Rpt. 4.

REPORT ON MACHINERY. No. 26017

Received at London Office THU. FEB. 20. 1914

Date of writing Report 19 When handed in at Local Office 25. 2 1914 Port of Sunderland.

No. in Reg. Book. Survey held at Sunderland. Date, First Survey 19 Sept. Last Survey 21st Febry 1914 (Number of Visits 46)

on the Steel Screw Steamer "Batsford" Tons Gross 4782 Net 2906

Master J. Wiseman Built at Sunderland By whom built J. L. Thompson & Sons Ltd When built 1913-14

Engines made at Sunderland. By whom made J. Dickinson & Sons Ltd when made 1913-14

Boilers made at " By whom made " " when made 1913-14.

Registered Horse Power Owners Century Shipping Co Ltd (Harris & Dixon Ltd) Port belonging to London

Nom. Horse Power as per Section 28 455 ✓ Is Refrigerating Machinery fitted for cargo purposes no. ✓ Is Electric Light fitted Yes ✓

ENGINES, &c.—Description of Engines Tri CPD ✓ No. of Cylinders 3 ✓ No. of Cranks 3 ✓

Dia. of Cylinders 27½" 44½" 74". ✓ Length of Stroke 48". ✓ Revs. per minute 70 ✓ Dia. of Screw shaft as per rule 14.89 ✓ as fitted 15" Material of screw shaft } S. ✓

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 ✓ 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 ✓. Length of stern bush 5 ft ✓

Dia. of Tunnel shaft as per rule 13.48" ✓ as fitted 13½" Dia. of Crank shaft journals as per rule 14.15 ✓ as fitted 14½" Dia. of Crank pin 14¼" ✓ Size of Crank webs 9" ✓ Dia. of thrust shaft under collars 14½ ✓ Dia. of screw 17' 9" ✓ Pitch of Screw 17' 6" ✓ No. of Blades 4 ✓ State whether moveable no ✓ Total surface 1086 ✓

No. of Feed pumps 2 ✓ Diameter of ditto 4½" ✓ Stroke 24" ✓ Can one be overhauled while the other is at work yes ✓

No. of Bilge pumps 2. ✓ Diameter of ditto 5" ✓ Stroke 24" ✓ Can one be overhauled while the other is at work yes. ✓

No. of Donkey Engines 3. ✓ Sizes of Pumps (10×10)(7×24) duplex twins (4½×10) duplex No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room four. 3½" ✓ In Holds, &c. two of 3½" in each ✓ tunnel 2½" ✓

No. of Bilge Injections 1 ✓ sizes 4" ✓ Connected to condenser, or to circulating pump C.P. ✓ Is a separate Donkey Suction fitted in Engine room & size Yes 4" ✓

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 ✓

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 11.12.13 of Stern Tube 6.1.14 Screw shaft and Propeller 6.1.14

Is the Screw Shaft Tunnel watertight Yes. ✓ Is it fitted with a watertight door Yes. ✓ worked from top platform ✓

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

Total Heating Surface of Boilers 7545 ✓ Is Forced Draft fitted no ✓. No. and Description of Boilers 3. S. Ended ✓

Working Pressure 180 ✓ Tested by hydraulic pressure to 360 ✓ Date of test 14-1-14 No. of Certificate 3185

Can each boiler be worked separately Yes ✓ Area of fire grate in each boiler 65 ft. ✓ No. and Description of Safety Valves to each boiler 2 Spring ✓ Area of each valve 8.3" ✓ Pressure to which they are adjusted 185 ✓ Are they fitted with easing gear yes ✓

Smallest distance between boilers or uptakes and bunkers or woodwork about 15" ✓ ~~Mean~~ dia. of boilers 15' 9" ✓ Length 11' 6" ✓ Material of shell plates S ✓

Thickness 1 7/32" ✓ Range of tensile strength 28¾ - 32. ✓ Are the shell plates welded or flanged no. ✓ Descrip. of riveting: cir. seams d.r. lap long. seams t.r.d. butt ✓ Diameter of rivet holes in long. seams 15/16" ✓ Pitch of rivets 8 15/16" ✓ ~~Lap~~ or ~~plates~~ ~~or~~ width of butt straps 1' 4¼" ✓

Per centages of strength of longitudinal joint rivets 92.46 plate 85.31 Working pressure of shell by rules 181. Size of manhole in shell 16"×12" ✓

Size of compensating ring 8⅝ × 1 7/32" ✓ No. and Description of Furnaces in each boiler 3 Corrug ✓ Material S ✓ Outside diameter 4' 2" ✓

Length of plain part top } 9" bottom } Thickness of plates crown } 19/32" ✓ bottom } Description of longitudinal joint weld ✓ No. of strengthening rings ✓

Working pressure of furnace by the rules 189. Combustion chamber plates: Material S ✓ Thickness: Sides 11/16" ✓ Back 11/16" ✓ Top 11/16" ✓ Bottom ⅞" ✓

Pitch of stays to ditto: Sides 10¾" × 8" ✓ Back 10¾" × 8½" ✓ Top 10" × 9" ✓ If stays are fitted with nuts or riveted heads nuts ✓ Working pressure by rules 181

