

# REPORT ON MACHINERY.

No. 16366

Port of Hull

Received at London Office WED. 26 OCT. 1904

No. in Survey held at Hull Date, first Survey July 16<sup>th</sup> Last Survey Oct. 15<sup>th</sup> 1904.  
 Reg. Book. 32 Supp. on the Screw Ketch Monarch (Number of Visits 13)  
 Master Selby Built at Selby By whom built Messrs Cochrane Sons Tons Gross 235  
 Engines made at Hull By whom made Messrs D. Holmes & Co when made 1904  
 Boilers made at Hull By whom made Messrs D. Holmes & Co when made 1904  
 Registered Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to Grimsby  
 Nom. Horse Power as per Section 28 66 Is Refrigerating Machinery fitted No Is Electric Light fitted No

**ENGINES, &c.**—Description of Engines Tri Compound No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 12" - 21" - 34" Length of Stroke 24" Revs. per minute 112 Dia. of Screw shaft as per rule 7" Material of Iron  
 as fitted 7 1/2" screw shaft  
 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  
 in the propeller boss Yes If the liner is in more than one length are the joints burned 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 31"  
 Dia. of Flanend Thrust shaft as per rule 6.26" Dia. of Crank shaft journals as per rule 6.58" Dia. of Crank pin 6 3/4" Size of Crank webs 12 7/8" x 4 7/8" Dia. of thrust shaft under  
 collars 6 3/4" Dia. of screw 8" - 6" Pitch of screw 11" - 0" No. of blades 4 State whether moveable No Total surface 27 1/2  $\square$   
 No. of Feed pumps One Diameter of ditto 2 1/6" Stroke 24" Can one be overhauled while the other is at work \_\_\_\_\_  
 No. of Bilge pumps One Diameter of ditto 2 1/6" Stroke 24" Can one be overhauled while the other is at work \_\_\_\_\_  
 No. of Donkey Engines One d. act. Sizes of Pumps 2 3/4" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two 2" In Holds, &c. One 2" to hold, & one 2" to slush  
well. Ejector suction in Eng. bilge, & hold, and discharge on deck \_\_\_\_\_  
 No. of bilge injections 1 sizes 2 3/4" Connected to condenser, or to circulating pump pump Is a separate donkey suction fitted in Engine room & size Yes 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 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 Hold Suction How are they protected wood casing  
 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 Now 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 1084  $\square$  Is forced draft fitted No  
 No. and Description of Boilers One cylindrical Multitubular Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs  
 Date of test 28. 9. 04 Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler 31. 75  $\square$  No. and Description of safety valves to  
 each boiler Two Spring Area of each valve 3. 976  $\square$  Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 7" Mean dia. of boilers 12" - 0" Length 10" - 0" Material of shell plates Steel  
 Thickness 1" Range of tensile strength 28 to 32 tons Are they welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams L. D. R. long. seams D. B. Strap L. R.  
 Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 7" Lap of plates or width of butt straps 15"  
 Per centages of strength of longitudinal joint \_\_\_\_\_ rivets 89. 25 Working pressure of shell by rules 186 lbs Size of manhole in shell 16" x 12"  
 Size of compensating ring 7" x 1" No. and Description of Furnaces in each boiler Two Holmes Material Steel Outside diameter 3" - 5"  
 Length of plain part \_\_\_\_\_ Thickness of plates \_\_\_\_\_ crown 31" Description of longitudinal joint Welded No. of strengthening rings Holmes  
 Working pressure of furnace by the rules 195 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 1/16" Top 21/32" Bottom 1/16"  
 Pitch of stays to ditto: Sides 9" Back 9" x 8 1/2" Top 8" x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 201 lbs  
 Material of stays Steel Diameter at smallest part 1 5/8" Area supported by each stay 81  $\square$  Working pressure by rules 230 lbs End plates in steam space:  
 Material Steel Thickness 1 1/2" Pitch of stays 16" x 16" How are stays secured Double nuts Working pressure by rules 196 lbs Material of stays Steel  
 Diameter at smallest part 2 7/8" Area supported by each stay 256  $\square$  Working pressure by rules 225 lbs Material of Front plates at bottom Steel  
 Thickness 27/32" Material of Lower back plate Steel Thickness 15/16" Greatest pitch of stays 15" Working pressure of plate by rules 198 lbs  
 Diameter of tubes 3 1/4" Pitch of tubes 4 5/8" Material of tube plates Steel Thickness: Front 27/32" Back 7/8" Mean pitch of stays 9 1/2"  
 Pitch across wide water spaces 15" Working pressures by rules 188 lbs Girders to Chamber tops: Material Iron Depth and  
 thickness of girder at centre 9" x 1 7/8" Length as per rule 2' 8 7/8" Distance apart 8" Number and pitch of Stays in each Three 8 1/2"  
 Working pressure by rules 199 lbs Superheater or Steam chest; how connected to boiler \_\_\_\_\_ 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 \_\_\_\_\_

1100-0000-0014  
006387-006400-0014

**DONKEY BOILER**— No. 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 Pressure to which they are adjusted If fitted with easing gear If steam from main boilers can enter the donkey boiler

Dia. of donkey boiler Length Material of shell plates Thickness Range of tensile strength

Descrip. of riveting long. seams Dia. of rivet holes Whether punched or drilled Pitch of rivets

Lap of plating Per centage of strength of joint Rivets Thickness of shell crown plates Radius of do. No. of Stays to do.

Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace 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 uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:— Two each top and bottom end connecting rod, and main bearing bolts, one set coupling bolts, One set back feed, bilge & circulating pump valves, a quantity of assorted bolts & nuts etc.

The foregoing is a correct description,

*Charles Holmes* Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1904:— July 16. Aug 31. Sep. 6. 15. 17. 20. 22. 27. 28 Oct 5. 7. 11. 15.  
 { During erection on board vessel - - }  
 Total No. of visits 13

Is the approved plan of main boiler forwarded herewith Yes

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery and boiler) of this vessel have been inspected throughout construction in accordance with the Society's Rules. The workmanship and materials are good. The boiler tested by hydraulic pressure, and with the engines placed on board, and tested under steam. They are now in good order and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of *L.M.C. 10.04* in the Register Book.

It is submitted that this vessel is eligible for THE RECORD *L.M.C. 10.04*.

*James Barclay*  
 26.10.04  
 26.10.04

Certificate (if required) to be sent to Hull

The amount of Entry Fee.. £ 1 : . . . . . When applied for, 20/10/1904  
 Special . . . . . £ 9 : 18 : . . . . .  
 Donkey Boiler Fee . . . . . £ . . . . .  
 Travelling Expenses (if any) £ . . . . . When received, 31.10.04

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

Committee's Minute

FRI. 28 OCT 1904

MACHINERY CERTIFICATE WRITTEN.

Assigned

+ L.M.C. 10.04



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