

# REPORT ON MACHINERY.

No. 30,201  
FRI. 19 OCT. 1917

Received at London Office

Date of writing Report 12-10-17 When handed in at Local Office 18/10 1917 Port of Hull  
 No. in Survey held at Hull Date, First Survey 20.1.17 Last Survey 15.10.1917  
 Reg. Book. on the Steel screw tugger William Rivers (Number of Visits 61) Tons { Gross 324 Net 133  
 Master Telby Built at Telby By whom built Cochrane Sons & Co When built 1917-10  
 Engines made at Hull By whom made Chas. J. Holmes & Co (1136) when made 1917-10  
 Boilers made at Hull By whom made Chas. J. Holmes & Co (26) when made 1917-10  
 Registered Horse Power \_\_\_\_\_ Owners British Admiralty Port belonging to \_\_\_\_\_  
 Nom. Horse Power as per Section 28 87 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

**ENGINES, &c.**—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks 3  
 Dia. of Cylinders 13" - 23" - 37" Length of Stroke 26" Revs. per minute 117 Dia. of Screw shaft 7.9" Material of screw shaft Steel  
 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 yes 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 yes Length of stern bush 35 1/2"  
 Dia. of Tunnel shaft 7.04" Dia. of Crank shaft journals 7.39" Dia. of Crank pin 7 1/2" Size of Crank webs 4 1/2" x 11" Dia. of thrust shaft under collars 7 1/2" Dia. of screw 9-7 1/2" Pitch of Screw 11-0" No. of Blades 4 State whether moveable no Total surface 33 sq ft  
 No. of Feed pumps one Diameter of ditto 2 1/2" Stroke 14 3/4" Can one be overhauled while the other is at work yes  
 No. of Bilge pumps one Diameter of ditto 2 1/2" Stroke 14 3/4" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines one Sizes of Pumps 6", 4 1/4" x 6" duplex No. and size of Suctions connected to both Bilge and Donkey pumps one 2" diam in each compartment  
 In Engine Room two 2" diam In Holds, &c. one 2" diam in each compartment  
 all suction pipes connected to ejector.  
 No. of Bilge Injections one sizes 3 1/2" Connected to condenser, or to circulating pump pumps Is a separate Donkey Suction fitted in Engine room & size 3" yield  
 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 none  
 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 Forward sections How are they protected strong casing, faced with iron  
 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 8-6-17 of Stern Tube 8-6-17 Screw shaft and Propeller 8-6-17  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door worked from

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel John Spencer & Sons  
 Total Heating Surface of Boilers 1440 sq ft Is Forced Draft fitted no No. and Description of Boilers one single ended  
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 22-8-17 No. of Certificate 3230  
 Can each boiler be worked separately yes Area of fire grate in each boiler 48 sq ft No. and Description of Safety Valves to each boiler two spring loaded Area of each valve 4.9 sq in 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 8" lagged Dia. of boilers 165" Length 10'-8" Material of shell plates S  
 Thickness 1 1/4" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double  
 long. seams P.D.B.S. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/8" Lap of plates or width of butt straps 18"  
 Per centages of strength of longitudinal joint 85.9 Working pressure of shell by rules 202 Size of manhole in shell 16" x 12"  
 Size of compensating ring 7" x 1 1/4" No. and Description of Furnaces in each boiler three plain Material S Outside diameter 40"  
 Length of plain part 78 1/2" Thickness of plates 7 1/16" Description of longitudinal joint welded No. of strengthening rings \_\_\_\_\_  
 Working pressure of furnace by the rules 206 Combustion chamber plates: Material S Thickness: Sides 3/4" Back 2 3/32" Top 3/4" Bottom 3/4"  
 Pitch of stays to ditto: Sides 10" x 8" Back 9 1/2" x 8 1/2" Top 11" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 208  
 Material of stays steel Diameter at smallest part 2.07" Area supported by each stay 88 sq in Working pressure by rules 211 End plates in steam space \_\_\_\_\_  
 Material S Thickness 1 1/32" Pitch of stays 19 x 17 1/8" How are stays secured Q. T. W. Working pressure by rules 210 Material of stays S  
 Diameter at smallest part 7.5" Area supported by each stay 335 sq in Working pressure by rules 233 Material of Front plates at bottom S  
 Thickness 1 5/16" Material of Lower back plate S Thickness 1 7/16" Greatest pitch of stays 3 1/4" x 9 1/2" Working pressure of plate by rules 216  
 Diameter of tubes 3 1/2" Pitch of tubes 4 7/8" Material of tube plates S Thickness: Front 1 5/16" Back 7/8" Mean pitch of stays 10"  
 Pitch across wide water spaces 14" Working pressures by rules 275 Girders to Chamber tops: Material S Depth and thickness of girder at centre 11" x 1 3/4" Length as per rule 36.218 Distance apart 11" Number and pitch of stays in each Three 8"  
 Working pressure by rules 201 Superheater or Steam chest; how connected to boiler \_\_\_\_\_ Can the superheater be shut off and the boiler worked separately yes  
 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 yes 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 \_\_\_\_\_

