

P. S. St. Clair of the Isles 22594 Iron
LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Greenock No. 454
Description *Oscillating*
Made by *Messrs Mc Nab & Co in 1860*
Two Boilers 18 *73* At *Greenock*
Diameter of cylinder *3 48"* Length of stroke *48"*
No. of revolutions per minute
Point of cut off *Not ascertained*
Diameter of ~~screw~~ *Paddle* shaft *9 1/4"*
Diameter of crank shaft journals *9 1/4" Pins 5 3/4"*
Diameter ~~of screw~~ of paddle wheel *15 ft. Volup Centre*
Pitch of screw
No. of ~~boilers~~ *Two* Total surface *6" 9" x 2" 8"*
No. of bilge pumps *Two* and sizes *5 3/4" dia x 7" stroke*
Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*
No. of feed pumps *Two* and sizes *5 3/4" dia x 7" stroke*
one of the bilge pumps fitted with feed arrangement.
What gauges are there attached to the engines and boilers ... *Two Steam One Vacuum*
Description and size of Donkey Pumps ... *Double acting 3 1/2" x 7" stroke*
Where do they pump from ... *From the Sea, Bilges & Hotwell*
No. of bilge injections *One* and sizes *2 1/2" (Cook)*
Are they connected to air, or circulating pumps *To Air pumps*
Is there a hand pump in the engine room *Yes*
Can it be worked by the main engines *No*
Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

MAIN BOILERS.

Number *One* Description *Rectangular with*
vertical
Made by *P. Mac & Co*
When 18 *73* At *Greenock*
Working pressure *25 lbs*
Tested by hydraulic pressure to *48 lbs*, Date *Jan 4th 1879*
Test of this boiler witnessed by Mr. Alphin
Description of super-heating apparatus *None*
Can each boiler be worked separately

Can the super-heater be shut off and the boilers worked separately
Description and area of safety valves on each boiler *Two Direct loaded each 19 1/2" area*
No. of square feet of fire-grate surface in each boiler *48 ft 2*
Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin *Yes*
Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times. *Yes*

DONKEY BOILER.

Description *Lat sided, vertical*
Where fixed *On Main Deck*
Working pressure *20 lbs*

Tested by hydraulic pressure to *60 lbs*, Date *Jan 4th 1879*
Description and area of safety valves *One Lever 3" dia and one Direct weight 2 1/2" dia*
No. of square feet of fire grate *18 ft*

PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship *Yes*
Are they Kingston valves or common cocks ... *Screw down valve & Cocks*
Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *Blow off cock is under plates and fitted with Guard*
Are the discharge pipes above or below the deep water line *Near to Load line*
Are they each fitted with a discharge valve on the plating of the vessel *Discharge valves have now been fitted*
Manufacturer.

What pipes are carried through the bunkers *None*
How are they protected
When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *Sept 14th 1878*
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Yes*
Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead

I hereby certify that the whole of the above are correct particulars of the Machinery and Boilers of the Iron (or Wood) ~~Steam~~ *Paddle* Steam Vessel *"St. Clair of the Isles"* owned by *Harris & Goodwin* of the Port of *Glasgow* of *Tons Register, and 120 Registered Horse Power,* and that they have been carefully inspected and examined by *us* at *Port Glasgow* and found to be at this date, viz., *February 1st 1879* in good order and safe working condition.

Amount of Fee for Survey ... £ : :
(Travelling Expenses, if any, £)

James Morrison & *Alfred H. Alphin*
Engineer Surveyors to Lloyd's Register of Shipping.

It is submitted that this vessel
is eligible to have a
machinery certificate
granted and Lloyd's
2.79 Recorded

Multon
14/2/79



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