

REPORT ON MACHINERY.

No. 13,060

Received at London Office

MUN. 18 JUL 1910

Date of writing Report 11th July 1910 When handed in at Local Office 13th July 1910 Port of Leith
No. in Survey held at Leith Date, First Survey 7th March Last Survey 12th July 1910
Reg. Book. 114 on the steamer "Garnduff." (Number of Visits 17)
Master Built at Leith By whom built Ramsey & Frymum Ld. Tons { Gross 259.03
Net 97.34
Engines made at Leith By whom made Ramsey & Frymum Ld. when made 1910
Boilers made at Leith By whom made Ramsey & Frymum Ld. when made 1910
Registered Horse Power Owners Howden Bros Port belonging to Belfast.
Nom. Horse Power as per Section 28 59 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 2 No. of Cranks 2
Dia. of Cylinders 15" & 22" Length of Stroke 24" Revs. per minute Dia. of Screw shaft as per rule 7 1/4" 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 no 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 2' 7"
Dia. of Tunnel shaft as per rule 6 1/2" Dia. of Crank shaft journals as per rule 6 1/2" Dia. of Crank pin 6 1/2" Size of Crank webs 4 1/2" x 11" Dia. of thrust shaft under collars 7 1/4" Dia. of screw 8 1/4" Pitch of Screw 8 1/4" No. of Blades 4 State whether moveable no Total surface 22 1/2
No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 13" Can one be overhauled while the other is at work no
No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 13" Can one be overhauled while the other is at work no
No. of Donkey Engines 2 Sizes of Pumps 7 x 4 1/2 x 8, 4 x 4 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room one 2" In Hold, &c. two 2"

No. of Bilge Injections 1 sizes 3" Connected to condenser to circulating pump no Is a separate Donkey Suction fitted in Engine room & size no 2"
Are all the bilge suction pipes fitted with roses no Are the roses in Engine room always accessible no Are the sluices on Engine room bulkheads always accessible no
Are all connections with the sea direct on the skin of the ship no Are they Valves or Cocks both
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates no 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 no Are the Blow Off Cocks fitted with a spigot and brass covering plate no
What pipes are carried through the bunkers Hold bilge suction pipes How are they protected Strong Wood casings
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times no
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges no
Dates of examination of completion of fitting of Sea Connections 2/6/10 of Stern Tube 2/6/10 Screw shaft and Propeller 2/6/10
Is the Screw Shaft Tunnel watertight no Is it fitted with a watertight door no worked from no

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Crown &c.
Total Heating Surface of Boilers 1144 1/2 Is Forced Draft fitted no No. and Description of Boilers one single end
Working Pressure 130 lbs Tested by hydraulic pressure to 260 lbs Date of test 2/6/10 No. of Certificate 671
Can each boiler be worked separately no Area of fire grate in each boiler 38 1/2 No. and Description of Safety Valves to each boiler 2 spring valves Area of each valve 4 1/2" Pressure to which they are adjusted 135 lbs Are they fitted with easing gear no
Smallest distance between boilers or uptakes and bunkers or woodwork 11 1/2" Mean dia. of boilers 11-6" Length 10-0" Material of shell plates S
Thickness 3/32" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams both long. seams both Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 4" Lap of plates or width of butt straps 10 1/2"
Per centages of strength of longitudinal joint rivets 78 Working pressure of shell by rules 133 Size of manhole in shell 12 x 16
Size of compensating ring 9 1/2" x 10" No. and Description of Furnaces in each boiler 2 Plain Material S Outside diameter 42"
Length of plain part top 6-6" Thickness of plates crown 3 1/4" Description of longitudinal joint Welded No. of strengthening rings no bottom 3 3/4"
Working pressure of furnace by the rules 141 Combustion chamber plates: Material S Thickness: Sides 3/16" Back 3/16" Top 3/16" Bottom 1/16"
Pitch of stays to ditto: Sides 8 1/2 x 9 Back 9 x 9 Top 8 x 9 If stays are fitted with nuts or riveted heads no Working pressure by rules 135
Material of stays S Diameter at smallest part 1 1/4" Area supported by each stay 81" Working pressure by rules 143 End plates in steam space: Material S Thickness 3/8" Pitch of stays 16 x 16 How are stays secured by nuts Working pressure by rules 134 Material of stays S
Diameter at smallest part 3 1/2" Area supported by each stay 256" Working pressure by rules 148 Material of Front plates at bottom S
Thickness 3/8" Material of Lower back plate S Thickness 3/4" Greatest pitch of stays 14" Working pressure of plate by rules 141
Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates S Thickness: Front 3/8" Back 2 3/32" Mean pitch of stays 13 1/2 x 9
Pitch across wide water spaces 14" Working pressures by rules 140 Girders to Chamber tops: Material S Depth and thickness of girder at centre 7 x 1 3/8" Length as per rule 28' Distance apart 9" Number and pitch of stays in each 2, 8"
Working pressure by rules 132 Superheater or Steam chest; how connected to boiler no Can the superheater be shut off and the boiler worked separately no Diameter no Length no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet holes no Pitch of rivets no Working pressure of shell by rules no Diameter of flue no Material of flue plates no Thickness no
If stiffened with rings no Distance between rings no Working pressure by rules no End plates: Thickness no How stayed no
Working pressure of end plates no Area of safety valves to superheater no Are they fitted with easing gear no

