

Rpt. 4.

REPORT ON MACHINERY.

No. 8030

Received at London Office

MON. NOV. 11. 1918

Date of writing Report 9th Nov 1918 When handed in at Local Office 10

Port of Belfast

No. in Survey held at Belfast
Reg. Book.Date, First Survey 29th Nov 1917 Last Survey 31st Oct 1918
(Number of Visits 54)

on the T.S.S. "War Icarus"

Master Watson

Built at Belfast

By whom built Harland & Wolff L^{td}Gross 8002
Net 4905
When built 1918

Engines made at Belfast

By whom made

when made

Boilers made at

By whom made

when made

Registered Horse Power

Owners The Shipping Controller

Port belonging to

Nom. Horse Power as per Section 28 1138

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Screw Triple Expansion of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders 26½"-44"-73" Length of Stroke 48" Revs. per minute 82 Dia. of Screw shaft as per rule 14.8" Material of I. Steel
 as fitted 15.75" screw shaft
 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 63"
 Dia. of Tunnel shaft as per rule 13.7" as fitted 13.87" Dia. of Crank shaft journals as per rule 14.37" as fitted 14.75" Dia. of Crank pin 14½" Size of Crank webs 23" x 9" Dia. of thrust shaft under
 collars 15" Dia. of screw 17"-3" Pitch of Screw 18"-0" No. of Blades 4 State whether moveable Yes Total surface 90 sq ft.
 No. of Feed pumps 2 Diameter of ditto 4½" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4½" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 See side of pumps sheet No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 6-3½" In Holds, &c. 12-3½" x 1-2½"

No. of Bilge Injections 2 sizes 13" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size 1-3½"
 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 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 Fore hold Suctions How are they protected Wood ✓
 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 ✓
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No W.T. Latched from deck

BOILERS, &c.—(Letter for record 3) Manufacturers of Steel D. Colville & Sons L^{td}
 Total Heating Surface of Boilers 17079 sq ft Forced Draft fitted Yes No. and Description of Boilers 3-Double End Cylinders
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 5-10-18 No. of Certificate 531
 Can each boiler be worked separately Yes Area of fire grate in each boiler 146 sq ft No. and Description of Safety Valves to
 each boiler 3-Double Spring Area of each valve 14/9 sq ft Pressure to which they are adjusted 205 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 16"-3" Length 20'-6" Material of shell plates Steel
 Thickness 1½" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap D.T.
 long. seams Auto Lubricator diameter of rivet holes in long. seams 1½" Pitch of rivets 10½" Lap of plates or width of butt straps 22½"
 Per centages of strength of longitudinal joint rivets 85.26 plate 85.7 Working pressure of shell by rules 207 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring No. Keils No. and Description of Furnaces in each boiler 8-Right Hand Material Steel Outside diameter 44½"
 Length of plain part top 4" bottom 8" Thickness of plates crown 3.12" bottom 3.12" Description of longitudinal joint Weld No. of strengthening rings
 Working pressure of furnace by the rules 213 lbs Combustion chamber plates: Material Steel Thickness: Sides ½" Back ½" Top ½" Bottom ½"
 Pitch of stays to ditto: Sides 9"-x-8½"-Back 9"-x-8½"-Top 7"-x-6½"-If stays are fitted with nuts or riveted heads Vute Working pressure by rules 211 lbs
 Material of stays Steel Area at smallest part 2.07 to 2.4 sq ft supported by each stay 775 sq ft Working pressure by rules 241 lbs and plates in steam space:
 Material Steel Thickness 1½" Pitch of stays 24"-x-16"-How are stays secured Vute Working pressure by rules 201 lbs Material of stays Steel
 Area at smallest part 7.06 sq ft Area supported by each stay 336 sq ft Working pressure by rules 218 lbs Material of Front plates at bottom Steel
 Thickness 1" Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules
 Diameter of tubes 2½" Pitch of tubes 3½"-x-3½" Material of tube plates Steel Thickness: Front 1¼" Back ¾" Mean pitch of stays 11¼"-x-7½"
 Pitch across wide water spaces 13½" Working pressures by rules 203 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8"-x-(¾"-x-2) Length as per rule 52½" Distance apart 8½"-x-7" Number and pitch of stays in each 6-8½"-x-6½"
 Working pressure by rules 235 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

W1007-0092172

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied: *See other sheet*

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

Robt Murray

Manufacturer.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel --
Total No. of visits 54

29 Nov 1917 to 31 Dec 1918

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

Dates of Examination of principal parts—Cylinders 23 Slides 2 78 Covers 4 Pistons 4 Rods
Connecting rods 7-8-18 Crank shaft 4-5 Thrust shaft Tunnel shafts 8 Screw shaft 20-8-18 Propeller 3-8-18
Stern tube 5-8-18 Steam pipes tested 26-9-18 Engine and boiler seatings 72-10-18 Engines holding down bolts 12-10-18
Completion of pumping arrangements 30-10-18 Boilers fixed 24-10-18 Engines tried under steam 31-10-18
Completion of fitting sea connections 29-8-18 Stern tube 29-8-18 Screw shaft and propeller 29-8-18
Main boiler safety valves adjusted 30-10-18 Thickness of adjusting washers 8-11-18
Material of Crank shaft *Steel* Identification Mark on Do. *22,1425* Material of Thrust shaft *do* Identification Mark on Do. *do*
Material of Tunnel shafts *do* Identification Marks on Do. *do* Material of Screw shafts *do* Identification Marks on Do. *do*
Material of Steam Pipes *1/2 Iron* Test pressure *600 lbs sq*
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 instructions and Specification of the Controller of Shipping. 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. 10-18*, with *noted* "Forced Draft" and "Electric Light"

It is submitted that
this vessel is eligible for
THE RECORD + LMC 10.18. F.D.

K.D.
11/11/18
J.P.R.

R.F. Beveridge
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee £ *177.76-5*
Special Fee *as above*
Donkey Boiler Fee £ *177.76-5*
Travelling Expenses (if any) £ *4.1.19*

When applied for, 4-11-18

When received, 11-1-19

Committee's Minute

Assigned

FRI 15 NOV 1918

+ L.M.C. 10.18

F.D.

MACHINERY CERTIFICATE
WRITTEN

Rpt. 9a.

Port of *Belfast*

Continuation of Report No. 8030 dated *9 Nov 1918* on the

T.S.S. "Max Icarus"

1 Ballast Pump 10 1/2 x 14 x 24
1 Fresh Water 3 x 3 x 24
1 Lux & Feed 9 1/2 x 7 x 18
2 Main 15 1/2 x 11 1/2 x 24
1 General 9 1/2 x 7 x 18
1 Main Circulating Cent 13 pipe
1 Lux 6

Spare Gear (Principal items)

4 Connecting rod top end bolts & nuts
4 - - - - - bottom - - -
4 Main bearing bolts & nuts
6 Coupling bolts & nuts
Set Feed & Ballast Pump valves
3 Main & 3 Lux & Feed Check valves
2 C.I. propeller blades
9 Studs & nuts for do
1 for Pump rod & nut
1 - - - - - Guard -
1 Slide Valve spindle
250 Firebars
20 Main Condenser tubes & 80 ferrules
1 Pair Connecting rod bottom end bushes
1 - - - - - top - - -
1 Set Metallic Packing H. P. piston rod
30 Barley tubes
Set spare gear for Main & Lux & Feed Pumps
- - - - - Ballast & Main Cent
- - - - - Fan Engine
- - - - - Wrenches
Bolts, nuts, wire etc etc.

R.F. Beveridge



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