

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. Tons { Gross 518  
Net 284  
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 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

INES, & Co.—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  
e 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  
e 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  
en the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two  
s are fitted, is the shaft lapped or protected between the liners 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 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" Z R 4ft 2" Z R 7ft (Pnt) 2" Z R 2ft In Holds, &c. (2) 2" Hold port 2" Hold Starboard side

f Bilge Injections sizes 3 Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size 4 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  
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 alone  
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 How are they protected  
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, & Co.—(Letter for record S) Manufacturers of Steel Spencer & Sons Ltd  
Heating Surface of Boilers 14405 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 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 Are they fitted with easing gear Yes  
lest distance between boilers or uptakes and bunkers or woodwork 11 Mean dia. of boilers 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 Thickness of plates 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  
RHEATER. 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

4700-4090N-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. Sneddon*

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

*Report Boiler appended*

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

" " " donkey " " "

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 tanks*

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. Wallsend Works, Newcastle on Tyne,*

*Re 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*

The amount of Entry Fee ... £ *1 : 0 :*

Special *M* ... £ *5 : 17 :*

Donkey Boiler Fee ... £ :

Travelling Expenses (if any) £ :

When applied

*28 JUN 1920*

*received at the  
Register Office 11 Nov  
1920*

Committee's Minute *GLASGOW 29 JUN 1920*

Assigned *Deferred*

*John J. Barr. L. G. Shallcross.*

Engineer Surveyor to Lloyd's Register of Shipping.

*FRI. DEC. 3 1920*

*+ L.M.C. 11.20*

CERTIFICATE WRITTEN

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Lloyd's Register  
Foundation

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 Minute.