

REPORT ON MACHINERY.

No. 29221

WED. 24 AUG 1910

Port of Glasgow

Received at London Office

No. in Survey held at Glasgow

Date, first Survey 18th March

Last Survey Aug 16th 1910

Reg. Book.

(Number of Visits 16)

Sup. on the J. J. "Barshaw"

Tons Gross 793.85

Master John S. Patrickson Built at Port Glasgow

By whom built Greenock & Glasgow

Net 359.61

Engines made at Glasgow

By whom made David Rowan & Co. (2-537) when made 1910

Boilers made at do

By whom made do when made 1910

Registered Horse Power

Owners Paton & Henderson

Port belonging to Glasgow

Nom. Horse Power as per Section 28 136

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 17-27-44 Length of Stroke 30 Revs. per minute 100 Dia. of Screw shaft 9 as per rule 9 Material of screw shaft Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight

in the propeller boss Yes If the liner is in more than one length are the joints burned no If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive no If two

liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 3-1

Dia. of Tunnel shaft 7-9 as per rule 7-9 Dia. of Crank shaft journals 8-39 as per rule 8-39 Dia. of Crank pin 8-3/4 Size of Crank webs 5-1/2 Dia. of thrust shaft under

collars 8-3/4 Dia. of screw 11-0 Pitch of Screw 11-6 No. of Blades 4 State whether moveable no Total surface 40

No. of Feed pumps 2 Diameter of ditto 2-1/2 Stroke 15 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 Stroke 15 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 7x7x8, 6x4x6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2-2 1/4 In Holds, &c. 2-2 1/4

No. of Bilge Injections 1 sizes 4 Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size Yes-2 1/4

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible no

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 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 For suction How are they protected Wood covering

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

Dates of examination of completion of fitting of Sea Connections do of Stern Tube do Screw shaft and Propeller Greenock Dept.

Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door no worked from no

BOILERS, &c.—(Letter for record (5)) Manufacturers of Steel James Dunlop & Co. Ltd.

Total Heating Surface of Boilers 2493 Is Forced Draft fitted no No. and Description of Boilers One Single Ended

Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 28/6/10 No. of Certificate 10470

Can each boiler be worked separately no Area of fire grate in each boiler 65 No. and Description of Safety Valves to

each boiler Cockburn double Area of each valve 8.29 Pressure to which they are adjusted 165 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork stokehold Mean dia. of boilers 16-0 Length 11-0 Material of shell plates steel

Thickness 1 5/32 Range of tensile strength 28 1/2/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R.L.

Long. seams D.B.S. Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 8 1/2 Lap of plates or width of butt straps 19

Percentages of strength of longitudinal joint rivets 102.1 Working pressure of shell by rules 160 lbs Size of manhole in shell 16x12

Area of compensating ring Hanged No. and Description of Furnaces in each boiler 4 Dighton Material steel Outside diameter 42 17/16

Length of plain part top 17 Thickness of plates crown 17 Description of longitudinal joint weld No. of strengthening rings no

Working pressure of furnace by the rules 161 Combustion chamber plates: Material steel Thickness: Sides 19/32 Back 9/16 Top 19/32 Bottom 19/32

Pitch of stays to ditto: Sides 8 1/4 x 9 Back 8 3/4 x 7 1/2 Top 8 1/4 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 161

Material of stays steel Diameter at smallest part 1.48 Area supported by each stay 6.6 Working pressure by rules 177 End plates in steam space:

Material steel Thickness 1 3/32 Pitch of stays 16x20 How are stays secured D. nuts Working pressure by rules 167 Material of stays steel

Diameter at smallest part 4.9 Area supported by each stay 31.6 Working pressure by rules 160 Material of Front plates at bottom steel

Thickness 1 15/16 Material of Lower back plate steel Thickness 2 3/32 Greatest pitch of stays 12 Working pressure of plate by rules 160

Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 x 4 3/4 Material of tube plates steel Thickness: Front 15/16 Back 3/4 Mean pitch of stay 10 7/16

Each across wide water spaces 13 1/2 Working pressures by rules 161 Girders to Chamber tops: Material steel Depth and

Thickness of girder at centre 9 5/8 x 3/4 x 2 Length as per rule 34 1/2 Distance apart 9 Number and pitch of stays in each 3-8 1/4

Working pressure by rules 169 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked

separately no Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Size Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

Reinforced with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

W139-0149-1

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description None

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— Two top end bolts & nuts, 2 bottom end bolts & nuts, set coupling bolts & nuts, 2 main bearing bolts, fuel & bilge valves, assorted iron bolts, 6 air pump valves, piston springs for HP & MP, etc.

The foregoing is a correct description,

Mr David Rowan & Co Manufacturer.

Dates of Survey: During progress of work in shops— 1910. March 18. April 11. 18. 26. May 9. 27. June 1. 3. 10. 28. July 13.
 During erection on board vessel— Aug 5. 8. 9. 12. 16.
 Total No. of visits 16.

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 9/5/10 Slides 9/5/10 Covers 9/5/10 Pistons 9/5/10 Rods 9/5/10
 Connecting rods 9/5/10 Crank shaft 3/6/10 Thrust shaft 3/6/10 Tunnel shafts _____ Screw shaft 27/5/10 Propeller 27/5/10
 Stern tube 3/6/10 Steam pipes tested 5/8/10 Engine and boiler seatings 8/8/10 Engines holding down bolts 9/8/10
 Completion of pumping arrangements 9/8/10 Boilers fixed 12/8/10 Engines tried under steam 16/8/10
 Main boiler safety valves adjusted 12/8/10 Thickness of adjusting washers P. 7/16 S. 7/16
 Material of Crank shaft steel Identification Mark on Do. H.G.S. Material of Thrust shaft steel Identification Mark on Do. H.G.S.
 Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts Iron Identification Marks on Do. _____
 Material of Steam Pipes Copper Test pressure 320 lbs

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

The engines & boilers of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been securely fitted on board & satisfactorily tried under steam.

This vessel is in my opinion eligible to have notation **L M C 8.10** in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.10

J.R.R.
J.M.
25/8/10

The amount of Entry Fee £2 : : :
 Special £20-8-0 : : :
 Donkey Boiler Fee : : :
 Travelling Expenses (if any) £ : : :
 When applied for, 24/8
 When received, 24/8

H. and W. Smith
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute GLASGOW 25 AUG. 1910

Assigned + L M C 8.10



Glasgow.

Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.