

# REPORT ON MACHINERY.

No. 13336

THURS. DEC 1894

Port of *Glasgow*

No. in Survey held at *Glasgow*

Reg. Book.

Date, first Survey *23 January* Last Survey *4th Dec 1894*

(Number of Vists *38*)

on the

*S. S. Dionée*

Tons { Gross *2441*  
Net *1604*

Master *A. Serrain*

Built at *Glasgow*

By whom built *A. Stephen & Sons*

When built *1894*

Engines made at *Glasgow*

By whom made *A. Stephen & Sons*

when made *1894*

Boilers made at *Glasgow*

By whom made *A. Stephen & Sons*

when made *1894*

Registered Horse Power *230*

Owners *A. Le Quellec*

Port belonging to *Bordeaux*

Nom. Horse Power as per Section 28 *233*

**ENGINES, &c.**— Description of Engines *Triple Expansion* No. of Cylinders *Three*  
Diameter of Cylinders *22" 36" & 59"* Length of Stroke *42"* Revolutions per minute *60* Diameter of Screw shaft *as per rule 10.7"*  
Diameter of Tunnel shaft *as per rule 10.16"* Diameter of Crank shaft journals *11 1/4"* Diameter of Crank pin *11 1/4"* Size of Crank webs *built*  
Diameter of screw *15.9"* Pitch of screw *16.0"* No. of blades *4* State whether moveable *Yes* Total surface *60 sq. ft.*  
No. of Feed pumps *2* Diameter of ditto *4"* Stroke *26"* Can one be overhauled while the other is at work *Yes*  
No. of Bilge pumps *2* Diameter of ditto *4 1/2"* Stroke *26"* Can one be overhauled while the other is at work *Yes*  
No. of Donkey Engines *Three* Sizes of Pumps { *6x4x6" Service* No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room *3 1/2" Centre & 3" wing* { *8x8x8" Ball* Holds, &c. *6. 3 1/2" to 2 1/2" dia"*  
No. of bilge injections *1* sizes *5"* Connected to condenser, or to circulating pump *Yes* Is a separate donkey suction fitted in Engine room & size *Yes 3 1/2"*  
Are all the bilge suction pipes fitted with roses *Yes* Are the roses in Engine room always accessible *Yes* Are the staves on Engine room bulkheads always accessible *None*  
Are all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Both*  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *Yes* Are the discharge pipes above or below the deep water line *Above*  
Are they each fitted with a discharge valve always accessible on the plating of the vessel *Yes* Are the blow off cocks fitted with a spigot and brass covering plate *Yes*  
What pipes are carried through the bunkers *None* How are they protected *—*  
Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*  
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *Yes*  
When were stern tube, propeller, screw shaft, and all connections examined in dry dock *in Works* Is the screw shaft tunnel watertight *Yes*  
Is it fitted with a watertight door *Yes* worked from *Main deck*.

