

# REPORT ON MACHINERY.

No. 10069

Port of Hull

WED. 6 NOV 1895

Received at London Office

No. in Survey held at Hull Date, first Survey July 11<sup>th</sup> Last Survey 25<sup>th</sup> Oct 1895  
 Reg. Book. 205 on the Iron Steam Trawler "Magnetic" (Number of Visits 10)  
 Master          Built at Hull By whom built Barber & Lim When built 1895  
 Engines made at Hull By whom made Barber & Lim when made 1895  
 Boilers made at Hull By whom made Barber & Lim when made 1895  
 Registered Horse Power 45 Owners Grimby Steam Trawl Co Port belonging to Grimby  
 Nom. Horse Power as per Section 28 47 48

**ENGINES, &c.** — Description of Engines Triple Comp Low & Acting No. of Cylinders Three  
 Diameter of Cylinders 11" 17" 30" Length of Stroke 21" Revolutions per minute 130 Diameter of Screw shaft 5.11"  
 Diameter of Tunnel shaft 5.11" Diameter of Crank shaft journals 5.4" Diameter of Crank pin 5.4" Size of Crank webs 7 x 3 7/16"  
 Diameter of screw 7.8" Pitch of screw 9.3" No. of blades 4 State whether moveable No Total surface 21 sq ft  
 No. of Feed pumps one Diameter of ditto 2 1/2" Stroke 10" Can one be overhauled while the other is at work -  
 No. of Bilge pumps one Diameter of ditto 2 1/2" Stroke 10" Can one be overhauled while the other is at work -  
 No. of Donkey Engines one Sizes of Pumps 3 & 6" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room one 2" In Holds, &c. one 2"  
3" Suction with suction in the Engine Bilge & Dish room & discharge on deck  
 No. of bilge injections one sizes 3 1/2" Connected to condenser, or to circulating pump is a separate donkey suction fitted in Engine room & size 2" - 9/16"  
 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 Yes  
 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 suction to forward How are they protected hard wood  
 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 Nov 1895 Is the screw shaft tunnel watertight in tunnel  
 Is it fitted with a watertight door worked from

**BOILERS, &c.** — (Letter for record S) Total Heating Surface of Boilers 800 sq ft  
 No. and Description of Boilers one cyl & Hull Working Pressure 170 lb Tested by hydraulic pressure to 340 lb  
 Date of test 24/9/95 Can each boiler be worked separately - Area of fire grate in each boiler 28 sq ft No. and Description of safety valves to  
 each boiler two Spring loaded Area of each valve 3.14 sq in Pressure to which they are adjusted 175 lb Are they fitted  
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean diameter of boilers 10.0" 9.10 3/16"  
 Length 9.6" Material of shell plates Steel Thickness 29/32" Description of riveting: circum. seams all in lap long. seams all strap on  
 Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 6 7/8" Lap of plates or width of butt straps 1 1/2"  
 Per centages of strength of longitudinal joint 87.8 Working pressure of shell by rules 170 lb Size of manhole in shell 16" x 12"  
 Size of compensating ring 28" x 29/32" No. and Description of Furnaces in each boiler two plain Material Steel Outside diameter 35"  
 Length of plain part 6.0" Thickness of plates 1 1/4" Description of longitudinal joint welded No. of strengthening rings -  
 Working pressure of furnace by the rules 172 lb Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 29/32"  
 Pitch of stays to ditto: Sides 8" Back 8" Top 8" If stays are fitted with nuts or riveted heads both Working pressure by rules 171 lb  
 Material of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 8" x 8" Working pressure by rules 185 lb End plates in steam space:  
 Material Steel Thickness 19/16" Pitch of stays 15" How are stays secured all nuts Working pressure by rules 175 lb Material of stays Steel  
 Diameter at smallest part 2 5/16" Area supported by each stay 15" x 14 1/2" Working pressure by rules 174 lb Material of Front plates at bottom Steel  
 Thickness 7/8" Material of Lower back plate Steel Thickness 1 3/16" Greatest pitch of stays 1 1/2" Working pressure of plate by rules 170 lb  
 Diameter of tubes 3 1/2" Pitch of tubes 14 1/2" Material of tube plates Steel Thickness: Front 7/8" Back 10/16" Mean pitch of stays 9"  
 Pitch across wide water spaces 13 1/2" Working pressures by rules 179 lb Girders to Chamber tops: Material Iron Depth and  
 thickness of girder at centre 6" x 2 1/2" Length as per rule 27" Distance apart 7 1/2" Number and pitch of Stays in each two 8"  
 Working pressure by rules 173 lb 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         

Lloyd's Register  
 FOUNDATION

**DONKEY BOILER**— Description *No donkey boiler*

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 \_\_\_\_\_

Diameter of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_

Description of riveting long seams \_\_\_\_\_ Diameter 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. \_\_\_\_\_

Plates \_\_\_\_\_ 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 top end bolts. Two bottom end bolts. Two main bearing bolts. One set coupling bolts. One set dead pump valves. One set Bridge pump valves. One set check valves. Safety valve spring.*

*The vessel efficient with masts and sails as a steamer.*

The foregoing is a correct description,  
 SHIPBUILDING & ENGINEERING CO. LIMITED Manufacturer.

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

*A. S. Seaton*

*The machinery and boiler of this Steam Steamer have been constructed under special survey and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition and the case is respectfully submitted for the certification + L.M.C. 10.95. in the Register Book.*

It is submitted that this vessel is eligible for **THE RECORD + L.M.C. 10.95.**

*R.S.*  
*6.11.95.*

Certificate (if required) to be sent to *Hull*

The amount of Entry Fee..	£ 1 : 0 :	When applied for, 4/11/95
Special .. .. .	£ 2 : 0 :	
Donkey Boiler Fee .. .	£ 1 : :	
Travelling Expenses (if any) £	1 : :	
		When received, 9.11.18.95

**FRL 8 NOV 1895**

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

MACHINERY CERTIFICATE WRITTEN.

Committee's Minute  
 Assigned

*+ L.M.C. 10.95*

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 Dated 29

(The Surveyors are requested not to write on or below the space for Committee's Minute.)