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# REPORT ON MACHINERY.

Port of London

TUES. JUL 2 1901  
Received at London Office

No. in Survey held at Milwall

Date, first Survey 28 January Last Survey 28 June 1901

Reg. Book.

~~458~~ on the Donkey Boiler for the 5/8 "Hokham brette" (Number of Visits 62)

Master  Built at  By whom built  Tons <sup>Gross</sup>  <sub>Net</sub>  When built

Engines made at  By whom made  when made

Boilers made at  By whom made  when made

Registered Horse Power  Owners Union. Castle Mail S.S. Co Port belonging to

Nom. Hors. Power as per Section 28  Is Refrigerating Machinery fitted  Is Electric Light fitted

**ENGINES, &c.—Description of Engines** 52817 div

No. of Cylinders \_\_\_\_\_ No. of Cranks \_\_\_\_\_

Dia. of Cylinders \_\_\_\_\_ Length of Stroke \_\_\_\_\_ Revs. per minute \_\_\_\_\_ Dia. of Screw shaft \_\_\_\_\_ Lgth. of stern bush \_\_\_\_\_

Dia. of Tunnel shaft \_\_\_\_\_ Dia. of Crank shaft journals \_\_\_\_\_ Dia. of Crank pin \_\_\_\_\_ Size of Crank webs \_\_\_\_\_ Dia. of thrust shaft under collars \_\_\_\_\_

Dia. of screw \_\_\_\_\_ Pitch of screw \_\_\_\_\_ No. of blades \_\_\_\_\_ State whether moveable \_\_\_\_\_ Total surface \_\_\_\_\_

No. of Feed pumps \_\_\_\_\_ Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

No. of Bilge pumps \_\_\_\_\_ Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

No. of Donkey Engines \_\_\_\_\_ Sizes of Pumps \_\_\_\_\_ No. and size of Suctions connected to both Bilge and Donkey pumps \_\_\_\_\_

In Engine Room \_\_\_\_\_ In Holds, &c. \_\_\_\_\_

No. of bilge injections \_\_\_\_\_ sizes \_\_\_\_\_ Connected to condenser, or to circulating pump \_\_\_\_\_ Is a separate donkey suction fitted in Engine room & size \_\_\_\_\_

Are all the bilge suction pipes fitted with roses \_\_\_\_\_ Are the roses in Engine room always accessible \_\_\_\_\_ Are the sluices on Engine room bulkheads always accessible \_\_\_\_\_

Are all connections with the sea direct on the skin of the ship \_\_\_\_\_ Are they Valves or Cocks \_\_\_\_\_

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates \_\_\_\_\_ Are the discharge pipes above or below the deep water line \_\_\_\_\_

Are they each fitted with a discharge valve always accessible on the plating of the vessel \_\_\_\_\_ Are the blow off cocks fitted with a spigot and brass covering plate \_\_\_\_\_

What pipes are carried through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times \_\_\_\_\_

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges \_\_\_\_\_

When were stern tube, propeller, screw shaft, and all connections examined in dry dock \_\_\_\_\_ Is the screw shaft tunnel watertight \_\_\_\_\_

As it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

**BOILERS, &c.—** (Letter for record (a)) Total Heating Surface of Boilers 73459 ft Is forced draft fitted

No. and Description of Boilers One byf. Mult. Single End Working Pressure 80 lb Tested by hydraulic pressure to 160 lb

Date of test 22.6.01 Can each boiler be worked separately  Area of fire grate in each boiler 28 sq ft No. and Description of safety valves to each boiler 2 Spring Safety Area of each valve 7.07 Pressure to which they are adjusted 80 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 15" Mean dia. of boilers 10'-6" Length 8'-0" Material of shell plates Steel

Thickness 19/32 Range of tensile strength 27/32 Are they welded or flanged No Descrip. of riveting: cir. seams Lap double long. seams Lap triple

