

## REPORT ON MACHINERY.

No. 10781.

Received at London Office TUE. 30 NOV. 1920

of writing Report 26<sup>th</sup> Nov. 1920 When handed in at Local Office 27<sup>th</sup> Nov. 1920 Port of Southampton  
 in Survey held at Portsmouth Date, First Survey 4<sup>th</sup> May Last Survey 8<sup>th</sup> June 1920  
 Book. 25 on the Steamer "THOMAS DANIELS" (Number of Visits 3)  
 ster Built at Paisley By whom built Bow, M<sup>c</sup> Lachlan & Co<sup>ys</sup> Ltd When built 1918  
 ines made at Smith By whom made Fraser & Chalmers Ltd when made 1918  
 lers made at Paisley By whom made Bow, M<sup>c</sup> Lachlan & Co<sup>ys</sup> Ltd when made 1918  
 gistered Horse Power Owners Port belonging to  
 n. Horse Power as per Section 28 87 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

GINES, &c.—Description of Engines Triple Exp<sup>ns</sup> Surface Condensing No. of Cylinders 3 No. of Cranks 3  
 i. of Cylinders 12 $\frac{1}{2}$ "-21"-35" Length of Stroke 26" Revs. per minute 110 Dia. of Screw shaft as per rule 7.34" Material of screw shaft as fitted 7.58"  
 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  
 the propeller boss yes If the liner is in more than one length are the joints burned L If the liner does not fit tightly at the part  
 ween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive L If two  
 ers are fitted, is the shaft lapped or protected between the liners L Length of stern bush 34"  
 ia. of Tunnel shaft as per rule 6.9" Dia. of Crank shaft journals as fitted 7.8" Dia. of Crank pin 7.8" Size of Crank webs 4.2" Dia. of thrust shaft under  
 ars 7.8" Dia. of screw 9.6" Pitch of Screw 11.0" No. of Blades 4 State whether moveable No Total surface 35.4  
 of Feed pumps 2 Diameter of ditto 2.2" Stroke 12" Can one be overhauled while the other is at work yes  
 of Bilge pumps 2 Diameter of ditto 2.2" Stroke 12" Can one be overhauled while the other is at work yes  
 of Donkey Engines 2 & Ejector Sizes of Pumps 6x3x6 & 6x4x6 No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room 3-2" In Holds, &c. 1-2" for Fore Hold, 1-2" for Shush Well.  
 Ejector suction from Shush well.  
 of Bilge Injections 1 sizes 3.2" Connected to condenser, or to circulating pump C. Pump Is a separate Donkey Suction fitted in Engine room & size yes 2"  
 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  
 all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Both  
 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  
 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  
 at pipes are carried through the bunkers Ford Suctions How are they protected Wood casings  
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes  
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes  
 the Screw Shaft Tunnel watertight NONE Is it fitted with a watertight door L worked from L

