

# REPORT ON MACHINERY.

(Received at London Office 13th NOV. 82.)

No. in Survey held at Shepton - Hartlepool Date, first Survey 10 May Last Survey 24 October 1882  
 eg. Book. S. J. Carib Tons 143 1/2  
 on the Creary Built at Stockton When built 1882  
 Engines made at Hartlepool By whom made J. Richardson & Co when made 1882  
 Boilers made at Do By whom made Do when made 1882  
 Registered Horse Power 99 Owners Anderson Anderson & Co Port belonging to Stockton  
 Manufacturers HP 120

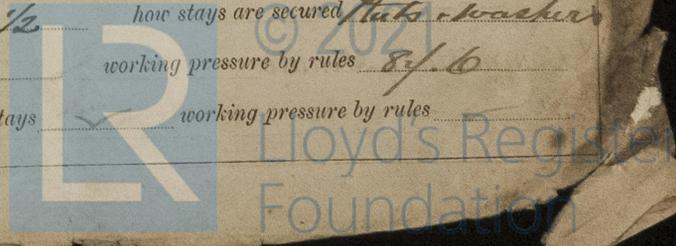
## ENGINES, &c.—

Description of Engines Compound - inverted - Surface Condensing  
 Diameter of Cylinders 29.55 Length of Stroke 33 No. of Rev. per min 66.65 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke  
 Diameter of Screw shaft 9 1/4 Diameter of Tunnel shaft 8 3/4 Diameter of Crank shaft journals 9 1/4 Diameter of Crank pin 9 3/4 size of Crank webs 6 1/2 x 10 3/4  
 Diameter of screw 13.3 Pitch of screw 16.0 No. of blades Four state whether moveable No total surface 455 sq feet  
 No. of Feed pumps Two diameter of ditto 3 1/4 Stroke 23 1/2 Can one be overhauled while the other is at work Yes  
 No. of Bilge pump Two diameter of ditto 3 1/4 Stroke 23 1/2 Can one be overhauled while the other is at work Yes  
 Where do they pump from Engine room & after well  
 No. of Donkey Engines Two Size of Pumps 1/2 dia x 9 1/2 stroke Where do they pump from Large donkey from tanks  
Engine room. Small donkey from sea, hot well, engine room - after well.  
 Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes  
 No. of bilge injections Two and sizes 3 1/2 Are they connected to condenser, or circulating pump in engine room  
 How are the pumps worked By levers worked from overhead on low pressure piston rod  
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Stop 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  
 How are the pipes protected None How are they protected None  
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times Yes  
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock New  
 Is the screw shaft tunnel watertight And is to be and fitted with a sluice door Yes worked from top platform in engine room

## BOILERS, &c.—

Number of Boilers One Description Cylindrical Multitubular fired at both ends  
 Working Pressure 85 Tested by hydraulic pressure to 110 lbs Date of test 30th September 1882 Certificate 20811  
 Description of superheating apparatus or steam chest Vertical dome - Central ends  
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately No Superheater Yes  
 No. of square feet of fire grate surface in each boiler 63.3 Description of safety valves Spring Made by J. Richardson & Co  
 No. to each boiler Two area of each valve 15.9 sq in Are they fitted with casing gear Yes  
 No. of safety valves to superheater Two area of each valve 15.9 sq in are they fitted with casing gear Yes  
 Smallest distance between boilers and bunkers or woodwork about 20 inches boiler shell - bunker casing  
 Diameter of boilers 11.6 Length of boilers 15.2 description of riveting of shell long. seams double straps, double riveted circum. seams about 6  
 Thickness of shell plates 25/32 diameter of rivet holes 1/8 whether punched or drilled Drilled in shell pitch of rivets 5/8  
 Lap of plating Straps 9/8 broad per centage of strength of longitudinal joint 48.04 working pressure of shell by rules 88.3  
 Size of manholes in shell 10 3/4 x 13 size of compensating rings Rectangular plate 30 x 2 1/2 x 25/32  
 No. of Furnaces in each boiler Four outside diameter 39" length, top 5.3 bottom 14.8  
 Thickness of plates 15/32 - 1/2 description of joint Lap double riveted if rings are fitted Bottom plate - greatest length between rings 5.3  
 Working pressure of furnace by the rules 96 lbs stiffened with T iron  
 Combustion chamber plating, thickness, sides 17/32 back Yes top 17/32  
 Pitch of stays to ditto sides 8 1/8 x 8 back Yes top 8 1/8 x 8 1/2  
 If stays are fitted with nuts or riveted heads Nuts top, others riveted working pressure of plating by rules Sides 85 lbs Sides 88 lbs  
 Diameter of stays at smallest part Lap 13/8 - 1 1/8 working pressure of ditto by rules Sides 97 lbs Sides 125 lbs  
 End plates in steam space, thickness 13/16 pitch of stays to ditto 16 1/2 x 16 1/2 how stays are secured Nuts & washers  
 Working pressure by rules 86.9 diameter of stays at smallest part 2 1/4 working pressure by rules 87.6  
 Front plates at bottom, thickness 3/4 Back plates, thickness Yes greatest pitch of stays Yes working pressure by rules 87.6

