

REPORT ON MACHINERY.

No. 27236

Date of writing Report Nov. 1908 When handed in at Local Office 21/11/08 Port of Glasgow Received at London Office WED. 2 DEC 1908

No. in Survey held at Glasgow Date, First Survey 5th Febry/08 Last Survey 21st November 1908

Reg. Book. on the S.S. "REMUS" (Number of Visits 37)

Master A. B. Johnson Built at Paisley By whom built J. Fullerton (No 202) Tons { Gross Net } When built

Engines made at Glasgow By whom made Ross & Duncan (No 458) when made 1908

Boilers made at Glasgow By whom made Ross & Duncan (No 1191-2) when made 1908

Registered Horse Power 163 Owners G. B. Wadsworth Port belonging to Groole

Nom. Horse Power as per Section 28 163 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 18.29.48 Length of Stroke 33" Revs. per minute 90 Dia. of Screw shaft 10.59 Material of screw shaft Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 ✓ If two liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 3-8"

Dia. of Tunnel shaft 8.95 Dia. of Crank shaft journals 9.39 Dia. of Crank pin 9.2 Size of Crank webs 14 1/2 x 6 1/2 Dia. of thrust shaft under collars 9 1/2 Dia. of screw 11-6 Pitch of Screw 14-9 No. of Blades 4 State whether moveable No Total surface 52.4

No. of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 16 1/2" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 16 1/2" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 6" x 4" x 6" duplex feed No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 1 @ 7 1/4", 1 @ 7 1/2" & 1 @ 2 1/4" 1 1/2" x 8 1/2" x 6" Ballast In Holds, &c. 2 @ 2"

No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size 1 @ 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 ✓

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 Hold suction How are they protected Wood casings

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 4-10-08 of Stern Tube 4-10-08 Screw shaft and Propeller 4-10-08

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door worked from

OILERS, &c.—(Letter for record ✓) Manufacturers of Steel David Colville & Sons Ltd.

Total Heating Surface of Boilers 2447 Is Forced Draft fitted No No. and Description of Boilers Two single ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 20-9-08 No. of Certificate 9608 & 9609

Can each boiler be worked separately Yes Area of fire grate in each boiler 41.25 No. and Description of Safety Valves to each boiler Pair spring loaded Area of each valve 3.97 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 3-6" Dia. of boilers 12-6" Length 10-6" Material of shell plates steel

Thickness 1 1/16" Range of tensile strength 28-37 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D. Riv.

ong. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 4 1/4" Lap of plates or width of butt straps 1-6 3/4"

Per centages of strength of longitudinal joint rivets 85.4 Working pressure of shell by rules 183 lbs Size of manhole in shell 16 x 12"

Size of compensating ring 4 x 1 1/16" No. and Description of Furnaces in each boiler 2 Corrugated Material steel Outside diameter 4-1 7/16"

Length of plain part top 19 1/16" Thickness of plates crown 3 1/2" Description of longitudinal joint weld No. of strengthening rings 4

Working pressure of furnace by the rules 191 lbs Combustion chamber plates: Material steel Thickness: Sides 5 1/8" Back 9 1/16" Top 5 1/8" Bottom 3 1/4"

Pitch of stays to ditto: Sides 8 1/8 x 4 1/2" Back 4 1/2 x 7 1/2" Top 9 3/8 x 4 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 181 lbs

Material of stays steel Diameter at smallest part 1 1/4" Area supported by each stay 72.65 Working pressure by rules 193 lbs End plates in steam space:

Material steel Thickness 1 1/16" Pitch of stays 1 1/2 x 16 1/2" How are stays secured D.N. Wash Working pressure by rules 184 lbs Material of stays steel

Diameter of smallest part 5 1/4" Area supported by each stay 288.45 Working pressure by rules 194 lbs Material of Front plates at bottom steel

Thickness 2 1/2" Material of Lower back plate steel Thickness 2 1/2" Greatest pitch of stays 14 1/2 x 4 1/2" Working pressure of plate by rules 182 lbs

Diameter of tubes 3 1/2" Pitch of tubes 4 1/4 x 4 1/8" Material of tube plates steel Thickness: Front 1 1/16" Back 2 1/2" Mean pitch of stays 10 9/16"

Pitch across wide water spaces 1-2 1/2" Working pressures by rules 195 lbs Girders to Chamber tops: Material iron Depth and thickness of girder at centre 8 x 2 1/4" Length as per rule 30 3/4" Distance apart 9 3/8" Number and pitch of stays in each 3 @ 4 1/4"

Working pressure by rules 197 lbs Superheater or Steam chest; how connected to boiler ✓ 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 ✓

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

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 ✓

W781-0003

VERTICAL DONKEY BOILER—Manufacturers of Steel

No. _____ Description _____

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:—

3 Boiler tubes, 6 Condenser tubes 60 firebars,
 9 One Rod top and bolts & nuts, 9 One Rod bot end, bolts & nuts, 9 main bearing bolts
 1 set coupling bolts, 1 set feed & bilge pump valves. Assorted bolts nuts & washers

The foregoing is a correct description,

Ross & Duncan, Manufacturers.

Dates of Survey while building
 During progress of work in shops— 1908 Feb. 5-14. Mar 7-17. 20-25. 31. Apr 23-30. May 6-11. 16-23. 29. June 4-16. 20-27.
 During erection on board vessel— 27. July 8-10. 16-17. 20-21. Sept. 7-21. 29. Oct. 7-15. 26-30. Nov. 4-6. 12-16. 17-21.
 Total No. of visits 37. Is the approved plan of main boiler forwarded herewith Yes.

Dates of Examination of principal parts—Cylinders 31-3-08 Slides 11-5-08 Covers 11-5-08 Pistons 23-5-08 Rods 11-5-08
 Connecting rods 11-5-08 Crank shaft 23-4-08 Thrust shaft 14-8-08 Tunnel shafts ✓ Screw shaft 14-8-08 Propeller 10-8-08
 Stern tube 4-9-08 Steam pipes tested 30-10-08 Engine and boiler seatings 4-10-08 Engines holding down bolts 4-11-08
 Completion of pumping arrangements 4-11-08 Boilers fixed 26-10-08 Engines tried under steam 14-11-08
 Main boiler safety valves adjusted 6-11-08 Thickness of adjusting washers Star Blk P. 3/8" 5 1/2", Port Blk P. 1/2" 5 1/2"
 Material of Crank shaft Iron Identification Mark on Do. 452 Material of Thrust shaft Iron Identification Mark on Do. 2448
 Material of Tunnel shafts Iron Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 2448
 Material of Steam Pipes Copper. Test pressure 360 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.) The Engines & Boilers of this vessel have been constructed under special survey, and are of good material & workmanship. They have been securely fitted on board and satisfactorily tried under steam. This vessel is, in my opinion, eligible to have notation in the Register's Book. **+ L.M.C. 11-08**

It is submitted that this vessel is eligible for THE RECORD. + LMC 11.08

Class. Light. 440
 3/12/08
 12/12/08

The amount of Entry Fee.. £ 2 : 0 : 0 When applied for, 25/11/1908
 Special .. £ 24 : 9 : 0
 Donkey Boiler Fee .. £ : : :
 Travelling Expenses (if any) £ : : : 27/11/1908

William Gutter, Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

GLASGOW DEC. 1908
 Committee's Minute
 Assigned + LMC 11.08

MACHINERY CERTIFICATE WRITTEN 2-12-08

Lloyd's Register Foundation