

# REPORT ON MACHINERY.

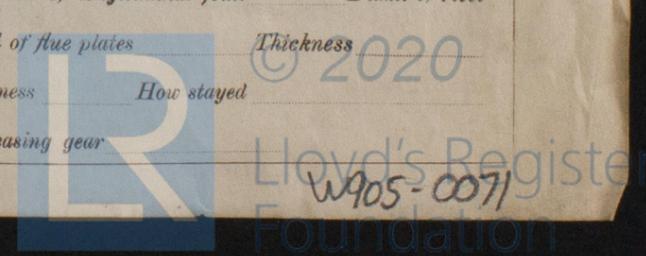
No. 24540  
FRI. JAN 5 - 1912

Received at London Office

Date of writing Report 19 When handed in at Local Office 19/12 1911 Port of Hull  
 No. in Survey held at Hull Reg. Book. Date, First Survey July 27<sup>th</sup> Last Survey Dec 20<sup>th</sup> 1911  
 Supp on the S/ Lawler EMLEY (Number of Visits 34)  
 Master Built at Selby By whom built Lockhart & Sons Tons Gross 223 Net 88  
 Engines made at Hull By whom made Amos Smith Ltd. When built 1911  
 Boilers made at 5 By whom made 5 when made 5  
 Registered Horse Power Owners G. Nathan, S. S. Fotherby Port belonging to Hull  
 Nom. Horse Power as per Section 28 51 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No

ENGINES, &c.—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 10-17-28 Length of Stroke 24 Revs. per minute 114 Dia. of Screw shaft as per rule 7.2 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 32  
 Dia. of Tunnel shaft as per rule 5.76 as fitted 6.2 Dia. of Crank shaft journals as per rule 6.02 as fitted 6.2 Dia. of Crank pin 6.2 Size of Crank webs 27 x 48 Dia. of thrust shaft under collars 6.3 Dia. of screw 10.0 Pitch of Screw 7.6 mean No. of Blades 4 State whether moveable No Total surface 31 ft.  
 No. of Feed pumps one Diameter of ditto 2.2 Stroke 11 Can one be overhauled while the other is at work No  
 No. of Bilge pumps one Diameter of ditto 2.2 Stroke 11 Can one be overhauled while the other is at work No  
 No. of Donkey Engines one Sizes of Pumps 6 x 3 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2.2 For aft In Holds, &c. 2.2 Fore hold, main hold & ballast tank. 2" Girth suction to all holds with discharge over deck.  
 No. of Bilge Injections 1 sizes 3 Connected to condenser, or to circulating pump pumps Is a separate Donkey Suction fitted in Engine room & size 2" Girth  
 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 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 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 10.10.11 of Stern Tube 10.10.11 Screw shaft and Propeller 10.10.11  
 Is the Screw Shaft Tunnel watertight No Is it fitted with a watertight door No worked from No

OILERS, &c.—(Letter for record S.) Manufacturers of Steel G. Wertschaft Grillo Funke & Co.  
 Total Heating Surface of Boilers 872 ft<sup>2</sup> Is Forced Draft fitted No No. and Description of Boilers 1 S.E. Multitubular  
 Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 25.11.11. No. of Certificate 1859.  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 254 ft<sup>2</sup> No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 3.1416 Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 7" Mean dia. of boilers 11.0 Length 9.6 Material of shell plates Skel.  
 Thickness 1 Range of tensile strength 29-33 lbs Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams SR Lap long. seams 5/8 x 5/8 inch Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 7 1/2 Lap of plates or width of butt straps 16 1/2  
 Per centages of strength of longitudinal joint rivets 98.5 Working pressure of shell by rules 204 Size of manhole in shell 16 x 12  
 Size of compensating ring 3/4 x 4 1/4 x 1 No. and Description of Furnaces in each boiler 2 plain Material Skel. Outside diameter 3.3  
 Length of pldin part top 6.2 bottom 5.7 Thickness of plates crown 4.7 bottom 3.4 Description of longitudinal joint welded No. of strengthening rings  
 Working pressure of furnace by the rules 203 Combustion chamber plates: Material Skel. Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 13/16  
 Pitch of stays to ditto: Sides 7 1/2 x 9 Back 8 1/2 x 7 3/4 Top 9 x 7 1/2 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 202  
 Material of stays Skel. Diameter at smallest part 1 1/2 = 2.06 Area supported by each stay 90.5 Working pressure by rules 238. End plates in steam space: Material Skel. Thickness 1 Pitch of stays 1 1/2 x 1 5/8 How are stays secured With washers Working pressure by rules 218 Material of stays Skel.  
 Diameter at smallest part 5.05 Area supported by each stay 218 Working pressure by rules 240 Material of Front plates at bottom Skel.  
 Thickness 1 Material of Lower back plate Skel. Thickness 1 Greatest pitch of stays 3 3/4 x 7 3/4 Working pressure of plate by rules 277  
 Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 x 4 1/2 Material of tube plates Skel. Thickness: Front 1 Back 7/8 Mean pitch of stays 9 1/4  
 Pitch across wide water spaces 13 3/4 Working pressures by rules 203 Girders to Chamber tops: Material Skel. Depth and thickness of girder at centre 7 3/4 x 1 3/4 Length as per rule 2.7 1/2 Distance apart 7 1/2 Number and pitch of stays in each 209  
 Working pressure by rules 204 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  
 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



