

## REPORT ON MACHINERY.

Port of *Glasgow*.Continued  
MON. FEB 26 1900

Received at London Office

18

No. in Survey held at *Glasgow*  
Reg. Book.

Date, first Survey

Last Survey

18

(Number of Visits)

1370. on the *Twin Screw Steamer Custodian*.Tons } Gross  
Net

When built 1900.

Master

Built at *Glasgow*.By whom built *C. Connell & Co.*

Engines made at

*Glasgow*

By whom made

*Dunsmuir & Jackson*

when made 1900

Boilers made at

*Glasgow*

By whom made

*Dunsmuir & Jackson*

when made 1900

Registered Horse Power

Owners *Charente S.S. Co. Ltd.*Port belonging to *Liverpool*

(J. J. Harrison Managers)

Nom. Hors. Power as per Section 28

Is Refrigerating Machinery fitted *no*Is Electric Light fitted *Yes*.

## ENGINES, &amp;c.—Description of Engines

No. of Cylinders

No. of Cranks

Dia. of Cylinders

Length of Stroke

Revs. per minute

Dia. of Screw shaft as per rule

Lgth. of stern bush

Dia. of Tunnel shaft as per rule

Dia. of Crank shaft journals as per rule

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, &amp;c.

No. of bilge injections

sizes

Connected to condenser, or to circulating pump

Is a separate donkey suction fitted in Engine room &amp; 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, &amp;c.—

(Letter for record *S*.)

Total Heating Surface of Boilers

Is forced draft fitted *no*

No. and Description of Boilers

*Two double ended and one single ended Cylindrical*

Working Pressure

180 lbs. Tested by hydraulic pressure to 360 lbs.

Particulars of Single Ended Boiler

Date of test *26/5/99*

Can each boiler be worked separately

*Yes*

Area of fire grate in each boiler

63 sq. ft.

No. and Description of safety valves to

each boiler

*Two Direct Spring*

Area of each valve

7.06 sq. in.

Pressure to which they are adjusted

185 lbs.

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork *About 1' 6"* Mean dia. of boilers *15' 9"* Length *10' 6"* Material of shell plates *Steel*Thickness *1 1/8"* Range of tensile strength *28-32 tons* Are they welded or flanged *no* Descrip. of riveting: cir. seams *Lap* End seams *Double Butt*Diameter of rivet holes in long. seams *1 1/8"* Pitch of rivets *9 1/2"* 47.655. Lap of plates or width of butt straps *20 1/4"*Per centages of strength of longitudinal joint rivets *88.5%* plate *84.9%* Working pressure of shell by rules *206 lbs* Size of manhole in shell *16" x 12"*Size of compensating ring *W. Reels Ring* No. and Description of Furnaces in each boiler *3: Monson's* Material *Steel* Outside diameter *48"*Length of plain part *36' 9"* Thickness of plates *5"* Description of longitudinal joint *Welded* No. of strengthening rings *✓*Working pressure of furnace by the rules *210 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *3/32"* Back *5/8"* Top *3/32"* Bottom *3/32"*Pitch of stays to ditto: Sides *8 1/2" x 9"* Back *8 1/2" x 8 1/2"* Top *8 1/2" x 9"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *184 lbs*Material of stays *Steel* Diameter at smallest part *1 1/2"* Area supported by each stay *36 sq. in.* Working pressure by rules *184 lbs* End plates in steam space:Material *Steel* Thickness *1 5/8"* Pitch of stays *18" x 14"* How are stays secured *Disks* Working pressure by rules *250 lbs* Material of stays *Steel*Diameter at smallest part *2 5/8"* Area supported by each stay *306 sq. in.* Working pressure by rules *204 lbs* Material of Front plates at bottom *Steel*Thickness *7/8"* Material of Lower back plate *Steel* Thickness *7/8"* Greatest pitch of stays *14 1/4"* Working pressure of plate by rules *192 lbs*Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2" x 4 1/2"* Material of tube plates *Steel* Thickness: Front *1"* Back *7/8"* Mean pitch of stays *11 1/4"*Pitch of side water spaces *14 1/4"* Working pressures by rules *189 lbs* 216 lbs. Girders to Chamber tops: Material *Steel* Depth andcentre *7 1/2" x 2"* Length as per rule *28 1/2"* Distance apart *9"* Number and pitch of Stays in each *2: 8 1/2"*rules *214 lbs* Superheater or Steam chest; how connected to boiler *None* Can the superheater be shut off and the boiler worked

meter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivets

Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

Distance between rings Working pressure by rules End plates: Thickness How stayed

Area of safety valves to superheater Are they fitted with easing gear



DONKEY BOILER—

No.	Description	When made	Where fixed
Made at	By whom made		
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
enter the donkey boiler	Dia. of donkey boiler	Length	Material of shell plates
strength	Descrip. of riveting long. seams	Dia. of rivet holes	Whether punched or drilled
Lap of plating	Per centage of strength of joint	Thicknes of shell crown plates	Radius of do.
Dia. of stays.	Diameter of furnace Top	Bottom	Length of furnace
joint	Thicknes of furnace crown plates	Stayed by	Thicknes of furnace plates
Working pressure of furnace by rules	Diameter of uptake	Thicknes of uptake plates	Thicknes of water tubes

SPARE GEAR. State the articles supplied:— 12 Boiler tubes, 1 Centrifugal pump drive & Spindles, 1 Set air pump valves, 1 Set Feed & Bilge pump valves & Seats 2 Spare check valves, 1 Set safety valve springs, 1 Set Escape valve springs, Ramsbottom Rings for each piston & seats for same. Bolt, nuts etc.

The foregoing is a correct description,

*Dunsmuir & Jackson* Manufacturer.

Dates  
of Survey  
while  
building

During progress of work in shops—  
During erection on board vessel—  
Total No. of visits

Is the approved plan of main boiler forwarded herewith *Yes*  
" " " donkey " " *None*

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

The Engines and Boilers of this vessel have been built under special Survey and the materials and workmanship are good. On completion the machinery was steamed under steam on a full speed trial in the Firth, and everything worked most satisfactorily. It is now in good and efficient condition and eligible in my opinion to have the record of *L.M.C. 2,00* marked in the Society's Register Book.

It is submitted that this vessel is eligible for THE RECORD. ✠ L.M.C. 2.00.

*Elec. Light.*

*27.2.00.*

The amount of Entry Fee. . . . . £	:	:	When applied for,
Special . . . . . £	:	:	.....18.....
Donkey Boiler Fee . . . . . £	:	:	When received,
Travelling Expenses (if any) £	:	:	.....18.....

Committee's Minute

Assigned

TUES 27 FEB 1900

*+ 2 M.C. 2.00*

*Wm. Austin*  
Engineer Surveyor to Lloyd's Register of B.



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