

REPORT ON MACHINERY

No. 27908
WED. AUG. 23 1920

Received at London Office

Date of writing Report 21-8-1920 When handed in at Local Office 23-8-1920 Port of Sunderland
 Date, First Survey 1 Aug '19 Last Survey 7 Aug 1920
 Survey held at Sunderland
 on the S.S. AVANVILLE
 Built at Southampton By whom built Messrs Dibles, Ltd. (N° 115)
 Engines made at Sunderland By whom made Messrs MacLellan & Pollock, Ltd. (N° 292) when made 1920
 Boilers made at do By whom made do when made 1920
 Registered Horse Power 105 Owners Walker, Hindmarsh & Co Port belonging to Cardiff
 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 14, 23, 39 Length of Stroke 27 Revs. per minute 105 Dia. of Screw shaft 8 1/2 Material of screw shaft Eng. steel
 the screw shaft fitted with a continuous liner the whole length of the stern tube No liner Is the after end of the shaft made water tight
 the propeller boss yes 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 No If two
 are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 3'-0"
 Dia. of Tunnel shaft 7 1/2 Dia. of Crank shaft journals 7 1/2 Dia. of Crank pin 7 5/8 Size of Crank webs 14-4 1/2 Dia. of thrust shaft under
 lars 7 5/8 Dia. of screw 10-9 Pitch of Screw 10-3 No. of Blades 4 State whether moveable no Total surface 36.6
 of Feed pumps 2 Diameter of ditto 2 1/2 Stroke 14 Can one be overhauled while the other is at work yes
 of Bilge pumps 2 Diameter of ditto 2 1/2 Stroke 14 Can one be overhauled while the other is at work yes
 of Donkey Engines 2 Sizes of Pumps 4 1/2 x 3 x 6, 6 x 7 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 3 @ 2" In Holds, &c. 2 @ 2" in Main hold

of Bilge Injections 1 sizes 4 Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size yes, 3"
 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 ✓
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Part
 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 ✓
 Are pipes carried through the bunkers Main hold pipes How are they protected Wood casing
 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

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door worked from Machinery aft.
 MANUFACTURERS, &c.—(Letter for record S) Manufacturers of Steel John Spencer & Sons, Ltd., John Brown & Co. Ltd.

Total Heating Surface of Boilers 1892 sq ft Is Forced Draft fitted No No. and Description of Boilers Two S.E. Cylindrical multitubular
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 27-4-20 No. of Certificate 3681
 Can each boiler be worked separately yes Area of fire grate in each boiler 30 No. and Description of Safety Valves to
 each boiler Two, direct spring Area of each valve 3.97 Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 4-0 Mean dia. of boilers 10-4 3/16 Length 10-3 Material of shell plates Steel
 Thickness 29/32 Range of tensile strength 28 3/4 to 32 3/4 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R. lap
 g. seams D.B.S., D.R. Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 5 9/32 Lap of plates or width of butt straps 11 1/4
 Percentages of strength of longitudinal joint rivets 82.6 Working pressure of shell by rules 181 Size of manhole in shell 16 x 12
 of compensating ring 28 x 26 x 29 No. and Description of Furnaces in each boiler Two plain Material Steel Outside diameter 3'-1 1/2
 Length of plain part top 6-5 bottom 5-9 Thickness of plates crown 23/32 bottom 32/32 Description of longitudinal joint welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 185 Combustion chamber plates: Material Steel Thickness: Sides 5/8 Back 5/8 Top 1 1/16 Bottom 7/8
 of stays to ditto: Sides 7/8 x 9 5/8 Back 8 3/4 x 8 3/8 Top 7/4 x 10 3/4 If stays are fitted with nuts or riveted heads nuts inside Working pressure by rules 182
 Material of stays Steel Area at smallest part 1.73 Area supported by each stay 73.3 Working pressure by rules 189 End plates in steam space:
 Material Steel Thickness 15/16 Pitch of stays 14 x 13 1/4 How are stays secured D.N. & W. Working pressure by rules 184.6 Material of stays Steel
 Area at smallest part 3.26 Area supported by each stay 185.5 Working pressure by rules 183 Material of Front plates at bottom Steel
 Thickness 15/16 Material of Lower back plate Steel Thickness 7/8 Greatest pitch of stays 12 1/2 Working pressure of plate by rules 233
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 3/8 Material of tube plates Steel Thickness: Front 15/16 Back 13/16 Mean pitch of stays 13 1/8 x 9
 across wide water spaces 13 1/2 Working pressures by rules 185 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 7 5/8 x 13 3/4 Length as per rule 26 3/4 Distance apart 10 3/4 Number and pitch of stays in each 2 @ 7 3/4
 Working pressure by rules 183 Steam dome: description of joint to shell % of strength of joint

meter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
 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 _____
 of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____
 meter of Safety Valve _____ Pressure to which each is adjusted _____ Is Easing Gear fitted _____

002568-002576-0047

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— Two Connecting rod top and bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed & bilge pump valves, bolts, nuts, & iron of assorted sizes. One propeller.

The foregoing is a correct description,

MACCOLL & POLLOCK, LTD.

J. D. Richardson Director

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1919 Aug 1 Nov 19 Dec 5 18 Jan 7 21 24 Feb 5 12 25 Mar 9 11 23 26 Apr 14 27 29 May 14 21
During erection on board vessel -- Jun 1 13 Jul 19 30 Aug 4 5 6 10 12 13 16 17
Total No. of visits (31)

Is the approved plan of main boiler forwarded herewith No (see ss. of main survey)
" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 23-3-20 Slides 14-5-20 Covers 14-5-20 Pistons 14-6-20 Rods 23-3-20
Connecting rods 23-3-20 Crank shaft 28-10-19 Thrust shaft 28-10-19 Tunnel shafts None Screw shaft 28-10-19 Propeller 1-6-20
Stern tube 14-4-20 Steam pipes tested 10-8-20 Engine and boiler seatings 27-7-20 Engines holding down bolts 4-8-20
Completion of pumping arrangements 16-8-20 Boilers fixed 30-7-20 Engines tried under steam 16-8-20
Completion of fitting sea connections ✓ Stern tube ✓ Screw shaft and propeller 5-8-20
Main boiler safety valves adjusted 16-8-20 Thickness of adjusting washers P. boiler - P. $\frac{3}{8}$, S. $\frac{13}{32}$; S. boiler - P. $\frac{1}{2}$, S. $\frac{7}{16}$
Material of Crank shaft Eng. steel Identification Mark on Do. 867 J.H.M. Material of Thrust shaft Eng. steel Identification Mark on Do. 867 J.H.M.
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Eng. steel Identification Marks on Do. 867 J.H.M.
Material of Steam Pipes Solid drawn copper Test pressure 400 lbs

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? Yes (with ref. to, state name of vessel S.S. ofon Towry (Sld. ref. No 27754))

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

The materials and workmanship are good.

The machinery has been constructed under special survey and is eligible in my opinion for classification, and the record + LMC 8.20

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Retl
25/8/20

The amount of Entry Fee ... £ 2 : 0 : 0 When applied for, 24 AUG 1920
Special ... £ 15 : 15 : 0
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : When received, 2/10/20

Ed. W. Rutter

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. AUG 31 1920

Assigned + LMC 8.20

MACHINERY CERT.
WRITTEN