**BOILERS, &c.**— (Letter for record *(S)*) Total Heating Surface of Boilers *3600 sq. ft.*  
No. and Description of Boilers *2. Sing. End. Mult.* Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs*  
Date of test *12.6.94* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *47 sq. ft.* No. and Description of safety valves to  
each boiler *2. direct spring* Area of each valve *5.94 sq. in.* Pressure to which they are adjusted *164 lbs* Are they fitted  
with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *12"* Mean diameter of boilers *13.6"*  
Length *11.0"* Material of shell plates *Steel* Thickness *1 3/32"* Description of riveting: circum. seams *d. riv. lap* long. seams *d. butt str.*  
Diameter of rivet holes in long. seams *1 3/16"* Pitch of rivets *8 1/4" & 4 1/8"* Lap of plates *8"* width of butt straps *5 1/4" & 17 3/8"*  
Per centages of strength of longitudinal joint *91%* Working pressure of shell by rules *161 lbs* Size of manhole in *shell end 12"x16"*  
Size of compensating ring *flanged in* No. and Description of Furnaces in each boiler *2. Morrison's* Material *Steel* Outside diameter *50"*  
Length of plain part *top 37.6"* Thickness of plates *crown 3 1/32"* Description of longitudinal joint *welded* No. of strengthening rings *—*  
Working pressure of furnace by the rules *163 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *1 9/32"* Back *1 9/32"* Top *1 9/32"* Bottom *2 1/4"*  
Pitch of stays to ditto: Sides *8 1/2"* Back *8 1/2"* Top *8 1/2" x 8 1/4"* stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *164 lbs*  
Material of stays *Steel* Diameter at smallest part *1.5837"* Area supported by each stay *72.25 sq. in.* Working pressure by rules *163 lbs* End plates in steam space:  
Material *Steel* Thickness *1 3/32"* Pitch of stays *18"* How are stays secured *d. nuts* Working pressure by rules *165 lbs* Material of stays *Steel*  
Diameter at smallest part *2.73"* Area supported by each stay *324 sq. in.* Working pressure by rules *163 lbs* Material of Front plates at bottom *Steel*  
Thickness *1 3/16"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *dbl. pl.* Working pressure of plate by rules *160 lbs*  
Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4" x 4 7/8"* Material of tube plates *Steel* Thickness: Front *3/4"* Back *3/4"* Mean pitch of stays *9 1/2"*  
Pitch across wide water spaces *14 1/2"* Working pressures by rules *160 lbs by d. of* to Chamber tops: Material *Steel* Depth and  
thickness of girder at centre *7" x 7/8" d. of* Length as per rule *28 7/8"* Distance apart *8 1/16"* Number and pitch of Stays in each *2. 8 1/2"*  
Working pressure by rules *169 lbs* 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 *—*

L.R.P.H.—5,000—Form No. 8.—(2/92)—Copyable In.

GLS 171-0069



DONKEY BOILER— Description *Cochranes Patent*  
Made at *Birkenhead* By whom made *Cochrane & Co* When made *1894* Where fixed *Stoke hold*  
Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *1251* Fire grate area *18 1/2 sq* Description of safety valves *d. Spring*  
No. of safety valves *2* Area of each *4 sq* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *6'-0"* Length *14'-0"* Material of shell plates *Steel* Thickness *7/16*  
Description of riveting long. seams *d. riv.* Diameter of rivet holes *3/16* Whether punched or drilled *drilled* Pitch of rivets *2 1/2*  
Lap of plating *4"* Per centage of strength of joint Rivets *78* Thickness of shell crown plates *13/32* Radius of do. *Hemispherical*  
Plates *64.5*  
Dia. of stays. *—* Diameter of furnace Top *2'-6"* from *5'-0"* Length of furnace *circular* Thickness of furnace plates *1/2"* Description of joint *A. riv. lap* Thickness of <sup>tubes</sup> furnace crown plates *5/8"* Stayed by *Hemispherical* Working pressure of shell by rules *85 lbs*  
Working pressure of furnace by rules *100 lbs.* Diameter of uptake *16" x 12"* Thickness of uptake plates *1/2"* Thickness of water tubes *— (big P. M.)*

SPARE GEAR. State the articles supplied:— Two propeller blades: Top and bottom bolts. top and brass. Main bearing and coupling bolts. In and bilge pump valves. Air pump rod. Bolts into iron inserted. —

The foregoing is a correct description,  
*Alrx. Stephen Son.* Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. The above mentioned engines and boilers have been built under special survey and are of good workmanship and material. They have been well fitted on board and on completion tried under steam with satisfactory results. The machinery is now in my opinion eligible to the notation: **T.L.M.C. 12.94** in the Society's Register. —

Appended Boiler print  
" " One Report on Forgings

*It is submitted that  
this vessel is eligible for  
THE RECORD.* + LMC 12,94

975K  
6-12-94

MACHINERY CERTIFICATE  
WRITTEN

*Certificate (if required) to be sent to*

The amount of Entry Fee..	£	2	:	"	:	When applied for,
Special .. .. .	£	31	:	13	:	4/12/18 94
Donkey Boiler Fee .. ..	£	"	:	"	:	When received,
Travelling Expenses (if any)	£	"	:	"	:	5/12/18 94

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

Committee's Minute

FRIDAY 7 DEC 1894

*Assigned*

+ 2 MC 12, 94

Glasgow

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Foundation