

REPORT ON MACHINERY.

3505
MON 3 DEC 1888

No. 8899
No. in Survey held at Glasgow
Reg. Book. Glasgow
on the S. S. Lady Martin
Master Mr. Watts Built at Belfast By whom built Worthman Clark & Co. When built 1888
Engines made at Glasgow By whom made Dummuir & 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 11½ Diam. of Crank shaft journals 12 Diam. of Crank pin 12 size of Crank webs 15 × 8½
Diameter of screw 13-6 Pitch of screw 2 - 0 No. of blades Four state whether moveable yes total surface 6529 ft.
No. of Feed pumps Two diameter of ditto 3½ Stroke 21 Can one be overhauled while the other is at work yes
No. of Bilge pumps Two diameter of ditto 3½ 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 Belfast 7½ cwt. 8 pump × 10 stroke Where do they pump from Ballast from Sea & all bilges
Mt. & Fore & Yanks - 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 yes
No. of bilge injections One and sizes 3½ Are they connected to condenser, or to circulating pump Circulating pump.
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^l Whether Steel or Iron Steel
Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs. Date of test October 18th + 22nd 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 1½
Diameter of rivet holes 1½ whether punched or drilled Drilled pitch of rivets 7½ + 3 13/16 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 × 12
Size of compensating rings M^cNeill 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 17½ × 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 3½ pitch of tubes 4 5/8 thickness of tube plates, front 13/16 back 29/32 how stayed Yokes pitch of stays 15 × 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

Black Chapman & Partners

when made 1888

where fixed on deck

Working pressure 60 lb

tested by hydraulic pressure to 120 lb

No. of Certificate 2606

fire grate area 192 sq ft

description of safety

valves Direct spring

No. of safety valves Two

area of each 3.1 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 11 1/2

Working pressure of furnace by rules 65.7 lb

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 ferrule. 12 metallic valves for air pump. 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 work. Two Reports on forgings also the approved tracing of main boilers.

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

ALD
3.12.88

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, £)

Committee's Minute

+ L.M.C. 11/88

Walter E. Robson

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



Lloyd's Register Foundation