

# REPORT ON MACHINERY.

No. 40166

THU. JUL. 15 1920

Survey held at Glasgow on the SS "Olympic" Built at Glasgow By whom built Lloyd Royal Belge - no 4 When built 1920  
 Date, First Survey 11. 11. 19 Last Survey 8th July 1920 (Number of Visits 39)  
 Tons { Gross Net

By whom made Dunsmuir & Jackson In no 524 when made 1920  
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 Owners Lloyd Royal Belge Soc anon. Port belonging to Antwerp  
 Is Electric Light fitted Yes

Horse Power as per Section 28 544 Is Refrigerating Machinery fitted for cargo purposes no  
 No. of Cylinders 3 No. of Cranks 3  
 as per rule 15.28 Material of S  
 as fitted 15.78 screw shaft

Is the after end of the liner made water tight Yes  
 If the liner does not fit tightly at the part Yes  
 Length of stern bush 63"  
 If two

as are fitted, is the shaft lapped or protected between the liners Yes  
 as per rule 14.66 Dia. of Crank pin 15.4 Size of Crank webs 22x10 Dia. of thrust shaft under 107  
 as fitted 15.14 Dia. of Crank shaft journals 15.14 No. of Blades 4 State whether moveable Yes Total surface 107

of Tunnel shaft 15.14 Dia. of screw 18-0" Pitch of Screw 18-0" Can one be overhauled while the other is at work Yes  
 of Feed pumps 2 Diameter of ditto 4.4" Stroke 26" Can one be overhauled while the other is at work Yes  
 of Bilge pumps 2 Diameter of ditto 4.4" Stroke 26" Can one be overhauled while the other is at work Yes

of Donkey Engines 5 Sizes of Pumps 1-4x4 7x5x8 19x5x8 8x5x8 No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room 2 @ 3.5" Strokehold 2 @ 3.5" In Holds, &c. no 1 hold 2 @ 3.5: no 2 hold 2 @ 3.5  
3 hold (deep tank) 2 @ 3.5 6 4 hold 1 @ 3.5 Sumac well 1 @ 3.5

of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 3.5  
 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 Yes  
 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 above & 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 Forward Bilge suction How are they protected Strong wood casings

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 7-6-20 of Stern Tube 7-6-20 Screw shaft and Propeller 7-6-20

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper platform  
 OILERS, &c. (Letter for record S) Manufacturers of Steel McClelland J. Spencer & Sons  
 Total Heating Surface of Boilers 8523 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single ended multitubular  
 Working Pressure 200 Tested by hydraulic pressure to 400 lbs Date of test 20/28-5-20 No. of Certificate 15306-15307

Can each boiler be worked separately Yes Area of fire grate in each boiler 59.8 No. and Description of Safety Valves to 185 lbs Are they fitted with easing gear Yes  
 each boiler Two spring loaded Area of each valve 8.29 Pressure to which they are adjusted 185 lbs Material of shell plates S  
 Smallest distance between boilers or uptakes and bunkers or woodwork 20" dia. of boilers 15-3" Length 12-6"

Thickness 1.32 Range of tensile strength 28/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams L.D.R  
 long. seams T.R. D.S. Diameter of rivet holes in long. seams 1.38 Pitch of rivets 9.9/16 no width of butt straps 20.1/2"  
 Per centages of strength of longitudinal joint 85.7 Working pressure of shell by rules 200 Size of manhole in shell 16" x 12"

Size of compensating ring 8.2 x 1.32 No. and Description of Furnaces in each boiler 3 Corrugated Material S Outside diameter 47.5"  
 Length of plain part top 39.6 Thickness of plates bottom 39.6 Description of longitudinal joint weld No. of strengthening rings none  
 Working pressure of furnace by the rules 210 Combustion chamber plates: Material S Thickness: Sides 23/32 Back 23/32 Top 23/32 Bottom 7/8

Pitch of stays to ditto: Sides 9.3/4 x 9.3/4 Back 9.2 x 9.3/4 Top 9.15 x 8.8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 200 End plates in steam space: S  
 Material of stays S Diameter at smallest part 1.98 Area supported by each stay 89.06 Working pressure by rules 200 Material of stays S  
 Material S Thickness 15/16 Pitch of stays 20.1/2 x 18.4 How are stays secured D. nuts Working pressure by rules 204

