

REPORT ON MACHINERY.

No. 7888

THU. 6-DEC. 1917

Date of writing Report 3rd Dec 1917 When handed in at Local Office

Port of Belfast

No. in Survey held at Belfast

Date, First Survey 29 Jan 1917

Last Survey 24 Nov 1917

Reg. Book. on the H.M.S. "Springer"

(Number of Visits 104)

Gross

Master Built at Belfast By whom built Workman Clark & Co. Ltd. When built 1917

Engines made at Belfast By whom made when made

Boilers made at By whom made when made

Registered Horse Power Owners The Admiralty Port belonging to

Nom. Horse Power as per Section 28 393 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines 4 Cylinders Triple Expansion No. of Cranks 4

Dia. of Cylinders 23-37-42-42 Length of Stroke 30 Revs. per minute 170 Dia. of Screw shaft as per rule 10.99 Material of I. Steel

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 Yes If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 4'-6"

Dia. of Tunnel shaft as per rule 10.28 Dia. of Crank shaft journals as per rule 10.79 Dia. of Crank pin 11 3/8 Size of Crank web 20 7/8 x 7 1/2 Dia. of thrust shaft under

collars 11 3/8 Dia. of screw 9'-6" Pitch of Screw 12'-8 3/4" No. of Blades 4 State whether moveable No Total surface 38 sq ft.

No. of Feed pumps } Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps } Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Donkey Engines See Sizes of Hoses Sheet No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 8-3 1/2 In Holds, &c. 9-2 1/2

No. of Bilge Injections / sizes 8 Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size 2-3 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 Below

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 Suctions to For 2 Combs 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 25-8-17 of Stern Tube 27-9-17 Screw shaft and Propeller 27-9-17

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No worked from

BOILERS, &c.—(Letter for record 30) Manufacturers of Steel D. Colville & Sons Ltd.

Total Heating Surface of Boilers 6884 sq ft Forced Draft fitted Yes No. and Description of Boilers 2 Single End Cylindrical

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 26-9-17 No. of Certificate 511

Can each boiler be worked separately Yes Area of fire grate in each boiler 86 sq ft. No. and Description of Safety Valves to

each boiler Two Direct Springs each valve 14-18 lbs 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 14 Mean dia. of boilers 16'-6" Length 11'-6" Material of shell plates Steel

Thickness 1 1/2 Range of tensile strength 31 1/2 to 35 1/2 Are the shell plates welded or flanged No Descrip. of riveting: cir. seam Lap Butt

long. seams Lap Butt Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 9 5/8 Lap of plates or width of butt straps 20 7/8

Per centages of strength of longitudinal joint rivets 93.4 Working pressure of shell by rules 208 lbs Size of manhole in shell 16" x 12"

Size of compensating ring No. Neil No. and Description of Furnaces in each boiler 4-Heighten Material Steel Outside diameter 47 1/2

Length of plain part top 4 Thickness of plates crown 3 3/4 Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules 192 lbs Combustion chamber plates: Material Steel Thickness: Sides 43/64 Back 41/64 Top 43/64 Bottom 13/16

Pitch of stays to ditto: Sides 9 1/2 x 8 1/2 Back 9 x 8 1/2 Top 9 x 9 1/2 stays are fitted with nuts or riveted heads Nuts Working pressure by rules 193 lbs

Material of stay Steel Diameter at smallest part 48 to 2 3/8 supported by each stay 8 1/2 Working pressure by rules 184 lbs End plates in steam space:

Material Steel Thickness 1 1/8 Pitch of stays 20 1/2 x 15 1/2 How are stays secured Nuts Working pressure by rules 181 lbs Material of stays Steel

Diameter at smallest part 5 9/16 Area supported by each stay 3 1/6 x 2 1/2 Working pressure by rules 202 lbs Material of Front plates at bottom Steel

Thickness 1 5/16 Material of Lower back plate Steel Thickness 29/32 Greatest pitch of stays 13 1/2 x 8 Working pressure of plate by rule 230 lbs

Diameter of tubes 2 1/2 Pitch of tubes 3 1/2 x 3 1/2 Material of tube plates Steel Thickness: Front 45/64 Back 3/4 Mean pitch of stays 10 1/2 x 7

Pitch across wide water spaces 13 1/2 Working pressures by rules 185 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 6 1/2 x (3/4 x 2) Length as per rule 29 5/8 Distance apart 9 1/2 x 6 1/2 Number and pitch of stays in each 2-9

Working pressure by rules 181 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

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