

REPORT ON MACHINERY.

No. 24649

Received at London Office WED. 17. APR. 1915

Date of writing Report 19 When handed in at Local Office 19 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 19th July 1916 Last Survey April 5th 1915

Reg. Book. on the S.S. "Polycarp" (Number of Visits 41)

Master Built at Glasgow By whom built Barclay Curle & Co. Ltd. (540) Tons Gross Net When built 1918

Engines made at Glasgow By whom made Barclay Curle & Co. Ltd. (540) when made 1918

Boilers made at Glasgow By whom made Barclay Curle & Co. Ltd. (540) when made 1918

Registered Horse Power Owners Booth Steamship Co. Ltd. Port belonging to Liverpool

Nom. Horse Power as per Section 28 403 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 22 1/2", 39", 67" Length of Stroke 45" Revs. per minute 70 Dia. of Screw shaft 13.9" as per rule 13.8" Material of screw shaft Steel as fitted 15.5"

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 Length 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 Yes

If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5'-4"

Dia. of Tunnel shaft as per rule 12.4" as fitted 13 Dia. of Crank shaft journals as per rule 13.10" as fitted 13.5" Dia. of Crank pin 13.58" Size of Crank webs 8 3/4" Dia. of thrust shaft under collars 13.58" Dia. of screw 16'-9" Pitch of Screw 16'-9" No. of Blades 4 State whether moveable No Total surface 91 sq ft

No. of Feed pumps 2 Diameters of ditto 9 1/2" x 7" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 5 Sizes of Pumps 6 1/2 x 4 1/2 x 10, 9 x 11 x 10, 8 x 5 1/2 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room (2) 3 1/2" in bunker (2) 3 1/2" In Holds, &c. (2) 3 1/2" in each hold (1) 2 1/2" in tunnel well

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 Yes 3 1/2" (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 No

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

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 Ford Suctions How are they protected in timbers

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 18/3/18 of Stern Tube 18/3/18 Screw shaft and Propeller 18/3/18

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform

BOILERS, &c.—(Letter for record (7)) Manufacturers of Steel D. Colville & Son & John Spenser

Total Heating Surface of Boilers 6739 sq ft Is Forced Draft fitted No No. and Description of Boilers 3 Single ended

Working Pressure 215 lbs Tested by hydraulic pressure to 430 Date of test 7/12/17, 20/12/17 No. of Certificate 14014, 14042

Can each boiler be worked separately Yes Area of fire grate in each boiler 62.56 sq ft No. and Description of Safety Valves to each boiler 1 pair direct spring Area of each valve 5.94 sq in Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork about 2'-0" Mean dia. of boilers 15'-3" Length 11'-6" Material of shell plates Steel

Thickness 1 9/16" Range of tensile strength 30 to 34 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap double long. seams Butt table Diameter of rivet holes in long. seams 1 9/16" Pitch of rivets 10 5/8" Lap of plates or width of butt straps 22 3/8"

Per centages of strength of longitudinal joint rivets 90.1 plate 84.5 Working pressure of shell by rules 250 Size of manhole in shell 16" x 12"

Size of compensating ring 33 x 37 1/2 x 1 9/16 No. and Description of Furnaces in each boiler 3 Dighton Material Steel Outside diameter 49.75

Length of plain part top bottom Thickness of plates crown 7.47 bottom 6.24 Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 260 Combustion chamber plates: Material Steel Thickness: Sides 32 Back 32 Top 32 Bottom 15

Pitch of stays to ditto: Sides 8 1/2 x 7 3/4" Back 7 1/2 x 8 5/8" Top 7 1/2 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 221

Material of stays Iron Diameter at smallest part 1.73 Area supported by each stay 64 Working pressure by rules 217 End plates in steam space: Material Steel Thickness 1 3/16" Pitch of stays 17 1/2 x 14 3/8" How are stays secured 2 nuts Working pressure by rules 247 Material of stays Steel

