

REPORT ON MACHINERY.

No. 7973

Received at London Office

Report 7th July 1918 When handed in at Local Office 10 Port of Belfast
Survey held at Belfast Date, First Survey 26th April 1918 Last Survey 30th May 1918
In the S.S. War Buckler (Number of Visits 2)

Built at Belfast By whom built Harland & Wolff L^{td} Tons { Gross 2356
Net 1346
When built 1918
Made at Belfast By whom made when made
Made at By whom made when made

1 Horse Power Owners The Shipping Controller Port belonging to London
Horse Power as per Section 28 411 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ES, &c.—Description of Engines Single Screw Triple Expansion Cylinders 3 No. of Cranks 3
Cylinders 25"-41"-68" Length of Stroke 45 Revs. per minute 80 Dia. of Screw shaft as per rule 13.4 Material of I. Steel
as fitted 14.5 screw shaft
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
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
The bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two
are fitted, is the shaft lapped or protected between the liners Length of stern bush 60"
Tunnel shaft as per rule 12.4 Dia. of Crank shaft journals as per rule 13.02 Dia. of Crank pin 13 1/2 Size of Crank web 27 1/2 x 8 3/4 Dia. of thrust shaft under
13 1/2 Dia. of screw 15"-6 Pitch of Screw 17'-0 No. of Blades 4 State whether moveable No Total surface 75 sq ft
Feed pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
Donkey Engines See other pumps sheet No. and size of Suctions connected to both Bilge and Donkey pumps
In Room 3-3 In Holds, &c. 9-3 & 1-2 1/2

Bilge Injections 1 sizes 8 Connected to condenser, or to circulating pump Pumps a separate Donkey Suction fitted in Engine room & size Yes-3 1/2
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
connections with the sea direct on the skin of the ship Yes-Except Main Collection Are they Valves or Cocks Both
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 Below
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
pipes are carried through the bunkers How are they protected
All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes
Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No - W. T. Door from Deck
WORKERS, &c.—(Letter for record P) Manufacturers of Steel R. Colville & Sons L^{td}

Heating Surface of Boilers 5882 sq ft Forced Draft fitted Yes No. and Description of Boilers 2-Single End Cylindrical
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 14-5-18 No. of Certificate 526
each boiler be worked separately Yes Area of fire grate in each boiler 74 sq ft No. and Description of Safety Valves to
boiler 2-Direct Spring Area of each valve 12.5 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
least distance between boilers or uptakes and bunkers or woodwork about 2 ft Mean dia. of boilers 16'-6 Length 11'-9 Material of shell plates Steel
thickness 1 1/2 Range of tensile strength 28 1/2-33 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seam Lap Rivet
seam Butt Lap Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 9 1/2 Lap of plates or width of butt straps 20 1/2
percentages of strength of longitudinal joint rivets 90.2 plate 84.9 Working pressure of shell by rules 188 lbs Size of manhole in shell 16" x 12"
of compensating ring Plate flanged No. and Description of Furnaces in each boiler 4-Rectangular Material Steel Outside diameter 44 1/2
length of plain part top 9 Thickness of plates crown 3 1/2 Description of longitudinal joint Weld No. of strengthening rings
Working pressure of furnace by the rules 198 lbs Combustion chamber plates: Material Steel Thickness: Sides 3 1/2 Back 4 1/2 Top 2 3/2 Bottom 2 3/2
Pitch of stays to ditto: Sides 10 1/2 x 8 1/2 Back 10 1/2 x 8 1/2 Top 7 x 8 1/2 Bottom 7 x 8 1/2 stays are fitted with nuts or riveted heads Nuts Working pressure by rules 185 lbs
Material of stays Steel Area at smallest part 2'0" x 2'7" Area supported by each stay 88 1/2 sq in Working pressure by rules 210 lbs End plates in steam space:
Material Steel Thickness 1 1/2 Pitch of stays 24" x 22" How are stays secured Nuts Working pressure by rules 184 lbs Material of stays Steel
Area at smallest part 9'5" x 2'8" Area supported by each stay 528 sq in Working pressure by rules 193 lbs Material of Front plates at bottom Steel
thickness 4 1/2 Material of Lower back plate Steel Thickness 3 Greatest pitch of stays 3 1/2 x 8 1/2 Working pressure of plate by rules 206 lbs
diameter of tubes 2 1/2 Pitch of tubes 4" x 3 1/2 Material of tube plates Steel Thickness: Front 1 1/2 Back 3/4 Mean pitch of stays 2" x 7 1/2
Pitch across wide water spaces 13 1/2 Working pressures by rules 190 lbs Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 10" x (8" x 2) Length as per rule 35 1/2 Distance apart 10 1/2 x 7 Number and pitch of stays in each 3-8 1/2
Working pressure by rules 194 lbs Steam dome: description of joint to shell % of strength of joint
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed
SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to
Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler
Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

