

pt. 4.

REPORT ON MACHINERY

No. 4012H

Received at London Office WED. JUN. 30 1920

of writing Report 19 When handed in at Local Office 25.6.1920. Port of Glasgow.

in Survey held at Coatbridge. Date, First Survey 24.2.20. Last Survey 16.6.1920.

Book. on the Machinery for S.S. "ALFRED HARRISON" (Number of Visits)

ter Built at Newcastle-on-Tyne. By whom built Swan, Hunter & W. Richardson. When built

nes made at Coatbridge. By whom made Wm Beardmore & Co. Ltd. No. 558 when made 1920.

ers made at Newcastle-on-Tyne. By whom made Swan, Hunter & W. Richardson. No. 1149 when made 1920-7

stered Horse Power Owners Harold Harrison Port belonging to London

Horse Power as per Section 28 ~~44.7~~ 78 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

INES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

of Cylinders 12" 20" 34" Length of Stroke 28" Revs. per minute Dia. of Screw shaft as per rule 7.004" Material of M.S. as fitted 7.5" screw shaft

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

propeller boss Yes If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the part

en the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two

s are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 2-6"

of Tunnel shaft as per rule 6.114" Dia. of Crank shaft journals as per rule 6.42" as fitted None as fitted 6.45" Dia. of Crank pin 6.45" Size of Crank webs 12 3/4 x 4 1/2" Dia. of thrust shaft under

rs 6.45" Dia. of screw 8-9" Pitch of Screw 11-3" No. of Blades 4 State whether moveable No Total surface 32 sq ft.

of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes

of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes

of Donkey Engines 2 Sizes of Pumps 6x6x6 Ballast 5/4x3 1/2 x 5 Feed No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room (3) 2" ER aft 2" ER for (Port) 2" ER star In Holds, &c. (2) 2" Hold port 2" Hold Starboard side

of Bilge Injections sizes 3 Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 2 1/2

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 Yes

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

t pipes are carried through the bunkers Yes How are they protected Yes

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

e Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

ERS, &c.—(Letter for record S) Manufacturers of Steel Spencer & Sons Ltd

l Heating Surface of Boilers 1440 sq ft Is Forced Draft fitted No No. and Description of Boilers One S.E. Cyl. Multitubular

king Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 11.7.20 No. of Certificate 9421

each boiler be worked separately Yes Area of fire grate in each boiler 46.5 sq ft No. and Description of Safety Valves to

boiler two direct spring Area of each valve 4.9 sq in Pressure to which they are adjusted 185 lbs sq in Are they fitted with easing gear Yes

lest distance between boilers or uptakes and bunkers or woodwork 11 Mean dia. of boilers Report on Boilers appended Length Material of shell plates

ness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

entages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

of compensating ring plate No. and Description of Furnaces in each boiler Material Outside diameter

th of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings bottom

ing pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

rial of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

rial Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

ness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

eter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

ess of girder at centre Length as per rule Distance apart Number and pitch of stays in each

ing pressure by rules Steam dome: description of joint to shell % of strength of joint

ter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

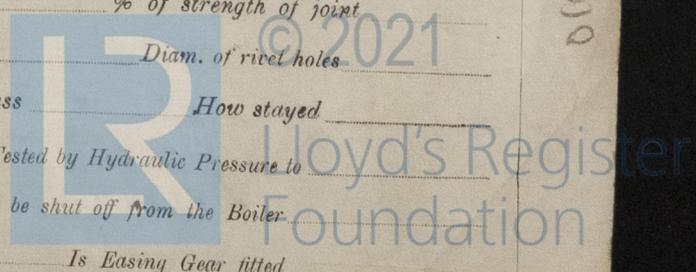
of rivets Working pressure of shell by rules Crown plates Thickness How stayed

REHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

f Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

ter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

7300-10901-685010



IS A DONKEY BOILER FITTED? **No**

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two top end bolts and nuts, two bottom end bolts and nuts, spare coupling bolts and nuts
two main bearing bolts and nuts, spare feed & bilge pump valves assorted iron bolts
and nuts. Various stores.

The foregoing is a correct description,

WILLIAM BEARDMORE & CO., LIMITED.

Manufacturer. *per R. Dreddon*

Dates of Survey while building { During progress of work in shops -- 1920 Feb 24. Mar 12. 16. 19. 23. 26. 31. Apr 13. 20. 26. June 11. 16.
During erection on board vessel --
Total No. of visits

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

Is the approved plan of donkey boiler forwarded herewith **Yes**

Dates of Examination of principal parts—Cylinders 31-3-20. Slides 26-3-20 Covers 31-3-20 Pistons 20-4-20 Rods 20-4-20
Connecting rods 26-4-20 Crank shaft 31-3-20 Thrust shaft 11-6-20 Tunnel shafts 11-6-20 Screw shaft 11-6-20 Propeller 11-6-20

Stern tube 11-6-20. Steam pipes tested 20 July 20 Engine and boiler seatings 14-7-20 Engines holding down bolts 14 July 20

Completion of pumping arrangements 23 July 20 Boilers fixed 23 July 20 Engines tried under steam 23 July 20

Completion of fitting sea connections 29 June 20 Stern tube 29 June 20 Screw shaft and propeller 29 June 20

Main boiler safety valves adjusted 11 July 20 Thickness of adjusting washers $S \frac{13}{32} P \frac{12}{32}$

Material of Crank shaft M.S. Identification Mark on Do. **AP 4478** Material of Thrust shaft M.S. Identification Mark on Do. **AP 4478**

Material of Tunnel shafts None. Identification Marks on Do. **31-3-20** Material of Screw shafts M.S. Identification Marks on Do. **11-6-20**

Material of Steam Pipes Solid drawn Copper Test pressure 360 lbs at 8 hours Neptune links

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 has been built under Special Survey in accordance with the Rules of the Society. The materials & workmanship are good throughout. The engine has been dispatched to Newcastle-on-Tyne to be fitted on board the vessel.*)

The engine and boiler fitted up on board at Messrs Swan Hunter and Wigham Richardson Ltd. Walker works, Newcastle on Tyne.

The machinery tried under steam (Vessel at moorings) and found satisfactory.

In our opinion this vessel is now eligible for the notification of L.M.C. 7-20 to be made in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 17-20

Rel. 25/11/20 J.P.P.

The amount of Entry Fee ... £ 1 : 0 :
Special *M* ... £ 5 : 17 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

John J. Barr. L.G. Shalleross.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 29 JUN 1920
Assigned Deferred

FRI. DEC. 3 1920

+ L.M.C. 11.20



NEWCASTLE-ON-TYNE

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