Rpt. 4.

No. 45435.

REPORT ON MACHINERY.

Port of Newcastle-on-Tyne Received at London Office MON. 22 JUN 1903

No. in Reg. Book. Sup: 49 Survey held at Nuvesth Date, first Survey 6th March 03 Last Survey 18/6 1903 (Number of Visits 17)

on the S/S "Hussar" Tons Gross 1264.76 Net 797.89

Master D. G. Ball Built at Nuvesth By whom built Tyne Iron S.B. Co When built 1903

Engines made at Nuvesth By whom made North Eastern Mar. Eng. Co when made 1903

Boilers made at Nuvesth By whom made North Eastern Mar. Eng. Co when made 1903

Registered Horse Power Owners Fisher Renwick & Co Port belonging to Manchester

Nom. Horse Power as per Section 28 149 Is Refrigerating Machinery fitted No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 17. 28. 46" Length of Stroke 33 Revs. per minute 80 Dia. of Screw shaft as per rule 10.31 as fitted 10½" Lgth. of stern bush 3-6"

Dia. of Tunnel shaft as per rule 8.62 as fitted 8¾ Dia. of Crank shaft journals as per rule 9.05 as fitted 9¼" Dia. of Crank pin 9¼" Size of Crank webs 6 x 17⅞ Dia. of thrust shaft under collars 9¼" Dia. of screw 12-3 Pitch of screw 13-0" No. of blades 4 State whether moveable No Total surface 465

No. of Feed pumps 2 Diameter of ditto 3" Stroke 16½" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3" Stroke 16½" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 5¼" x 3½ x 6", 6 x 8½ x 8" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 3", Two 2½" In Holds, &c. Two in No. 1 & 2 holds 2½, Two in No 3 hold 2" one in tunnel with 2½"

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 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 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 ✓

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 Is the screw shaft tunnel watertight Yes

Is it fitted with a watertight door Yes worked from Upper Platform

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 2560 ☐ Is forced draft fitted No

No. and Description of Boilers One Single Ended Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs

Date of test 8/5/03 Can each boiler be worked separately ✓ Area of fire grate in each boiler 72 ☐ No. and Description of safety valves to each boiler Two spring Valves Area of each valve 8.29" 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 15" Mean dia. of boilers 15-9⅜ Length 11-0" Material of shell plates S

Thickness 15/16 Range of tensile strength 24-32 Are they welded or flanged No Descrip. of riveting: cir. seams Lap dbl long. seams D.B. dbl riv.

Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8½" ~~Lap of plates~~ or width of butt straps 16 5/16

Per centages of strength of longitudinal joint rivets 80. plate 89.7 Working pressure of shell by rules 181 Size of manhole in ~~shell~~ lid 12 x 16

Size of compensating ring Flanged in No. and Description of Furnaces in each boiler 4 Deightons Material S Outside diameter 41½

Length of plain part top ✓ bottom ✓ Thickness of plates crown 13/16" bottom 13/16" Description of longitudinal joint Welded No. of strengthening rings ✓

Working pressure of furnace by the rules 182 Combustion chamber plates: Material S Thickness: Sides ¾ Back ¾ Top ¾ Bottom 29/32

Pitch of stays to ditto: Sides 8¾ x 11½ Back 8¾ x 11½ Top 8¾ x 11½ If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 185

Material of stays S Diameter at smallest part 1⅝ Area supported by each stay 1600" Working pressure by rules 181 End plates in steam space:

Material S Thickness 1 7/16 Pitch of stays 23½ x 23 How are stays secured D.N.R.S. Working pressure by rules 181 Material of stays S

Diameter at smallest part 9.82" Area supported by each stay 540 0" Working pressure by rules 181 Material of Front plates at bottom S

Thickness 15/16 Material of Lower back plate S Thickness 1" Greatest pitch of stays 14½" Working pressure of plate by rules 210

Diameter of tubes 3¼" Pitch of tubes 4½ x 4½ Material of tube plates S Thickness: Front ¾ Back ⅞" Mean pitch of stays 9"

Pitch across wide water spaces 14½ Working pressures by rules 216 Girders to Chamber tops: Material S Depth and thickness of girder at centre 9¾ x 1½ Length as per rule 36" Distance apart 8¾" Number and pitch of Stays in each 2, 11½

Working pressure by rules 182 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 ✓

W397-0129

DONKEY BOILER— No. One Description, Blakis Patent.

Made at Middlesbro By whom made Richardson Westgarth & Co. When made 22/5/03 Where fixed Storeroom

Working pressure 80 lbs tested by hydraulic pressure to 160 lbs No. of Certificate 2998 Fire grate area 16 Description of safety valves spring

No. of safety valves 2 Area of each 4.2 27" Pressure to which they are adjusted 80 lbs If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 5'-6" Length 12'-3" Material of shell plates S Thickness 3/8 Range of tensile strength 27-32 Descrip. of riveting long. seams Lap alt Dia. of rivet holes 13/16 Whether punched or drilled drl Pitch of rivets 2 5/8

Lap of plating 4 1/4 Per centage of strength of joint Rivets 89.7 Plates 69 Thickness of shell crown plates 3/8 Radius of do. Hemis No. of Stays to do. —

Dia. of stays. — Diameter of furnace Top 2'-9" Bottom 4-4 1/2 Length of furnace 3-4 3/4 Thickness of furnace plates 7/16 Description of joint Lap single Thickness of ~~furnace crown~~ C. Chams. plates Top 5/8 Back 7/16 Stayed by Adshd 3-9 rad. Working pressure of shell by rules 80.6

Working pressure of furnace by rules 86 Diameter of ~~uptake~~ tubes 2 3/4 Thickness of ~~uptake~~ tube plates 7/16 13 Thickness of water tubes 2 3/32

SPARE GEAR. State the articles supplied :— Two top end & two bottom end connecting rod bolts and nuts. two main bearing bolts. one set coupling bolts. one set fuel & bilge pump valves, assorted bolts & nuts. Iron of various sizes.

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING Co. Ld. Manufacturer.

E. Harrison ASSIST SECRETARY.

Dates of Survey while building — During progress of work in shops— 1903 Mar: 6. 18. 31. Apl: 3. 16. 27. 29. May: 1. 4. 8. 13. 26. 30. June 4. 11. 15. 18.

During erection on board vessel — —

Total No. of visits 17

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " Yes

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 built under special survey, the Materials and Workmanship are sound and good and under the vessel eligible in my opinion to have record of + LMC 6.03.

It is submitted that this vessel is eligible for THE RECORD. + LMC 6.03

Bale 22.6.03

G.S. 22.6.03

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

Certificate (if required) to be sent to

The amount of Entry Fee.. £ 2 : : When applied for, 18/6/1903

Special .. .. .. £ 22 4 : When received, 19/6/1903

Donkey Boiler Fee .. .. £ : :

Travelling Expenses (if any) £ : :

HTT

Committee's Minute TUES. 23 JUN 1903

Assigned + LMC 6.03

MACHINERY CERTIFICATE WRITTEN.

H. A. Hale

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