

REPORT ON MACHINERY.

No. 17865.

Date of writing Report 6th Aug. 1921 When handed in at Local Office 6th August, 1921. Port of *Grunwick*.
 No. in Survey held at *Grunwick & Pt. Glasgow*. Date, First Survey 4th February, 1921 Last Survey 5th August, 1921.
 Reg. Book. on the *Screw Steamer*. *BRITISH TOMMY* (Number of Visits 62.)
 Master *Geo. Taylor*. Built at *Pt. Glasgow* By whom built *Lithgow, L.*
 Engines made at *Grunwick*. By whom made *Rankin and Blackmore Ltd.* when made 1921.
 Boilers made at *Grunwick* By whom made *Rankin and Blackmore Ltd.* when made 1921.
 Registered Horse Power Owners *British Tanker Co. Ltd.* Port belonging to *Swansea*
 Nom. Horse Power as per Section 28 161 Is Refrigerating Machinery fitted for cargo purposes *h* Is Electric Light fitted *gas*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 17 $\frac{1}{2}$ -28-47 Length of Stroke 33 Revs. per minute 95 Dia. of Screw shaft as per rule 9.85 Material of screw shaft *W.I.*
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *gas* Is the after end of the liner made water tight
 in the propeller boss *gas* If the liner is in more than one length are the joints burned *joint* 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 49
 Dia. of Tunnel shaft as per rule 8.78 Dia. of Crank shaft journals as per rule 9.21 Dia. of Crank pin 9 $\frac{3}{4}$ Size of Crank webs 15x6 $\frac{1}{2}$ Dia. of thrust shaft under
 collars 9 $\frac{3}{4}$ Dia. of screw 12'-0" Pitch of Screw 12'-0" No. of Blades 4 State whether moveable *h*. Total surface 50 $\frac{1}{2}$
 No. of Feed pumps 2 Diameter of ditto 3 Stroke 18 Can one be overhauled while the other is at work *gas*
 No. of Bilge pumps 2 Diameter of ditto 3 Stroke 18 Can one be overhauled while the other is at work *gas*
 No. of Donkey Engines 2 Sizes of Pumps *Main Eng. 15x5 $\frac{1}{2}$ Ballast & Bunkers 10x8* No. and size of Suctions connected to both Bilge and Donkey pumps
 in Engine Room 3-3" Bore, 2-2 $\frac{1}{2}$ " Bore. In Holds, &c. *Pump Room 2-4" Bore*
 Cargo Pumps *Forward Cuffindam 1-3" Forward Hold 1-3" Bore* *6x6" Duplex*
 No. of Bilge Injections 1 sizes 5 $\frac{1}{2}$ Connected to condenser, or to circulating pump *C.P.* Is a separate Donkey Suction fitted in Engine room & size *gas* 3"
 Are all the bilge suction pipes fitted with roses *gas* Are the roses in Engine room always accessible *gas* Are the sluices on Engine room bulkheads always accessible *h*
 Are all connections with the sea direct on the skin of the ship *gas* Are they Valves or Cocks *Both*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *gas* 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 *gas* Are the Blow Off Cocks fitted with a spigot and brass covering plate *gas*
 That pipes are carried through the bunkers *h* How are they protected *—*
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *gas*
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *gas*

