

REPORT ON MACHINERY.

Port of *Newcastle-on-Tyne*

MUN. 16 MAR 1903

Received at London Office. 10

No. in Survey held at *Newcastle-on-Tyne* Date, first Survey *July 14 1902* Last Survey *2nd March 1903*
 Reg. Book. *S.S. "Hektos"* *March 1st 1903* (Number of Visits *39*) Gross *2053.78*
30 Sep on the *S.S. "Hektos"* Tons Net *1336.21*
 Master *V. Boxstrom* Built at *Middlesbrough* By whom built *Messrs. Crayford & Co.* When built *1902*
 Engines made at *Newcastle* By whom made *North Eastern Mar. Eng. Co.* when made *1902*
 Boilers made at *Newcastle* By whom made *North Eastern Mar. Eng. Co.* when made *1902*
 Registered Horse Power *217* Owners *Finska Lloyd Angf. Aktiebol* Port belonging to *Helsingfors*
 Nom. Horse Power as per Section 28 *217* Is Refrigerating Machinery fitted *No* Is Electric Light fitted *Yes for cargo purposes only*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *21" 34" 56"* Length of Stroke *34"* Revs. per minute *75* Dia. of Screw shaft as per rule *7.4"* as fitted *12.2"* Lgth. of stern bush *4.3"*
 Dia. of Tunnel shaft as per rule *10.2"* as fitted *10.4"* Dia. of Crank shaft journals as per rule *10.7"* as fitted *10.3"* Dia. of Crank pin *10.3"* Size of Crank webs *20.6"* Dia. of thrust shaft under collars *10.3"* Dia. of screw *14.6"* Pitch of screw *14.6"* No. of blades *4* State whether moveable *No* Total surface *635*
 No. of Feed pumps *2* Diameter of ditto *3.4"* Stroke *18"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *3.4"* Stroke *18"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *2* Sizes of Pumps *6x5x8 + 6x4x6"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *Five 3" one 4" under bilges* In Holds, &c. *Two of 3" in each hold*
One of 3" in tunnel.
 No. of bilge injections *1* sizes *4"* Connected to condenser or to circulating pump *Yes* Is a separate donkey suction fitted in Engine room & size *4 1/2 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 *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 *None* How are they protected *Yes*
 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 *New Vessel* Is the screw shaft tunnel watertight *See ship report*
 Is it fitted with a watertight door *yes* worked from *Cylinder Grating*

