

# REPORT ON MACHINERY.

2610  
13  
1891

No. 2610 Port of Newcastle Received at London Office 13  
 No. in Survey held at Newcastle Date, first Survey 22 Dec 1890 Last Survey 20 July 1891  
 Reg. Book. on the S.S. Cape Cormier (Number of Visits 39) Tons 1660  
 Master W. G. Burnup Built at Newcastle By whom built J. S. B. Clark When built 1891  
 Engines made at Newcastle By whom made W. H. Richardson & Co when made 1891  
 Boilers made at do By whom made do when made 1891  
 Registered Horse Power 250 Owners W. H. Milburn & Co Port belonging to Newcastle

## ENGINES, &c.—

Description of Engines Triple expansion on three cranks  
 Diameter of Cylinders 23.37.62 Length of Stroke 412 No. of Rev. per minute 65 Point of Cut off, High Pressure 65 Low Pressure 60  
 Diameter of Screw shaft 12 1/2 Diam. of Tunnel shaft 11 Diam. of Crank shaft journals 11 1/2 Diam. of Crank pin 12 size of Crank webs 7 1/2 x 18 1/2  
 Diameter of screw 15.0 Pitch of screw 18.0 No. of blades 4 state whether moveable no total surface 68 1/2  
 No. of Feed pumps 2 diameter of ditto 3 Stroke 24 Can one be overhauled while the other is at work Y  
 No. of Bilge pumps 2 diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Y  
 Where do they pump from aft. bilge hold well - 2nd from tanks, bilge hold well  
 No. of Donkey Engines two Size of Pumps 7 x 3 1/2 x 9 + 9 x 9 x 9 Where do they pump from Ballast from all bilges, 4th hold, tank separate bilge - Fed from same from bottom  
 Are all the bilge suction pipes fitted with roses Y Are the roses always accessible Y Are the sluices on Engine room bulkheads always accessible Y  
 No. of bilge injections one and sizes 1/2 Are they connected to condenser or to circulating pump Y  
 How are the pumps worked by levers over condenser from aft. cylinder  
 Are all connections with the sea direct on the skin of the ship Y Are they Valves or Cocks both  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Y Are the discharge pipes above or below the deep water line Y  
 Are they each fitted with a discharge valve always accessible on the plating of the vessel Y Are the blow off cocks fitted with a spigot and brass covering plate Y  
 What pipes are carried through the bunkers none How are they protected Y  
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times Y  
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Y  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock new vessel  
 Is the screw shaft tunnel watertight Y and fitted with a sluice door Y worked from top platform