the Screw Shaft Tunnel watertight *h* Is it fitted with a watertight door *—* worked from *—*
 BOILERS, &c.—(Letter for record *h*) Manufacturers of Steel *Steel Co. of Scotland, J. Dunder & Co. Ltd.*
 Total Heating Surface of Boilers 2800 Is Forced Draft fitted *h*. No. and Description of Boilers *Two Cyl. Single End.*
 Working Pressure 180 $\frac{1}{2}$ Tested by hydraulic pressure to 320 $\frac{1}{2}$ Date of test 22.6.21. No. of Certificate 1576
 in each boiler be worked separately *gas* Area of fire grate in each boiler 49.5 $\frac{1}{2}$ No. and Description of Safety Valves to
 each boiler *Two Spring* Area of each valve 5.9 $\frac{1}{2}$ Pressure to which they are adjusted 185 $\frac{1}{2}$ Are they fitted with easing gear *gas*
 smallest distance between boilers and bunkers or woodwork 7'-7" Mean dia. of boilers 11'-10" Length 11'-0" Material of shell plates *S.*
 Thickness 1" Range of tensile strength 28/32 Tons. Are the shell plates welded or flanged *h*. Descrip. of riveting: cir. seams *L.D.R.*
 g. seams *DBS/TR* Diameter of rivet holes in long. seams 1 $\frac{1}{16}$ Pitch of rivets 7 $\frac{5}{8}$ Lap of plates or width of butt straps 16"
 Percentages of strength of longitudinal joint rivets 89.54 Working pressure of shell by rules 185 $\frac{1}{2}$ Size of manhole in shell 16" x 12"
 of compensating ring 40 $\frac{3}{8}$, 35 $\frac{1}{4}$, 1 No. and Description of Furnaces in each boiler 3 *Dighton* Material *S.* Outside diameter 39 $\frac{1}{4}$ "
 Length of plain part top Thickness of plates crown 15 $\frac{1}{2}$ Description of longitudinal joint *Weld* No. of strengthening rings *—*
 Working pressure of furnace by the rules 187 $\frac{1}{2}$ Combustion chamber plates: Material *S.* Thickness: Sides 3 $\frac{1}{4}$ Back 13 $\frac{1}{16}$ Top 3 $\frac{1}{4}$ Bottom 3 $\frac{1}{4}$
 Thickness of stays to ditto: Sides 8 $\frac{3}{4}$ x 8 Back 9 $\frac{1}{4}$ x 8 Top 9 $\frac{1}{4}$ x 8 If stays are fitted with nuts or riveted heads *h* Working pressure by rules 205 $\frac{1}{2}$
 Material of stays *I.* Area at smallest part 1.77 Area supported by each stay 74.78 Working pressure by rules 202 $\frac{1}{2}$ End plates in steam space:
 Material *S.* Thickness 1 $\frac{1}{16}$ Pitch of stays 22 $\frac{1}{2}$ x 17 $\frac{1}{2}$ How are stays secured *D.N.* Working pressure by rules 184 $\frac{1}{2}$ Material of stays *S.*
 Area at smallest part 6.65 Area supported by each stay 393.75 Working pressure by rules 187 $\frac{1}{2}$ Material of Front plates at bottom *S.*
 Thickness 1 $\frac{1}{16}$ Material of Lower back plate *S.* Thickness 1 $\frac{1}{16}$ Greatest pitch of stays 13 $\frac{7}{8}$ x 9 $\frac{1}{4}$ Working pressure of plate by rules 185 $\frac{1}{2}$
 Diameter of tubes 3 Pitch of tubes 4 $\frac{1}{8}$ x 4 $\frac{1}{8}$ Material of tube plates *S.* Thickness: Front 1 $\frac{1}{16}$ Back 3 $\frac{1}{4}$ Mean pitch of stays 8 $\frac{3}{4}$ x 8 $\frac{1}{4}$
 across wide water spaces 14 Working pressures by rules 214 $\frac{1}{2}$ Girders to Chamber tops: Material *S.* Depth and
 thickness of girder at centre 9 x 13 $\frac{1}{8}$ Length as per rule 31 $\frac{5}{8}$ Distance apart 9 $\frac{1}{4}$ Number and pitch of stays in each 3 @ 8"
 Working pressure by rules 191 $\frac{1}{2}$ Steam dome: description of joint to shell *h* % of strength of joint *—*
 Thickness of shell plates *—* Material *—* Description of longitudinal joint *—* Diam. of rivet holes *—*
 Working pressure of shell by rules *—* Crown plates *—* Thickness *—* How stayed *—*