Thickness 1.1/4 Material of Lower back plate S Thickness 6.1/4 Greatest pitch of stays 14.3/4 x 9.3/8 Working pressure of plate by rules 201  
 Diameter of tubes 2.2 Pitch of tubes 3.3/4 x 3.3/4 Material of tube plates S Thickness: Front 1.1/2 Back 27/32 Mean pitch of stays 10"  
 Pitch across wide water spaces 13.2 Working pressures by rules 203 Girders to Chamber tops: Material S Depth and

thickness of girder at centre 10.2 x 2 Length as per rule 38.7/16 Distance apart 9.15/16 Number and pitch of stays in each 3 @ 8.7/8  
 Working pressure by rules 203 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked  
 separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet

holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes  
 If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes  
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

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W350-0018

Lloyd's Register Foundation



VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description				
Made at	By whom made	When made	Where fixed		
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with casing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length		
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— 1 set each of top & bottom end; main bearing & coupling bolts & nuts; 1 set each of lead, belgt & air pump valves; main and donkey check valves; rings for each piston, & for HP piston valve; 1 pair bottom end braces & 2 pair top end braces; 4 C.I. propeller blades; 1 screw shaft; 2 eccentric straps; 1 slide valve rod; 1 air pump rod; 2 S. Valve springs; 1 escape valve spring; 6 boiler tubes; 6 condenser tubes & 30 ferrules; assorted junk ring bolts, caps, cover studs, 1 cylinder; 1 crank shaft; 1 impeller & shaft for circulating pump; spare valves & rings for donkey pump; assorted bar iron, bolts & nuts. 9 studs for propeller blades

The foregoing is a correct description,

FOR BUNSBURY & JACKSON, Limited.

Jas. H. Adams Manufacturer.

Dates of Survey while building	During progress of work in shops	1919 Nov 18. 11. 25. Dec 1. 5. 23.	1920 Jan 12. 16. 18. Feb 5. 11. 26. Mar 2. 9. 11. 15. 17. 23. 29	Apr 1. 14. 20
	During erection on board vessel	29. May 3. 12. 13. 19. 24. 28.	June 1. 11. 9. 17. 18. 23. 30.	July 1. 8. 8.
Total No. of visits		39		

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " "

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Dates of Examination of principal parts—Cylinders	19-5-20	Slides	4-6-20	Covers	19-5-20	Pistons	24-5-20	Rods	4-6-20
Connecting rods	13-5-20	Crank shaft	20-4-20	Thrust shaft	20-4-20	Tunnel shafts	13-5-20	Screw shaft	3-5-20
Propeller	3-5-20	Stern tube	12-5-20	Steam pipes tested	4 7 23/6/20	Engine and boiler seatings	7-6-20	Engines holding down bolts	18-6-20
Completion of pumping arrangements	1-7-20	Boilers fixed	18-6-20	Engines tried under steam	8-7-20	Main boiler safety valves adjusted	30-6-20	Thickness of adjusting washers	P. P.V. 3/8 S.V. 3/8 C. 3/8 P.V. 3/8 S.V. 3/8 S. 3/8 R.V. S.V. 5/16
Material of Crank shaft	S	Identification Mark on Do.	20-4-20 JES	Material of Thrust shaft	S	Identification Mark on Do.	20-4-20 JES	Material of Tunnel shafts	S
Identification Marks on Do.	13-5-20 JES	Material of Screw shafts	S	Identification Marks on Do.	3-5-20 JES	Material of Steam Pipes	Lap welded iron	Test pressure	100 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. These engines & boilers have been built under special survey and in accordance with the Rules, the materials and workmanship are sound & good, they have been fitted on board in an efficient manner tried under working conditions and found satisfactory and are eligible in our opinion to be classed with record of L. M. C. 7-20 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 7.20 F.D.

JWD 16/7/20 J.F.C.

The amount of Entry Fee	£ 3 : 0 : 0	When applied for.	14-7-20
Special	£ 48 : 14 : 0	When received.	16/7/20
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

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

Committee's Minute GLASGOW 14 JUL 1920

Assigned + LMC 7.20



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Sails.

Surveyor's Signature