

REPORT ON MACHINERY.

Port of *London.*

Received at London Office **14th** 28 SEP 1899

No. in Survey held at *London* Date, first Survey *13 March* Last Survey *23 Sept 99*
 Reg. Book. *465* on the *Iron S.S. "Heron"* (Number of Visits *19*)
 Master *E. J. Cotton* Built at *Amsterdam* By whom built *Murray & Foster* Tons { Gross *908* Net *561*
 Engines made at *Amsterdam* By whom made *Gurley Bros & Co.* when made *1875*
 Boilers made at *London* By whom made *J. Stewart & Son, Ltd.* when made *1899*
 Registered Horse Power *119* Owners *Gen. S. & Co.* Port belonging to *London*
 Nom. Horse Power as per Section 28 *119* Is Refrigerating Machinery fitted *No* Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines

Description of Engines			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
No. of Feed pumps	Diameter of ditto	Stroke	No. of blades	State whether moveable
No. of Bilge pumps	Diameter of ditto	Stroke	No. and size of Suctions connected to both Bilge and Donkey pumps	
No. of Donkey Engines	Sizes of Pumps		In Holds, &c.	
No. of bilge injections	sizes	Connected to condenser	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 the discharge pipes above or below the deep water line		
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates	Are the blow off cocks fitted with a spigot and brass covering plate	How are they protected		
Are they each fitted with a discharge valve always accessible on the plating of the vessel	Are the discharge pipes above or below the deep water line			
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 *One*) Total Heating Surface of Boilers *1600 ft²* Is forced draft fitted *No*

No. and Description of Boilers *One* *Superheater* Working Pressure *130 lb* Tested by hydraulic pressure to *260 lb*

Date of test *13/9/99* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *64 ft²* No. and Description of safety valves to each boiler *20 (Exhaust)* Area of each valve *1/2 in* Pressure to which they are adjusted *130 lb* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *14 in* Mean dia. of boilers *14 in* Length *10 ft 3 in* Material of shell plates *Steel*

Thickness *1/8 in* Range of tensile strength *28 to 30 tons* Are they welded or flanged *No* Descrip. of riveting: cir. seams *2 in* long. seams *2 in*

Diameter of rivet holes in long. seams *1/8 in* Pitch of rivets *6 3/8 in* Lap of plates or width of butt straps *1 1/2 in*

Per centages of strength of longitudinal joint *82* Working pressure of shell by rules *136 lb* Size of manhole in shell *16 x 12*

Size of compensating ring *30 x 26 x 1* No. and Description of Furnaces in each boiler *3 Plain* Material *Steel* Outside diameter *36 in*

Length of plain part *6-0* Thickness of plates *5/8 in* Description of longitudinal joint *2 in* No. of strengthening ring *2*

Working pressure of furnace by the rules *160 lb* Combustion chamber plates: Material *S.* Thickness: Sides *9/16 in* Back *9/16 in* Top *9/16 in* Bottom *9/16 in*

Pitch of stays to ditto: Sides *9 x 9 in* Back *9 x 9 in* Top *9 x 9 in* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *135 lb*

Material of stays *S.* Diameter at smallest part *1 1/32 in* Area supported by each stay *81 in²* Working pressure by rules *140 lb* End plates in steam space: Material *S.* Thickness *1/8 in* Pitch of stays *1 1/2 x 15 in* How are stays secured *2 in* Working pressure by rules *134 lb* Material of stays *S.*

Diameter at smallest part *2 5/16 in* Area supported by each stay *270 in²* Working pressure by rules *136 lb* Material of Front plates at bottom *S.*

Thickness *1/16 in* Material of Lower back plate *S.* Thickness *1/16 in* Greatest pitch of stays *26 in* Working pressure of plate by rules *140 lb*

Diameter of tubes *3 3/4 in* Pitch of tubes *4 1/2 x 4 1/2 in* Material of tube plates *S.* Thickness: Front *3/4 in* Back *3/4 in* Mean pitch of stays *9 x 9 in*

Pitch across wide water spaces *13 1/8 in* Working pressures by rules *184 lb* Girders to Chamber tops: Material *S.* Depth and thickness of girder at centre *7 x 1 1/2 in* Length as per rule *30 in* Distance apart *8 5/8 in* Number and pitch of Stays in each *2 x 9 in*

Working pressure by rules *130 lb* Superheater or Steam chest; how connected to boiler *Final* Can the superheater be shut off and the boiler worked separately *Yes* Diameter *10 in* Length *10 in* Thickness of shell plates *1/8 in* Material *S.* Description of longitudinal joint *2 in* Diam. of rivet holes *1/8 in* Pitch of rivets *1/8 in* Working pressure of shell by rules *130 lb* Diameter of flue *10 in* Material of flue plates *S.* Thickness *1/8 in*

If stiffened with rings *Yes* Distance between rings *10 in* Working pressure by rules *130 lb* End plates: Thickness *1/8 in* How stayed *2 in*

Working pressure of end plates *130 lb* Area of safety valves to superheater *130 lb* Are they fitted with easing gear *Yes*

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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 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 tube

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
During progress of work in shops—
Total No. of visits

April, March 2 Visits. May 2nd 12th. June 5th 12th.
August 4th 12th. Sept. 5th 12th.
18 Visits.

Is the approved plan of main boiler forwarded herewith

.. .. donkey

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

This Boiler has been constructed under Special Survey.
The material and workmanship are good and satisfactory.
On completion this Boiler has been tested by water pressure to 260 lbs per square inch and found to be tight and sound at that pressure.
The following mark is stamped on this Boiler viz:—
No 367 Lloyd's Test 260 lbs P. S. 13-9-99.
Please see copy of Certificate in Damage Report Form attached herewith.

It is submitted that as this boiler is fitted in an unclassified vessel no further action need be taken

Amkd.
28/9/99

for 3/11/99

As this vessel is not classed it is respectfully recommended that no further action be taken in this case.

The amount of Entry Fee.. £ : :
Special £ 4. 4. :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : :
When applied for, 28/9-99
When received, 27/10-99

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

Committee's Minute

Assigned

Not for Commence
Unclassed Vessel

Lloyd's Register
Foundation