SUPERHEATER. Type *h* Date of Approval of Plan *—* Tested by Hydraulic Pressure to *—*
 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *—*
 Pressure to which each is adjusted *—* Is Easing Gear fitted *—*

W312-0067

IS A DONKEY BOILER FITTED? *ho*

If so, is a report now forwarded? *-*

SPARE GEAR. State the articles supplied:—

*Two top and bottom nuts, two bottom and dottle.
Two main bearing bolts, set of coupling bolts, spare valves for
air, feed and bilge pumps.
One propeller shaft, one propeller.*

The foregoing is a correct description,
RANKIN & BLACKMORE, LTD.,

H. Greenock Director. Manufacturer.

Dates of Survey while building { During progress of work in shops - (1921) Feb. 4-8-11-14-17-21-22-24-28. Mar. 3-4-8-10-14-17-21-25-30. Apr. 1-6-12-20-25-29. May 3-6-7-10-11-13-16-17-18-19-21-23-24-26.
During erection on board vessel - 27-31. June 2-3-6-7-17-18-21-22-23-29. July 13-18-21-22-23-26-28. Aug. 1-2-3-4-5-
Total No. of visits 62.

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

" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders *29.4.21* Slides *6.4.21* Covers *29.4.21* Pistons *13.5.21* Rods *16.5.21*
Connecting rods *10.5.21* Crank shaft *12.4.21* Thrust shaft *29.4.21* Tunnel shafts *none* Screw shaft *24.5.21* Propeller *24.5.21*
Stern tube *2.6.21* Steam pipes tested *22.7.21* Engine and boiler seatings *23.6.21* Engines holding down bolts *26.7.21*
Completion of pumping arrangements *1.8.21* Boilers fixed *28.7.21* Engines tried under steam *5.8.21*
Completion of fitting sea connections *21.8.21* Stern tube *17.6.21* Screw shaft and propeller *17.6.21*
Main boiler safety valves adjusted *1.8.21* Thickness of adjusting washers *21.11.21* *51.23/64* *21.2/64* *51.5/16*
Material of Crank shaft *I.S.* Identification Mark on Do. *511.W.L.* Material of Thrust shaft *I.S.* Identification Mark on Do. *511.W.L.*
Material of Tunnel shafts *none* Identification Marks on Do. *-* Material of Screw shafts *W.I.* Identification Marks on Do. *511.W.L.*
Material of Steam Pipes *L.W. Steel.* Test pressure *540 lb.*

Is an installation fitted for burning oil fuel *yes*

Is the flash point of the oil to be used over 150° F. *yes*

Have the requirements of Section 49 of the Rules been complied with *yes*

Is this machinery duplicate of a previous case *ho*

If so, state name of vessel *-*

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

The above Machinery and Boilers have been constructed under Special Survey and have been fitted on board the Vessel in accordance with the Society's Rules.

The Vessel is eligible, in my opinion, to have notification, + LMC 8.21. Fitted for oil fuel 8.21. F.P. above 150° F.

It is submitted that this vessel is eligible for THE RECORD + LMC 8.21. CL.

Fitted for Oil Fuel 8.21 F.P. above 150° F

Well

15/8/21

W.L.

The amount of Entry Fee ... £ 3 : 0 :
Special ... £ 40 : 5 :
Donkey Boiler Fee ... £ - : :
Travelling Expenses (if any) £ - : :
When applied for, *6th Aug. 1921.*
When received, *9-8-21*

Committee's Minute **GLASGOW: 9-AUG 1921**

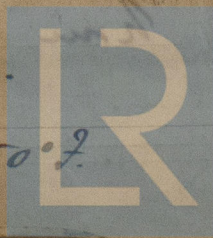
Assigned *+ LMC 8.21.*

MACHINERY CERT
WRITTEN 19/9/21
dated 10/8/21

Fitted for oil fuel 8.21 F.P. above 150° F.

W. Lane

Engineer Surveyor to Lloyd's Register of Shipping.



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