

## REPORT ON MACHINERY.

No. 24547  
THU. JUN. 4-1914

Date of writing Report 19 When handed in at Local Office May 28<sup>th</sup> 1914 Port of Hull  
 No. in Survey held at Hull. Date, First Survey Feb 12<sup>th</sup> Last Survey May 25 1914  
 Reg. Book. (Number of Visits 23)  
 131. on the M.S.K. "ADMIRAL CRADOCK" 1048  
 Master Built at Selby. By whom built Cockburn & Sons Ltd. When built 1914.  
 Engines made at } By whom made } when made 1914.  
 Boilers made at } Hull. By whom made Messrs. Charles W. Holmes & Co. Ltd. when made 1914.  
 Registered Horse Power Owners P. & H. Daniels & Co. Ltd. Port belonging to Hull.  
 Nom. Horse Power as per Section 28 84. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triple Expansion. No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 13"-23"-34" Length of Stroke 26" Revs. per minute 288 Material of screw shaft as per rule 8 1/2" as fitted 8 1/2" Dia. of screw shaft 8 1/2" Material of screw shaft 8 1/2"  
 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 No. If two liners are fitted, is the shaft lapped or protected between the liners No. Length of stern bush 36"  
 Dia. of Tunnel shaft as per rule 4 1/4" as fitted 4 1/4" Dia. of Crank shaft journals as per rule 4 3/4" as fitted 4 3/4" Dia. of Crank pin 4 1/2" Size of Crank webs 4 3/4" x 14 1/2" Dia. of thrust shaft under collars 1 1/2" Dia. of screw 2 1/2" Pitch of Screw 11-0 No. of Blades 4 State whether moveable No. Total surface 33 sq ft  
 No. of Feed pumps 1 Diameter of ditto 2 3/8" Stroke 14 1/2" Can one be overhauled while the other is at work No.  
 No. of Bilge pumps 1 Diameter of ditto 2 3/8" Stroke 14 1/2" Can one be overhauled while the other is at work No.  
 No. of Donkey Engines 1 Sizes of Pumps 6" x 4 1/4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two 2" on forward 2 on aft. In Holds, &c. One 2" on forward, one 2" on main hold, one 2" on deep well. Extern suction from all bilges with discharge on deck.  
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump No. Is a separate Donkey Suction fitted in Engine room & size 3" dia.  
 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 No.  
 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 Hold suction pipes 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.  
 Dates of examination of completion of fitting of Sea Connections 24.3.14 of Stern Tube 24.3.14 Screw shaft and Propeller 24.3.14  
 Is the Screw Shaft Tunnel watertight No. Is it fitted with a watertight door No. worked from No.

