

REPORT ON MACHINERY.

No. 27081

Received at London Office

of writing Report 24th Oct 17 When handed in at Local Office 29. 10. 1917. Port of SUNDERLAND.
 in Survey held at SUNDERLAND. Date, First Survey 22 June 1917 Last Survey 6 July 1918
 on the Machinery for E. Finch & Co. P.S. Petworth Number of Visits 30 Gross 2012
 Master J. H. Bradley Built at Chepew By whom built E. Finch & Co. Ltd. Net 1224
 Engines made at Sunderland By whom made Richardsons, Westgate When built 1917
 Meters made at " By whom made " when made 1917
 Registered Horse Power " Owners Pown & Co Ltd Port belonging to London
 m. Horse Power as per Section 28 259 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 2 1/2", 35", 59" Length of Stroke 39" Revs. per minute 70 Dia. of Screw shaft 12.05 Material of Iron
 as per rule 10.69 as fitted 10.74 Dia. of Crank shaft journals 11.22 as per rule 11.38 as fitted 11.38 Dia. of Crank pin 1 1/4" Size of Crank webs 1 1/2" x 7" Dia. of thrust shaft under
 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
 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 4 1/2"
 Dia. of Tunnel shaft 10.69 as per rule 10.74 as fitted 10.74 Dia. of Crank shaft journals 11.22 as per rule 11.38 as fitted 11.38 Dia. of Crank pin 1 1/4" Size of Crank webs 1 1/2" x 7" Dia. of thrust shaft under
 liners 1 1/8" Dia. of screw 14-9" Pitch of Screw 15-6" No. of Blades 4 State whether moveable no Total surface 71
 No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps Supply 6" x 8" x 2 1/2" & 8" x 8" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 2 of 2 3/4" & 1.3" In Holds, &c. Fore hold 2 of 2 3/4"
 After hold 2 of 2 1/4" & 1.3"
 No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump pumps a separate Donkey Suction fitted in Engine room & size 3"
 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 Yes
 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
 That pipes are carried through the bunkers None How are they protected Yes
 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 7/12/17 of Stern Tube 7/12/17 Screw shaft and Propeller 10/12/17
 the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record P.S.) Manufacturers of Steel J. Spencer & Sons
 Total Heating Surface of Boilers 4300 Is Forced Draft fitted no No. and Description of Boilers 2 Single-ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 5/10/17 No. of Certificate 3435
 Can each boiler be worked separately Yes Area of fire grate in each boiler 55 No. and Description of Safety Valves to
 each boiler 2 direct spring Area of each valve 7.06 Pressure to which they are adjusted 180 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2-0" Mean dia. of boilers 15-0" Length 11-3" Material of shell plates Steel
 Thickness 1 1/32" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. lap
 Long. seams d. r. d. b. Diameter of rivet holes in long. seams 1 9/32" Pitch of rivets 9" ~~Top of plates or width of butt straps~~ 17"
 Percentages of strength of longitudinal joint 87.4 Working pressure of shell by rules 180.5 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring flanges No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 46 1/4"
 Length of plain part top 9 1/16" Thickness of plates bottom 9 1/16" Description of longitudinal joint welded No. of strengthening rings 1
 Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material Steel Thickness: Sides 3/4" Back 1 1/16" Top 3/4" Bottom 13/16"
 Pitch of stays to ditto: Sides 10" x 10 1/2" Back 9 1/2" x 8 1/2" Top 10" x 10 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 183 lbs
 Material of stays Steel Diameter at smallest part 1.78 Area supported by each stay 88.75 Working pressure by rules 181.5 lbs End plates in steam space:
 Material Steel Thickness 1 9/32" Pitch of stays 20" x 20 3/8" How are stays secured d. n. Working pressure by rules 180.5 lbs Material of stays Steel
 Diameter at smallest part 1.24 Area supported by each stay 40.75 Working pressure by rules 84 lbs Material of Front plates at bottom Steel
 Thickness 25/32" Material of Lower back plate Steel Thickness 25/32" Greatest pitch of stays 13 1/2" x 8 1/8" Working pressure of plate by rules 188 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/4" Material of tube plates Steel Thickness: Front 25/32" Back 25/32" Mean pitch of stays 11"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 180.7 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8 1/2" x 1 1/4" Length as per rule 31.5 Distance apart 10 1/2" Number and pitch of stays in each 2 of 10"
 Working pressure by rules 190 lbs Superheater or Steam chest; how connected to boiler none 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
 Stays 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

