

## REPORT ON MACHINERY.

No. 17301

Port of Hull

WED. 1 NOV 1895

Received at London Office 19

No. in Survey held at Hull Date, first Survey June 15<sup>th</sup> Last Survey 25<sup>th</sup> Oct 1905  
 Reg. Book. 7544 on the Steel S. K. Onward (Number of Visits 38)  
 Master Selby Built at Selby By whom built Messrs Cochrane Sons When built 1905  
 Engines made at Hull By whom made Messrs when made 1905  
 Boilers made at Hull By whom made Charles D. Holmes & Co when made 1905  
 Registered Horse Power 67 Owners Forward Steam Fishing Co. Ltd. Port belonging to Grimsby  
 Nom. Horse Power as per Section 28 66.99 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion 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 7 1/8" Material of Steel  
 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 for protected between the liners Yes Length of stern bush 31"  
 Dia. of Tunnel shaft 6 3/8" as per rule 6 3/8" Dia. of Crank shaft journals 6 3/4" as per rule 6 3/4" Dia. of Crank pin 6 3/4" Size of Crank webs 12 1/2" x 4 1/2" 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 sq ft  
 No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 24" Can one be overhauled while the other is at work  
 No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 24" Can one be overhauled while the other is at work  
 No. of Donkey Engines Two Sizes of Pumps 2 1/2" x 5" & 2 1/2" x 4" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two 2" In Holds, &c. One 2" to each of two slush  
wells. Ejector suction from Eng. Room bilge slush wells  
 No. of bilge injections 1 sizes 3" Connected to condenser, or to circulating pump pumps 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 0  
 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 slush well 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 before launching 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 1110 sq ft Is forced draft fitted No  
 No. and Description of Boilers One Cyl. Multi. Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs  
 Date of test 7.10.05 Can each boiler be worked separately Yes Area of fire grate in each boiler 31.6 sq ft No. and Description of safety valves to  
 each boiler Two Spring Area of each valve 3.98 sq in 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 6" Ex Mean dia. of boiler 12" - 0" Length 10' - 0" Material of shell plates Steel  
 Thickness 1" Range of tensile strength 29.32 Are they welded or flanged Yes Descrip. of riveting: cir. seams L. D. long. seams O. B. S. I. B.  
 Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 7" Lap of plates or width of butt straps 15"  
 Per centages of strength of longitudinal joint 89.25 Working pressure of shell by rules 186 lbs Size of manhole in shell 14" x 16"  
 plate 85.26 Size of compensating ring 7" x 1" No. and Description of Furnaces in each boiler Two Holmes Material Steel Outside diameter 41"  
 Length of plain part top 2' 1/2" Thickness of plates bottom 3/32" Description of longitudinal joint Welded No. of strengthening rings 4 Corners  
 Working pressure of furnace by the rules 195 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 1/16" Top 3/32" Bottom 1/16"  
 Pitch of stays to ditto: Sides 8 1/2" x 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 3/4" Area supported by each stay 105.75 Working pressure by rules 204 lbs End plates in steam space:  
 Material Steel Thickness 1 1/32" Pitch of stays 16" x 16" How are stays secured nut inside nut washer outside Working pressure by rules 196 lbs Material of stays Steel  
 Diameter at smallest part 2 1/8" Area supported by each stay 256 sq in Working pressure by rules 225 lbs Material of Front plates at bottom Steel  
 Thickness 3/32" Material of Lower back plate Steel Thickness 1/16" 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 3/32" Back 1/8" Mean pitch of stays 9 1/4"  
 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 3/4" Length as per rule 2' 8 1/2" Distance apart 8" Number and pitch of Stays in each 3 - 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 Yes Diameter 18" Length 10' Thickness of shell plates 1/16" Material Steel Description of longitudinal joint Welded Diam. of rivet  
 holes 1 1/32" Pitch of rivets 7" Working pressure of shell by rules 188 lbs Diameter of flue 18" Material of flue plates Steel Thickness 1/16"  
 If stiffened with rings Yes Distance between rings 12" Working pressure by rules 188 lbs End plates: Thickness 1/16" How stayed By stays  
 Working pressure of end plates 188 lbs Area of safety valves to superheater 1110 sq ft Are they fitted with easing gear Yes



**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 bolts and nuts, two main bearing bolts, nuts, one set coupling bolts and nuts, one set each air, circulating feed, bilge pump valves, and a quantity of assorted bolts.*

The foregoing is a correct description,  
*Charles D. Stobbs* Manufacturer.

Dates of Survey while building { During progress of work in shops— 1905:— June 15. 19. 22. 26. 27. July 4. 6. 8. 12. 15. 17. 20. 26. 27. Aug 15. 21. 22. 25. 30.  
During erection on board vessel — Aug 31. Sep 1. 7. 8. 12. 13. 19. 26. 27. Oct 3. 4. 7. 11. 17. 18. 19. 21. 23. 25.  
Total No. of visits 38

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 materials and workmanship 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 notification of L.M.C. 10.05 in the Register Book.*

It is submitted that  
this vessel is eligible for  
THE RECORD *L.M.C. 10.05.*

*1.11.05*  
*1.11.05*

The amount of Entry Fee. £ 1 : : : When applied for, 28/10/1905  
Special .. .. £ 10 : 1 : :  
Donkey Boiler Fee .. .. £ : : : When received, 31/10/1905  
Travelling Expenses (if any) £ : : 8 : 2

FRI. 3 NOV 1905

Committee's Minute

Assigned

+ L.M.C. 10.05

*James Barclay*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.  
27.10.05

MACHINERY CERTIFICATE  
WRITTEN.



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Foundation