**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 \_\_\_\_\_ 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 & two bottom end connecting rods bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed & bilge pump valves, one main & one donkey feed check valve, assorted bolts & nuts, one set of air pump valves.*

The foregoing is a correct description,

Manufacturer.

**FOR AMOS & SMITH LTD.**

Dates of Survey while building { During progress of work in shops -- } 1911: July 27. Aug 3. 5. 8. 14. 21. 23. 26. Oct 3. 5. 9. 10. 13. 20. 26. *lost* *10.11.11* Managing Director.  
 { During erection on board vessel --- } Nov 16. 21. 22. 25. 27. 28. 30. Dec. 1. 6. 8. 11. 12. 14. 16. 18. 20.  
 Total No. of visits 34

Is the approved plan of main boiler forwarded herewith *R/L 24521*

Dates of Examination of principal parts—Cylinders 30.11.11. Slides 6.12.11. Covers 30.11.11. Pistons 6.12.11. Rods 30.11.11.  
 Connecting rods 1.12.11. Crank shaft 1.12.11. Thrust shaft 1.12.11. Tunnel shafts ✓ Screw shaft 5.10.11. Propeller 5.10.11.  
 Stern tube 5.10.11. Steam pipes tested 14.12.11. Engine and boiler seatings 8.12.11. Engines holding down bolts 11.12.11.  
 Completion of pumping arrangements 20.12.11. Boilers fixed 16.12.11. Engines tried under steam 16.12.11.  
 Main boiler safety valves adjusted 16.12.11. Thickness of adjusting washers  $5\frac{11}{32}$  P  $5\frac{1}{16}$ .  
 Material of Crank shaft *Steel*. Identification Mark on Do. *820* 1.12.11. Material of Thrust shaft *Steel*. Identification Mark on Do. *820* 1.12.11.  
 Material of Tunnel shafts ✓ Identification Marks on Do. *5.10.11*. Material of Screw shafts *Iron* Identification Marks on Do. *820* 5.10.11.  
 Material of Steam Pipes *Solid drawn Copper*. Test pressure 400 lbs.

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery & boiler of this vessel have been constructed under Special Survey, are of good material & workmanship & have been fitted & secured in accordance with the Rules. They are now in good working condition and respectfully submitted as being eligible in my opinion to have record of L.M.C. 12.11 in the Register Book.*

**It is submitted that this vessel is eligible for SHIP RECORD + L.M.C. 12.11.**

*J.W.D.*  
5/12

*John W. Gwynne*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Certificate (if required) to be sent to Hull  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee .. £ 1 : 00  
 Special .. £ 8 : 00  
 Donkey Boiler Fee .. £ : :  
 Travelling Expenses (if any) £ - : 4 : 1

When applied for, 4.1.1912  
 When received, 31.1.1912

Committee's Minute TUE. JAN. 9 - 1912  
 Assigned + L.M.C. 12.11.

MACHINERY CERTIFICATE WRITTEN.