

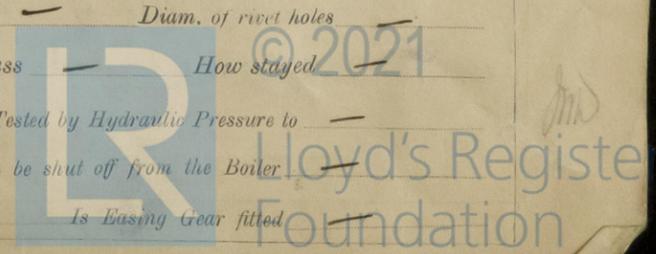
REPORT ON MACHINERY.

Received at London Office 30 OCT. 1922
 Date of writing Report 19 When handed in at Local Office -2 OCT 1922 Port of SUNDERLAND, & Bicester
 No. in Survey held at SUNDERLAND & Appleton Date, First Survey 3rd Nov '19 Last Survey 26th Sep 1922
 Reg. Book. 80571 Supp. on the M/S Hansa No 55 No 5 S. RUNNELSTONE (Number of Visits 37+9)
 Master Built at Bideford By whom built Hansen & Co When built 1922
 Engines made at Sunderland By whom made Messrs MacCall & Phipps (314) when made 1922
 Boilers made at Sunderland By whom made Messrs MacCall & Phipps (314+322) when made 1922
 Registered Horse Power Owners Hansen Shipping Co. Port belonging to London
 Nom. Horse Power as per Section 28 125 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 16, 27, 44 Length of Stroke 30 Revs. per minute 85 Dia. of Screw shaft as per rule 9.188 Material of screw shaft as fitted 9.2 Steel
 Is 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 in the propeller boss No 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 No Length of stern bush 3'-2"
 Dia. of Tunnel shaft as per rule None Dia. of Crank shaft journals as per rule 8.46 Dia. of Crank pin 8 3/4 Size of Crank webs 12 1/2 x 5 1/2 Dia. of thrust shaft under collars 8 3/4 Dia. of screw 11-6 Pitch of Screw 13'-6" No. of Blades 4 State whether moveable No Total surface 44 5/8
 No. of Feed pumps 2 Diameter of ditto 2 1/2 Stroke 16 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 2 1/2 Stroke 16 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 6x4x6, 6 1/2 x 8 1/2 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2-2 1/2 Strokehold 1-2 1/2 In Holds, &c. No 1 Hold 2-2 1/2 No 2 Hold 2-2 1/2
 No. of Bilge Injections 1 sizes 4 1/2 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 2 1/2
 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 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 Yes
 What pipes are carried through the bunkers 1 Hold suction 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 Yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel John Spencer & Sons
 Total Heating Surface of Boilers 2070 5/8 Is Forced Draft fitted No No. and Description of Boilers Two single ended
 Working Pressure 150 lbs Tested by hydraulic pressure to 360 lbs Date of test 13.8.20, 18.9.22 No. of Certificate 3707, 3812
 Can each boiler be worked separately Yes Area of fire grate in each boiler 32 5/8 No. and Description of Safety Valves to each boiler 2 Spring valves Area of each valve 3.98 Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 4'-0" Mean dia. of boiler 11-0 Length 10.6 Material of shell plates S
 Thickness 29/32 Range of tensile strength 28.32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Rivet
 long. seams Lap Rivet Diameter of rivet holes in long. seams 1 1/32 Pitch of rivets 7/16 Lap of plates or width of butt straps 15 1/4
 Per centages of strength of longitudinal joint rivets 95.6 plate 85.6 Working pressure of shell by rules 181 Size of manhole in shell 12 x 16
 Size of compensating ring 26 x 26 x 3/32 No. and Description of Furnaces in each boiler 2 Plain Material S Outside diameter 38 1/2
 Length of plain part top 6-4 bottom 5-9 Thickness of plates crown 3 3/32 bottom 3/32 Description of longitudinal joint Wildcat No. of strengthening rings
 Working pressure of furnace by the rules 181 Combustion chamber plates: Material S Thickness: Sides 5/8 Back 21/32 Top 21/32 Bottom 2/8
 Pitch of stays to ditto: Sides 8 3/4 x 8 1/2 Back 8 3/4 x 9 1/2 Top 8 1/2 x 9 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 181
 Material of stays S Area at smallest part 1.73 Area supported by each stay 74 Working pressure by rules 186 End plates in steam space:
 Material S Thickness 31/32 Pitch of stays 15 x 15 How are stays secured d.u. & l. Working pressure by rules 183 Material of stays S
 Area at smallest part 4-1 Area supported by each stay 225 Working pressure by rules 187 Material of Front plates at bottom S
 Thickness 15/16 Material of Lower back plate S Thickness 25/32 Greatest pitch of stays 12 1/2 Working pressure of plate by rules 180
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates S Thickness: Front 15/16 Back 5/16 Mean pitch of stays 8 1/2 x 13 1/2
 Pitch across wide water spaces 13 1/2 Working pressures by rules 185 Girders to Chamber tops: Material S Depth and thickness of girder at centre 7 x 1 1/8 Length as per rule 28 Distance apart 9 Number and pitch of stays in each 2, 8 1/2
 Working pressure by rules 190 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
UPERHEATER. 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



