

# REPORT ON MACHINERY.

No. *5391*

(Received in London Office *30/5/81*)

No. in Survey held at  
Reg. Book.

*Paisley*

Date, first Survey *Augt/80* Last Survey *25<sup>th</sup> May 1881*

on the

*S. S. "Amitie"*

Tons *695.29*  
*442.23*

Master *John Courpon* Built at *Paisley* When built *1881*

Engines made at *Paisley* By whom made *Heming & Ferguson* when made *1881*

Boilers made at *Paisley* By whom made *Heming & Ferguson* when made *1881*

Registered Horse Power *85* Owners *Coubet* Port belonging to *Bayonne*

## ENGINES, &c.—

Description of Engines *Compound Inverted Direct acting*  
Diameter of Cylinders *23" & 45"* Length of Stroke *33"* No. of Rev. per minute \_\_\_\_\_ Point of Cut off, High Pressure *7/8"* Low Pressure *7/8"*  
Diameter of Screw shaft *8"* Diameter of Tunnel shaft *7 1/2"* Diameter of Crank shaft journals *8"* Diameter of Crank pin *8"* size of Crank webs *11 1/2" x 6"*  
Diameter of screw *11-6"* Pitch of screw *14-6"* No. of blades *4* state whether moveable *yes* total surface *36 sq ft.*  
No. of Feed pumps *two* diameter of ditto *2 7/8"* Stroke *16 1/2"* Can one be overhauled while the other is at work *yes*  
No. of Bilge pumps *two* diameter of ditto *3 1/2"* Stroke *16 1/2"* Can one be overhauled while the other is at work *yes*  
Where do they pump from *Fore and After Holds & Eng. Room Gutter.*  
No. of Donkey Engines *one* Size of Pumps *3 3/4" x 10" Stroke* Where do they pump from *Fore and after Holds*  
*small donkey fed. Cyls 8" clear*  
*Eng. Bilge tank & Sea*

Are all the bilge suction pipes fitted with roses *yes* Are the roses always accessible *yes* Are the sluices on Engine room bulkheads always accessible *Partly in hold*  
No. of bilge injections *one* and sizes *2 1/2" dia.* Are they connected to condenser, or to circulating pump *on sea chest.*  
How are the pumps worked *by levers*  
Are all connections with the sea direct on the skin of the ship *one saddle pump* 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 accessible at all times *yes*  
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges *yes*  
When were stern tube, propeller, screw shaft, and all connections examined in dry dock *before launching.*  
Is the screw shaft tunnel watertight *stepped & fitted* and fitted with a sluice door *yes* worked from *top platform*

## BOILERS, &c.—

Number of Boilers *one* Description *Cylindrical, Single ended (Internal Steel).*  
Working Pressure *75 lbs* Tested by hydraulic pressure to *150 lbs* Date of test *12/4/81*  
Description of superheating apparatus or steam chest *Cylindrical horizontal.*  
Can each boiler be worked separately *✓* Can the superheater be shut off and the boiler worked separately *✓*  
No. of square feet of fire grate surface in each boiler *54* Description of safety valves *direct spring*  
No. to each boiler *two* area of each valve *15.9 sq in* Are they fitted with easing gear *yes*  
No. of safety valves to superheater *✓* area of each valve *✓* are they fitted with easing gear *✓*  
Smallest distance between boilers and bunkers *9"*  
Diameter of boilers *12-6"* Length of boilers *9-7 1/2"* Description of riveting of shell long. seams *lap, treble.* circum. seams *lap, double*  
Thickness of shell plates *5/16"* diameter of rivet holes *1 1/8"* whether punched or drilled *punched* pitch of rivets *4 1/2"*  
Lap of plating *6 1/2"* per centage of strength of longitudinal joint *70%* working pressure of shell by rules *75 lbs*  
Size of manholes in shell *16 1/2" x 13"* size of compensating rings *5" x 7/8"*  
No. of Furnaces in each boiler *three* outside diameter *39"* length, top *6-3"* bottom *8-6"*  
Thickness of plates *1/2" Steel* description of joint *double butt* if rings are fitted *✓ on bottom* greatest length between rings *6-0"*  
Working pressure of furnace by the rules *93 lbs*  
Combustion chamber plating, thickness, sides *1/2" Steel* back *1/2" Steel* top *1/2" Steel*  
Pitch of stays to ditto *✓* sides *8 1/4" x 8 1/4"* back *8 1/4" x 8 1/4"* top *9" x 9"*  
If stays are fitted with nuts or riveted heads *riveted* working pressure of plating by rules *94 & 79 lbs.*  
Diameter of stays at smallest part *1 1/4" secured with rows of* working pressure of ditto by rules *80 lbs*  
End plates in steam space, thickness *3/4"* pitch of stays to ditto *16" x 15"* how stays are secured *nut & washers*  
Working pressure by rules *78 lbs* diameter of stays at smallest part *2 1/4"* working pressure by rules *83 lbs*  
Front plates at bottom, thickness *3/4"* Back plates, thickness *3/4"* greatest pitch of stays *13 1/2"* working pressure by rules *80 lbs*



