

REPORT ON MACHINERY.

Received at London Office JUN 4-1912

Date of writing Report 19 When handed in at Local Office 3.6.1912 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 25.7.11 Last Survey 16.5.1912
 Reg. Book. 31 Sep. on the J. J. "Jacatra" (Number of Visits 38)
 Master J. Karn Built at Port Glasgow By whom built W Hamilton & Co. Tons Gross 5366 Net 5437
 Engines made at Glasgow By whom made David Rowan & Co. when made 1912
 Boilers made at do By whom made do when made 1912
 Registered Horse Power Owners Rotterdamische Lloyd Port belonging to Rotterdam
 Nom. Horse Power as per Section 28 535 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27 1/2 - 45 - 75 Length of Stroke 51 Revs. per minute 70 Dia. of Screw shaft as per rule 15.35 as fitted 15 1/8 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 — 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 Yes If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5.3
 Dia. of Tunnel shaft as per rule 13.79 as fitted 14 3/8 Dia. of Crank shaft journals as per rule 14.48 as fitted 14 3/4 Dia. of Crank pin 14 3/4 Size of Crank webs 9 1/2 Dia. of thrust shaft under collars 15 Dia. of screw 18-6 Pitch of Screw 19-0 No. of Blades 4 State whether moceable No Total surface 116
 No. of Feed pumps 2 Diameter of ditto 10 1/2 Stroke 2.1 Can one be overhauled while the other is at work Yes Weirs
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 2.7 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 9 x 12 x 12, 8 x 13 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4 - 3 3/4 In Holds, &c. 2 - 3 3/4 each hold
 Tunnel 2 3/4
 No. of Bilge Injections 1 sizes 8 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes - 3 3/4
 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 —
 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 main below Ridge 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 For Suctions 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 9 of Stern Tube 7 Screw shaft and Propeller Sumner Rpt.
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top grating

BOILERS, &c.—(Letter for record (7)) Manufacturers of Steel David Colville Sons Ltd.
 Total Heating Surface of Boilers 9600 Is Forced Draft fitted No No. and Description of Boilers 4 Single Ended
 Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 30/12/11 No. of Certificate 11322
 Can each boiler be worked separately Yes Area of fire grate in each boiler 52 1/2 No. and Description of Safety Valves to each boiler Cockburn Double Area of each valve 5.9 Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 12 Mean dia. of boilers 15.0 Length 11.6 Material of shell plates Steel
 Thickness 1 1/2 Range of tensile strength 24 532 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D. B. L. long. seams D. B. S. Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 9 Lap of plates or width of butt straps 19 1/4
 Per centages of strength of longitudinal joint rivets 91.8 plate 85.41 Working pressure of shell by rules 183 lb Size of manhole in shell 16 x 12
 Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Robinson Material Steel Outside diameter 3-10 3/8
 Length of plain part top bottom Thickness of plates crown 2 9/16 bottom 5 Description of longitudinal joint weld No. of strengthening rings —
 Working pressure of furnace by the rules 190 Combustion chamber plates: Material Steel Thickness: Sides 3 1/32 Back 3 1/32 Top 2 1/32 Bottom 3 1/4
 Pitch of stays to ditto: Sides 9 x 8 3/4 Back 9 1/2 x 8 1/2 Top 9 1/2 x 8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 184
 Material of stays Iron Diameter at smallest part 2.07 Area supported by each stay 40 Working pressure by rules 193 End plates in steam space: Material Steel Thickness 1 9/32 Pitch of stays 21 x 19 How are stays secured D. nuts Working pressure by rules 183 Material of stays Steel
 Diameter at smallest part 7.06 Area supported by each stay 400 Working pressure by rules 184 Material of Front plates at bottom Steel
 Thickness 7/8 Material of Lower back plate Steel Thickness 27/32 Greatest pitch of stays 12 3/4 Working pressure of plate by rules 200
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 3/8 Material of tube plates Steel Thickness: Front 7/8 Back 13/16 Mean pitch of stays 11 1/8
 Pitch across wide water spaces 13 1/2 Working pressures by rules 190 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 5/8 x 7 1/2 Length as per rule 32 1/2 Distance apart 9 1/2 Number and pitch of stays in each 3 - 8
 Working pressure by rules 182 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked separately
 Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If stiffened 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

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. None 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 _____ Radius of do. _____ 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, 2 bottom end bolts, 2 main bearing bolts & set of coupling bolts — all with nuts, feed & bilge pump valves, assorted iron bolts. Also propeller shaft, propeller, 1 crank pin bush, 1/3 crank shaft, 150 feet bars, 12 boiler tubes, 12 condenser tubes, etc.

