

REPORT ON MACHINERY.

No. 10857

FRI. MAY. 24. 1912

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Date of writing Report 22.5.12. When handed in at Local Office 23.5.12. Port of Aberdeen

No. in Survey held at Aberdeen Date, First Survey 14.2.12. Last Survey 20.5.1912.

Reg. Book. on the S.S. "PLOUGH" (Number of Visits 22.)

Master Martin Gardner Built at Aberdeen By whom built A. Hall & Co. L^d N^o 448. Tons { Gross 95.06 Net 39.85

Engines made at Aberdeen By whom made A. Hall & Co. L^d N^o 1478. When built 1912.

Boilers made at do By whom made do do do do when made 1912.

Registered Horse Power 39. Owners Martin Gardner. Port belonging to Kirkcaldy.

Nom. Horse Power as per Section 28 39. 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 9 1/2", 16", 26 1/2" Length of Stroke 18" Revs. per minute 145. Dia. of Screw shaft as per rule 5.637 as fitted 6". Material of screw shaft Scrap iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No. 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 parcelled & sewed. Length of stern bush 2'. 0"

Dia. of Tunnel shaft as per rule 4.816 as fitted 5". Dia. of Crank shaft journals as per rule 5.056 as fitted 5 1/4". Dia. of Crank pin 5 1/4". Size of Crank webs 4 3/4" x 3 1/4". Dia. of thrust shaft under collars 5 1/4". Dia. of screw 6.6" Pitch of Screw 8.6" No. of Blades 4. State whether moveable No. Total surface 197

No. of Feed pumps 1. Diameter of ditto 2 1/16" Stroke 9" Can one be overhauled while the other is at work. No. of Bilge pumps 1. Diameter of ditto 2 1/16" Stroke 9" Can one be overhauled while the other is at work.

No. of Donkey Engines One. Sizes of Pumps 4" x 2 1/2" x 4" duplex. No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room one of 2". In Holds, &c. Fishhold, one of 2".

Also ejector, drawing from all parts, and with separate suction to engine room. 2" dia. No. of Bilge Injections 1 size 2 1/2" Connected to condenser, or to circulating pump C.T. Is a separate Donkey Suction fitted in Engine room & size Yes: 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 None.

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 Sucs from Fishhold & F.W. Tank. How are they protected Strong 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 1.4.12. of Stern Tube 29.3.12. Screw shaft and Propeller 1.4.12.

Is the Screw Shaft Tunnel watertight None. Is it fitted with a watertight door. worked from

BOILERS, &c.—(Letter for record (S).) Manufacturers of Steel The Steel Co of Scotland L^d D. Colville & Sons L^d.

Total Heating Surface of Boilers 6917. Is Forced Draft fitted No. No. and Description of Boilers 1 Single ended.

Working Pressure 180 lbs. Tested by hydraulic pressure to 360. Date of test 8.5.12. No. of Certificate 400.

Can each boiler be worked separately. Area of fire grate in each boiler 257. No. and Description of Safety Valves to each boiler 2 direct spring. Area of each valve 3.14. Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork About 4". Mean dia. of boilers 10.3". Length 9.0". Material of shell plates S.

Thickness 3/4". Range of tensile strength 28-32. Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams d. & lap long. seams dble straps. Diameter of rivet holes in long. seams 1 1/16". Pitch of rivets 4 1/16" x 3 1/16". Lap of plates or width of butt straps 10 1/2" x 1 1/2" x 3/8".

Per centages of strength of longitudinal joint rivets 85.3. Working pressure of shell by rules 184. Size of manhole in shell 16 x 12.

Size of compensating ring McNeil. No. and Description of Furnaces in each boiler 2: plain. Material S. Outside diameter 39".

Length of plain part top 65". Thickness of plates crown 1 1/16". Description of longitudinal joint weld. No. of strengthening rings. Working pressure of furnace by the rules 182. Combustion chamber plates: Material S. Thickness: Sides 5/8". Back 1/16". Top 9/16". Bottom 5/8".

Pitch of stays to ditto: Sides 9" x 1/2". Back 10 1/2" x 8". Top 4 1/2" x 1/2". If stays are fitted with nuts or riveted heads. Working pressure by rules 188.

Material of stays S. Diameter at smallest part 1 3/8" bare. Area supported by each stay 58". Working pressure by rules 210. End plates in steam space:

Material S. Thickness 3/8". Pitch of stays 14 1/2" x 13". How are stays secured dble nuts. Working pressure by rules 181. Material of stays S.

Diameter at smallest part 2 1/16". Area supported by each stay 188.5". Working pressure by rules 184. Material of Front plates at bottom S.

Thickness 3/8". Material of Lower back plate S. Thickness 3/8". Greatest pitch of stays 13 3/4" x 8". Working pressure of plate by rules 208.

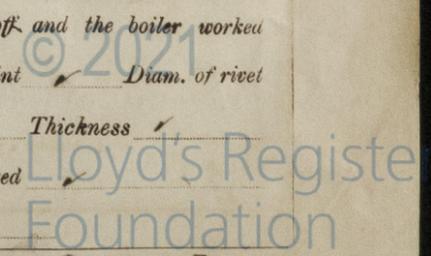
Diameter of tubes 3 1/2". Pitch of tubes 4 1/4" x 4 5/8". Material of tube plates S. Thickness: Front 3/8" x 2 1/16". Back 3/4". Mean pitch of stays 9 3/8".

pitch across wide water spaces 15". Working pressures by rules 18.229. Girders to Chamber tops: Material S. Depth and thickness of girder at centre 6 1/2" x 1 1/2". Length as per rule 25 1/2". Distance apart 4 3/4". Number and pitch of stays in each two: 4 1/2".

Working pressure by rules 189. Superheater or Steam chest; how connected to boiler None. 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.

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.



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