Rpt. 4.

REPORT ON MACHINERY.

No. 48.914.

Port of Newcastle on Tyne. Received at London Office MON. 5 JUN 1905

No. in Reg. Book. S. 52 on the Steel Paddle "Eccles." Survey held at South Shields. Date, first Survey January 4th Last Survey 1st June 1905. (Number of Visits 19.)

Tons Gross / Net

Master . . . Built at S. Shields. By whom built J. T. Eltringham & Co. When built 1905.

Engines made at South Shields. By whom made Hepple & Co. when made 1905.

Boilers made at do. By whom made J. T. Eltringham & Co. when made 1905.

Registered Horse Power 66. Owners Manchester Ship Canal Co. Port belonging to Manchester.

Nom. Horse Power as per Section 28 57 NP. Is Refrigerating Machinery fitted No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Side lever direct acting surface condensing. No. of Cylinders 2. No. of Cranks 2.

Dia. of Cylinders 30". Length of Stroke 54" Revs. per minute 38 Dia. of ~~Screw~~ Paddle shaft ~~as per rule~~ 9½" ~~as fitted~~ 8 3/4" ~~Screw~~ Material of shaft Iron.

Is the screw shaft fitted with a continuous liner the whole length of the stern tube ✓ Is the after end of the liner made water tight in the propeller boss ✓ 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 ✓ Length of stern bush ✓

Dia. of Tunnel shaft as per rule ✓ as fitted ✓ Dia. of Crank shaft journals as per rule ✓ as fitted ✓ Dia. of Crank pin 5¼" Size of Crank webs 9½" × 4½" Dia. of thrust shaft under collars ✓ Dia. of ~~screw~~ paddle 14'-8" ~~Pitch of screw~~ Floats. 6'-6" × 30" No. of ~~blades~~ Floats 8 State whether moveable ✓ Total surface ✓

No. of Feed pumps 1 Diameter of ditto 4 1/2" Stroke 13½" ~~Can one be overhauled while the other is at work~~ 1 to each Engine

No. of Bilge pumps 1 Diameter of ditto 4½" Stroke 13½" ~~Can one be overhauled while the other is at work~~ -do-.

No. of Donkey Engines 1 Sizes of Pumps 5¼" × 5" × 3½" Stroke. No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 × 2" dia. In Holds, &c. 1 × 2" in Forehold & 1 × 2" in Afterhold.

No. of bilge injections 2 sizes 3½" Connected to ~~condenser, or~~ to circulating pump Yes. Is a separate donkey suction fitted in Engine room & size Yes 2" dia

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 bolt.

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 Air. circulating & bilge discharge How are they protected Iron recess.

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 ✓ Is the screw shaft tunnel watertight ✓

Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.— (Letter for record Y.) Total Heating Surface of Boilers 1393 ☐ft Is forced draft fitted No.

No. and Description of Boilers 2 Single ended multitubular Working Pressure 45 lbs Tested by hydraulic pressure to 90 lbs.

Date of test 7.3.05. Can each boiler be worked separately Yes. Area of fire grate in each boiler 36 ☐ft. No. and Description of safety valves to each boiler 2 Spring loaded Area of each valve 9.62 ☐" Pressure to which they are adjusted 45 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers ~~or woodwork~~ 6 ft. Mean dia. of boilers 9'-0 5/8" Length 10'-4" Material of shell plates I.

Thickness 3/8 + 7/16 Range of tensile strength 28 & 32 Are they welded or flanged No. Descrip. of riveting: cir. seams D.R. Lap long. seams D.R. Lap

Diameter of rivet holes in long. seams 7/8" Pitch of rivets 3" Lap of plates ~~or width of butt straps~~ 4½"

Per centages of strength of longitudinal joint rivets 90 plate 70 Working pressure of shell by rules 52 lbs Size of manhole in shell 16" dia.

