

REPORT ON MACHINERY.

No.

9819

Received at London Office

of writing Report 28-6-17 When handed in at Local Office

Port of Belfast

in Survey held at Belfast

Date, First Survey 15-11-13 Last Survey 21-1-17

Book.

on the S.S. Belgic ex Belgienland

(Number of Vessels 144 Gross 24547

Master R.O. Jones

Built at

Belfast

By whom built Harland & Wolff L^{rs}

Tons Net 15439

Lines made at

Belfast

By whom made

Harland & Wolff L^{rs}

When made

1917

made at

By whom made

when made

1917

rated Horse Power

Owners International Nav^y Coy L^{rs}

Port belonging to Liverpool

rated Horse Power as per Section 28

3198

Is Refrigerating Machinery fitted for cargo purposes

Yes

Is Electric Light fitted

Yes

GINES, & Co.—Description of Engine Twin Screw 4 cyl Triple Expansion No. of Cylinders 8 No. of Cranks 8

No. of Cylinders 35 1/2 - 56 - 64 - 64 Length of Stroke 60 Revs. per minute 77 Dia. of Screw shaft as per rule 19 3/4 Material of S. Steel

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

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

are fitted, is the shaft lapped or protected between the liners Length of stern bush 8'-3"

No. of Tunnel shaft as per rule 18 7/8 Dia. of Crank shaft journals as per rule 19 9/16 Dia. of Crank pin 20 1/2 Size of Crank web 26 1/2 x 14 1/2 No. of thrust shaft under

bars 19 1/4 Dia. of screw 19'-6" Pitch of Screw 26'-6" No. of Blades 3 State whether moveable Yes Total surface 100 sq ft.

No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Donkey Engines Sizes other Sheet No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 10-3 1/2 x 14-3 In Holds, &c. 6-2 1/2 8-3 17-3 1/2

Emergency 3-6 Emergency 17-6

No. of Bilge Injections 4 sizes 12" Connected to condenser, or to circulating pump Pump is a separate Donkey Suction fitted in Engine room & size 4'-6"

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 stowhold plates Yes Are the Discharge Pipes above or below the deep water line Below

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 None How are they protected

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 29-10-14 of Stern Tube 15-12-14 Screw shaft and Propeller 5-4-17

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper decks

ILERS, & Co.—(Letter for record S) Manufacturers of Steel D. Colville & Sons L^{rs}

Total Heating Surface of Boilers 55100 sq ft Forced Draft fitted No No. and Description of Boilers 10 Double End Cylind^r

Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 29-10-14 No. of Certificates 268

Can each boiler be worked separately Yes Area of fire grate in each boiler 129 sq ft No. and Description of Safety Valves to

each boiler 4 Direct Spring Area of each valve 9 1/2 sq Pressure to which they are adjusted 215 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork about 21 Mean dia. of boilers 15'-9" Length 20'-0" Material of shell plates Steel

Thickness 1 1/4 Range of tensile strength 29-33 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seam Lap Rivet

Long. seams C. Rivet Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 10 1/2 Lap of plates or width of butt straps 2 3/4

Centages of strength of longitudinal joint rivets 93 1/2 Working pressure of shell by rules 234 lbs Size of manhole in shell 16" x 12"

Size of compensating ring McNeill No. and Description of Furnaces in each boiler 6 Morrison Material Steel Outside diameter 49 1/4

Length of plain part top Thickness of plates crown 3 3/4 Description of longitudinal joint Weld No. of strengthening rings 8 1/2

Working pressure of furnace by the rules 239 lbs Combustion chamber plates: Material Steel Thickness: Sides 3 1/2 Back 3 1/2 Top 3 1/2 Bottom 3 1/2

Pitch of stays to ditto: Sides 8 1/2 x 7 1/2 Back 7 1/2 x 7 1/2 Top 7 1/2 x 7 1/2 Bottom 7 1/2 x 7 1/2 If stays are fitted with nuts or riveted heads No Working pressure by rules 228 lbs

Material of stays Steel Diameter at smallest part 1 1/2 Area supported by each stay 77 1/2 Working pressure by rules approximates in steam space

Material Steel Thickness 1 1/2 Pitch of stays 8 1/2 x 15 1/2 How are stays secured Stay secured by pressure of rules 11 approx Material of stays Steel

Diameter at smallest part 3'-3 1/2 Area supported by each stay 29 1/2 Working pressure by rules 243 lbs Material of Front plates at bottom Steel

Thickness 7/8 Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes 2 1/2 Pitch of tubes 3 1/2 x 3 1/2 Material of tube plate Steel Thickness: Front 7/8 Back 1 1/2 Mean pitch of stays 7 1/2 x 7 1/2

Pitch across wide water spaces 13 1/4 Working pressures by rules 286 lbs with water in Chamber tops: Material Iron Depth and

Thickness of girder at centre 9'-6" (8' x 2) Length as per rule 52 1/2 Distance apart 9 1/2 x 8 1/2 Number and pitch of stays in each 6'-7 1/2

Working pressure by rules 281 lbs 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

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

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

Lloyd's Register
W512-0194

IS A DONKEY BOILER FITTED? No
SPARE GEAR. State the articles supplied: - See separate sheet

If so, is a report now forwarded? ✓

The foregoing is a correct description,
for Harland & Wolff, Ltd.
J. G. R.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1913: - Decr 15, 1914: - Jan 24-30, Feb 5, 16, 20, 24 and up till 21st June 1917
During erection on board vessel - - -
Total No. of visits 144

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts - Cylinders 1-5-17 Slides ✓ Covers ✓ Pistons ✓ Rods ✓
Connecting rods 30-6-17 Crank shaft 20-7-17 Thrust shaft ✓ Tunnel shafts 5 Screw shaft 6-10-14 Propeller 9-3-17
Stern tube 24-11-14 Steam pipes tested 27-2-17 Engine and boiler seatings 19-2-17 Engines holding down bolts 19-2-17
Completion of pumping arrangements 14-6-17 Boilers fired 1-1-17 Engines tried under steam 31-5-17
Main boiler safety valves adjusted 31-5-17 Thickness of adjusting washers 9-15-17
Material of Crank shaft ✓ Identification Mark on Do. ✓ Material of Thrust shaft ✓ Identification Mark on Do. ✓
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts ✓ Identification Marks on Do. ✓
Material of Steam Pipes Lap welded steel Test pressure 650-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 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 Survey, and in accordance with the Rules, and in terms of Secretary's Letter 1-1-14.
It has been securely fitted on board, and on trial under steam, in Belfast Lough, it worked satisfactorily in every way. In my opinion, it is eligible for record + L.M.C. 5-17, with notation, Electric Light and Refrigger Machinery.

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 6.17.

J.W.D. 4/7/17. A.R.B.

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for, 27-6-17
Special ... £ 122 : 9 : 0
Donkey Boiler Fee ... £ ✓ When received, 28/7/17
Travelling Expenses (if any) £ ✓

R. F. O'Brien
Engineer/Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute FRI.-6 JUL. 1917

Assigned + L.M.C. 6.17

RECORDING CERTIFICATE
WRITTEN



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