

REPORT ON MACHINERY.

No. 17511

Port of *Hull*

WED. 31 JAN 1906

Received at London Office

No. in Survey held at *Selby & Hull* Date, first Survey *Aug 30/05* Last Survey *24th Jan 1906*
 Reg. Book. *20* on the *Steel S. K. Forward* (Number of Visits *36*)
 Master *Messrs* Built at *Selby* By whom built *Bochrane Sons* Tons { Gross *250* Net *105*
 Engines made at } *Hull* By whom made } *Messrs* when made }
 Boilers made at } *Hull* By whom made } *Charles D. Holmes & Co* when made } *1906*
 Registered Horse Power *1* Owners *Edward Cyril Grant* Port belonging to *Grimby*
 Nom. Horse Power as per Section 28 *69.6* Is Refrigerating Machinery fitted *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 1/4" ~ 21 1/2" ~ 35"* Length of Stroke *24* Revs. per minute *112* Dia. of Screw shaft as per rule *7.04"* Material of screw shaft *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 *No*
 If two liners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *30 1/2"*
 Dia. of ~~Plain part~~ *Thrust* shaft as per rule *6.35"* Dia. of Crank shaft journals as per rule *6.67"* Dia. of Crank pin *6 1/8"* Size of Crank webs *13 1/16" x 4 7/8"* Dia. of thrust shaft under collars *6 7/8"* Dia. of screw *8" ~ 7 1/2"* Pitch of screw *11" ~ 0"* No. of blades *4* State whether moveable *No* Total surface *28 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*
 No. of Bilge pumps *1* Diameter of ditto *2 1/2"* Stroke *24"* Can one be overhauled while the other is at work *No*
 No. of Donkey Engines *One* Sizes of Pumps *2 3/4" x 5"* No. and size of Suctions connected to both Bilge and Donkey pumps *2"*
 In Engine Room *Two* In Holds, &c. *One 2" to each of two slush wells, and ejector suction from eng. room bilge slush wells, with discharge on deck*
 No. of bilge injections *1* sizes *3"* Connected to condenser, or to circulating pump *Yes* Is a separate donkey suction fitted in Engine room & size *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 *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 leaving* Is the screw shaft tunnel watertight *None*
 Is it fitted with a watertight door *worked from*

BOILERS, &c.— (Letter for record *B*) Total Heating Surface of Boilers *1135 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 *4.1.06* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *33 sq ft* No. and Description of safety valves to each boiler *Two Spring* Area of each valve *3.99 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"* Mean dia. of boilers *12' ~ 6"* Length *10' ~ 0"* Material of shell plates *Steel*
 Thickness *1 1/32"* Range of tensile strength *29.32 tons* Are they welded or flanged *No* Descrip. of riveting: cir. seams *L. D.* long. seams *D. B. S. J. R.*
 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 rivets *86%* Working pressure of shell by rules *185 lbs* Size of manhole in shell *16" x 12"*
 Size of compensating ring *7" x 1 1/32"* No. and Description of Furnaces in each boiler *2 Holmes* Material *Steel* Outside diameter *3' ~ 7"*
 Length of plain part top *11"* Thickness of plates crown *11"* bottom *16"* Description of longitudinal joint *Welded* No. of strengthening rings *4 corners*
 Working pressure of furnace by the rules *198 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *23/32"* Back *11/16"* Top *23/32"* Bottom *23/32"*
 Pitch of stays to ditto: Sides *9"* Back *9" x 8 3/4"* Top *8" x 8 1/2"* 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 3/4"* Area supported by each stay *105 3/4 sq in* Working pressure by rules *204 lbs* End plates in steam space: Material *Steel* Thickness *1 1/16"* Pitch of stays *16" x 16"* How are stays secured *nut in out washer outside* Working pressure by rules *208 lbs* Material of stays *Steel*
 Diameter at smallest part *5.78 in* Area supported by each stay *256 lbs* Working pressure by rules *225 lbs* Material of Front plates at bottom *Steel*
 Thickness *7/8"* Material of Lower back plate *Steel* Thickness *5/16"* Greatest pitch of stays *14 3/4"* Working pressure of plate by rules *197 lbs*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2" x 4 7/8"* Material of tube plates *Steel* Thickness: Front *7/8"* Back *7/8"* Mean pitch of stays *9 1/8"*
 Pitch across wide water spaces *14 1/2"* Working pressures by rules *180 lbs* Girders to Chamber tops: Material *Iron* Depth and thickness of girder at centre *8 3/4" x 13 1/4"* Length as per rule *2' ~ 8 7/8"* Distance apart *8"* Number and pitch of Stays in each *3 ~ 8 1/2"*
 Working pressure by rules *188 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

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

Di. 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 Thickness of shell crown plates Radius of do. No. of Stays to do.

Di. 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 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,

Charles D. Holmes, Manufacturer.

Dates of Survey while building

During progress of work in shops— 1905:— Aug 31. Sep 8. 12. 19. 26. 27 Oct 3. 4. 19. 20. 24. 25. Nov. 1. 2. 13. 14. 22. 24. 28. 29 Dec 5.

During erection on board vessel — Dec 6. 13. 20. 1906:— Jan 2. 3. 4. 9. 11. 12. 17. 18. 19. 20. 23. 24.

Total No. of visits 36.

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 notation of *L.M.C. 1.06* in the Register Books.

It is submitted that this vessel is eligible for **THE RECORD** *L.M.C. 1.06*.

Pms.
31.1.06

The amount of Entry Fee... £ 1 :- :- When applied for, 30/11/06

Special ... £ 10 : 10 :-

Donkey Boiler Fee ... £ :- :-

Travelling Expenses (if any) £ 8 2 :- When received, 31/1/06

James Barclay
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
26.1.06

Committee's Minute
Assigned

FRI. 2 FEB 1906

L.M.C. 1.06

MACHINERY CERTIFICATE WRITTEN.



Certificate (if required) to be sent to Hull