W170-0115

IS A DONKEY BOILER FITTED? *Yes* If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied: - 1 Propeller, 2 Top end bolts, 2 Bottom end bolts, 2 Main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, 1 Int's feed check valve, 2 safety valve springs & assorted bolts & nuts re

The foregoing is a correct description, FOR RICHARDSONS, WESTGARTH & CO., LTD

Redie St. Russell ASSISTANT MANAGER

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1/17 June 12, Jul 12, 18 Aug 22, 28 Sep 5, 7, 14, 19, 26, 28 Oct 4, 5, 11, 15, 16, 30. During erection on board vessel - 1/17 29 Dec, 8 Jan, Jan 8, 15, Feb 12, 20, Feb 2, 4, 6, 7 Dec 1917. Total No. of visits 30. Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts - Cylinders 4/9/17 Slides 5/9/17 Covers 7/9/17 Pistons 5/9/17 Rods 7/9/17 Connecting rods 7/9/17 Crank shaft 28/8/17 Thrust shaft 4/9/17 Tunnel shafts 28/9/17 Screw shaft 7/9/17 Propeller 11/10/17 Stern tube 8/8/17 Steam pipes tested 20/2/18 Engine and boiler seatings 12/11/17 Engines holding down bolts 8/1/18. Completion of pumping arrangements 25/2/18 Boilers fixed 22/1/18. Engines tried under steam 2/3/18.

Main boiler safety valves adjusted 180 lbs Thickness of adjusting washers 7/16"

Material of Crank shaft *Steel* Identification Mark on Do. *5935 21/8/17 AB* Material of Thrust shaft *Steel* Identification Mark on Do. *5930 11/10/17 AB*

Material of Tunnel shafts *Iron* Identification Marks on Do. 11/10/17 Material of Screw shafts *Iron* Identification Marks on Do. 11/10/17

Material of Steam Pipes *Bmks S.D. Steel Straight L welded iron* test pressure 540 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 built under special survey, the materials used are good, and the workmanship is satisfactory. In my opinion this vessel will be eligible for the record of L.M.C. 3-18 when the machinery has been fitted on board and the engines tried under steam.

Machinery now fitted on board, tried under steam & found satisfactory & eligible for Record as above *John S. Cooper*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 3-18

JWC 20/3/18

Charles Cooper Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Table with columns for fees: The amount of Entry Fee £ 2: -: When applied for, 30 OCT 1917; Special 1/3 due Newport £ 22: -:; Donkey Boiler Fee £ 10: 19:; Travelling Expenses (if any) £ 2: 2: When received, 29 Nov 17

Committee's Minute Assigned + L.M.C. 3-18

MACHINERY CERTIFICATE WRITTEN



SUNDERLAND.

Vertical text on the left margin: The Registrar is requested not to write on or in the space for Committee's Minute.

Vertical text on the right margin: Date of writing, No. in Reg. Book, Master, Engines m, Donkey ma, Boiler ma, Normal, Registered, MULTIT, (Letter for, Boilers, No. of Cer, safety valve, Are they fi, Smallest di, Material of, Descrip. of, Lap of plo, rules 10, boiler tw, Description, plates: M, Top 1/4 x, smallest po, Pitch of s, Area supp, Lower bac, Pitch of t, water spa, girder at, Working p, separately, holes, If stiffene, Working p, Dates of Survey while building, GENE, The, The, Surve, Trave, Comm, Assign