers or woodwork 9" Diameter of boilers 12-0  
Length of boilers 15-6 description of riveting of shell long. seams Butt. Three rows circum. seams Lap double Thickness of shell plates 1/8  
Diameter of rivet holes 1/8 whether punched or drilled Drilled pitch of rivets 7/8 + 3/16 Lap of plating 16 3/4  
Per centage of strength of longitudinal joint 81.6 working pressure of shell by rules 165 lbs size of manholes in shell 16 x 12  
Size of compensating rings M<sup>rs</sup> Miells patent No. of Furnaces in each boiler Three  
Outside diameter 41" length, top 6-4 bottom ✓ thickness of plates 19/32 description of joint Weld if rings are fitted Ribbed  
Greatest length between rings 9" working pressure of furnace by the rules 182 lbs combustion chamber plating, thickness, sides 9/16 back ✓ top 9/16  
Pitch of stays to ditto, sides 7 3/4 back ✓ top 7 3/4 If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 162 lbs Diameter of stays at smallest part 1 3/8 working pressure of ditto by rules 167 lbs end plates in steam space, thickness 27/32 Doubling 23/32  
Pitch of stays to ditto 17 1/2 x 15 how stays are secured Nuts working pressure by rules 160 lbs diameter of stays at smallest part 2 3/4 working pressure by rules 180 lbs Front plates at bottom, thickness 3/4 Back plates, thickness ✓  
Greatest pitch of stays ✓ working pressure by rules ✓ Diameter of tubes 3 1/2 pitch of tubes 4 5/8 thickness of tube plates, front 13/16 back 29/32 how stayed Tubes pitch of stays 15 x 9 1/4 width of water spaces 5 1/6  
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 ✓

DONKEY BOILER—

Description Vertical

Made at Gateshead by whom made Clark Chapman Parsons when made 1888 where fixed On deck
Working pressure 60 lbs tested by hydraulic pressure to 120 lbs No. of Certificate 2606 fire grate area 19 1/2 sq ft description of safety valves Direct spring No. of safety valves Two area of each 3.14 sq in if fitted with easing gear Yes if steam from main boilers can enter the donkey boiler No diameter of donkey boiler 6-0 length 11-0 description of riveting Lap-double
Thickness of shell plates 3/8 diameter of rivet holes 3/4 whether punched or drilled Drilled pitch of rivets 2 3/4 lap of plating 3 5/8
per centage of strength of joint 72.7 thickness of crown plates 9/16 stayed by 6 stay 1 7/8 dia
Diameter of furnace, top 4-11 bottom 5-1 3/4 length of furnace 4-9 thickness of plates 15/32 description of joint Lap-single
Thickness of furnace crown plates 1/2 stayed by Same as crown working pressure of shell by rules 65.7 lbs
Working pressure of furnace by rules 65.7 lbs diameter of uptake 15 thickness of plates 7/16 thickness of water tubes 3/8

SPARE GEAR. State the articles supplied:— Connecting rod top + bottom end bolts nuts. Two main bearing bolts. One set of coupling bolts. Feed + bilge pump valves, 18 bolts for pistons. 20 condenser tubes one gun screws. 12 metallic valves for air pumps. 4 india rubber valves for circulating pump. One air + circulating pump rod. One eccentric strap. One set of propeller blades. Two springs for safety valves.

The foregoing is a correct description,

Dunsmuir + Jackson Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)

These engines & boilers have been constructed under 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. 11-88 in the Register Book.

Appended hereto are eleven Reports on steel tanks. Two Reports on forgings also the approved tracing of main boilers.

It is submitted that this vessel is eligible to have + S.M.C. 11.88 recorded

Ald 3.12.88

Large blue handwritten signature or initials.

The amount of Entry Fee £ 2: - : - received by me, Special £ 31: - : - Donkey Boiler Fee £ - : - : - Certificate (if required) £ - : - : - To be sent as per margin. (Travelling Expenses, if any, £ - : - : -)

Walter Robson Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute + S.M.C. 11/88