CLERS, &c.—(Letter for record S) Manufacturers of Steel L  
 al Heating Surface of Boilers 1619 Is Forced Draft fitted No No. and Description of Boilers One Single Ended.  
 rking Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 2-7-18 No. of Certificate BRITISH CORPORATION  
 each boiler be worked separately L Area of fire grate in each boiler 55.4 No. and Description of Safety Valves to  
 boiler 25 Spring Loaded Area of each valve 4.9" Pressure to which they are adjusted NOT ADJUSTED Are they fitted with easing gear yes  
 allest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 13.7.8" Length 10.6" Material of shell plates Steel  
 ckness 1.8" Range of tensile strength L Are the shell plates welded or flanged Flanged Descrip. of riveting: cir. seams D.R. LAP.  
 seams T.R. DOUBLE BUTTS Diameter of rivet holes in long. seams 1.52" Pitch of rivets 8" Lap of plates or width of butt straps 17.2"  
 centages of strength of longitudinal joint rivets 86.7 Working pressure of shell by rules 184.4 Size of manhole in shell 16"x12"  
 plate 85.5 Description of longitudinal joint Welded No. of strengthening rings L  
 of compensating ring 32"x28" No. and Description of Furnaces in each boiler 3 Plain Material Steel Outside diameter 3.4"  
 gth of plain part top 6.0" Thickness of plates crown 13.6 Description of longitudinal joint Welded No. of strengthening rings L  
 bottom 6.5" Working pressure of furnace by the rules 200 Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 7/8"  
 rking pressure of furnace by the rules 200 Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 7/8"  
 h of stays to ditto: Sides 9.2"x9.2" Back 9.2"x8" Top 10"x8.2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180  
 erial of stays Steel Area at smallest part 1.91" Area supported by each stay 90.25" Working pressure by rules 190.4 End plates in steam space:  
 erial Steel Thickness 1.8" Pitch of stays 16.8"x18" How are stays secured DOUBLE NITS Working pressure by rules 197 Material of stays Steel  
 a at smallest part 6.49" Area supported by each stay 303.75 Working pressure by rules 222 Material of Front plates at bottom Steel  
 ckness 1" Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 14.2"x9.2" Working pressure of plate by rules 230  
 neter of tubes 3.2" Pitch of tubes 4.3/4" Material of tube plates Steel Thickness: Front 1" Back 7/8" Mean pitch of stays 9.2"  
 h across wide water spaces 14" Working pressures by rules 182.8 Girders to Chamber tops: Material Steel Depth and  
 ckness of girder at centre 8.2"x1.3/4" Length as per rule 33" Distance apart 8.2" Number and pitch of stays in each 2-10"  
 rking pressure by rules 208.7 Steam dome: description of joint to shell L % of strength of joint L  
 Diameter L Thickness of shell plates L Material L Description of longitudinal joint L Diam. of rivet holes L  
 Pitch of rivets L Working pressure of shell by rules L Crown plates L Thickness L How stayed L  
 SUPERHEATER. Type L Date of Approval of Plan L Tested by Hydraulic Pressure to 2020  
 Date of Test L Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler L  
 Diameter of Safety Valve L Pressure to which each is adjusted L Is Easing Gear fitted L



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts and nuts, 1 set of coupling bolts & nuts, 1 spare set of valves for each pump fitted, 1 set of springs for piston rod packing, 1 Safety Valve spring, 1 donkey check valve, 1 main check valve, 6 girth ring studs & nuts, 2 Condenser females, 3 Condenser tubes, 1 escape valve spring, 1 complete set of fire bars, 3 Boiler tubes.  
(The above articles of spare gear are stored at Paternock Dockyard, and will be placed on board before the vessel is handed over.)

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- }  
{ During SURVEY on board vessel -- } 4<sup>th</sup> May, 17<sup>th</sup> May, 8<sup>th</sup> June.  
Total No. of visits 3

Is the approved plan of main boiler forwarded herewith No

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 4-5-20 Slides 4-5-20 Covers 4-5-20 Pistons 4-5-20 Rods 4-5-20  
Connecting rods 4-5-20 Crank shaft 4-5-20 Thrust shaft 4-5-20 Tunnel shafts ✓ Screw shaft 4-5-20 Propeller 4-5-20  
Stern tube 4-5-20 Steam pipes tested ✓ Engine and boiler seatings 4-5-20 Engines holding down bolts 4-5-20  
Completion of pumping arrangements ✓ Boilers fixed ✓ Engines tried under steam NOT YET TRIED  
Completion of fitting sea connections ✓ Stern tube ✓ Screw shaft and propeller ✓  
Main boiler safety valves adjusted NOT YET ADJUSTED Thickness of adjusting washers ✓  
Material of Crank shaft ✓ Identification Mark on Do. ✓ Material of Thrust shaft ✓ Identification Mark on Do. ✓  
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts ✓ Identification Marks on Do. ✓  
Material of Steam Pipes Copper Test pressure ✓  
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 ✓ If so, state name of vessel ✓

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

The Machinery and Boiler of this Vessel were built under British Corporation Survey to plans and specification jointly approved by Lloyds Register & British Corporation. The materials and workmanship appear to be sound and good.

The Machinery will be eligible in my opinion to have notation L.M.C. 6.20, when the Safety Valves have been adjusted under steam and a trial under working conditions carried out.

Screw shaft drawn in and examined See letter 4/12/20

The amount of Entry Fee ... £ : : When applied for.  
Special ... £ : :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When received.

C. H. Boyle  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 17 DEC. 1920

FRI. 24 FEB. 1922

Assigned

L.M.C. 6.20  
subject

CERTIFICATE WRITTEN.



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