

REPORT ON MACHINERY.

No. 9925

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When handed in at Local Office 30/10/17 Port of Middlesbrough
 in Survey held at Stockton-on-Tees Date, First Survey 26th Oct/16 Last Survey 17th Oct/1917
 on the Steel screw steamer "Cardigan" (S.S. No. 653) Tons { Gross 5879
 Net 4337
 Master H Williamson Built at Stockton By whom built Messrs Richardson Duck & Co When built 1917

Engines made at Stockton By whom made Messrs Blair & Co Lim. (No 1840) when made 1917
 Meters made at Stockton By whom made Messrs Blair & Co Lim. when made 1917

Registered Horse Power _____ Owners Cardigan S S Co Lim Port belonging to Cardiff
 Net Horse Power as per Section 28 425 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 26-43-71 Length of Stroke 48 Revs. per minute 63 Dia. of Screw shaft 14.7 Material of screw shaft Iron
 as fitted 15.74

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
 the propeller boss yes If the liner is in more than one length are the joints burned in one 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 tight fit If two
 liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 5'-4"

Dia. of Tunnel shaft 13.05 Dia. of Crank shaft journals 13.7 Dia. of Crank pin 14.2 Size of Crank webs 28.4 x 9.2 Dia. of thrust shaft under
 as fitted 13.74 as fitted 14.5 No. of Blades 4 State whether moveable no Total surface 100 sq ft
 Dia. of screw 18'-0" Pitch of Screw 17'-6"

Feed pumps 2 Diameter of ditto 4" Stroke 34" Can one be overhauled while the other is at work yes
 Bilge pumps 2 Diameter of ditto 5" Stroke 34" Can one be overhauled while the other is at work yes
 Donkey Engines 2 Sizes of Pumps Ballart 1 1/2 x 1 1/2 Feed 4 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 3 @ 3 1/2" In Holds, &c. 2 @ 3 1/2" each hold except aftermost
2 @ 3" + one @ 3 1/2" Tunnel well one @ 2 1/2"

Large Injections 1 sizes 7" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 4"
 Are 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 no
 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
 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
 Discharge pipes are carried through the bunkers suctions to forward holds How are they protected wood ceiling

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 Screw Shaft Tunnel watertight see hull Report Is it fitted with a watertight door yes Worked from top platform

RS, &c.—(Letter for record (R)) Manufacturers of Steel Messrs John Spencer & Sons Lim.

Heating Surface of Boilers 7171 Is Forced Draft fitted no No. and Description of Boilers 3 Single ended
 Pressure 180 Tested by hydraulic pressure to 360 Date of test 17.8.17 No. of Certificate 5794

Can boiler be worked separately yes Area of fire grate in each boiler 64.1 sq ft No. and Description of Safety Valves to
2 direct spring Area of each valve 8.29 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes
 Distance between boilers or uptakes and bunkers or woodwork 3'-0" External Mean dia. of boilers 15'-6" Length 11'-6" Material of shell plates steel

Range of tensile strength 29 1/2 - 33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2-R-lap
2 B-3 Riv Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 19 1/2 x 1 1/2"
 Rivets per pitch _____ Size of manhole in shell 16" x 12"

Working pressure of shell by rules 186 Size of manhole in shell 16" x 12"
 Compensating ring 7 1/2" x 1 1/2" No. and Description of Furnaces in each boiler 3 Sighton Material steel Outside diameter 46 3/8"
 Main part top _____ Thickness of plates crown _____ bottom _____ Description of longitudinal joint weld No. of strengthening rings _____

Pressure of furnace by the rules 189 Combustion chamber plates: Material steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 3/2"
 Sides to ditto: Sides 8 3/8" x 10 1/4" Back 9 3/8" x 9 3/8" Top 9 3/8" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 185

Stays iron Area at smallest part 2.31 Area supported by each stay 87.89 Working pressure by rules 197 End plates in steam space:
steel Thickness 1 1/2" Pitch of stays 21" x 17" How are stays secured nuts & washers Working pressure by rules 187 Material of stays steel

Smallest part 7.24 Area supported by each stay 383 Working pressure by rules 197 Material of Front plates at bottom steel
 Material of Lower back plate steel Thickness 1 1/2" Greatest pitch of stays 14 3/4" x 9 3/8" Working pressure of plate by rules 254
 Tubes 3 1/2" Pitch of tubes 4 3/4" x 4 3/8" Material of tube plates steel Thickness: Front 1 1/2" Back 1 1/2" Mean pitch of stays 11 1/2"

Spaces wide water spaces 14 1/2" Working pressures by rules 192 Girders to Chamber tops: Material steel Depth and
 girder at centre 8 1/2" x 1 1/2" Length as per rule 32" Distance apart 9 3/4" Number and pitch of stays in each 2 @ 9"
 Working pressure by rules 190 Steam dome: description of joint to shell none % of strength of joint _____

Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet holes _____
 Working pressure of shell by rules _____ Crown plates _____ Thickness _____ How stayed _____

SUPERHEATER. Type none Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____
 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____
 Pressure to which each is adjusted _____ Is Easing Gear fitted _____