## BOILERS, &c.—

Number of Boilers Two Description Cyl. Single ended Whether Steel or Iron Steel  
 Working Pressure 160 Tested by hydraulic pressure to 320 Date of test May 5th 1891 (3571)  
 Description of superheating apparatus or steam chest none  
 Can each boiler be worked separately Y Can the superheater be shut off and the boiler worked separately Y  
 No. of square feet of fire grate surface in each boiler 476 1/2 Description of safety valves spring No. to each boiler two  
 Area of each valve 5.94 Are they fitted with easing gear Y No. of safety valves to superheater Y area of each valve Y  
 Are they fitted with easing gear Y Smallest distance between boilers and bunkers or woodwork 2 feet Diameter of boilers 13 6  
 Length of boilers 10.6 description of riveting of shell long. seams d t d r circum. seams d e Thickness of shell plates 1 3/4  
 Diameter of rivet holes 1 3/16 whether punched or drilled d pitch of rivets 7 3/8 Lap of plating 14 3/8  
 Per centage of strength of longitudinal joint 80.5 working pressure of shell by rules 158 size of manholes in steel 16 x 12  
 Size of compensating rings flanged No. of Furnaces in each boiler four  
 Outside diameter 33 length, top 6.2 bottom 6.2 thickness of plates 7/8 description of joint d b s if rings are fitted Y  
 Greatest length between rings 6.2 working pressure of furnace by the rules 166 combustion chamber plating, thickness, sides 5/8 back 9/16 top 7/8  
 Pitch of stays to ditto, sides 7 3/8 back 7 1/4 top 7 3/4 If stays are fitted with nuts or riveted heads nut working pressure of plating by rules 200 Diameter of stays at smallest part 1 3/8 working pressure of ditto by rules 198 end plates in steam space, thickness 1  
 Pitch of stays to ditto 14 1/2 how stays are secured d u w working pressure by rules 160 diameter of stays at smallest part 2 1/4 working pressure by rules 160 Front plates at bottom, thickness 1 1/8 Back plates, thickness 3/4  
 Greatest pitch of stays 13 3/4 working pressure by rules 160 Diameter of tubes 3 1/2 pitch of tubes 4 1/2 thickness of tube plates, front 3/4 back 3/4 how stayed tubes pitch of stays as plan width of water spaces 5 1/2  
 Diameter of Superheater or Steam chest Y length Y thickness of plates Y description of longitudinal joint Y diam. of rivet holes Y  
 Pitch of rivets Y working pressure of shell by rules Y diameter of flue Y thickness of plates Y If stiffened with rings Y  
 Distance between rings Y working pressure by rules Y end plates of superheater, or steam chest; thickness Y how stayed Y  
 Superheater or steam chest; how connected to boiler Y

Description of furnaces  
1100-1287M

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**DONKEY BOILER**— Description *Cyl. Single ended*  
 Made at *Stockton* by whom made *Riley Bros* when made *1869* where fixed *Stockton*  
 Working pressure *160* tested by hydraulic pressure to *320* No. of Certificate *260* fire grate area *21 0* description of safety  
 valves *spring* No. of safety valves *two* area of each *4.9* if fitted with easing gear *no* if steam from main boilers can  
 enter the donkey boiler *no* diameter of donkey boiler *8.0* length *9.6* description of riveting *d b s b r*  
 Thickness of shell plates *23/32* diameter of rivet holes *15/16* whether punched or drilled *d* pitch of rivets *7 1/4* lap of plating *13 1/2*  
 per centage of strength of joint *87* thickness of ~~main~~ plates *25/32* stayed by *17/8 stays 12 x 12 1/4*  
 Diameter of furnace, top *2.4* bottom *✓* length of furnace *7.5* thickness of plates *3/16* description of joint *sl*  
 Thickness of furnace crown plates *1/2* stayed by *1 1/8 stays 6 7/8 x 6 3/4* working pressure of shell by rules *162*  
 Working pressure of furnace by rules *160* diameter of uptake *✓* thickness of plates *3/40 5/8* thickness of water tubes *✓*

**SPARE GEAR.** State the articles supplied:— *Two each, top and bottom end, and main  
 bearing bolts nuts, 1 set coupling bolts, One set each  
 air circulating, feed, bilge pump valves, bolt, nut,  
 Iron various sizes, piston packing rings.*

The foregoing is a correct description,  
*Wm Richardson & Co. Manufacturer.*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel  
 has been constructed under special survey the materials and  
 workmanship are sound and good and eligible in our opinion  
 to be classed + L.M.C. 7-91 in the Society Register Book.*

*Heating surface = 3678  
 N. H. P. = 247*

*It is submitted that this vessel is  
 eligible to have + L.M.C. 7-91 recorded*

*W.A.  
 24-7-91*

The amount of Entry Fee .. £ 2: - : - received by me,  
 Special .. £ 32: 7: -  
 Donkey Boiler Fee .. £ - : - : -  
 Certificate (if required) .. £ - : - : -  
 To be sent as per margin.  
 (Travelling Expenses, if any, £ )

*Wm W Walker Jas Barclay  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping*

Committee's Minute **TUES. 28 JUL 1891**  
*+ L. H. C. 7/91*

