

# REPORT ON MACHINERY.

No. 34184

Received at London Office WED. 17. OCT. 1917

Date of writing Report 5 Oct 1917 when handed in at Local Office 10 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 25<sup>th</sup> Jan 1915 Last Survey 6<sup>th</sup> October 1917  
 Reg. Book. on the Machinery of M. AIGBURTH (Number of Flats)  
 Master Paidey Built at Glasgow By whom built J. Fullerton & Co (No. 242) when built 1917  
 Engines made at Glasgow By whom made Ross & Duncan (No. 995) when made 1917  
 Boilers made at Glasgow By whom made J. Fullerton & Co (No. 489) when made 1917  
 Registered Horse Power 122 Owners Alfred Rowland & Co Port belonging to Liverpool  
 Nom. Horse Power as per Section 28 122 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

**ENGINES, &c.**—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 15" 25 1/2" 41" Length of Stroke 30" Revs. per minute 102 Dia. of Screw shaft 8 1/2" Material of screw shaft Hot 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 One length 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 3 1/2"  
 Dia. of Tunnel shaft 7 1/2" Dia. of Crank shaft journals 8 1/2" Dia. of Crank pin 8 1/2" Size of Crank webs 5 1/2 x 3 1/2" Dia. of thrust shaft under  
 collars 8 1/2" Dia. of screw 10-6" Pitch of Screw 12-0" No. of Blades 4 State whether moveable no Total surface 40 sq ft  
 No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 2 3/4" Stroke 15" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 2 Sizes of Pumps FEED 5 1/2 x 3 1/2" DUALER No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 3-2 1/4" In Holds, &c. One each side 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 1/4"  
 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 Taken locks  
 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 Suctions How are they protected Over in  
 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 12 March 17 of Stern Tube 12/3/17 Screw shaft and Propeller 12/3/17  
 Is the Screw Shaft Tunnel watertight no tunnel Is it fitted with a watertight door Yes worked from above

**BOILERS, &c.**—(Letter for record 3) Manufacturers of Steel David Colville & Sons Motherwell  
 Total Heating Surface of Boilers 2157 sq ft Is Forced Draft fitted no No. and Description of Boilers One Single ended  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 15/5/17 No. of Certificate 13784  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 59 sq ft No. and Description of Safety Valves to  
 each boiler 2 Direct Spring Area of each valve 5.940 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 3-6" Mean dia. of boilers 15-0" Length 10-6" Material of shell plates Steel  
 Thickness 1 1/32 Range of tensile strength 28/32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Lap D.R.  
 long. seams D.S. T.R. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 18 1/2"  
 Per centages of strength of longitudinal joint rivets 85.2 Working pressure of shell by rules 182 lbs Size of manhole in shell 16 x 12  
 Size of compensating ring 7 Lap 1 1/32 No. and Description of Furnaces in each boiler 3 Plain Material Steel Outside diameter 46 1/2  
 Length of plain part 6-1 1/2" Thickness of plates 13/16 Description of longitudinal joint Keel No. of strengthening rings none  
 Working pressure of furnace by the rules 183 1/2 Combustion chamber plates: Material Steel Thickness: Sides 1/16 Back 1/32 Top 1/16 Bottom 1/16  
 Pitch of stays to ditto: Sides 10 x 8 1/2" Back 8 1/2 x 9 1/2" Top 10 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 183 1/2  
 Material of stays Steel Diameter at smallest part 2-0 1/2" Area supported by each stay 1000 Working pressure by rules 186 lbs End plates in steam space:  
 Material Steel Thickness 1 1/32 Pitch of stays 19 1/4 x 1 1/4" How are stays secured SOLE NUTS & LOOSE WASHERS Working pressure by rules 180 lbs Material of stays Steel  
 Diameter at smallest part 6-20 Area supported by each stay 3500 Working pressure by rules 184 Material of Front plates at bottom Steel  
 Thickness 2 1/32 Material of Lower back plate Steel Thickness 2 1/32 Greatest pitch of stays 14 x 8 1/2" Working pressure of plate by rules 183 1/2  
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/4 x 4 1/2" Material of tube plates Steel Thickness: Front 2 1/32 Back 1 1/16 Mean pitch of stays 11-9"  
 Pitch across wide water spaces 14" Working pressures by rules 185 lbs Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 8 1/2 x 1 1/8" Length as per rule 33-58 Distance apart 8 1/2" Number and pitch of stays in each 2-10"  
 Working pressure by rules 186 lbs Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked  
 separately Yes Diameter 18 1/2" Length 18 1/2" Thickness of shell plates 1 1/2" Material Steel Description of longitudinal joint Keel Diam. of rivet  
 holes 1 1/4" Pitch of rivets 8 1/2" Working pressure of shell by rules 186 lbs Diameter of flue 18 1/2" Material of flue plates Steel Thickness 1 1/2"  
 If stiffened with rings Yes Distance between rings 18 1/2" Working pressure by rules 186 lbs End plates: Thickness 1 1/2" How stayed Keel  
 Working pressure of end plates 186 lbs Area of safety valves to superheater 186 lbs Are they fitted with easing gear Yes

