

REPORT ON MACHINERY.

No. 6025

Port of Falmouth

Received at London Office JUN 23 1921

Date, first Survey April 26th Last Survey June 15th 1921

No. in Survey held at Falmouth

(Number of Visits 17)

Reg. Book. 68408 on the S/S WRAY CASTLE ex PARIA.

Gross Tons 5100

Net Tons 3100

Master Built at Bremerhaven By whom built Richmers Akt. Ges.

When built 1916

Engines made at Bremen By whom made A.G. "Weser"

when made 1916

Boilers made at Bremen By whom made A.G. "WESER"

when made 1916

Registered Horse Power 580 Owners Lancashire Shipping Co Ltd (James Chambers Abs)

Port belonging to Liverpool

Nom. Horse Power as per Section 28 580 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

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

Dia. of Cylinders 28 3/4", 46 1/16", 75 1/16" Length of Stroke 53 1/2", 53 1/2", 53 1/2" Revs. per minute 16.87 Dia. of Screw shaft 16 3/4" Material of screw shaft Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liners 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 Yes 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 Yes Length of stern bush 56" + 30" at fore end.

Dia. of Tunnel shaft 15" Dia. of Crank shaft journals 14 3/4" Dia. of Crank pin 15 3/4" Size of Crank webs 15 3/4" Dia. of thrust shaft under collars 15 3/4" Dia. of screw 18-4" Pitch of Screw 18-3" No. of Blades 4 State whether moveable Yes Total surface 104 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 15/16" Stroke 27 9/16" Can one be overhauled while the other is at work Yes No. of Bilge pumps 2 Diameter of ditto 4 5/16" Stroke 27 9/16" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 9 3/2" x 7 3/32" x 20 1/4" No. and size of Suctions connected to both Bilge and Donkey pumps 2-3 1/2" in each hold - 3 1/2" tunnel well.

In Engine Room 4-3 1/2" dia In Holds, &c. 2-3 1/2" in each hold - 3 1/2" tunnel well.

No. of Bilge Injections 1 sizes 7 7/8" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 4"

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 None

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 Both

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 Yes

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 Yes of Stern Tube Yes Screw shaft and Propeller Yes

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

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Yes

Total Heating Surface of Boilers 8070 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers 3 S.E. Multitubular

Working Pressure 206 Tested by hydraulic pressure to 19.5 kg - 62 Date of test 1919 No. of Certificate Yes

Can each boiler be worked separately Yes Area of fire grate in each boiler 60 sq. ft. No. and Description of Safety Valves to each boiler 2. Spring loaded Area of each valve 12.17 sq. in. Pressure to which they are adjusted 210 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork Well clear Mean dia. of boilers 14-11" Length 12-0" Material of shell plates Steel

Thickness 15 1/16" Range of tensile strength Yes Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR. Lap.

long. seams Quadruple Riveted Diameter of rivet holes in long. seams 1 27/64" Pitch of rivets 18 7/64" Lap of plates or width of butt straps 28 1/32"

Per centages of strength of longitudinal joint 85% Working pressure of shell by rules 206 approved Size of manhole in shell 16 15/16"

Size of compensating ring Section 12.6 x 1.3 x 2. No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 44 1/16"

009067-1009073-034



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 easing 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 _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *1 set of top end brasses complete with nuts & bolts, 1 set of bottom end brasses complete with nuts & bolts, 2 main bearing bolts & nuts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, assorted bolts & nuts, & iron of various sizes. 2 propeller blades, 1 eccentric strap complete, 1 air pump rod, 1 M.E. Valve spindle etc etc.*

The foregoing is a correct description,

Manufacturer. _____

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 **No**

" " " donkey " " " ✓

Dates of Examination of principal parts— Cylinders _____ Slides _____ Covers _____ Pistons _____ Rods _____

Connecting rods _____ Crank shaft _____ Thrust shaft _____ Tunnel shafts _____ Screw shaft _____ Propeller _____

Stern tube _____ Steam pipes tested _____ Engine and boiler seatings _____ Engines holding down bolts _____

Completion of pumping arrangements _____ Boilers fixed _____ Engines tried under steam _____

Main boiler safety valves adjusted _____ Thickness of adjusting washers *Pat. Boilers 9/16" x 1/16" Caste 9/16" x 5/8" Stab 4/16" x 1/16"*

Material of Crank shaft **Steel** Identification Mark on Do. ✓ Material of Thrust shaft **Steel** Identification Mark on Do. ✓

Material of Tunnel shafts **Steel** Identification Marks on Do. ✓ Material of Screw shafts **Steel** Identification Marks on Do. ✓

Material of Steam Pipes **Steel** Test pressure **620 lbs^{sq}**

General Remarks (State quality of workmanship, opinions as to class, &c.)

(See Secretarys Ltrs Npt 20-4-21 & Fal 23-4-21.)

The working parts of the engines, and the boilers, have been opened out & found to be in accordance with the 1st Saty report, (see Copy attached) the engines & boilers have been found in good & safe working condition the pumping arrangements have been found to be as stated in the first saty report, and in good condition.

The machinery is eligible in our opinion to have notation of LMC 6.21, working pressure 206 lbs^{sq}

Amount of Entry Fee. £ : : When applied for.

Special (to Feb 7.7.21) £ 40 : : _____

Donkey Boiler Fee £ : : _____

Travelling Expenses (if any) £ ✓ : : *21.7.21*

A.T. Graham *W. Dennis Heek*
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI. JUL 8 1921**

Done 6.21

F.D. CERTIFICATE WRITTEN



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