

## REPORT ON MACHINERY.

No. 19681

Port of *Hull*

Received at London Office TUES. 31 DEC 1907

No. in Survey held at *Hull*Date, first Survey *June 22<sup>nd</sup>*Last Survey *20<sup>th</sup> Dec* 1907

Reg. Book.

(Number of Visits *38*)92444 on the *Shel Se. K. Boltman*

Master

Built at *Hull*By whom built *Messrs*Tons { Gross *312*Net *128*When built *1907*Engines made at *Hull*By whom made *Earles & Co*when made *1907*Boilers made at *Hull*By whom made *Earles & Co*when made *1907*

Registered Horse Power

Owners *The City Steam Fishing Co. Ltd*Port belonging to *Hull*Nom. Horse Power as per Section 28 *88.79*Is Refrigerating Machinery fitted for cargo purposes *No*Is Electric Light fitted *No*

## ENGINES, &amp;c.—Description of Engines

*Triple Expansion*No. of Cylinders *3*No. of Cranks *3*Dia. of Cylinders *13" - 22" - 37"*Length of Stroke *27"*Revs. per minute *105*Dia. of Screw shaft as per rule *7.8"*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 *one length* the liner does not fit tightly at the partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *Yes*

If two

liners are fitted, is the shaft lapped or protected between the liners *plain*Length of stern bush *36.5"*Dia. of Tunnel shaft as per rule *7.09"*Dia. of Crank shaft journals as per rule *7.09"*Dia. of Crank pin *7.45"*Size of Crank webs *14.5" x 4.5"*

Dia. of thrust shaft under

collars *7.4"*Dia. of screw *9" - 6"*Pitch of Screw *11" - 9"*No. of Blades *4*State whether moveable *No*Total surface *29 sq*No. of Feed pumps *2*Diameter of ditto *2.5"*Stroke *14"*Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2*Diameter of ditto *2.5"*Stroke *14"*Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *Two*Sizes of Pumps *one 5" centrifugal**one 6" x 3" x 6"*

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

In Holds, &c. *One each, two inches, in aft**clush well, in fore clush well, aft comp. and below fish room, 4 ejectors*No. of Bilge Injections *1*sizes *3.5"*Connected to condenser, or to circulating pump *pump*Is a separate Donkey Suction fitted in Engine room & size *Yes 3"*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 *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*Dates of examination of completion of fitting of Sea Connections *20.12.07* of Stern Tube *20.12.07* Screw shaft and Propeller *20.12.07*Is the Screw Shaft Tunnel watertight *Yes*Is it fitted with a watertight door *Yes*worked from *Yes*BOILERS, &c.—(Letter for record *8*)Manufacturers of Steel *Messrs Beardmore*Total Heating Surface of Boilers *1465 sq*Is Forced Draft fitted *No*No. and Description of Boilers *1 Cyl. Multitubular*Working Pressure *200 lbs*Tested by hydraulic pressure to *400 lbs*Date of test *25.11.07*No. of Certificate *1615*Can each boiler be worked separately *Yes*Area of fire grate in each boiler *41 sq*

No. and Description of Safety Valves to

each boiler *Two Spring*Area of each valve *4.9 sq*Pressure to which they are adjusted *20.5 lbs*Are they fitted with easing gear *Yes*Smallest distance between boilers or uptakes and bunkers or woodwork *6.5"*Mean dia. of boilers *13" - 6"*Length *10" - 3"*Material of shell plates *Steel*Thickness *1.76"*Range of tensile strength *28.32*Are the shell plates welded or flanged *No*Descrip. of riveting: cir. seams *L.D.*long. seams *0.8.5.1.2*Diameter of rivet holes in long. seams *1.4"*Pitch of rivets *8.76"*Lap of plates or width of butt straps *18.5"*

Per centages of strength of longitudinal joint

rivets *88.4*Working pressure of shell by rules *200 lbs*Size of manhole in shell *16" x 12"*Size of compensating ring *40" x 30" x 1.5"*No. and Description of Furnaces in each boiler *3 plain*Material *Steel*Outside diameter *9" - 2"*