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

*Ref. No. 36109*

SPARE GEAR. State the articles supplied:—

*Two each of top & bottom end & main Reaming bolts and a set of coupling bolts all fitted with nuts, feed & bilge pump valves, assorted bolts nuts, iron of various sizes.*

The foregoing is a correct description,

*Ross Duncan* Manufacturer.

Dates of Survey while building: During progress of work in shops: *1915, Jan. 25, Feb. 22, Mar. 12, 29, Apr. 8, 13, 15, 22, 30, May 11, 14, 21, 31, June 9, 16, 18, July 8, Aug. 12, 14, Sep. 14, 20, Oct. 12, 26*  
During erection on board vessel: *Nov. 16, 1916, Jan. 26, Feb. 22, 23, 24, July 14, 21, Dec. 5, Dec. 11, 20, 28, 1914, Jan. 9, 31, Feb. 26, 4, 13, 14, 21, 22, 24, Mar. 5, 7, 12, 11, 20, 27, Apr. 5, 18, 26*  
Total No. of visits: *May 10, 15, July 24, Aug. 22, 24, 31, Sep. 20, 29, Oct. 4, 6. 65*

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

" " " donkey " " " *Yes*

Dates of Examination of principal parts: Cylinders *27-3-17*, Slides *27-3-17*, Covers *8-4-15*, Pistons *5-4-17*, Rods *5-4-17*, Connecting rods *5-4-17*, Crank shaft *7-3-17*, Thrust shaft *10-5-17*, Tunnel shafts *none*, Screw shaft *27-2-17*, Propeller *27-2-17*, Stern tube *27-2-17*, Steam pipes tested *27-8-17*, Engine and boiler seatings *12-3-17*, Engines holding down bolts *29-9-17*, Completion of pumping arrangements *6-10-17*, Boilers fixed *29-9-17*, Engines tried under steam *6-10-17*, Main boiler safety valves adjusted *4-10-17*, Thickness of adjusting washers *9/32 & 5/16*, Material of Crank shaft *N. IRON*, Identification Mark on Do. *G.S.A.*, Material of Thrust shaft *N. IRON*, Identification Mark on Do. *G.S.A.*, Material of Tunnel shafts *none*, Identification Marks on Do. *G.S.A.*, Material of Screw shafts *N. IRON*, Identification Marks on Do. *G.S.A.*, Material of Steam Pipes *Solid drawn Copper*, Test pressure *360 lbs.*, Is an installation fitted for burning oil fuel *no*, Is the flash point of the oil to be used over 150°F. *no*

Have the requirements of Section 49 of the Rules been complied with? *no*

Is this machinery duplicate of a previous case? *no*. If so, state name of vessel.

General Remarks: (State quality of workmanship, opinions as to class, &c.) *This machinery has been constructed under special survey; the material & workmanship are good. It has been properly fitted on board and tried under steam and the case is slight in my opinion for the notation + L.M.C. 10.17.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.17.

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

*Blitchie*

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

The amount of Entry Fee ... £ 2 : 00 : 00 When applied for, Special *W* ... £ 18 : 6 : 00 When received, *18/10/17* Donkey Boiler Fee ... £ Travelling Expenses (if any) £ *18/10/17*

Committee's Minute **GLASGOW** 16 OCT. 1917

Assigned + L.M.C. 10.17



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The Surveyors are requested not to write on or below the space for Committee's Minute.