

## REPORT ON MACHINERY.

No. 29316

Received at London Office

WED. 21 SEP 1910

Date of writing Report 19/9/10 When handed in at Local Office 10. Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 11th April 1910 Last Survey 6th Sept 1910  
 Reg. Book. 1 Sup. on the 1st "Thomas Holt" (Number of Visits 1)  
 Master A. Gladney Built at Port Glasgow By whom built W. Hamilton & Co. Tons { Gross 1521.06  
 Engines made at Glasgow By whom made David Rowan & Co. (2539) when made 1910  
 Boilers made at do By whom made do when made 1910  
 Registered Horse Power Owners John Holt & Co. Port belonging to Liverpool  
 Nom. Horse Power as per Section 28 183 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 18.30.50 Length of Stroke 33 Revs. per minute 70 Dia. of Screw shaft as per rule 10.54 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 Yes If two  
 liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 3.8.1  
 Dia. of Tunnel shaft as per rule 9.02 Dia. of Crank shaft journals as per rule 9.47 Dia. of Crank pin 9.7/8 Size of Crank webs 6 Dia. of thrust shaft under  
 collars 9.7/8 Dia. of screw 13.0 Pitch of Screw 14.6 No. of Blades 4 State whether moveable No Total surface 56  
 No. of Feed pumps 2 Diameter of ditto 3 Stroke 18 Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 3 Stroke 18 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 4 Sizes of Pumps 2.10 x 8, 4.5 x 8, 5.5 x 13.5, 6.75 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4 - 3" In Holds, &c. 2 - 3" each hold

Tunnel 3"  
 No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes - 3"  
 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 For Suctions How are they protected Lead covering  
 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 7 of Stern Tube 8 Screw shaft and Propeller Grunbeck & Co. Ltd.  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top grating

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel William Beardmore & Co. Ltd.

Total Heating Surface of Boilers 3200 Is Forced Draft fitted no No. and Description of Boilers 2 Single Ended  
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 7/7/10 No. of Certificate 10492  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 43.5 No. and Description of Safety Valves to  
 each boiler Cockburn Double Area of each valve 4.9 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 9 Mean dia. of boilers 13.0 Length 10.6 Material of shell plates steel  
 Thickness 1 1/16 Range of tensile strength 28.5 to 32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D. R. L.  
 long. seams D. B. S. Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 7.5 Lap of plates or width of butt straps 17 1/2  
 Per centages of strength of longitudinal joint rivets 103 plates 84.2 Working pressure of shell by rules 180 Size of manhole in shell 16 x 12  
 Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 39"  
 Length of plain part top Thickness of plates crown 1 1/2 Description of longitudinal joint weld No. of strengthening rings  
 bottom Working pressure of furnace by the rules 194 Combustion chamber plates: Material steel Thickness: Sides 7/8 Back 7/8 Top 7/8 Bottom 3/4  
 Pitch of stays to ditto: Sides 9.18 Back 9.18 Top 9.18 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181  
 Material of stays steel Diameter at smallest part 1.76 Area supported by each stay 7.4 Working pressure by rules 190 End plates in steam space:  
 Material steel Thickness 1 1/8 Pitch of stays 17 x 18 How are stays secured D. R. L. Working pressure by rules 185 Material of stays steel  
 Diameter at smallest part 5.9 Area supported by each stay 30.5 Working pressure by rules 200 Material of Front plates at bottom steel  
 Thickness 7/8 Material of Lower back plate steel Thickness 3/16 Greatest pitch of stays 12 1/2 Working pressure of plate by rules 190  
 Diameter of tubes 3 1/4 Pitch of tubes 4 3/8 Material of tube plates steel Thickness: Front 7/8 Back 2 7/32 Mean pitch of stays 10 5/16  
 Pitch across wide water spaces 13 1/2 Working pressures by rules 182 Girders to Chamber tops: Material steel Depth and  
 thickness of girder at centre 7 1/2 x 2 Length as per rule 29.4 Distance apart 7 1/2 x 8 Number and pitch of stays in each 2 - 9  
 Working pressure by rules 180 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  
 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

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W1115-0144



*Smith & Tuttle*

**VERTICAL DONKEY BOILER—**

Manufacturers of Steel

No. \_\_\_\_\_ Description *Cylindrical Return Tube. See Rpt. 5a.*  
 Made at *Glasgow* By whom made *David Rowan & Co.* When made *1910* Where fixed *St. Nicholas*  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety Valves \_\_\_\_\_  
 Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_  
 If fitted with casing 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 end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts, set of coupling bolts & nuts, feed & bridge valves, assorted iron & bolts & nuts, propeller shaft, propeller, set air & circulating pump valves, etc.*

The foregoing is a correct description,

*for David Rowan & Co. Manufacturer.*

Dates of Survey while building { During progress of work in shops— *1910. Apr. 11. 18. 21. 28. May 9. 27. June 1. 10. 22. July 7. 13. Aug 3*  
 { During erection on board vessel— *12. 18. 27. 28. 26. Sep 6*  
 Total No. of visits *18.*

Is the approved plan of main boiler forwarded herewith? *Yes*  
 " " " donkey " " " *Jonathan*

Dates of Examination of principal parts—Cylinders *10/6/10* Slides *22/6/10* Covers *22/6/10* Pistons *22/6/10* Rods *22/6/10*  
 Connecting rods *22/6/10* Crank shaft *10/6/10* Thrust shaft *3/8/10* Tunnel shafts *10/6/10* Screw shaft *10/6/10* Propeller *10/6/10*  
 Stern tube *10/6/10* Steam pipes tested *24/8/10* Engine and boiler seatings *18/8/10* Engines holding down bolts *18/8/10*  
 Completion of pumping arrangements *22/8/10* Boilers fixed *22/8/10* Engines tried under steam *6/9/10*  
 Main boiler safety valves adjusted *26/8/10* Thickness of adjusting washers *P.F. 1 1/2, 6 3/8. S.P. 1 1/2, 5 3/8. D.B. P. 3/8, 3 3/8*  
 Material of Crank shaft *steel* Identification Mark on Do. \_\_\_\_\_ Material of Thrust shaft *steel* Identification Mark on Do. \_\_\_\_\_  
 Material of Tunnel shafts *steel* Identification Marks on Do. *H. G. S.* Material of Screw shafts *iron* Identification Marks on Do. *H. G. S.*  
 Material of Steam Pipes *Copper* Test pressure *360*

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

*The engines & boilers of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been securely fitted on board & satisfactorily tried under steam.*

*This vessel is in my opinion eligible to have notation \* L.M.C. 9.10 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD, L.M.C. 9.10

The amount of Entry Fee *£22. 2. 0* When applied for, *19/9/10*  
 Special *£27. 9. 0* When received, *21. 9. 10*  
 Donkey Boiler Fee \_\_\_\_\_  
 Travelling Expenses (if any) \_\_\_\_\_

*H. Sanderson-Smith*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

GLASGOW

20 SEP. 1910

Assigned

*+ L.M.C. 9.10*

MACHINERY CERTIFICATE  
 WRITTEN 21.9.10



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Certificate (if required) to be sent to the Registrar of Shipping (The Registrar is requested not to write on or below the space for Committee's Minute.)

Glasgow.