

REPORT ON MACHINERY.

FRI. 14 JAN 1910

No. 24304

Date of writing Report 28 Dec 1909 When handed in at Local Office 31 Dec 1909 Port of Sunderland
 Received at London Office SAT. 1 JAN 1910
 No. in Survey held at Sunderland. Date, First Survey 1st September 09 Last Survey 31st May 1910
 Reg. Book. on the S/S "Benwood" (Number of Visits 3)
 Master R. Owen Built at Middlesbro By whom built Craig Taylor & Co. Tons 3869.70
 Engines made at S'land. By whom made H. E. M. Eng. Co. Ltd. when made 1909
 Boilers made at S'land. By whom made H. E. M. Eng. Co. Ltd. when made 1909
 Registered Horse Power _____ Owners Joseph Houlston & Co. Ltd. Port belonging to Liverpool
 Nom. Horse Power as per Section 28 342 Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

ENGINES, &c.—Description of Engines M. C. P. A.

Dia. of Cylinders 24. 40. 66 Length of Stroke 45 Revs. per minute 65 Dia. of Screw shaft 13.83 No. of Cylinders 3 No. of Cranks 3
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes Material of screw shaft S
 in the propeller boss yes If the liner is in more than one length are the joints burned _____ Is the after end of the liner made water tight
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If the liner does not fit tightly at the part
 liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 4' 9"
 Dia. of Tunnel shaft 12.11 Dia. of Crank shaft journals 12.72 Dia. of Crank pin 13 Size of Crank webs 19 1/2 x 8 Dia. of thrust shaft under
 collars 13 Dia. of screw 17.3 Pitch of Screw 17.3 No. of Blades 4 State whether moveable f Total surface 94.5
 No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 3 Sizes of Pump (2) 7 1/2 x 5 x 6, (1) 8 1/2 x 11 x 10 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 of 3 1/2 In Holds, &c. two of 3 1/2 each
 No. of Bilge Injections 1 sizes 4 1/2 Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size yes 3 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 _____
 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 yes
 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 10/25. 11. 09 of Stern Tube 7. 12. 09 Screw shaft and Propeller 7. 12. 09
 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 5604.5 Is Forced Draft fitted no No. and Description of Boilers 3. S. E.
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 Date of test 12. 11. 09 No. of Certificate 2792
 Can each boiler be worked separately yes Area of fire grate in each boiler 45.5 No. and Description of Safety Valves to
 each boiler 2 Spring Area of each valve 4.9 Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2 feet Mean dia. of boilers 13.9 1/2 Length 11 ft Material of shell plates S
 Thickness 1 3/8 Range of tensile strength 28 3/4 - 32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. lap
 long. seams d. butt Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 3/4 Imp. of plates on width of butt straps 1' 6"
 Per centages of strength of longitudinal joint rivets 85.4 Working pressure of shell by rules 180 Size of manhole in shell 16 x 12 end
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 3' 5 1/2"
 Length of plain part top 6.8 1/2 bottom 6.0 Thickness of plates crown 4.9 bottom 6.4 Description of longitudinal joint weld No. of strengthening rings _____
 Working pressure of furnace by the rules 182 Combustion chamber plates: Material S Thickness: Sides 2 3/32 Back 3/4 Top 2 3/32 Bottom 1 13/32
 Pitch of stays to ditto: Sides 8 1/2 x 11 Back 10 1/2 x 10 1/2 Top 8 1/2 x 11 1/8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180
 Material of stays S Diameter at smallest part 2.1 Area supported by each stay 94.2 Working pressure by rules 182 End plates in steam space: _____
 Material S Thickness 1 5/16 Pitch of stays 22 1/2 x 19 1/2 How are stays secured d nuts Working pressure by rules 181 Material of stays S
 Diameter at smallest part 8.48 Area supported by each stay 446.8 Working pressure by rules 196 Material of Front plates at bottom S
 Thickness 3/4 Material of Lower back plate S Thickness 3/32 Greatest pitch of stays 14 x 10 1/2 Working pressure of plate by rules 188
 Diameter of tubes 3 1/4 Pitch of tubes 4 9/16 x 4 1/2 Material of tube plates S Thickness: Front 3/4 Back 3/4 Mean pitch of stays 9 1/2 x 9
 Pitch across wide water spaces 14 1/2 Working pressures by rules 192 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 8" x 2 Length as per rule 30 1/2 Distance apart 11 1/8 Number and pitch of stays in each 2 @ 8 1/2
 Working pressure by rules 182 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 _____

Lloyd's Register Foundation

W148-0009

