Rpt. 4.

# REPORT ON MACHINERY.

No. 67391.

Port of London. Received at London Office 1 Jun 1905.

No. in Reg. Book. Survey held at London Date, first Survey Dec 13/1904 Last Survey ~~Apl 29~~ May 25 1905 (Number of Visits 39.)

105 nhp in the Engines No. 773 for the P.S. "Sloane" Boilers No. 773 Tons Gross / Net

Master Built at London By whom built Thames Iron Works S.B. Co. When built

Engines made at London By whom made The Thames Iron Works S.B. Co.d when made 1905

Boilers made at London By whom made do: when made 1905

Registered Horse Power Owners London County Council Port belonging to London

Nom. Horse Power as per Section 28 53 ✓ Is Refrigerating Machinery fitted no Is Electric Light fitted yes

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ENGINES, &c.—Description of Engines Diagonal Compound No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 16 & 31 Length of Stroke 36 Revs. per minute Dia. of ~~Screw~~ shaft as per rule paddle as fitted 6¾ ~~screw~~ Material of shaft S. P.

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 aft. as fitted 6¾ Dia. of Crank pin 6¾ Size of Crank webs 4⅝" × 7¼" Dia. of thrust shaft under collars Dia. of ~~screw~~ wheel 8'-9" aft. Pitch of screw No. of ~~Blades~~ floats 8 State whether moveable feathering Total surface

No. of Feed pumps one Diameter of ditto 3½ Stroke 10" Can one be overhauled while the other is at work —

No. of Bilge pumps one Diameter of ditto 3½ Stroke 10" Can one be overhauled while the other is at work —

No. of Donkey Engines one Sizes of Pumps 4¼ 3¼" × 8" stroke No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room one 2" engine & 2" donkey suction In Holds, &c. 2" forward & 2" aft.

No. of bilge injections one sizes 3" Connected ~~to condenser, or~~ to circulating pump Is a separate donkey suction fitted in Engine room & size yes - 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 —

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 Is the screw shaft tunnel watertight

Is it fitted with a watertight door worked from

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BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 700 □' Is forced draft fitted yes

No. and Description of Boilers one S.E. return tube Working Pressure 115 Tested by hydraulic pressure to 230

Date of test 27.2.05 Can each boiler be worked separately Area of fire grate in each boiler 28 □' No. and Description of safety valves to each boiler 2 - direct spring Area of each valve 7.07 □" Pressure to which they are adjusted 115 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 9-0 Length 8-9 Material of shell plates S Thickness 9/16 Range of tensile strength 29-32 Are they welded or flanged no Descrip. of riveting: cir. seams single long. seams treble ~~Lap~~ Butt

Diameter of rivet holes in long. seams ¾ Pitch of rivets 4⅝32 ~~Lap of plates or~~ width of butt strap. 12"

Per centages of strength of longitudinal joint rivets 83.7 plate 82.0 Working pressure of shell by rules 119 Size of manhole in shell 16 × 12

Size of compensating ring McNeil's ring No. and Description of Furnaces in each boiler 2 plain Material S Outside diameter 34⅝8

Length of plain part top 7'0 bottom 6'2½ Thickness of plates crown 9/16 bottom 9/16 Description of longitudinal joint welded No. of strengthening rings none

Working pressure of furnace by the rules 142 Combustion chamber plates: Material S Thickness: Sides ½ Back ½ Top 9/16 Bottom ½

Pitch of stays to ditto: Sides 8¼ × 7¼ Back 8⅜ × 7⅞ Top 9¼ × 8¼ If stays are fitted with nuts or riveted heads nuts Working pressure by rules 120

Material of stays S ~~Diameter~~ area at smallest part .93 Area supported by each stay 645" Working pressure by rules 116 End plates in steam space:

Material S Thickness 11/16 Pitch of stays 17½ × 12½ How are stays secured Ext. washers & nuts Working pressure by rules 115 Material of stays S

~~Diameter~~ area at smallest part 2.87 Area supported by each stay 218" Working pressure by rules 133 Material of Front plates at bottom S

Thickness 11/16 Material of Lower back plate S Thickness 11/16 Greatest pitch of stays 11¾ Working pressure of plate by rules 115

Diameter of tubes 2½ Pitch of tubes 3½ Material of tube plates S Thickness: Front 11/16 Back 11/16 Mean pitch of stays 11.4

Pitch across wide water spaces 12½ Working pressures by rules 116 Girders to Chamber tops: Material S Depth and thickness of girder at centre 6½ × ⅝ - 2 Length as per rule 25 Distance apart 9¼ Number and pitch of Stays in each 2 - 8¼

Working pressure by rules 135 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

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If not, state whether, and when, one will be sent?

Is a Report also sent on the Hull of the Ship?

[2000—7-02—Copyable Ink.]



W1606-0032

**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 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 :—

For THE THAMES IRON WORKS AND SHIPBUILDING AND ENGINEERING COMPANY LIMITED

*The foregoing is a correct description,*

Manufacturer. A Warriner Manager.

Dates of Survey while building — During progress of work in shops — 1904 Dec 13. 16 30 1905 ~~Jan 10. 11. 18 25 26 31~~ Feb 6 8 13 14 17 18 20.

During erection on board vessel — ~~Feb~~ 22 23 27 Mar 2 1 15. 16 17 23. Apl 1 5 7 9. 18 20. 27 29 May 3. 4 6 9. 17 24 25.

Total No. of s Is the approved plan of main boiler forwarded herewith Yes.

" " " donkey " " "

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

The engnis and boiler have been built under special survey. The material has been tested in accordance with the rule requirements. The main steam pipes have been tested by water to 390 lbs. and the boiler to 230 lbs. and they were found tight and sound at these respective pressures.

The safety valves have been adjusted under steam, and the engnis seen working.

The workmanship throughout is good.

This vessel's machinery is eligible in my opinion for record of + LMC 5.05.

Boiler stamped :- N°. 773 605 LLOYD'S TEST 230 LBS 27.2.05 C.M

It is submitted that this vessel is eligible for THE RECORD ✠ LMC 5.05. F.D. ELEC: LIGHT.

J.M.S. 2.6.05.

J.E.S. 2.6.05

The amount of Entry Fee.. £ 1 : 0 : 0 When applied for, 31/5/1905

Special ... ... ... £ 8 : 0 : 0

Donkey Boiler Fee .. .. £ : :

Travelling Expenses (if any) £ : : When received, 2-6-1905

C. Markell

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

Committee's Minute FRI. 2 JUN 1905

Assigned + LMC 5.05

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

MACHINERY CERTIFICATE WRITTEN.