VERTICAL DONKEY BOILER—

Manufacturer of Steel *June*

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 _____ Rivets _____
 Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ 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 & two bottom end connecting rods & nuts, two main bearing bolts, one set coupling bolts, one set fuel & lift pump valves, assorted bolts & nuts, 2mm of various sizes.*

The foregoing is a correct description,

RAMADAN & PERCIVAL, LIMITED. Manufacturer.
Wm. J. Kaulst
 Dates of Survey while building: During progress of work in shops - *1910 March 7, 21, 31 April 6, 20, 26 May 4, 6, 13, 26 June 2, 10*
 During erection on board vessel - *June 13, 20, 22, 27 July 12*
 Total No. of visits *17*
 Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " "
 Dates of Examination of principal parts: Cylinders *20/4, 26/4, 4/5, 13/5/10* Slides *26/4, 4/5/10* Covers *26/4/10* Pistons *26/4, 13/5/10* Rods *20/4, 26/4/10*
 Connecting rods *20/4, 26/4/10* Crank shaft *20/4, 26/4, 4/5/10* Thrust shaft *4/5/10* Tunnel shafts *2mm* Screw shaft *20/4, 26/5/10* Propeller *26/5/10*
 Stern tube *4/5, 26/5/10* Steam pipes tested *20/6/10* Engine and boiler seatings *13/6/10* Engines holding down bolts *13/6/10*
 Completion of pumping arrangements *22/6/10* Boilers fixed *13/6/10* Engines tried under steam *22/6/10*
 Main boiler safety valves adjusted *22/6/10* Thickness of adjusting washers *10 7/16 in 5 7/16 sec*
 Material of Crank shaft *2mm* Identification Mark on Do. *212 GAH* Material of Thrust shaft *2mm* Identification Mark on Do. *202 GA*
 Material of Tunnel shafts *2mm* Identification Marks on Do. *✓* Material of Screw shafts *2mm* Identification Marks on Do. *212 GA*
 Material of Steam Pipes *Copper* Test pressure *260 lbs.*

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

The Machinery of this vessel has been examined under special survey. The materials and workmanship are sound and good and under the vessel ship in my opinion to have record of L.M.C 7. 10

It is submitted that this vessel is eligible for THE RECORD. L.M.C 7. 10

G.R.D.
19/7/10

The amount of Entry Fee £ *1* : : When applied for, *16.1.19.10.*
 Special £ *8* : *17* : : When received, *25.7.10*
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 Committee's Minute
 Assigned

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

TUES. 19 JUL 1910

+ L.M.C 7. 10



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