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Diameter of tubes 3" pitch of tubes 4 1/4 x 4 1/4 thickness of tube plates, front 1/16 back 1/16  
 How stayed stay tubes pitch of stays 8 1/2 x 12 3/4 width of water spaces 1 1/4  
 Diameter of Superheater or Steam chest 3'-0" length 5'-6"  
 Thickness of plates 1/16 description of longitudinal joint Lap double riveted diameter of rivet holes 1 1/16 pitch of rivets 2 1/16  
 Working pressure of shell by rules 126 lbs Diameter of flue thickness of plates  
 If stiffened with rings distance between rings Working pressure by rules

End plates of superheater, or steam chest; thickness 1/2 How stayed Conical Ends  
 Superheater or steam chest; how connected to boiler Single riveted to boiler shell - donee rivets 1 1/16

**DONKEY BOILER—**

Description Cochran's Patent

Made at Lutskhead By whom made Clark Chapman & Curney when made 14.9.82  
 Where fixed Stokhole working pressure 45 lbs Tested by hydraulic pressure to 150 No. of Certificate 9/16

Fire grate area 21.54 sq ft Description of safety valves Direct - lever No. of safety valves One of each kind Size of each 5.94  
 If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No

Diameter of donkey boiler 6'-6" length 13'-0" description of riveting Lap double riveted  
 thickness of shell plates 1/16 diameter of rivet holes 1 1/16 whether punched or drilled Punched  
 pitch of rivets 3 3/8 lap of plating 1 1/4 per centage of strength of joint 1/2

thickness of crown plates 3/8 stayed by Five gusset stays  
 Diameter of furnace, top 2-3 bottom 5-9 length of furnace The donkey boiler was  
 thickness of plates 5/8 description of joint Lap Single riveted built under the super  
 thickness of furnace crown plates 1/16 stayed by Conical riveted in the pressure  
 Working pressure of shell by rules 85 lbs working pressure of furnace by rules 45 lbs In Buck at one of  
 diameter of uptake 22 x 17 thickness of plates 3/8 thickness of water tubes Sixty five pounds

The foregoing is a correct description,  
 J. Richardson & Sons Manufacturers of Engines - Main Boiler only

**General Remarks** (State quality of workmanship, opinions as to class, &c.)

Material & workmanship good  
 The Machinery & Boilers are in good order & safe  
 working condition & in my opinion eligible for the  
 notification of L.M.C. 10.82 in the Register Book

The amount of Entry Fee £ 2 : : : received by me,  
 Special .. £ 14 : 17 : :  
 Certificate (if required) .. £ : : : 9.11.1882  
 To be sent as per margin.

(Travelling Expenses, if any, £ .. ..)  
 Committee's Minute Friday, 17th November, 1882.

Submitted that the machinery  
 is eligible to be  
 L.M.C. 10.82  
 13.11.82  
 J. Richardson & Sons

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