OILERS, &c.—(Letter for record S.) Manufacturers of Steel Phoenix & Co. Ltd. of Leeds.  
 Total Heating Surface of Boilers 1440 sq ft Is Forced Draft fitted No. No. and Description of Boilers One cyl. mult. single ended.  
 Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 21.3.14 No. of Certificate 2043.  
 Can each boiler be worked separately No. Area of fire grate in each boiler 48 sq ft No. and Description of Safety Valves to each boiler Two Spring. Area of each valve 4.90" Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes.  
 Smallest distance between boilers or uptakes and bunkers or woodwork 7 1/2" INT. Mean dia. of boilers 13.9" Length 10.6" Material of shell plates S.  
 Thickness 1 1/4" Range of tensile strength 29 tons. Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams D.B.S. & L.P. Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 1/8" Lap of plates or width of butt straps 18"  
 Per centages of strength of longitudinal joint rivets 88.9 Working pressure of shell by rules 202 lbs. Size of manhole in shell 16" x 12"  
 Size of compensating ring 7' x 1 1/4" No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 3' 4"  
 Length of plain part top 6' 6 1/2" bottom 6' 6 1/2" Thickness of plates crown 1 3/8" bottom 1 3/8" Description of longitudinal joint Welded. No. of strengthening rings 0.  
 Working pressure of furnace by the rules 206 Combustion chamber plates: Material S. Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"  
 Pitch of stays to ditto: Sides 10" x 8" Back 8 1/4" x 9 1/2" Top 8 1/4" x 11 1/2" If stays are fitted with nuts or riveted heads Both. Working pressure by rules 214.  
 Material of stays S. Diameter at smallest part 2 1/2" Area supported by each stay 86.40" Working pressure by rules 215. End plates in steam space: Material S. Thickness 1 1/2" Pitch of stays 18 1/2" x 15 1/2" How are stays secured D.B. & L.P. Working pressure by rules 205. Material of stays S.  
 Diameter at smallest part 4.50" Area supported by each stay 342.250" Working pressure by rules 228 Material of Front plates at bottom S.  
 Thickness 1 1/2" Material of Lower back plate S. Thickness 1 1/2" Greatest pitch of stays 13 3/4" x 9 1/2" Working pressure of plate by rules 212  
 Diameter of tubes 3 1/2" Pitch of tubes 4 7/8" x 4 7/8" Material of tube plates S. Thickness: Front 1 1/2" Back 1 1/2" Mean pitch of stays 9 5/8"  
 Pitch across wide water spaces 14" 2 db. Working pressures by rules 200 Girders to Chamber tops: Material S. Depth and thickness of girder at centre 11. 1 3/4" Length as per rule 2' 0 3/2" Distance apart 11" Number and pitch of stays in each 3. 8"  
 Working pressure by rules 201. Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately No.  
 Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet  
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
 Fitted 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 No.

IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

✓

SPARE GEAR.

State the articles supplied:—

Two each top & bottom end connecting rod bolts & nuts, one set of coupling bolts & nuts, one set each feed & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,

p. pro CHARLES D. HOLMES & CO. LTD.

Arthur Holmes

DIRECTOR.

Manufacturer.

Dates of Survey while building { During progress of work in shops - 1914:— Feb 12, 16, 21, 25 Mar 3, 9, 12, 13, 23, 24, 26, 31, Apr 6, 18, 24, 27 May 4, 8.  
During erection on board vessel - May 19, 20, 21, 23, 25.  
Total No. of visits 23.

Is the approved plan of main boiler forwarded herewith

yes ✓

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 25.2.14 Slides 31.3.14 Covers 31.3.14 Pistons 23.3.14 Rods 23.2.14  
Connecting rods 26.2.14 Crank shaft 9.3.14 Thrust shaft 8.5.14 Tunnel shafts - Screw shaft 9.3.14 Propeller 9.3.14  
Stern tube 9.2.14 Steam pipes tested 19.5.14 Engine and boiler seatings 24.3.14 Engines holding down bolts 19.5.14  
Completion of pumping arrangements 19.5.14 Boilers fixed 19.5.14 Engines tried under steam 21.5.14  
Main boiler safety valves adjusted 21.5.14 Thickness of adjusting washers EV  $\frac{1}{2}$   $\frac{1}{16}$ " AV  $\frac{1}{8}$ "  
Material of Crank shaft S. Identification Mark on Do. 1118. Material of Thrust shaft S Identification Mark on Do. 1118.  
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts S. Identification Marks on Do. 1118.  
Material of Steam Pipes Copper solid drawn. 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 yes. If so, state name of vessel S/S "SIR MARK SYKES"

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are found and good. The boiler tested by hydraulic pressure and with the engines secured on board and tested under steam they are now in good order and safe working condition respectfully submitted as being eligible in my opinion to be classed with the notation of +LMC 5.14 in the Register book.

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 5.14.

JWD  
7/6/14

JRS

The amount of Entry Fee ... £ 1 : 0 :  
Special ... £ 13 : 1 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : 8/2 :  
When applied for, 3/6/1914  
When received, 30/6/1914

Committee's Minute

Assigned

FRI. JUN. 5—1914

+ LMC 5.14

J. G. MacKillop  
Engineer-Surveyor to Lloyd's Register of British & Foreign Shipping.



© 2020

Lloyd's Register  
Foundation