The foregoing is a correct description,

for David Rowan & Co Manufacturer.

Dates of Survey while building	During progress of work in shops --	1911. July 25. Aug. 17. 22. 30. Sept. 19. 21. 27. Oct. 5. 9. 18. 30. Nov. 15. 16. 22. 27.
	During erection on board vessel ---	Dec. 1. 8. 11. 20. 28. 1912. Jan. 9. 17. 24. 31. Feb. 6. 7. 16. Mar. 8. 18. 20.
	Total No. of visits	38.

Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " " None

Dates of Examination of principal parts—

Cylinders	21/9/11	do	Slides	16/2/12	Covers	16/2/12	Pistons	6/2/12	Rods	6/2/12	
Connecting rods	6/2/12	Crank shaft	9/10/12	Thrust shaft	6/2/12	Tunnel shafts	6/2/12	Screw shaft	6/2/12	Propeller	6/2/12
Stern tube	6/2/12	Steam pipes tested	29/4/12	Engine and boiler seatings	26/4/12	Engines holding down bolts	26/4/12				
Completion of pumping arrangements	8/5/12	Boilers fixed	8/5/12	Engines tried under steam	16/5/12						
Main boiler safety valves adjusted	10/5/12	Thickness of adjusting washers	A.P. P 7/16, 5/16, A.S. P 9/16, 3/8, F.P. P 7/16, 5/16, F.S. P 11/32								
Material of Crank shaft	Steel	Identification Mark on Do.	H45	Material of Thrust shaft	Steel	Identification Mark on Do.	H45				
Material of Tunnel shafts	Steel	Identification Marks on Do.	H45	Material of Screw shafts	Iron	Identification Marks on Do.	H45				
Material of Steam Pipes	Wrought Iron	Test pressure	570 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 * LMC 5, 12 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 5.12.

The amount of Entry Fee	3. £	When applied for,	3. 6. 12.
Special	46-15-0. £	When received,	5. 6. 12.
Donkey Boiler Fee	.. £		
Travelling Expenses (if any)	£		

J.W.D.
 4/6/12
H. Gardner Smith
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
 Assigned
 TUE JUN 4 - 1912
 Thine 5. 12

Glasgow

Certificate (if required) to be sent to

Date of writing
 No. in Survey Reg. Book.
 on the
 Master
 Engines made at
 Boilers made at
 Registered Horse Power
 Nom. Horse Power
 ENGINES,
 Dia. of Cylinder
 Is the screw shaft
 in the propeller
 between the bearings
 liners are fitted
 Dia. of Tunnel shaft
 collars
 No. of Feed pumps
 No. of Bilge pumps
 No. of Donkey Engines
 In Engine Room
 No. of Bilge Injectors
 Are all the bilge pumps
 Are all connections
 Are they fixed sufficiently
 Are they each fitted
 What pipes are used
 Are all Pipes, Cast
 Are the Bilge Sumps
 Dates of examination
 Is the Screw Shaft
 BOILERS, &
 Total Heating Surface
 Working Pressure
 Can each boiler be
 each boiler
 Smallest distance between
 Thickness
 long. seams
 Per centages of strength
 Size of compensating
 Length of plain pipes
 Working pressure of
 Pitch of stays to diameter
 Material of stays
 Material
 Diameter at small end
 Thickness
 Diameter of tubes
 Pitch across width
 thickness of girders
 Working pressure
 separately
 holes
 Pitch
 If stiffened with rings
 Working pressure

