

REPORT ON MACHINERY.

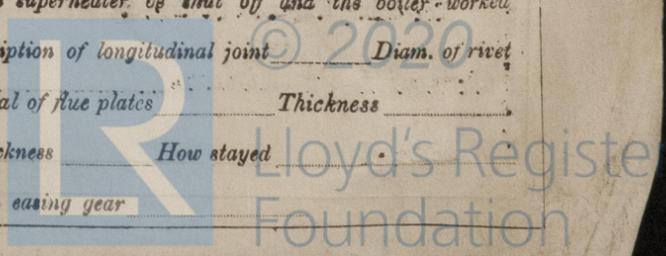
No. 1497
MON. JAN. 25. 1915

Received at London Office

Date of writing Report 22. 12. 14 when handed in at Local Office Shanghai Port of Shanghai
 No. in Survey held at Shanghai Date, First Survey 10th June 1914 Last Survey 15th Dec. 1914
 Reg. Book. on the Steel Twin Screw Icebreaker "Meiling" (Number of Violets 29)
 Master ✓ Built at Shanghai By whom built Kiangnan Dock & Eng Works When built 1914
 Engines made at Shanghai By whom made Kiangnan Dock & Eng Works when made 1914
 Boilers made at Glasgow By whom made Lindsay Burnet & Co Ltd when made 1914
 Registered Horse Power 133 Owners Hai-Hobsonwary Commission Port belonging to Lientsin
 Nom. Horse Power as per Section 28 226 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin compound surface condensing No. of Cylinders 4 No. of Cranks 2
 Dia. of Cylinders 14 1/2", 30" Length of Stroke 21" Revs. per minute 137 Dia. of Screw shaft 6 1/2" Material of Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no 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 ✓ 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 ✓ If two
 liners are fitted, is the shaft lapped or protected between the liners no liners fitted Length of stern bush 2'-7"
 Dia. of Tunnel shaft 6.00" as per rule 5.97" Dia. of Crank shaft journals 6.3" as per rule 6.27" Dia. of Crank pin 6.5" Size of Crank webs 4 1/4" x 13" Dia. of thrust shaft under
 collars 6.5" Dia. of screw 7'-0" Pitch of Screw 9'-6" No. of Blades 4 State whether moveable no Total surface 210 ft
 No. of Feed pumps 2 Diameter of ditto 5" Stroke 12" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 2 1/4" Stroke 6" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 1 duplex Sizes of Pumps 5' x 3' x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3, 2 1/2" In Holds, &c. 2, 2"
 No. of Bilge Injections 1 size 5 1/2" Connected to condenser, or to circulating pump, pump 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 None How are they protected ✓
 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 21st Sept of Stern Tube 15th Sept Screw shaft and Propeller 17th Sept
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door ✓ worked from ✓
 Glasgow certificates nos 128824 12877 Manufacturers of Steel ✓