W1528 .0065 1/2

If so, is a report now forwarded? ✓

The foregoing is a correct description,
For HARLAND & WOLFF Ltd.

Manufacturer

Dates of Survey while building	{	During progress of work in shops - -	{	26 th April 1917 to 30 th May 1918	
		During erection on board vessel - - -			
		Total No. of visits		36	

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 13-Slides-17 Covers Pistons 6 Rods
Connecting rods 19-4-18 Crank shaft 23- Thrust shaft-17 Tunnel shafts 5 Screw shafts 25-3-18 Propeller
Stern tube 13-2-18 Steam pipes tested 17-4-18 Engine and boiler seatings 10-5-18 Engines holding down bolts 10-
Completion of pumping arrangements 30-5-18 Boilers fixed 20-5-18 Engines tried under steam 27-5-18
Completion of fitting sea connections 7-3-18 Stern tube 20-3-18 Screw shaft and propeller 26-3-18
Main boiler safety valves adjusted 27-5-18 Thickness of adjusting washers $\frac{8-1/2}{32}$
Material of Crank shaft J. Steel Identification Mark on Do. 260755 Material of Thrust shaft cw Identification Mark on Do. 26-3-18
Material of Tunnel shafts cw Identification Marks on Do. cw Material of Screw shafts cw Identification Marks on Do.
Material of Steam Pipes W. Iron ✓ Test pressure 520-lb ✓

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

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

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.)

The machinery of this vessel has been constructed under Special License, and in accordance with the Rules, also as per Specifications and instructions issued by the Shipping Control.

The workmanship and the materials are of good description and on trial under steam in Belfast Lough; the machine worked satisfactorily.

In my opinion, it is eligible for record + L. M. C. 5-10
with notation "Forced Draft" and "Electric Light".

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 5-18 ED

HW.

R. F. Reveridge *John Fallock*
Engineer Surveyor to Lloyd's Register of Shipping

The amount of Entry Fee ... £	:	:	When applied for,
<i>Special Fee as</i>			
Special ... £		52-7-6	5-6-1924
<i>above with</i>			
Donkey Porter Fee ... £			When received,
<i>with</i>			
Travelling Expenses (if any) £			27/7/24

Committee's Minute

Assigned

Sails, and the following Spa.

Belfast Continuation of Report No. *7973* dated *7th June 1918* on the
P.S. War Buckler

Ballast Pumps	10 $\frac{1}{2}$ " x 12 $\frac{1}{2}$ " x 21"	✓
General -	9 $\frac{1}{2}$ " x 7" x 18"	✓
Feed -	9 $\frac{1}{2}$ " x 7" x 18"	✓

Spave Gear

1000 lbs. Solid C. Iron
 14. P. Piston Valve
 Condenser tubes & 50 flanges & 90 packings
 Top end & 2 bottom end bolts & nuts
 Main bearing bolts & nuts
 Shaft coupling bolts & nuts
 Let. Lin. Feed & Relief pump valves
 2 Main & 2 donkey feed check valves
 2 Boiler Safety valve springs
 Feed pump escape valve spring
 50 fire (plain) bars & 8 wing firebars
 9 plain boiler tubes
 25 Furnace baffle plates
 50 Bolt & nuts assorted
 12 Cyl & steam chest studs & nuts
 12 Lank ring studs
 6 Boiler mounting
 2 Keeser main engine stop valve
 Bar round & flat iron, washers & nuts
 2 piston rod packing rings
 2 valve
 1 Filter bucket
 150 lbs Coir fibre
 Spare beam for Crop². Centrif² Pump, Feed
 Feed Donkey. General Donkey. Ballast Donkey
 Steam winches

R. F. Benning

Certificate (if required) to be sent to This office

Suit of

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Foundation

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