Size of compensating ring Neck & Dome. No. and Description of Furnaces in each boiler 2 plain. Material I. Outside diameter 34"

Length of plain part top 83" bottom 111" Thickness of plates crown 3/8" bottom 13/32 Description of longitudinal joint I.R. Lap No. of strengthening rings ✓

Working pressure of furnace by the rules 53 lbs Combustion chamber plates: Material I. Thickness: Sides 15/32" Back 7/16" Top 7/16" Bottom 13/32"

Pitch of stays to ditto: Sides 11¼ × 11¾ Back 10 × 11 Top ✓ If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 46 lbs.

Material of stays Iron. Diameter at smallest part 1 7/32" Area supported by each stay 11¼ × 11¾ Working pressure by rules 53 lbs. End plates in steam space:

Material I. Thickness 9/16" Pitch of stays 18 × 17½ How are stays secured D.R. Nuts. Working pressure by rules 47 lbs. Material of stays I.

Diameter at smallest part 1 15/32 Area supported by each stay 17" × 17" Working pressure by rules 52 lbs Material of Front plates at bottom I.

Thickness 9/16" Material of Lower back plate I. Thickness ½" Greatest pitch of stays 13" × 10" Working pressure of plate by rules 57 lbs

Diameter of tubes 3½" Pitch of tubes 4 5/8" Material of tube plates I. Thickness: Front 9/16" Back 9/16" Mean pitch of stays 13 7/8" × 13 7/8"

Pitch across wide water spaces 14½" Working pressures by rules 46 lbs ~~Stays~~ ~~Girders~~ to Chamber tops: Material I. Depth and thickness of girder at centre Palms connected by 4 × 7/8" rivets ~~Length as per rule~~ 15/32" dia. Distance apart 13" Number and pitch of Stays in each ✓

Working pressure by rules ✓ Superheater or Steam chest; how connected to boiler D.R. Can the superheater be shut off and the boiler worked separately ✓ Diameter 3'-9" Length 6'-9" Thickness of shell plates 3/8" Material I. Description of longitudinal joint I.R. Lap Diam. of rivet holes 7/8" Pitch of rivets 2¼" Working pressure of shell by rules 103 lbs. Diameter of ~~flue~~ neck 16" Material of ~~flue~~ neck plates I. Thickness 9/16" How stayed Dished

If stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness 9/16" How stayed Dished

Working pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓

[2000—5-03—Copyable Ink.]

In a Report also sent on the Hull of the Ship state if new, since renewed, and when, one will be sent?

DONKEY BOILER— No. Description Cone fitted.

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 Plates 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 :— Spare bolts for all parts (viz) Sail frame, Crankpins, main bearings, pistons, paddles & float &c. also spare valves for feed & bilge pumps

PER PROCURATION HEPPLE & CO. LTD

The foregoing is a correct description,

W. J. Hepple MANAGING DIRECTOR Manufacturer. of Engines. Jos. D. Cunningham & Sons. Manufacturers of Boilers.

Dates of Survey while building — During progress of work in shops - - : Jan. 1. 10. 18. 31. Feb. 6. Mch. 13. Apl. 1. 11. 20. 21. May 2. 8. 16. 16. 20. 23. 25. 30. June. 1.

During erection on board vessel - - :

Total No. of visits 19.

Is the approved plan of main boiler forwarded herewith Yes.

" " " donkey " " "

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

The machinery & boilers of this vessel have been constructed under special Survey, the material & workmanship found sound & tested in accordance with the rules.

The vessel is now eligible in my Opinion to have record of + LMC 6.05 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD ✠ L.M.C. 6.05.

J.M. 5-6-05.

Certificate (if required) to be sent to

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

The amount of Entry Fee .. £ 1 : : When applied for, 3/6/1905.

Special .. .. .. £ 9 : 18 :

Donkey Boiler Fee .. .. £ . : - :

Travelling Expenses (if any) £ : :

When received, £9. 12 : Paid 7/6/05. £3. 6 0 Paid 15/6/05. 10/6/05

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

TUES. 6 JUN 1905

Committee's Minute

Assigned + Lmc 6.05

MACHINERY CERTIFICATE WRITTEN.