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— Two top end & two bottom end bolts & nuts
two main bearing bolts & nuts, one set of coupling bolts & nuts
one set of feed & bridge pump valves, assorted bolts & nuts etc.

The foregoing is a correct description,
MAGGOLL & POLLOCK, LTD.

E. Pollock
Director

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1919 Nov. 3, 19 Dec. 18, 20, Jan. 29, Feb. 25, Mar. 26, Apr. 14, 17, 29, May 21, June 8, 21, 29
During erection on board vessel -- July 13, 28, Aug. 11, 13, 20, Sep. 1, 16, Oct. 19, 21, Nov. 18, 24, 29, Dec. 2, 27, July 26, 31, Aug. 14, 16, 23
Total No. of visits 37
Is the approved plan of main boiler forwarded herewith YES
" " " donkey " " " NO

Dates of Examination of principal parts—Cylinders 29.11.20 Slides 23.8.22 Covers 2.12.20 Pistons 6.10.20 Rods 31.5.20
Connecting rods 31.5.20 Crank shaft 29.6.20 Thrust shaft 25.7.20 Tunnel shafts NONE Screw shaft 21.10.20 Propeller 4.9.22
Stern tube 23.8.22 Steam pipes tested 4.12.22 Engine and boiler seatings 20.11.22 Engines holding down bolts 20.11.22
Completion of pumping arrangements 7.1.23 Boilers fixed 20.11.22 Engines tried under steam 7.1.23
Completion of fitting sea connections 20.11.22 Stern tube 6.11.22 Screw shaft and propeller 6.11.22
Main boiler safety valves adjusted 7.1.23 Thickness of adjusting washers $\frac{21}{32}$ $\frac{25}{32}$ $\frac{21}{32}$ $\frac{1}{4}$
Material of Crank shaft stul Identification Mark on Do. 3226MR Material of Thrust shaft stul Identification Mark on Do. 5686CK
Material of Tunnel shafts none Identification Marks on Do. ✓ Material of Screw shafts stul Identification Marks on Do. 5686CK
Material of Steam Pipes Solid drawn copper Test pressure 360lb
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 No If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been constructed under special survey, the materials and workmanship are sound and good and when fitted on board the vessel in a satisfactory manner will under her rigidity in my opinion be have merit of T.L.M.C. with date

The machinery has been forwarded to Appledore, Sidford for fitting on board
The boiler & machinery have now been fitted and secured on board, tried under working conditions & safety valves adjusted
They are now eligible in my opinion for record of T.L.M.C. 1-23

It is submitted that
this vessel is eligible for
THE RECORD, + LMC 1.23. CL.

J.W.D.
18/11/23

W. H. H. + John W. Gwynne
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 3 :
Special std app £ 25 :
Bristol app £ 6 : 5
Donkey Boiler Fee ... £ 6 : 5
Travelling Expenses (if any) £ 9 : 0 : 0

When applied for:
2 OCT 1922

When received:
19 22

Committee's Minute
Assigned + L.M.C. 1.23. C.L.

SUNDERLAND

The Surveys are requested not to write on or below the space for Committee's Minute.

CERTIFICATE WRITTEN



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Foundation