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

*Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of air feed & bilge pump valves, one main & one donkey check valve, two valves for donkey pump, 6 junk ring studs & nuts, one safety valve spring, 3 condenser tubes, one set of fire bars, & a quantity of bolts & nuts, iron of various sizes*

The foregoing is a correct description,

*R. D. HOLMES & CO. LTD.*

*R. D. Holmes*

Manufacturer.

Dates of Survey while building: During progress of work in shops - - - *Jan 20. 23. Mar 5. 8. 14. 19. 23. 27. 29. Apr 2. 5. 11. 13. 16. 17. 18. 26. 27. May 4. 10. 15. 17.*  
During erection on board vessel - - - *23. 29. July 1. 8. 14. July 26. 10. 13. 18. 21. 23. 24. 25. 27. 31. Aug 2. 13. 15. 17. 20. 21. 22. 24. 27. 30.*  
Total No. of visits *61*

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *6-7-17* Slides *21-8-17* Covers *2-8-17* Pistons *15-8-17* Rods *31-7-17*

Connecting rods *24-7-17* Crank shaft *31-7-17* Thrust shaft *30-8-17* Tunnel shafts  Screw shaft *6-6-17* Propeller *6-6-17*

Stern tube *6-6-17* Steam pipes tested *5-10-17* Engine and boiler seatings *8-6-17* Engines holding down bolts *1-10-17*

Completion of pumping arrangements *10-10-17* Boilers fixed *6-10-17* Engines tried under steam *10-10-17*

Main boiler safety valves adjusted *6-10-17* Thickness of adjusting washers *7/32 & 1/32*

Material of Crank shaft *Iron* Identification Mark on Do. *2002 FLS* Material of Thrust shaft *Iron* Identification Mark on Do. *2016 FLS*

Material of Tunnel shafts  Identification Marks on Do.  Material of Screw shafts *Steel* Identification Marks on Do. *706 RFM*

Material of Steam Pipes *solid drawn copper* Test pressure *400 lbs*

Is an installation fitted for burning oil fuel *no* Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *Theresa, Class*

General Remarks

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

*The machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this Society, the materials & workmanship are good, the boiler & steam pipes have been tested as above & found sound & tight. The machinery has been properly fitted & secured on board the vessel & on completion was tested under full power for two hours as required by the Admiralty & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 2 1/2 lbs.*

*In my opinion the vessel is eligible for the record + LMC 10-17*

It is submitted that this vessel is eligible for THE RECORD. + LMC. 10.17.

*J.W.D.*  
*J.M.* 20/10/17

The amount of Entry Fee ... £ :  
Special ... £ *27 0*  
Donkey Boiler Fee ... £ :  
Travelling Expenses (if any) £ : *12/3*

When applied for, *12/10 1917*  
When received, *31. 10. 1917*

*Frank A. Sturgeon*

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

Committee's Minute *TUE OCT 23 1917*

Assigned *+ LMC 10.17*

MAINTENANCE CERTIFICATE



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