

REPORT ON MACHINERY.

Bel 9363

No. 44666

27 MAY 1925

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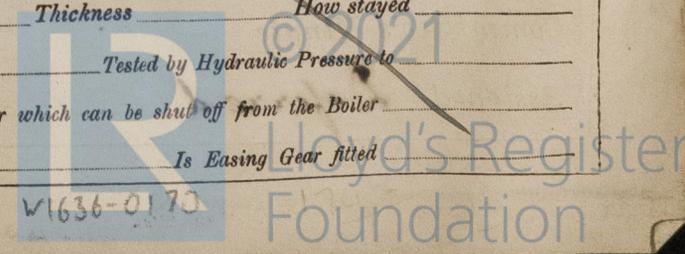
Date of writing Report 19 When handed in at Local Office 22/57 10th Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 18.9.24 Last Survey 1-5-1925
 Reg. Book. on the New Steel Y/S S. Invercauld (Number of Visits 1170)
 Master Belfast Built at Belfast By whom built Harland & Wolff (N^o 701) When built 1925
 Engines made at Glasgow By whom made A. & J. Inglis Ltd (N^o 701) when made 1925
 Boilers made at Belfast By whom made Harland & Wolff Ltd when made 1925
 Registered Horse Power 1170 Owners Lago Shipping Coy Ltd Port belonging to London
 Nom. Horse Power as per Section 28 196 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Triple expansion No. of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders Twin 13 1/2" 23 1/2" 36" Length of Stroke 27" Revs. per minute _____ Dia. of Screw shaft as per rule Material of screw shaft _____
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube _____ Is the after end of the liner made water tight in the propeller boss _____
 If the liner is in more than one length are the joints burned _____ 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 _____
 Dia. of Tunnel shaft as per rule Dia. of Crank shaft journals as per rule 7 1/2" Dia. of Crank pin 7 3/8" Size of Crank webs 4 1/8" 4 1/2" Dia. of thrust shaft under collars _____
 Dia. of screw _____ Pitch of Screw _____ No. of Blades _____ State whether moveable _____ Total surface _____
 No. of Feed pumps 2 Diameter of ditto 2 1/4" Stroke 13 1/2" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 2 1/4" Stroke 13 1/2" Can one be overhauled while the other is at work yes
 No. of Donkey Engines _____ Sizes of Pumps _____ No. and size of Suctions connected to both Bilge and Donkey pumps _____
 In Engine Room _____ In Holds, &c. _____
 No. of Bilge Injections _____ sizes _____ Connected to condenser, or to circulating pump _____ Is a separate Donkey Suction fitted in Engine room & size _____
 Are all the bilge suction pipes fitted with roses _____ Are the roses in Engine room always accessible _____ Are the sluices on Engine room bulkheads always accessible _____
 Are all connections with the sea direct on the skin of the ship _____ Are they Valves or Cocks _____
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates _____ Are the Discharge Pipes above or below the deep water line _____
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel _____ Are the Blow Off Cocks fitted with a spigot and brass covering plate _____
 What pipes are carried through the bunkers _____ How are they protected _____
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times _____
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges _____
 Is the Screw Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

BOILERS, &c.—(Letter for record _____) Manufacturers of Steel _____
 Total Heating Surface of Boilers 37020 sq ft Is Forced Draft fitted _____ No. and Description of Boilers _____
 Working Pressure 180 Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____
 Can each boiler be worked separately _____ Area of fire grate in each boiler _____ No. and Description of Safety Valves to each boiler _____
 Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____
 Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean dia. of boilers _____ Length _____ Material of shell plates _____
 Thickness _____ Range of tensile strength _____ Are the shell plates welded or flanged _____ Descrip. of riveting: cir. seams _____
 long. seams _____ Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps _____
 Per centages of strength of longitudinal joint _____ Working pressure of shell by rules _____ Size of manhole in shell _____
 Size of compensating ring _____ No. and Description of Furnaces in each boiler _____ Material _____ Outside diameter _____
 Length of plain part _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
 Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
 Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____
 Material of stays _____ Area at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space: _____
 Material _____ Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of stays _____
 Area at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Thickness _____ Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
 Diameter of tubes _____ Pitch of tubes _____ Material of tube plates _____ Thickness: Front _____ Back _____ Mean pitch of stays _____
 Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and thickness of girder at centre _____ Length as per rule _____ Distance apart _____ Number and pitch of stays in each _____
 Working pressure by rules _____ Steam dome: description of joint to shell _____ % of strength of joint _____
 Diameter _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet holes _____
 Pitch of rivets _____ Working pressure of shell by rules _____ Crown plates _____ Thickness _____ How stayed _____

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

If not, state whether, and when, one will be sent



IS A DONKEY BOILER FITTED? no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two connecting rod top end bolts and nuts, two connecting rod bottom end bolts and nuts, two main bearing bolts, one set of feed and large pump valves, air pump bucket, rod and valves, circulating pump bucket, rod and valves, two eccentric straps, one set of packing rings for each HP & MP cylinder, one set of packing rings for each IP piston valve.

The foregoing is a correct description,

A. & J. INGLIS LIMITED.

Peter Walker, *Sub. Secy.* Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1924. Sept. 18, Dec 17, 1925. Jan. 14, 16, Feb. 3, 26, Mar. 2, 25, Apr. 7, 15, May 1. During erection on board vessel --- 11. Total No. of visits 11. Is the approved plan of main boiler forwarded herewith no

Dates of Examination of principal parts—Cylinders 25-3-25 Slides 7-4-25 Covers 2-3-25 Pistons 25-3-25 Rods 7-4-25 Connecting rods 7-4-25 Crank shaft 15-4-25 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 Completion of fitting sea connections Stern tube Screw shaft and propeller Main boiler safety valves adjusted Thickness of adjusting washers Material of Crank shaft Imp. Steel Identification Mark on Do. LLOYD 15701 L.C.D. 154.25 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 Test pressure Is an installation fitted for burning oil fuel 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 workmanship and materials are good. The engines have been constructed under special Survey in accordance with the Rules. They have been sent to Belfast to be fitted in the vessel. Engines fitted in the vessel & tried under steam see separate report.

Certificate (if required) to be sent to The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ 3 : : When applied for, Special £19 fee ... £ 19 : 12 : 22/57 1925 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 30/5 1925 Committee's Minute GLASGOW 26 MAY 1925 Assigned Deferred

William Butler
Engineer Surveyor to Lloyd's Register of Shipping.
TUES. 23 JUN 1925

