

REPORT ON MACHINERY.

Port of London

Received at London Office

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No. in Survey held at London

Date, first Survey 2nd Jan^y Last Survey 10th Aug^t 1892

Reg. Book.

(Number of Visits 9)

on the New Boilers for the iron S/s "Widgeon"

Tons } Gross
Net

Master _____ Built at _____ By whom built _____ When built _____

Engines made at _____ By whom made _____ when made _____

Boilers made at Deptford (London) By whom made The Genl. St. Nav. Co^y when made 1892

Registered Horse Power _____ Owners The Genl. St. Nav. Co^y Port belonging to London

Nom. Horse Power as per Section 28 _____

ENGINES, &c.— Description of Engines _____ No. of Cylinders _____

Diameter of Cylinders _____ Length of Stroke _____ Revolutions per minute _____ Diameter of Screw shaft as per rule _____ as fitted 9¹/₂

Diameter of Tunnel shaft as per rule _____ as fitted 9" Diameter of Crank shaft journals 10" Diameter of Crank pin 10¹/₄" Size of Crank webs _____

Diameter 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 _____

Is it fitted with a watertight door _____ worked from _____

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 2494 sq

No. and Description of Boilers Two Cylindrical Multitubular Working Pressure 70 lbs Tested by hydraulic pressure to 140 lbs

Date of test 10/8/92 Can each boiler be worked separately Yes Area of fire grate in each boiler 35.75 sq No. and Description of safety valves to each boiler Two Spring Area of each valve 11.04 sq Pressure to which they are adjusted 60 lbs Are they fitted with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 30" Mean diameter of boilers 11.3"

Length 10'6" Material of shell plates Steel Thickness 5/8" Description of riveting: circum. seams double (lap) long. seams double (butt)

Diameter of rivet holes in long. seams 7/8" Pitch of rivets 3 5/8" Lap of plates on width of butt straps 9"

Per centages of strength of longitudinal joint rivets 78.7 Working pressure of shell by rules 87.6 lbs Size of manhole in shell 16" x 13" plate 75.8

Size of compensating ring 2'8" x 2'5" x 5/8" No. and Description of Furnaces in each boiler Two Cylindrical Material Steel Outside diameter 3'4"

Length of plain part top 7'1" Thickness of plates crown 1/2" Description of longitudinal joint butt riv. lap No. of strengthening rings None bottom 9'4" bottom 1/2"

Working pressure of furnace by the rules 79 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1/2"

Pitch of stays to ditto: Sides 9" Back 9" Top 12 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 94.7

Material of stays Iron Diameter at smallest part 1 3/8" Area supported by each stay 81 sq Working pressure by rules 109.6 lbs End plates in steam space: Material Steel Thickness 3/4" Pitch of stays 17" How are stays secured Nuts Working pressure by rules 79.7 lbs Material of stays Steel

Diameter at smallest part 1 7/8" Area supported by each stay 289 sq Working pressure by rules 85.9 lbs Material of Front plates at bottom Steel

Thickness 1/16" Material of Lower back plate Steel Thickness 1/16" Greatest pitch of stays 14" Working pressure of plate by rules 88.2

Diameter of tubes 3" Pitch of tubes 4 1/8" Material of tube plates Steel thickness: Front 1/16" Back 1/16" Mean pitch of stays 12 3/8"

Pitch across wide water spaces 14" Working pressures by rules 86.5 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre _____ Length as per rule _____ Distance apart _____ Number and pitch of Stays in each _____

Working pressure by rules _____ 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 _____

If not, state whether, and when, one will be sent? In a Report also sent on the Hull of the Ship?

[142—L.R.M.B. Form No. 8.—4/2/92.—Copyrighted Ink.]



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DONKEY BOILER— Description *Vertical with side uptake & two cross tubes*
 Made at *Deptford* By whom made *Genl. St. Naves Co^{ys}* When made *1892* Where fixed *Main deck*
 Working pressure *70 lbs* tested by hydraulic pressure to *140 lbs* No. of Certificate *250* Fire grate area *17 1/2 sq ft* Description of safety valves *Spring*
 No. of safety valves *one* Area of each *7.06* Pressure to which they are adjusted *70 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *5'6"* Length *12'0"* Material of shell plates *Steel* Thickness *3/8"*
 Description of riveting long seams *double riv. lap* Diameter of rivet holes *3/4"* Whether punched or drilled *drilled* Pitch of rivets *2 1/2"*
 Lap of plating *3 1/8"* Per centage of strength of joint Rivets *80:5* Plates *70:0* Thickness of shell crown plates *1 1/16"* Radius of do. *flat* No. of Stays to do. *five*
 Dia. of stays *2 1/2"* Diameter of furnace Top *4'0"* Bottom *4'8"* Length of furnace *4'7"* Thickness of furnace plates *9/16"* Description of joint *Single lap* Thickness of furnace crown plates *1/2"* Stayed by *Stays to top of boiler* Working pressure of shell by rules *79.75 lbs*
 Working pressure of furnace by rules *79.0 lbs* Diameter of uptake *15"* Thickness of uptake plates *1/2"* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer. *Johm Prestou.*

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

The foregoing Main and Donkey boilers were built under special survey, and in accordance with the rules. The materials and workmanship being good and efficient.
The boilers were afterwards satisfactorily tested by hydraulic to twice the working pressure.

*For recommendation
 See attached report
 R.P.
 19 10 92*

Certificate (if required) to be sent to

The amount of Entry Fee.	£	:	:	When applied for,
Special	£	6	10	0
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	

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

Committee's Minute TUES 1 NOV 1892

Assigned



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