

REPORT ON MACHINERY

No. 28310

SAT. FEB. 27. 1915

Received at London Office

Date of writing Report is 18-2-15 when handed in at Local Office Hull Port of Hull
 No. in Survey held at Hull Date, First Survey Apr. 27 Last Survey Jan 15th 1915
 Reg. Book. 19 on the Commander Hulbrook (Number of Vests 33) Tons. Gross 227.20 Net 93.20
 Master Gool Built at Gool By whom built Gool & Rygg & Co Ltd When built 1915
 Engines made at Hull By whom made Arnold Smith Ltd (No 2557) when made 1915
 Boilers made at Hull By whom made Arnold Smith Ltd when made 1915
 Registered Horse Power 47 Owners Hellyers & Fisher & Co Ltd Port belonging to Hull
 Nom. Horse Power as per Section 28 47 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks 3
 Dia. of Cylinders 10-16 3/4-28 Length of Stroke 24 Revs. per minute 7.22 Dia. of Screw shaft 7.22 Material of screw shaft Iron
 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 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 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 yes Length of stern bush 2'-2"
 Dia. of Tunnel shaft 5.74 Dia. of Crank shaft journals 6.03 Dia. of Crank pin 6 1/2 Size of Crank webs 12 1/2 x 4 1/2 Dia. of thrust shaft under collars 6 1/2 Dia. of screw 10-0 Pitch of Screw 8-6 No. of Blades 4 State whether moveable no Total surface 38
 No. of Feed pumps one Diameter of ditto 2 1/2 Stroke 11 Can one be overhauled while the other is at work yes
 No. of Bilge pumps one Diameter of ditto 2 1/2 Stroke 11 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 6 x 3-6 & 5 x 5 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps one 2" dia in each compartment
 In Engine Room two 2" In Holds, &c. one 2" dia in each compartment
 all suction connected to ejector
 No. of Bilge Injections one sizes 2 1/2" Connected to condenser, or to circulating pump is a separate Donkey Suction fitted in Engine room & size 2" ejector
 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 stowhold 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 Forward suction How are they protected: Wooden 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
 Dates of examination of completion of fitting of Sea Connections 7-8-14 of Stern Tube 7-8-14 Screw shaft and Propeller 10-8-14
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight floor yes worked from yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Phoenix & Hadler Verein Hader
 Total Heating Surface of Boilers 760 Is Forced Draft fitted no No. and Description of Boilers one single ended
 Working Pressure 200 Tested by hydraulic pressure to 400 Date of test 1-10-14 No. of Certificate 3026
 Can each boiler be worked separately yes Area of fire grate in each boiler 25.5 No. and Description of Safety Valves to each boiler two spring loaded Area of each valve 3 1/4 Pressure to which they are adjusted 205 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork abt 7" Mean dia. of boilers 125 1/8" Length 9-4" Material of shell plates S
 Thickness 15/16 Range of tensile strength 29 to 33 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double long. seams V.A.B. Diameter of rivet holes in long. seams 1 3/32 Pitch of rivets 7.4 Lap of plates or width of butt straps 16 1/4
 Per centages of strength of longitudinal joint 101 Working pressure of shell by rules 201 Size of manhole in shell 16" x 12"
 Size of compensating ring 9" x 16 1/16 No. and Description of Furnaces in each boiler two plain Material steel Outside diameter 35 1/32
 Length of plain part 6.2 Thickness of plates 4 9/16 Description of longitudinal joint welded No. of strengthening rings yes
 Working pressure of furnace by the rules 230 Combustion chamber plates: Material S Thickness: Sides 2 3/32 Back 1 1/16 Top 1 1/16 Bottom 2 3/32
 Pitch of stays to ditto: Sides 8 1/2 x 8 1/2 Back 8 1/2 x 8 Top 8 1/2 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 240
 Material of stays steel Diameter at smallest part 2.07 Area supported by each stay 74.5 Working pressure by rules 250 End plates in steam space: area
 Material steel Thickness 15/16 Pitch of stays 16 x 12 How are stays secured 2 x W Working pressure by rules 208 Material of stays S
 Diameter at smallest part 5.05 Area supported by each stay 192 Working pressure by rules 273 Material of Front plates at bottom S
 Thickness 1" Material of Lower back plate steel Thickness 15/16 Greatest pitch of stays 14" x 8" Working pressure of plate by rules 246
 Diameter of tubes 3 1/4 Pitch of tubes 4 3/4 x 4 1/2 Material of tube plates S Thickness: Front 1" Back 7/8" Mean pitch of stays 9 1/4"
 Pitch across wide water spaces 13 3/4 Working pressures by rules 203 Girders to Chamber tops: Material S Depth and thickness of girder at centre 8 1/2 x 1 3/4 Length as per rule 30 7/8 Distance apart 8 1/2 Number and pitch of stays in each two 8 1/2"
 Working pressure by rules 214 Superheater or Steam chest; how connected to boiler yes Can the superheater be shut off and the boiler worked separately yes
 Diameter yes Length yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet holes yes Pitch of rivets yes Working pressure of shell by rules yes Diameter of flue yes Material of flue plates yes Thickness yes
 If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes
 Working pressure of end plates yes Area of safety valves to superheater yes Are they fitted with easing gear yes

If seal, shaft whether, and when, one will be used
 In a Report also sent on the Hull of the ship
 Yes

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed, bilge, & air pump valves, one main & one donkey check valve, a quantity of bolts & nuts & iron of various sizes.*

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

J. Braehabury

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *1914: - Apr 27 May 28 Jun 23 Jul 3 31 Aug 7 10 20 21 26 28 Sep 1 4 9 10 15*
{ During erection on board vessel - - - } *18 21 23 25 29 Oct 1 2 7 14 16 18 26 28 30 Dec 8 12 - 1915: Jan 15*
Total No. of visits *33*

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

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

Dates of Examination of principal parts - Cylinders *15-9-14* Slides *29-9-14* Covers *15-9-14* Pistons *18-9-14* Rods *4-9-14*

Connecting rods *18-9-14* Crank shaft *18-9-14* Thrust shaft *23-9-14* Tunnel shafts Screw shaft *10-8-14* Propeller *10-8-14*

Stern tube *7-8-14* Steam pipes tested *28-11-14* Engine and boiler seatings *7-8-14* Engines holding down bolts *8-12-14*

Completion of pumping arrangements *15-1-15* Boilers fixed *8-12-14* Engines tried under steam *12-12-14*

Main boiler safety valves adjusted *12-12-14* Thickness of adjusting washers *both 7/16*

Material of Crank shaft *steel* Identification Mark on Do. *1277 FLS* Material of Thrust shaft *steel* Identification Mark on Do. *1282 FLS*

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *iron* Identification Marks on Do. *1305 J.G.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? *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 in accordance with the approved plans & the rules of this society, the materials & workmanship are good, the boiler & steam pipes have been tested as above by hydraulic pressure & found sound & good. The machinery has been properly fitted & secured on board, & on completion tried under steam & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation, which did not exceed 210 lbs.*

In our opinion the vessel is eligible for the record - LMC 1-15.

It is submitted that this vessel is eligible for THE RECORD. + LMC 1-15.

J.W.R. 1/3/15

The amount of Entry Fee ... £ 1 : 0 :
Special ... £ 2 : 0 :
Donkey Boiler Fee ... £ ...
Travelling Expenses (if any) £ 3/2 :
When applied for, *26-2-1915*
When received, *31/3/15*

Frank A. Sturgeon, P. Fitzgerald
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. MAR 5 1915*

Assigned *+ Lmc 1/15*

MACHINERY DEPARTMENT