BOILERS, &c.—(Letter for record *5*) Total Heating Surface of Boilers *3542 sq* Is forced draft fitted *No*
 No. and Description of Boilers *Two single Ended* Working Pressure *165 lbs* Tested by hydraulic pressure to *330 lbs*
 Date of test *4/11/02* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *54 sq* No. and Description of safety valves to each boiler *Two Spring valves* Area of each valve *7.07 sq* Pressure to which they are adjusted *170 lbs* Are they fitted with easing gear *Yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *9" baffle plate* Mean dia. of boilers *13-9 3/4"* Length *10-6"* Material of shell plates *S*
 Thickness *1 1/8"* Range of tensile strength *29-32* Are they welded or flanged *No* Descrip. of riveting: cir. seams *Lap at* long. seams *W. H. & Riv.*
 Diameter of rivet holes in long. seams *1 7/16"* Pitch of rivets *8 1/8"* Top of plates or width of butt straps *15 1/4"*
 Percentages of strength of longitudinal joint rivets *84* Working pressure of shell by rules *167* Size of manhole in shell *16 x 12*
 Size of compensating ring *Flanged in* No. and Description of Furnaces in each boiler *3 Plain* Material *S* Outside diameter *39"*
 Length of plain part top *6.6"* bottom *7.0"* Thickness of plates crown *3 3/32"* bottom *3 1/32"* Description of longitudinal joint *A. H. Single* No. of strengthening rings *1*
 Working pressure of furnace by the rules *168* Combustion chamber plates: Material *S* Thickness: Sides *1/8"* Back *1/8"* Top *1/8"* Bottom *1"*
 Pitch of stays to ditto: Sides *10 x 9 1/2"* Back *10 x 9 1/2"* Top *10 x 9 1/2"* If stays are fitted with nuts or riveted heads *Yes* Working pressure by rules *172*
 Material of stays *S* Diameter at smallest part *1 1/2"* Area supported by each stay *95 sq* Working pressure by rules *169* End plates in steam space:
 Material *S* Thickness *1 3/32"* Pitch of stays *24 3/4 x 24"* How are stays secured *A. H. & W.* Working pressure by rules *170* Material of stays *S*
 Diameter at smallest part *9.82"* Area supported by each stay *594 sq* Working pressure by rules *165* Material of Front plates at bottom *S*
 Thickness *2"* Material of Lower back plate *S* Thickness *2 1/8"* Greatest pitch of stays *14 1/2"* Working pressure of plate by rules *170*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2 x 4 1/2"* Material of tube plates *S* Thickness: Front *3/4"* Back *3/4"* Mean pitch of stays *9"*
 Pitch across wide water spaces *14 1/2"* Working pressures by rules *384* Girders to Chamber tops: Material *S* Depth and thickness of girder at centre *8 1/2 x 1 1/2"* Length as per rule *30'* Distance apart *10'* Number and pitch of Stays in each *2. 9 1/2"*
 Working pressure by rules *174* Superheater or Steam chest; how connected to boiler *None* Can the superheater be shut off and the boiler worked separately *Yes* 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. *One* Description *Cyl. mult. single ended, 2 plain furnaces*
 Made at *Stockton* By whom made *Riley Bros* When made *22-10-02* Where fixed *Stoke hold*
 Working pressure *90 lb* tested by hydraulic pressure to *150 lb* No. of Certificate *2863* Fire grate area *21 1/2* Description of safety valves *direct spring*
 No. of safety valves *two* Area of each *5.94* Pressure to which they are adjusted *90 lb* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *8'-0"* Length *8'-0"* Material of shell plates *steel* Thickness *1/2"* Range of tensile strength *27/32* Descrip. of riveting long. seams *D.R. D Butt Strap* Dia. of rivet holes *1 1/2* Whether punched or drilled *drilled* Pitch of rivets *3 1/2"*
 Lap of *Butt St* *9 1/2"* Per centage of strength of joint *88* Rivets *88* Thickness of shell *end* plates *3/4"* Radius of do. *✓* No. of Stays to do. *4"*
 Dia. of stays *1 1/2* Diameter of furnace Top *2'-5"* Bottom *✓* Length of furnace *6'-10"* Thickness of furnace plates *1 1/2"* Description of joint *Welded* Thickness of furnace crown plates *1 1/2"* Stayed by *1 1/2" S.St. nuts 8"x8" pitch* Working pressure of shell by rules *100 lb*
 Working pressure of furnace by rules *98 lb* Diameter of uptake *3"* Thickness of uptake plates *7/8" B 1/2"* Thickness of *stay* water tubes *5/8"*

SPARE GEAR. State the articles supplied:— *Two top end and two bottom end connecting rod bolts and nuts, two main bearing bolts, one set coupling bolts, one set put and bit pump valves, assorted bolts and nuts, some of various sizes.*

The foregoing is a correct description,

Manufacturer.

J. J. Harrison
 Dates of Survey while building
 During progress of work in shops— *1902. July 11. Aug. 18, 21, 22, 25. Sep. 2, 12, 17, 22. Oct. 1, 7, 9, 13, 21, 22. Nov. 4, 10, 13, 18, 21, 22.*
 During erection on board vessel— *1902. Oct. 21, 30. Nov. 3, 7, 10, 11, 24, 27, 28. Dec. 2, 4, 8, 15, 19, 24. 1903. Jan. 12, 19. Mar. 2, 11.*
 Total No. of visits *Nov. 20. Mch 19* Is the approved plan of main boiler forwarded herewith *no*
 " " " donkey " " " *no*

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

Material of screw shaft *Iron* Is the screw shaft fitted with a continuous liner the whole length of the stern tube *no*
 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 *✓*
 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 *yes*

The machinery of this vessel has been constructed under special survey, the materials and workmanship are found and good and under the vessel eligible in our opinion to have record of L.M.C. 3-03.

The electric light report will be forwarded as soon as received back from the electricians.

It is submitted that this vessel is eligible for
 THE RECORD. — L.M.C. 3-03.

16.3.03
16.3.03

The amount of Entry Fee. . . £ *2* : : :
 Special £ *30* : *17* : :
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ : : :
 When applied for, *2 DEC 1902*
 When received, *17 12 1902*

Committee's Minute

TUES. 17 MAR 1903

Assigned

+ L M C 3 03

G. A. H. R. D. Shilston.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



© 2020

Lloyd's Register Foundation

MACHINERY CERTIFICATE
 WRITTEN.

Certificate (if required) to be sent to Newcastle-on-Tyne.

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