

# REPORT ON MACHINERY.

No. 52590

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Port of Newcastle

Date, first Survey 4<sup>th</sup> April '06

Last Survey Mar 8<sup>th</sup> April 1907

No. in Survey held at Newcastle

Reg. Book. 45 Supp. on the S/S "Fitzclarence"

(Number of Visits 49)

Master J. Stott Built at Middlesbro By whom built R. Craggs & Sons Ltd. Tons { Gross 4406.61 Net 2832.20 When built 1904

Engines made at Holland By whom made H. E. M. Co. 60 Ltd. when made 1906-7

Boilers made at " By whom made " when made 1906-7

Registered Horse Power 366 Owners Fitzclarence S.S. Co. Ltd. Port belonging to Glasgow

Nom. Horse Power as per Section 28 366 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

## ENGINES, &c.—Description of Engines 3 in C.P.D. No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 25" 41" 68" Length of Stroke 48" Revs. per minute 67 Dia. of Screw shaft 1.25" Material of I.

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 Yes If two

liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 5 ft.

Dia. of Tunnel shaft 1.1" Dia. of Crank shaft journals 1.1" Dia. of Crank pin 1.1" Size of Crank webs 8 1/2" Dia. of thrust shaft under

collars 1.15" Dia. of screw 1.76" Pitch of Screw 14 9/16" No. of Blades 4 State whether moceable No. Total surface 95 sq.

No. of Feed pumps 2 Diameter of ditto 4" Stroke 26" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 26" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 10x12x12 1/8" x 5 1/8" x 5 1/8" 3 1/2 x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 of 3 1/2" + 1 of 5" In Holds, &c. Two of 3 1/2" in each hold and in

deep tank. One of 3 1/2" in tunnel

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 4 1/2 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 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

What 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 9-2-07 of Stern Tube 9-2-07 Screw shaft and Propeller 26-2-07

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper plating

## BOILERS, &c.—(Letter for record S.) Manufacturers of Steel J. Spence & Sons Ltd.

Total Heating Surface of Boilers 5900 sq. 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 14-11-06 No. of Certificate 4340

Can each boiler be worked separately Yes Area of fire grate in each boiler 56.3 sq. No. and Description of Safety Valves to

each boiler 2 Spring Area of each valve 4.0 sq. 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 24" Mean dia. of boilers 14.15" Length 11.25" Material of shell plates 8 1/2"

Thickness 1 1/2" Range of tensile strength 28 1/2 - 38 Are the shell plates welded or flanged Welded Descrip. of riveting: cir. seams 2 x lap

long. seams 2 x lap Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 4 3/4" Lap of plates or width of butt straps 16 5/8"

Per centages of strength of longitudinal joint rivets 84.7% Working pressure of shell by rules 182 lbs Size of manhole in shell 16 x 12 1/2 ends

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Deagh Material S Outside diameter 3.82"

Length of plain part top 1.12" Thickness of plates crown 1.12" Description of longitudinal joint Welded No. of strengthening rings 1

Working pressure of furnace by the rules 184 Combustion chamber plates: Material S Thickness: Sides 1/6" Back 1/6" Top 1/6" Bottom 3/32"

Pitch of stays to ditto: Sides 9 1/2 x 9 3/4" Back 10 x 8 1/2" Top 9 1/2 x 9 3/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 183 lbs

Material of stays S Diameter at smallest part 1.78" Area supported by each stay 10 x 8 1/2" Working pressure by rules 181 lbs End plates in steam space:

Material S Thickness 1 1/2" Pitch of stays 23 x 20" How are stays secured Nuts Working pressure by rules 184 lbs Material of stays S

Diameter at smallest part 8 1/4" Area supported by each stay 23 x 20" Working pressure by rules 184 Material of Front plates at bottom S

Thickness 3/32" Material of Lower back plate S Thickness 3/32" Greatest pitch of stays 14 1/2" Working pressure of plate by rules 190 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 3/4 x 4 3/4" Material of tube plates S Thickness: Front 3/32" Back 3/41" Mean pitch of stays 9 x 8 1/4"

Pitch across wide water spaces 14 1/2" Working pressures by rules 182 Girders to Chamber tops: Material S Depth and

thickness of girder at centre 8 1/2 x 1 1/2" Length as per rule 30 Distance apart 9 1/2" Number and pitch of stays in each 20 x 19 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

fitted with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

