

REPORT ON MACHINERY.

No. 21690

Port of Glasgow

RECEIVED 19 APR 1904

Received at London Office 19

No. in Survey held at Glasgow
Reg. Book.

Date, first Survey 1st Dec 03 Last Survey 7th April 1904

(Number of Visits 17)

on the S.S. CAIRNGORM.

Tons { Gross 401
Net 117

Master W. Fitch Built at Glasgow By whom built J. Shearer & Sons When built 1904

Engines made at Glasgow By whom made Muir & Houston Ltd when made 1904

Boilers made at Glasgow By whom made Muir & Houston Ltd when made 1904

Registered Horse-Power 92 Owners W. Robertson Port belonging to Glasgow

Nom. Horse Power as per Section 28 92 Is Refrigerating Machinery fitted No. Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Compound - screw No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 18" & 40" Length of Stroke 27" Revs. per minute 8 3/4 Dia. of Screw shaft 8 3/4" Material of screw shaft iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube none (bedewals) 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 ✓ Length of stern bush 2" 11"

Dia. of Tunnel shaft 8 3/4" Dia. of Crank shaft journals 8 3/4" Dia. of Crank pin 8 3/4" Size of Crank webs 5 1/2" tk Dia. of thrust shaft under collars 8 3/4" Dia. of screw 9" 6" Pitch of screw 17" 0" No. of blades 4 State whether moceable no Total surface 30 sq. ft.

No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 13 1/2" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3" Stroke 13 1/2" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 4x7x6" & 4x2x4" No. and size of Suctions connected to both Bilge and Donkey pumps Two 2 1/2" dia. one in each hold

In Engine Room One 2 1/2" dia. In Holds, &c. Two 2 1/2" dia. one in each hold

No. of bilge injections 1 sizes 3" Connected to condenser, or to circulating pump yes Is a separate donkey suction fitted in Engine room & size yes 2 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 none

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks valves & cocks

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 ✓

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock before launch Is the screw shaft tunnel watertight none

Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.— (Letter for record (S)) Total Heating Surface of Boilers 1680 sq. ft Is forced draft fitted no

No. and Description of Boilers one single ended Working Pressure 130 lbs Tested by hydraulic pressure to 160 lbs

Date of test 18/3/04 Can each boiler be worked separately ✓ Area of fire grate in each boiler 53 sq. ft. No. and Description of safety valves to each boiler 2 Patent Springs Area of each valve 4.07 sq. in. Pressure to which they are adjusted 135 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 4" 0" Mean dia. of boilers 13" 6" Length 10' 0" Material of shell plates steel

Thickness 7/8" Range of tensile strength 28-37 Are they welded or flanged no Descrip. of riveting: cir. seams double long. seams treble

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

Per centages of strength of longitudinal joint: rivets 90 plate 85 Working pressure of shell by rules 137 lbs Size of manhole in shell 16" x 12"

Size of compensating ring McNeill's No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 3" 4"

Length of plain part: top 6" 5" bottom 6" 2" Thickness of plates: crown 7/32" bottom 7/32" Description of longitudinal joint welded No. of strengthening rings 1 partial

Working pressure of furnace by the rules 150 lbs Combustion chamber plates: Material steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 5/32"

Pitch of stays to ditto: Sides 8x9" Back 9x9" Top 8x10" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 135 lbs

Material of stays steel Area at smallest part 1.45 sq. in. Area supported by each stay 81 sq. in. Working pressure by rules 143 lbs End plates in steam space: Material steel Thickness 1" Pitch of stays 18x19" How are stays secured nuts Working pressure by rules 138 lbs Material of stays steel

Area at smallest part 5.05 sq. in. Area supported by each stay 342 sq. in. Working pressure by rules 147 lbs Material of Front plates at bottom steel

Thickness 1 1/16" Material of Lower back plate steel Thickness 3/4" Greatest pitch of stays 12 1/2 x 9" Working pressure of plate by rules 164 lbs

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4 x 5" Material of tube plates steel Thickness: Front 1 1/16" & 5/8" doubling Back 5/8" Mean pitch of stays 9 7/8"

Pitch across wide water spaces 14" Working pressures by rules 182 lbs Girders to Chamfer tops: Material steel Depth and thickness of girder at centre 2-8 x 7/8" Length as per rule 2" 8" Distance apart 10" Number and pitch of Stays in each 3-8"

Working pressure by rules 144 lbs 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 ✓

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 ✓

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?