Material of stays S ✓ Diameter at smallest part 1.6" ✓ Area supported by each stay 91.4" ✓ Working pressure by rules 181 End plates in steam space: Material S ✓ Thickness 1 3/16" ✓ Pitch of stays 18½" × 20" ✓ How are stays secured d. nut. ✓ Working pressure by rules 188 Material of stays S ✓

Diameter at smallest part 2.42" ✓ Area supported by each stay 370 ✓ Working pressure by rules 187. Material of Front plates at bottom S ✓

Thickness ⅞" ✓ Material of Lower back plate S ✓ Thickness 29/32" ✓ Greatest pitch of stays 14" × 10½" ✓ Working pressure of plate by rules 184

Diameter of tubes 3¼" ✓ Pitch of tubes 4½" × 4⅓" ✓ Material of tube plates S ✓ Thickness: Front ⅞" ✓ Back ⅞" ✓ Mean pitch of stays 9" × 11¼" ✓

Pitch across wide water spaces 1' 1¼". ✓ Working pressures by rules 288 Girders to Chamber tops: Material S ✓ Depth and thickness of girder at centre 7½" × (1 tube) ✓ Length as per rule 2' 8 23/32" ✓ Distance apart 9" ✓ Number and pitch of stays in each 2 @ 10" ✓

Working pressure by rules 184' ✓ 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

W531-0301

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. Description

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to Date of test No. of Certificate Fire grate area Description of Safety Valves No. of Safety Valves Area of each Pressure to which they are adjusted Date of adjustment

If fitted with easing gear If steam from main boilers can enter the donkey boiler Dia. of donkey boiler Length

Material of shell plates Thickness Range of tensile strength Descrip. of riveting long. seams

Dia. of rivet holes Whether punched or drilled Pitch of rivets Lap of plating Per centage of strength of joint Rivets Plates

Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays

Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint

Working pressure of furnace by rules Thickness of furnace crown plates Radius of do. Stayed by

Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

See report attached

SPARE GEAR. State the articles supplied :— Propeller & Shaft. Set of coupling bolts & nuts ✓ two top & bottom end bolts & nuts ✓. Set of holding down bolts & nuts ✓. Set of feed pump valves ✓. Set of bilge pump valves. Set of air & Cir.g. valves. Set ballast & donkey valves & Seats for duplex feed pump. Iron. bolts & nuts assorted. ✓

The foregoing is a correct description,

John Dickinson & Sons, Limited.
J. Dickinson Manufacturer.

Dates of Survey while building { During progress of work in shops - - } Aug 1913 Sep 19.25. Oct. 2.4.6.9.13.15.17.21.27.28. Nov. 1.3.4.6.11.20.26. Dec. 3.5.8.
{ During erection on board vessel - - - } 15.16.18.23 Jan 6.13.14.19 20.22.26 27.29.30.31. Feb 2.3.6.9.12.16.18.20
Total No. of visits (46) Is the approved plan of main boiler forwarded herewith Yes ✓
" " " donkey " " " Yes ✓

Dates of Examination of principal parts—Cylinders 5.12.13 Slides 26.11.13 Covers 26.11.13 Pistons 5.12.13 Rods 5.12.13
Connecting rods 8.12.13 Crank shaft 15.12.13 Thrust shaft 15.12.13 Tunnel shafts 15.12.13 Screw shaft 15.12.13 Propeller 8.12.13
Stern tube 8.12.13 Steam pipes tested 22.1.14 Engine and boiler seatings 19.1.14 Engines holding down bolts 27.1.14
Completion of pumping arrangements 30.1.14 Boilers fixed 27.1.14. Engines tried under steam 30.1.14
Main boiler safety valves adjusted 31.1.14. Thickness of adjusting washers ~~PB~~ f $\frac{3}{8}$" a $\frac{7}{16}$", CB p $\frac{5}{16}$". s $\frac{5}{16}$". SB f $\frac{13}{32}$" a $\frac{11}{32}$"
Material of Crank shaft S. Identification Mark on Do. PA. MB. Material of Thrust shaft S Identification Mark on Do. PA.
Material of Tunnel shafts S. Identification Marks on Do. WS. HR Material of Screw shafts S Identification Marks on Do. PA.
Material of Steam Pipes Copper. ✓ Test pressure 400 lbs ✓

General Remarks (State quality of workmanship, opinions as to class, &c. Machinery & boilers constructed under Survey. Materials and workmanship good. Engines and boilers examined under full working conditions & found satisfactory In my opinion this vessels machinery is eligible for the record in the Register of ✠ L.M.C. 2-1914.

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

It is submitted that this vessel is eligible for THE RECORD. ✠ LMC 2.14.

JWR 26/2/14 FRH

J. Y. Findlay
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ 3 : - : -
Special .. .. .. £ 42 : 15 : -
Donkey Boiler Fee .. .. £ : :
Travelling Expenses (if any) £ : :

When applied for, 26 2 1914
When received, 27.2.14

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Committee's Minute FRI. FEB. 27. 1914

Assigned ✠ LMC 2.14

MACHINERY CERTIFICATES POTTER.