Diameter of rivet holes in long. seams 15/16 Pitch of rivets 3/4" Lap of plates a width of butt straps 6 3/8

Per centages of strength of longitudinal joint \_\_\_\_\_ Working pressure of shell by rules 82.5 lb Size of manhole in shell 16" x 12"

Size of compensating ring 4 1/2" x 1" No. and Description of Furnaces in each boiler 2 plain Material Steel Outside diameter 35 1/4"

Length of plain part \_\_\_\_\_ Thickness of plates \_\_\_\_\_ Description of longitudinal joint DBS single No. of strengthening rings

Working pressure of furnace by the rules 122 lb Combustion chamber plates: Material Steel Thickness: Sides 7/16 Back 7/16 Top 1/2 Bottom 7/16

Pitch of stays to ditto: Sides 8 1/2" x 7" Back 8 1/2" x 7 1/4" Top 7 1/2" x 7" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 81.6 lb

Material of stays Iron Area supported at smallest part .99 Area supported by each stay 65.87 Working pressure by rules 90 lb End plates in steam space: \_\_\_\_\_

Material Steel Thickness 11/16 Pitch of stays 15" x 15" How are stays secured washers Working pressure by rules 80.6 lb Material of stays Iron

Area supported at smallest part 2.79 Area supported by each stay 225 Working pressure by rules 93 lb Material of Front plates at bottom Steel

Thickness 9/8 Material of Lower back plate Steel Thickness 9/8 Greatest pitch of stays 12" Working pressure of plate by rules 93.7 lb

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 9/8 Back 9/8 Mean pitch of stays 11 1/4"

Pitch across wide water spaces 15 1/2" Working pressures by rules 81.07 F 30 lb Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 5.2 plates 1/2 Length as per rule 18 9/16 Distance apart 7 1/2" Number and pitch of Stays in each one - 7"

Working pressure by rules 96.5 lb Superheater or Steam chest; how connected to boiler flanged riv Can the superheater be shut off and the boiler worked separately  Diameter 27" Length 30" Thickness of shell plates 3/8 Material Steel Description of longitudinal joint Lap single Diam. of rivet holes 3/16 No. of rivets 2 Working pressure of shell by rules 170 lb Diameter of flue  Material of flue plates  Thickness

If stiffened with rings  Distance between rings  Working pressure by rules  End plates: Thickness 1/2" How stayed 2 Iron stays 1 1/2" dia

Working pressure of end plates 150 lb 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

enter the donkey boiler Dia. of donkey boiler Length Material of shell plates Thickness Range of ten-  
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 Thickness of shell crown plates Radius of do. No. of Stays to do.  
Plates

Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Descrip.  
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:—

The foregoing is a correct description,  
Manufacturer.

*Saml Hoage & Sons Ltd*  
*Castroge* MANAGING DIRECTOR

Dates { During progress of work in shops - -  
of Survey { During erection on board vessel - -  
while building { Total No. of visits

Is the approved plan of main boiler forwarded herewith   
" " " donkey " " "

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

Material of screw shaft  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 non-corrosive  If two liners are fitted, is the shaft lapped or protected between the liners

The above Donkey Boiler has been constructed under special survey, the material has been tested in accordance with the Society's Rules & the workmanship is such that it has been tested by hydraulic pressure to 160 lbs per sq inch & found tight & is stamped as follows

N<sup>o</sup> 453  
Lloyd's  
160 lbs  
22.6.0

The above will be fitted in two or three months.

Certificate (if required) to be sent to

The amount of Entry Fee. . . £ : :  
Special . . . . . £ : :  
Donkey Boiler Fee . . . . £ 2 : 2 :  
Travelling Expenses (if any) £ : :  
When applied for, 2/4 901  
When received, 4/7 201  
Last 4/9

*Thomas R. Black*  
Engineer Surveyor to Lloyd's Register of British & Foreign S

Committee's Minute  
Assigned

