

# REPORT ON MACHINERY.

5489

No. 5489 Received at London Office MONDAY 9 NOV. 1885  
 No. in Survey held at Bull Date, first Survey July 23/85 Last Survey 2nd Oct. 1885  
 Reg. Book. on the iron screw tug vessel "Alexandra" (Number of Vials 14) Tons 65.54  
 Master Bull Built at Bull By whom built Charles C. When built 1885  
 Engines made at Bull By whom made Charles C. (Lm) when made 1885  
 Boilers made at d. By whom made d. when made 1885  
 Registered Horse Power 45 Owners Hull & Barnsley Railway & Dock Co. Port belonging to Bull

## ENGINES, &c.—

Description of Engines Vertical triple compound cylinders direct acting surface condensing  
 Diameter of Cylinders 11 1/2, 17 + 30" Length of Stroke 21" No. of Rev. per minute 110 Point of Cut off, High Pressure .59 Medium Pressure .6 Low Pressure .53  
 Diameter of Screw shaft 5 1/2" Diam. of Tunnel shaft 5" Diam. of Crank shaft journals 5 1/2" Diam. of Crank pin 5 1/2" size of Crank webs 2 1/4 x 6 1/2 x 3 1/2" aft  
 Diameter of screw 7.8 Pitch of screw 8.0 to 9.3" No. of blades 4 state whether moveable n total surface 20 sq. feet  
 No. of Feed pumps one diameter of ditto 2" Stroke 10" Can one be overhauled while the other is at work x  
 No. of Bilge pumps one diameter of ditto 3" Stroke 10" Can one be overhauled while the other is at work x  
 Where do they pump from Main compartment, Engine room & after Comp.  
 No. of Donkey Engines one Size of Pumps 12 dia x 2 1/2 stroke Jany is special Where do they pump from The fire engine is permanently fitted with suction valves also is supplied with portable fittings & hoses to draw water from other sources outside (or inside) the vessel. The feed donkey is connected to the bilge system via a hotwell & delivery boiler, deck umbours & the condensers  
 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 hand fitted  
 No. of bilge injections one and sizes 2 1/2 inch Are they connected to condenser, or to circulating pump to circulating pump  
 How are the pumps worked by rocking levers from piston rod crosshead  
 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 x  
 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 Nov new Launched 24/8.85  
 Is the screw shaft tunnel watertight not tunnel and fitted with a sluice door x worked from x

## BOILERS, &c.—

Number of Boilers one Description Circular multitubular with 3rd compound funnels Whether Steel or Iron Steel. (ru slip attached)  
 Working Pressure 150 lbs Tested by hydraulic pressure to 300 lbs. Date of test 18th September 1885  
 Description of superheating apparatus or steam chest none fitted  
 Can each boiler be worked separately x Can the superheater be shut off and the boiler worked separately x  
 Area of square feet of fire grate surface in each boiler 21 Description of safety valves Spring loaded No. to each boiler two  
 Area of each valve 7 sq. in Are they fitted with easing gear yes No. of safety valves to superheater ✓ area of each valve —  
 Are they fitted with easing gear ✓ Smallest distance between boilers and bunkers or woodwork 4" Diameter of boilers 9.0'  
 Length of boilers 8.6' description of riveting of shell long. seams all riv' butts with circum. seams all in laps Thickness of shell plates 7/8" 2 1/2"  
 Diameter of rivet holes 13/16" whether punched or drilled drilled pitch of rivets 4 1/4" Lap of plating 1 1/4" straps  
 Percentage of strength of longitudinal joint 75 working pressure of shell by rules 152 lbs size of manholes in shell 16" x 12"  
 Size of compensating rings 28" x 28" x 7/8" No. of Furnaces in each boiler 2  
 Outside diameter 34" length, top 6.0' bottom 6.0' thickness of plates 7/8" full description of joint welded if rings are fitted longitudinal  
 Greatest length between rings 6.5' working pressure of furnace by the rules 150 lbs combustion chamber plating, thickness, sides 9/16" back 9/16" top 9/16"  
 Pitch of stays to ditto, sides 8' back 8' top 8' If stays are fitted with nuts or riveted heads nut working pressure of plating by rules 150 lbs Diameter of stays at smallest part 1 7/8" working pressure of ditto by rules 169 lbs end plates in steam space, thickness 1"  
 Pitch of stays to ditto 15" x 12" how stays are secured all nuts working pressure by rules 159 lbs diameter of stays at smallest part 2" working pressure by rules 157 lbs Front plates at bottom, thickness 3/4" Back plates, thickness 7/8"  
 Greatest pitch of stays 8' working pressure by rules 187 lbs Diameter of tubes 3 1/4" pitch of tubes 4 1/2" thickness of tube plates, front 3/4" back 3/4" how stayed all stays pitch of stays 13/16" min width of water spaces 1/4"  
 Diameter of Superheater or Steam chest — length — thickness of plates — description of longitudinal joint — diam. of rivet holes —  
 Pitch of rivets — working pressure of shell by rules — 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 — how stayed —  
 Superheater or steam chest; how connected to boiler No superheater or steam chest

**DONKEY BOILER**—

Description

Made at \_\_\_\_\_ by whom made \_\_\_\_\_ when made \_\_\_\_\_ where fixed \_\_\_\_\_

Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ fire grate area \_\_\_\_\_ description of safety valves \_\_\_\_\_

\_\_\_\_\_ No. of safety valves \_\_\_\_\_ area of each \_\_\_\_\_ if fitted with easing gear \_\_\_\_\_ if steam from main boilers can enter the donkey boiler \_\_\_\_\_ diameter of donkey boiler \_\_\_\_\_ length \_\_\_\_\_ description of riveting \_\_\_\_\_

Thickness of shell plates \_\_\_\_\_ diameter of rivet holes \_\_\_\_\_ whether punched or drilled \_\_\_\_\_ pitch of rivets \_\_\_\_\_ lap of plating \_\_\_\_\_

per centage of strength of joint \_\_\_\_\_ thickness of crown plates \_\_\_\_\_ stayed by \_\_\_\_\_

Diameter of furnace, top \_\_\_\_\_ bottom \_\_\_\_\_ length of furnace \_\_\_\_\_ thickness of plates \_\_\_\_\_ description of joint \_\_\_\_\_

Thickness of furnace crown plates \_\_\_\_\_ stayed by \_\_\_\_\_ working pressure of shell by rules \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ diameter of uptake \_\_\_\_\_ thickness of plates \_\_\_\_\_ thickness of water tubes \_\_\_\_\_

*No donkey boiler*

SPARE GEAR. State the articles supplied:— *No spare gear. used for river service only.*

The foregoing is a correct description,  
*A. Sedoni* Manufacturer.

**GENERAL MANAGER**

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

*The machinery & boiler of this vessel constructed under special survey are now in my opinion in safe working condition, and the case is respectfully submitted as eligible for the notification **L.M.C. 10.85** in the Register Book*

*It is submitted that this vessel is eligible to have the notification + L.M.C. 10.85 recorded.*

*9/11/85*

The amount of Entry Fee .. £ 1 : " : " received by me,  
 Special .. £ 8 : 8 : "  
 Donkey Boiler Fee .. £ " : " : "  
 Certificate (if required) .. £ " : " : "  
 To be sent as per margin.  
 (Travelling Expenses, if any, £ )

*Fee paid in letter 18/11/85*

*John B. Stevens.*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Ships

Committee's Minute **TUESDAY 10 NOV 1885**

*[Signature]*