Diameter at smallest part 6.10 Area supported by each stay 255 Working pressure by rules 250 Material of Front plates at bottom Steel Thickness 25/32 Material of Lower back plate Steel Thickness 15/16 Greatest pitch of stays 14 3/8" Working pressure of plate by rules 220

Diameter of tubes 3 3/4" Pitch of tubes 4 1/2" + 4 3/8" Material of tube plates Steel Thickness: Front 25/32 Back 25/32 Mean pitch of stays 10 5/8"

Pitch across wide water spaces 14 5/8" with Working pressures by rules 247 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10" x 16" Length as per rule 32 3/16 Distance apart 8 1/2 x 7 1/2" Number and pitch of stays in each (3) 7 5/8"

Working pressure by rules 215 Superheater or Steam chest; how connected to boiler none 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

W284-0153



VERTICAL DONKEY BOILER— Manufacturers of Steel *Iron*

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	
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:— 2 top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts & nuts, 1 set of coupling bolts & nuts, 1 feed & bilge pump valves, iron, bolts & nuts of various sizes, propeller shaft.

The foregoing is a correct description,
FOR BARCLAY, CURLE & CO., LTD. Manufacturer.

John Alexander Manager

Dates of Survey while building	During progress of work in shops	During erection on board vessel	Total No. of visits	Is the approved plan of main boiler forwarded herewith	Is the approved plan of main boiler forwarded herewith
1918 July 19 Aug 14 Sep 4 6 13 19 22 24 Oct 2 4 Nov 6 8 13 15 16 24 Dec 6 19 19 19 26 31 Feb 6 23 27 Mar 14 22 May 2 14 18 June 22 July 31	1918 July 19 Aug 14 Sep 4 6 13 19 22 24 Oct 2 4 Nov 6 8 13 15 16 24 Dec 6 19 19 19 26 31 Feb 6 23 27 Mar 14 22 May 2 14 18 June 22 July 31	18 Aug 6 14 Sep 21 Oct 2 5 15 18 25 Nov 1 21 26 28 29 29 30 Dec 4 5 18 20 26 19 19 19 10 11 15 16 22 Feb 14 21 Mar 6 4 14 18 29 Apr 3 5	41	Yes	Yes

Dates of Examination of principal parts—Cylinders 1/4/17 Slides 22/2/17 Covers 1/4/17 Pistons 23/2/17 Rods 23/2/17
 Connecting rods 23/2/17 Crank shaft 15/1/18 Thrust shaft 15/10/17 Tunnel shafts 1/4/17 Screw shaft 27/11/17 Propeller 27/11/17
 Stern tube 27/11/17 Steam pipes tested 6/3/18 Engine and boiler seatings 22/1/18 Engines holding down bolts 7/3/18
 Completion of pumping arrangements 14/3/18 Boilers fixed 7/3/18 Engines tried under steam 29/3/18
 Main boiler safety valves adjusted 14/3/18 Thickness of adjusting washers Port aft 3/8 3/8 St. aft 3/8 3/8 Out 7/8 7/8
 Material of Crank shaft *Steel* Identification Mark on Do. *570 23214 157/15* Material of Thrust shaft *Steel* Identification Mark on Do. *570 23214 157/17*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *570 23214 157/17* Material of Screw shafts *Steel* Identification Marks on Do. *570 23214 157/17*
 Material of Steam Pipes *Lap welded iron* Test pressure *645*

General Remarks (State quality of workmanship, opinions as to class, &c.)
 These engines & boilers have been built under special survey, the materials and workmanship are of good description, they have been well fitted on board & tried under steam.
 This machinery is now in our opinion eligible to have notification of *L.M.C. 4.18* (in red) in the Regular Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 4.18.

J.W.D.
 18/4/18.

The amount of Entry Fee	£ 3	When applied for,	15-4-18
Special	£ 40.3	When received,	29-5-18
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		30-5-18

A. McLeod & Wm. H. Capeman
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **GLASGOW** 16 APR 1918

Assigned *L.M.C. 4.18*



Glasgow

Certificate (if required) to be sent to

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