

REPORT ON MACHINERY.

No. 7867

Date of writing Report 25 Sept 17 When handed in at Dock Office 25 Sept 17 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 27-1-17 Last Survey 20-9-17
 Reg. Book. P.S. War Clover (Number of Votets 54 Gross 5144 Tons Net 1917)
 Master Belfast Built at Belfast By whom built Harland & Wolff L When built 1917
 Engines made at Glasgow By whom made - when made -
 Boilers made at Belfast By whom made - when made -
 Registered Horse Power 490 Owners The Shipping Controller Port belonging to London
 Nom. Horse Power as per Section 28 490 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes
 ENGINES, &c.—Description of Engines Single Screw Triple Expansion Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27-44-73 Length of Stroke 48 Revs. per minute 78 Dia. of Screw shaft 14-6 as per rule 15-6 as fitted 15-6 Material of 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 ✓ 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 60-2
 Dia. of Tunnel shaft 13-33 as per rule 13-99 as fitted 13-99 Dia. of Crank shaft journals 14-5 as per rule 14-5 as fitted 14-5 Dia. of Crank pin 4-2 Size of Crank webs 28-9 Dia. of thrust shaft under
 collars 14-7 Dia. of screw 17-6 Pitch of Screw 16-6 No. of Blades 4 State whether moveable No Total surface 102-2 sq ft.
 No. of Feed pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 Strokes 24 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines See Separate sheet No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4-3-2 In Holds, &c. 9-3-2 + 1-3
 No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size See - 7-2
 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 - except Main Tank Injection 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 Both
 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 Fore 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 2-7-17 of Stern Tube 4-8-17 Screw shaft and Propeller 4-8-17
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No - Water Tight Trunk from deck
 BOILERS, &c.—(Letter for record S) Manufacturers of Steel D. Colville & Son L
 Total Heating Surface of Boilers 7020 sq ft. forced Draft fitted Yes No. and Description of Boilers 3 Single End Cylind
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 18-8-17 No. of Certificate 506-7-8
 Can each boiler be worked separately Yes Area of fire grate in each boiler 63-2 sq ft. No. and Description of Safety Valves to
 each boiler 2 - Direct Spring Area of each valve 9-62 sq ft. 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 about 8" Mean dia. of boilers 15-6 Length 11-6 Material of shell plates Steel
 Thickness 1-4 Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap & But
 long. seams Butt Lap Diameter of rivet holes in long. seams 1-5 Pitch of rivets 9-8 Top of plates or width of butt straps 19-2
 Per centages of strength of longitudinal joint 89-1 Working pressure of shell by rules 182 lbs Size of manhole in shell 16-2 x 12-2
 Size of compensating ring Plate flange No. and Description of Furnaces in each boiler 3 - Repton Material Steel Outside diameter 50-7
 Length of plain part 8 Thickness of plates 3-12 Description of longitudinal joint Weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 188 lbs Combustion chamber plates: Material Steel Thickness: Sides 3-2 Back 4-6 Top 2-3 Bottom 2-2
 Pitch of stays to ditto: Sides 10-5 x 9-4 Back 10-5 x 9-4 Top 10-5 x 9-4 stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180 lbs
 Material of stays Steel Diameter at smallest part 2-07 Area supported by each stay 9-64 Working pressure by rules 186 lbs and plates in steam space
 Material Steel Thickness 1-8 Pitch of stays 21-2 x 21-2 Are stays secured Nuts Working pressure by rules 180 lbs Material of stays Steel
 Diameter at smallest part 8-29 supported by each stay 4-59 Working pressure by rules 187 lbs Material of Front plates at bottom Steel
 Thickness 3-2 Material of Lower back plate Steel Thickness 3-2 Greatest pitch of stays 13-8 Working pressure of plate by rules 189 lbs
 Diameter of tubes 3 Pitch of tubes 4-4 x 4-8 Material of tube plate Steel Thickness: Front 3-2 Back 3-2 Mean pitch of stays 22-7 x 8-4
 Pitch across wide water spaces 13-8 Working pressures by rules 181 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 11-7 (8 x 2) Length as per rule 38-2 Distance apart 10-4 Number and pitch of stays in each 3-9-2
 Working pressure by rules 182 lbs 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 ✓

IS A DONKEY BOILER FITTED? *No.*If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:—

See separate sheet

The foregoing is a correct description,

*for Karlana, survey Ltd.**George Cunningham*

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *Jan^y 20, 29, 30 Feb^y 1, 2, 7, 24, 28 up to 20th Sep^r 1917*
 { During erection on board vessel - - - }
 Total No. of visits *54*

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

Dates of Examination of principal parts—Cylinders

See Glasgow Report No. 37080

Connecting rods

Crank shaft

Thrust shaft

Tunnel shafts

Screw shaft

Propeller *3-9-17*Stern tube *3-9-17*Steam pipes tested *2-6-17*Engine and boiler seatings *2-9-17*Engines holding down bolts *13-9-17*Completion of pumping arrangements *15-9-17*Boilers fixed *13-9-17*Engines tried under steam *20-9-17*Main boiler safety valves adjusted *15-9-17*Thickness of adjusting washers *7-11-17*Material of Crank shaft *Steel*

Identification Mark on Do.

See Glasgow Report No. 37080

Identification Mark on Do.

Material of Tunnel shafts

Identification Marks on Do.

Material of Screw shafts

Identification Marks on Do.

Material of Steam Pipes *W. Iron*Test pressure *5-40 lb*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 *ST. War Shawrock*

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

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules.

The workmanship and the materials are of good description, and on trial under steam in Belfast Lough, the machinery worked satisfactorily. In my opinion, it is eligible for record + L.M.C. 9-17, with notation "Forced Draft + Electric Light".

The work has been carried out in accordance with the Specification and instructions issued by the Shipping Controller, except in regard to arrangements for pumping oil from the Double Bottom and other tanks.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 9.17. F.D.

The amount of Entry Fee ... £

When applied for,

*£33 of this due to**24-9-17*

Special Donkey Boiler Fee

£100:-

Travelling Expenses (if any) £

30.10.1917

Committee's Minute

FRI. 5 OCT. 1917

Assigned

*+ L.M.C. 9.17**F.D.*R. F. Beveridge
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

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MACHINERY CERTIFICATE WRITTEN