

REPORT ON MACHINERY

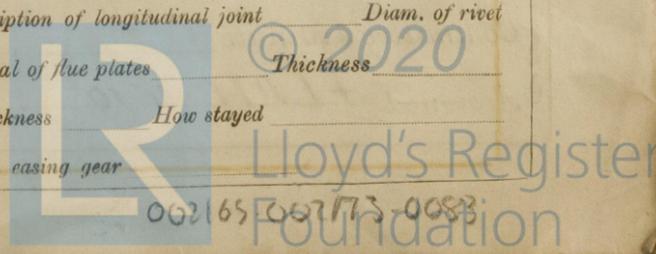
No. 28811

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Date of writing Report 19 When handed in at Local Office 21/4/10 Port of Glasgow
 No. in Survey held at Pansley Date, First Survey 19th Oct. Last Survey 13th April 1910.
 Reg. Book. 44 on the S/S "Lock & Live" (Number of Visits 22)
 Master Built at Bowling By whom built Scott & Son. When built 1910
 Engines made at Pansley By whom made Fishers L^d (1905) when made 1910
 Boilers made at Glasgow By whom made A & R Dalglisk when made 1910
 Registered Horse Power 63 Owners J & Stewart Port belonging to Glasgow
 Nom. Horse Power as per Section 28 54 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound Surface Condensing No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 14" x 30" Length of Stroke 24" Revs. per minute 100 Dia. of Screw shaft as fitted 7 3/8 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 ✓ If two
 liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 2-5 1/2"
 Dia. of Tunnel shaft as per rule ✓ as fitted ✓ Dia. of Crank shaft journals as per rule 6 5/8 Dia. of Crank pin 6 5/8 Size of Crank webs 13+4 3/4 Dia. of thrust shaft under
 collars 6 1/16" Dia. of screw 4-0" Pitch of Screw 10-6" No. of Blades 4 State whether moveable No Total surface 22-5 #
 No. of Feed pumps 1 Diameter of ditto 2 1/4" Stroke 12 Can one be overhauled while the other is at work ✓
 No. of Bilge pumps 1 Diameter of ditto 2 1/4" Stroke 12 Can one be overhauled while the other is at work ✓
 No. of Donkey Engines one Sizes of Pumps 5 1/4 x 3 1/2 + 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 at 2" one at 3" In Holds, &c. 2 at 2"
 No. of Bilge Injections 1 sizes 3" Connected to condenser or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 2"
 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 2 Hold Suction 1 on Tank Suction How are they protected Wood casing
 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 10-3-10 of Stern Tube 10-3-10 Screw shaft and Propeller 10-3-10
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record) Manufacturers of Steel
 Total Heating Surface of Boilers 1308 Is Forced Draft fitted No No. and Description of Boilers one Single Ended.
 Working Pressure 135 Tested by hydraulic pressure to Date of test No. of Certificate
 Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to
 each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear
 Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates
 Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams
 long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps
 Per centages of strength of longitudinal joint rivets plate Working pressure of shell by rules Size of manhole in shell
 Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
 Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings
 bottom Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom
 Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules
 Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:
 Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays
 Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom
 Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules
 Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays
 Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and
 thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each
 Working pressure by rules 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
 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.	Description			When made	Where fixed
Made at	By whom made				
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safe
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:—

2 Connecting Rod bolts nuts for each end. 2 Main Bearing Bolts 1 Set of Coupling bolts. 1 Set of Feed & Bilge Pump Washers. 1 Set of Piston Springs. A quantity of assorted Iron Nuts & Bolts

The foregoing is a correct description,

Manufacturer.

Witnessed

Dates of Survey while building	During progress of work in shops - -	1909. Oct 19. 27. Nov 9. 15. Dec 3. 7. 16. 24. 1910. Jan 11. 18.
	During erection on board vessel - -	Feb 4. 9. 18. March 1. 7. 10. 15. 30. April 1. 4. 8. 13.
	Total No. of visits	22

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

Dates of Examination of principal parts—Cylinders	16. 12. 09	Slides	24. 12. 09	Covers	16. 12. 09	Pistons	24. 12. 09	Rods	4. 2. 10
Connecting rods	4. 2. 10	Crank shaft	attached	Thrust shaft	18. 2. 10	Tunnel shafts	✓	Screw shaft	4. 2. 10
Propeller	15. 3. 10	Stern tube	18. 2. 10	Steam pipes tested	4. 4. 10	Engine and boiler seatings	10. 3. 10	Engines holding down bolts	8. 4. 10
Completion of pumping arrangements	8. 4. 10	Boilers fixed	8. 4. 10	Engines tried under steam	13. 4. 10				
Main boiler safety valves adjusted	13. 4. 10	Thickness of adjusting washers	0 2/8 5 2/8						
Material of Crank shaft	Iron	Identification Mark on Do.	WDH 2395	Material of Thrust shaft	Iron	Identification Mark on Do.	LLOYD WGM 195		
Material of Tunnel shafts	Iron	Identification Marks on Do.		Material of Screw shafts	Iron	Identification Marks on Do.			
Material of Steam Pipes	Copper	Test pressure	240						

General Remarks (State quality of workmanship, opinions as to class, &c. This machinery has built under special survey in accordance with the above plan & have been securely fitted on board. The workmanship & material are of good quality. The machinery is eligible in my opinion for the record of **LMC 4-10**

It is submitted that this vessel is eligible for THE RECORD. **+ LMC 4, 10**

J.M. *H.C.D.*
28. 4. 10

The amount of Entry Fee	£ 1 : -	When applied for,	19/4/10
Special	£ 8 : 2	When received,	27/4/10
Donkey Boiler Fee	£ - : -		
Travelling expenses (if any)	£ - : -		

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

Committee's Minute **GLASGOW 26 APR. 1910**
Assigned **+ LMC 4, 10**

STRA
FLAT PLATE (If Bar Keel, GARBOARD O
State actual thickness in case of Double Bottom.
Shut
DOUBLING
Length
PEEP SIDE
SHORT BR
FORECAST
Main
manufact
Plates, Pl
Stock
Belge
Has the S
FRAME
REVER
Pole
lower
Bowsprit
Topmast
Rigging
Sails.
EQUI
Number of
Certificate
12599
1260
6356
6356
Numb
Certifi
447
447
Iron
Chi
Ste
Boat
Pum
Win
Eng
Wha
Coa
Nun
Ceil
Car
Stat
Nun
Bu
The
Bu

Signa
12
No., D
Wheth
Fore
13
Numb
Numb
Rigge
Stern
Build
Galle
Head
Frame
vess
Numb
Numb
and
Total to
to
No. of
sets of
Engines.
One
No. of
Shafts
One
Under
Space
Turre
Forec
Bridg
Peep
Side
Deck
Char
Space
Sec
18
Exec
Ded
NOTE
No.
Nam
Da
30

