

REPORT ON MACHINERY.

No. 25908

Received at London Office

THU. FEB. 27. 1913

Date of writing Report 22.2.13 When handed in at Local Office 26.2.13 Port of Hull
 No. in Survey held at 1/11/13 Date, First Survey Nov 15th 1912 Last Survey Feb 20th 1913
 Reg. Book. 3800 on the Ship S.K. "DIAMOND"
 Master Built at Hull By whom built Buchanan & Sons Ltd. Tons Gross 289 Net 115
 Engines made at By whom made Messrs Charles R. Holmes & Co. Ltd. when made 1913.
 Boilers made at Hull By whom made Messrs Charles R. Holmes & Co. Ltd. when made 1913.
 Registered Horse Power Owners Timplon Steam Trawling Co. Ltd. Port belonging to Hull.
 Nom. Horse Power as per Section 28 93. 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"-22½"-34" Length of Stroke 24" Revs. per minute 115 Dia. of Screw shaft as per rule 8" 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 If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 38".
 Dia. of Tunnel shaft as per rule 6.82 Dia. of Crank shaft journals as per rule 4.16 Dia. of Crank pin 4½" Size of Crank webs 14½" x 48" Dia. of thrust shaft under collars 4½" Dia. of screw 9-6" Pitch of Screw 10-10½" No. of Blades 4 State whether moveable No. Total surface 32 ft.
 No. of Feed pumps 1 Diameter of ditto 2½" Stroke 14½" Can one be overhauled while the other is at work Yes.
 No. of Bilge pumps 1 Diameter of ditto 2½" Stroke 14½" Can one be overhauled while the other is at work Yes.
 No. of Donkey Engines 1 Sizes of Pumps 6" x 4½" x 6" duplex No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 2½" one forward & one aft. In Holds, &c. One 2½" before hold, one 2½" in main hold, one 2½" in fore hold, one 2½" in aft hold. Suction from all bilges with discharge on deck.
 No. of Bilge Injections 1 sizes 3½" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room of size 3" suction.
 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 0.
 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 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 10.12.12 of Stern Tube 10.12.12 Screw shaft and Propeller 10.12.12
 Is the Screw Shaft Tunnel watertight Yes. Is it fitted with a watertight door Yes. worked from Yes.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel The Steel Company of Scotland Ltd.
 Total Heating Surface of Boilers 13500 Is Forced Draft fitted No. No. and Description of Boilers One cyl. multi. simple m.d.d.
 Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 3.1.13. No. of Certificate 1955.
 Can each boiler be worked separately Yes. Area of fire grate in each boiler 44.3 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 5" Mean dia. of boilers 13-0" Length 10-6" Material of shell plates S.
 Thickness 1½" Range of tensile strength 28 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams R.P.L. long. seams R.P.S.P. Diameter of rivet holes in long. seams 1½" Pitch of rivets 8½" Lap of plates on width of butt straps 18"
 Per centages of strength of longitudinal joint rivets 89 plate 85.5 Working pressure of shell by rules 205 lbs. Size of manhole in shell 16" x 12"
 Size of compensating ring 1½" x 4" No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 34.625"
 Length of plain part top 16.5" Thickness of plates crown 13" Description of longitudinal joint Welded No. of strengthening rings 0 bottom 16"
 Working pressure of furnace by the rules 221 lbs. Combustion chamber plates: Material S. Thickness: Sides 1½" Back 1½" Top 1½" Bottom 1½"
 Pitch of stays to ditto: Sides 8½" x 8" Back 8½" x 8½" Top 8½" x 8" If stays are fitted with nuts or riveted heads No. Working pressure by rules 232 lbs.
 Material of stays S. Diameter at smallest part 2.40" Area supported by each stay 890" Working pressure by rules 242 lbs. End plates in steam space: Material S. Thickness 1½" Pitch of stays 19" x 18" How are stays secured R.H. & W. Working pressure by rules 228 lbs. Material of stays S.
 Diameter at smallest part 7.50" Area supported by each stay 3420" Working pressure by rules 228 lbs. Material of Front plates at bottom S.
 Thickness 1" Material of Lower back plate S. Thickness 1½" Greatest pitch of stays 13" x 8½" Working pressure of plate by rules 254 lbs.
 Diameter of tubes 3½" Pitch of tubes 4½" x 4½" Material of tube plates S. Thickness: Front 1" Back 1" Mean pitch of stays 12"
 Pitch across wide water spaces 13½" Working pressures by rules 203 lbs. Girders to Chamber tops: Material S. Depth and thickness of girder at centre 10" - 13" Length as per rule 3-0 Distance apart 8½" Number and pitch of stays in each 3-8"
 Working pressure by rules 205 lbs. 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

2520-669M

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 _____
 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 _____

SPARE GEAR. State the articles supplied:— *Two each top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each fuel & lift pump valves, many of various sizes, a quantity of assorted bolts, nuts etc.*

The foregoing is a correct description,
 p. pro CHARLES D. HOLMES & CO. LTD.
 Manufacturer.

Dates of Survey while building
 During progress of work in shops — 1912: Nov 15, 19, 21, 26, 28, Dec 2, 4, 6, 10, 17, 18, 24, 30, 1913: Jan 1, 3, 8, 10
 During erection on board vessel — Jan 14, 22, 25, 30, 31, Feb 5, 6, 10, 11, 14, 17, 18, 20
 Total No. of visits 30

Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " " —

Dates of Examination of principal parts—Cylinders 10.12.12 Slides 22.1.13 Covers 22.1.13 Pistons 8.1.13 Rods 8.1.13
 Connecting rods 22.1.13 Crank shaft 18.12.12 Thrust shaft 10.1.13 Tunnel shafts ✓ Screw shaft 2.12.12 Propeller 2.12.12
 Stern tube 2.12.12 Steam pipes tested 31.1.13 Engine and boiler seatings 10.12.12 Engines holding down bolts 5.2.13
 Completion of pumping arrangements 17.2.13 Boilers fixed 11.2.13 Engines tried under steam 11.2.13
 Main boiler safety valves adjusted 11.2.13 Thickness of adjusting washers FORWARD $\frac{3}{8}$ " AFT $\frac{3}{8}$ "
 Material of Crank shaft *Steel* Identification Mark on Do. N° 9847.62 Material of Thrust shaft *Steel* Identification Mark on Do. N° 9847.62
 Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts *Iron* Identification Marks on Do. N° 9847.52
 Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs per sq. in. hydraulic*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boiler of this vessel have been examined under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure, & with the engines secured on board & tested under steam they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notation of T.L.M.C. 2.13 in the Register Book.*

It is submitted that
 this vessel is eligible for
 THE RECORD. + L.M.C. 2.13.

E.J.S.
 27.2.13. *APR*

The amount of Entry Fee .. £ 1 : 0 :
 Special .. £ 12 : 9 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : 8/2 :
 When applied for. 26-2-13
 When received. 28/2/13

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

Committee's Minute

FRI. FEB. 28, 1913

Assigned

+ L.M.C. 2.13



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