Length of plain part

top *6" - 5"*bottom *6" - 5"*

Thickness of plates

crown *4.9"*bottom *6.4"*Description of longitudinal joint *welded*No. of strengthening rings *0*Working pressure of furnace by the rules *202 lbs*Combustion chamber plates: Material *Steel*Thickness: Sides *3.32"*Back *3.32"*Top *5"*Bottom *3.32"*Pitch of stays to ditto: Sides *9.5" x 8"*Back *10" x 8.5"*Top *8.5" x 7.5"*If stays are fitted with nuts or riveted heads *Nuts*Working pressure by rules *207 lbs*Material of stays *Steel*Diameter at smallest part *1.4"*Area supported by each stay *102 sq*Working pressure by rules *211 lbs*

End plates in steam space:

Material *Steel*Thickness *1.76"*Pitch of stays *18" x 17"*How are stays secured *0.75*Working pressure by rules *206 lbs*Material of stays *Steel*Diameter at smallest part *2.76"*Area supported by each stay *306 sq*Working pressure by rules *211 lbs*Material of Front plates at bottom *Steel*Thickness *3.32"*Material of Lower back plate *Steel*Thickness *1.76"*Greatest pitch of stays *13" x 4.5"*Working pressure of plate by rules *226 lbs*Diameter of tubes *3.74"*Pitch of tubes *4.75" x 4.75"*Material of tube plates *Steel*Thickness: Front *3.32"*Back *7"*Mean pitch of stays *9.5"*Pitch across wide water spaces *14"*Working pressures by rules *208 lbs*Girders to Chamber tops: Material *Steel*

Depth and

thickness of girder at centre *9.5" x 13.5"*Length as per rule *2' - 9.5"*Distance apart *8.5"*Number and pitch of stays in each *3 - 7.5"*Working pressure by rules *227 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

W1097-0236



# VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_

Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_

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 \_\_\_\_\_ Plates \_\_\_\_\_

Working pressure of shell by rules \_\_\_\_\_ 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 \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

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

The foregoing is a correct description,

*F. J. Palethorpe* Manufacturer.

Dates of Survey while building { During progress of work in shops - - - - - } SECRETARY 1907 - Jun 22 26 30 Aug 23 30 Sep 4 9 12 17 19 24 Oct 8 10 15 28 Nov 1 5 8 14  
 { During erection on board vessel - - - - - } Jan 16 18 19 20 21 22 23 25 26 29 Dec 2 3 5 7 11 12 16 18 20  
 Total No. of visits 38.

Is the approved plan of main boiler forwarded herewith *Yes*

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *12.9.07* Slides *26.11.07* Covers *10.10.07* Pistons *26.11.07* Rods *26.11.07*  
 Connecting rods *28.10.07* Crank shaft *28.10.07* Thrust shaft *18.10.07* Tunnel shafts — Screw shaft *5.11.07* Propeller *5.11.07*  
 Stern tube *5.11.07* Steam pipes tested *7.12.07* Engine and boiler seatings *16.12.07* Engines holding down bolts *12.12.07*  
 Completion of pumping arrangements *18.12.07* Boilers fixed *12.12.07* Engines tried under steam *18.12.07*  
 Main boiler safety valves adjusted *12.12.07* Thickness of adjusting washers *5/16" x 9/32"*  
 Material of Crank shaft *Steel* Identification Mark on Do. *1791* Material of Thrust shaft *Steel* Identification Mark on Do. *115*  
 Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts *Steel* Identification Marks on Do. *115*  
 Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines and boiler of this vessel have been constructed under special survey, the materials and workmanship are sound 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 I.L.M.C. 12.07 in the Register Book.*

*These engines and boiler are similar to those fitted on the Botanic. Hull. Report 2° 19630.*

It is submitted that this vessel is eligible for THE RECORD. *I.L.M.C. 12.07*

*JPC 31.12.07*

The amount of Entry Fee. £ *1* : : : When applied for. *23/12/07*  
 Special .. £ *13* : *7* : : : When received, *19/1/08*  
 Donkey Boiler Fee .. £ : : :  
 Travelling Expenses (if any) £ : : : *19/1/08*

*James Barclay*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.  
*31.12.07*

Committee's Minute

FRI. 3 JAN 1908

Assigned

*+ L.M.C. 12.07*