Diameter of tubes  $3\frac{1}{4}$ " incl. pitch of tubes  $4\frac{3}{4}$ " thickness of tube plates, front  $3\frac{1}{4}$ " back  $3\frac{1}{8}$ "  
How stayed *stay tube* pitch of stays  $14\frac{1}{4}$ " x  $14\frac{1}{4}$ " width of water spaces  $1\frac{1}{4}$ "  
Diameter of Superheater or Steam chest  $30$ " length  $5-6$ " 5391 Gls.  
Thickness of plates  $3\frac{1}{8}$ " description of longitudinal joint *lap double* diameter of rivet holes  $3\frac{1}{4}$ " pitch of rivets  $3\frac{1}{2}$ "  
Working pressure of shell by rules  $160$  lbs Diameter of flue  $1$ " thickness of plates  $0$ "  
If stiffened with rings distance between rings Working pressure by rules  
End plates of superheater, or steam chest; thickness  $1\frac{1}{2}$ " How stayed *one rod  $2\frac{1}{4}$ " diam*  
Superheater or steam chest; how connected to boiler *by neck.*  
DONKEY BOILER— Description *Upright*  
Made at *Paisley* By whom made *Fleming & Ferguson* when made *1881*  
Where fixed *Stokehold* working pressure  $50$  lbs Tested by hydraulic pressure to  $100$  lbs No. of Certificate *521*  
Fire grate area  $14\frac{1}{2}$  sq. ft Description of safety valves *direct spring* No. of safety valves *one* area of each  $70$ "  
If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *non-return*  
Diameter of donkey boiler  $5'-0"$  length  $10$  ft description of riveting *lap double*  
thickness of shell plates  $3\frac{1}{8}$ " diameter of rivet holes  $3\frac{1}{4}$ " whether punched or drilled *punched.*  
pitch of rivets  $2\frac{1}{2}$ " lap of plating  $3\frac{3}{4}$ " per centage of strength of joint  $70$   
thickness of crown plates  $1\frac{1}{2}$ " stayed by *14-1 1/2 rods.*  
Diameter of furnace, top  $4'-0"$  bottom  $4'-4"$  length of furnace  $4'-0"$   
thickness of plates  $3\frac{1}{8}$ " description of joint *lap single*  
thickness of furnace crown plates  $1\frac{1}{2}$ " stayed by *14 rods  $1\frac{1}{2}$ " diam*  
Working pressure of shell by rules  $67$  lbs working pressure of furnace by rules  $65$  lbs  
diameter of uptake  $10$  thickness of plates  $9\frac{1}{16}$ " thickness of water tubes  $3\frac{1}{8}$ "

The foregoing is a correct description,  
*Fleming & Ferguson* Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines and Boilers are now in good order and safe working condition and eligible in my opinion to be noted in the Register Book & Lloyd's M.C. 5.84*

*This is the first time that the vessel is eligible to have the notification & Lloyd's M.C. recorded J.M. 307578*

*Slating Steel* £ 1-1-0  
The amount of Entry Fee £ 2 : 0 : 0 received by me.  
Special £ 12 : 15 : 0 viz. £ 13.8.0  
Certificate (if required) £ *frats.* 28/5/1881  
To be sent as per margin.  
(Travelling Expenses, if any, £ 2-12-6)  
Committee's Minute Tuesday, May, 31st 1881.

*A. J. O'Hara*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

*Glasgow.*  
Lloyd's Register Foundation