BOILERS, &c.—(Letter for record) ✓ Manufacturers of Steel ✓
 Total Heating Surface of Boilers 3000 sq ft Is Forced Draft fitted no No. and Description of Boilers Two S.E. type Multitube
 Working Pressure 130 Tested by hydraulic pressure to 260 Date of test 23.9.14 & 25.9.14 No. of Certificates 128824 & 12877
 Can each boiler be worked separately Yes Area of fire grate in each boiler 46 sq ft No. and Description of Safety Valves to
 each boiler Two direct spring Area of each valve 7.069" Pressure to which they are adjusted 135 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2'-6" Mean dia. of boilers 12'-3" Length 10'-6" Material of shell plates ✓
 Thickness ✓ Range of tensile strength ✓ Are the shell plates welded or flanged ✓ Descrip. of riveting: cir. seams ✓
 long. seams ✓ Diameter of rivet holes in long. seams ✓ Pitch of rivets ✓ Lap of plates or width of butt straps ✓
 Per centages of strength of longitudinal joint ✓ Working pressure of shell by rules ✓ Size of manhole in shell ✓
 Size of compensating ring ✓ No. and Description of Furnaces in each boiler ✓ Material ✓ Outside diameter ✓
 Length of plain part ✓ Thickness of plates ✓ Description of longitudinal joint ✓ No. of strengthening rings ✓
 Working pressure of furnace by the rules ✓ Combustion chamber plates: Material ✓ Thickness: Sides ✓ Back ✓ Top ✓ Bottom ✓
 Pitch of stays to ditto: Sides ✓ Back ✓ Top ✓ If stays are fitted with nuts or riveted heads ✓ Working pressure by rules ✓
 Material of stays ✓ Diameter at smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ End plates in steam space ✓
 Material ✓ Thickness ✓ Pitch of stays ✓ How are stays secured ✓ Working pressure by rules ✓ Material of stays ✓
 Diameter at smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ Material of Front plates at bottom ✓
 Thickness ✓ Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓
 Diameter of tubes ✓ Pitch of tubes ✓ Material of tube plates ✓ Thickness: Front ✓ Back ✓ Mean pitch of stays ✓
 Pitch across wide water spaces ✓ Working pressures by rules ✓ Girders to Chamber tops: Material ✓ Depth and
 thickness of girder at centre ✓ Length as per rule ✓ Distance apart ✓ Number and pitch of stays in each ✓
 Working pressure by rules ✓ Superheater or Steam chest; how connected to boiler ✓ Can the superheater be shut off and the boiler worked
 separately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet
 holes ✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓
 If stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓
 Working pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - One pair top & bottom end brasses with bolts complete. One set coupling bolts. Four main bearing bolts & nuts. One set piston rings. One eccentric strap complete. One pair ecc rod top end brasses complete. One valve spindle complete. One set feed & bilge pump valves. One spare crank shaft. One spare propeller shaft. Two propellers. One pair safety valves & springs. Two feed check valves. 25 condenser tubes & fifty ferrules. 24 boiler tubes. One Heir's steam valve chest, 6 valves, 12 springs & 4 boniter rings. A quantity of assorted bolts & nuts & iron of various sizes.

The foregoing is a correct description.

R.B. Mauchan

Manufacturer.

Dates of Survey while building: During progress of work in shops - 19.14, June 10.15.20.25. July 8. Aug 4.5.7.8.13.21.28. Sept 15.17.21.22. During erection on board vessel - Oct 1.12.14.19.27.30. Nov 2.10.27. Dec 7.9.10.15. Total No. of visits 29.

Is the approved plan of main boiler forwarded herewith? No

Is the approved plan of main boiler forwarded herewith? No

Dates of Examination of principal parts - Cylinders 28.8.14 Slides 15.9.14 Covers 15.9.14 Pistons 15.9.14 Rods 5.8.14 Connecting rods 5.8.14 Crank shaft 5.8.14 Thrust shaft 8.8.14 Tunnel shafts 28.8.14 Screw shaft 17.9.14 Propeller 17.9.14 Stern tube 15.9.14 Steam pipes tested 10.12.14 Engine and boiler seatings 21.9.14 Engines holding down bolts 10.11.14 Completion of pumping arrangements 27.10.14 Boilers fixed 10.12.14 Engines tried under steam 15.12.14 Main boiler safety valves adjusted 15.12.14 Thickness of adjusting washers For boiler PV 5/16, SY 3/8. After PV 7/16, SY 3/4. Material of Crank shaft Steel Identification Mark on Do. Shi No 8 Material of Thrust shaft Steel Identification Mark on Do. Shi No 8 Material of Tunnel shafts Steel Identification Marks on Do. Shi No 8 Material of Screw shafts Steel Identification Marks on Do. Shi No 8 Material of Steam Pipes Copper Test pressure 260 lbs per sq in

Is an installation fitted for burning oil fuel? No Is the flash point of the oil to be used over 150°F? Yes

Have the requirements of Section 49 of the Rules been complied with? Yes

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. A type of bederwall gland, to Owner's drawings, has been fitted to each stern tube. The vessel has two Heir's independent feed pumps fitted with a float tank. The air, circulating & bilge pumps are independent and are worked from a common single cylinder engine. A special centrifugal pump is fitted for the purpose of pumping to & from the fore & after peak tanks. The pump is of large size in order that the peaks can be flooded & pumped out expeditiously for icebreaking purposes. The machinery of this vessel has been built under Special Survey and is of good material and workmanship, and has been tried under working conditions and found satisfactory. The machinery, in my opinion, is eligible for the notation of LMC 12-14 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD & LMC 12.14.

The amount of Entry Fee \$16 Special \$200 Donkey Boiler Fee \$ Travelling Expenses (if any) \$18 When applied for 17.12.14 When received 19.12.14

H. H. Fletcher Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. JAN. 26. 1915

Assigned + LMC 12.14

MACHINERY CERTIFICATE ESTABLISHED



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