

Iron 16439 Rec 29/5/76
Glasgow 8th May 1876

Port

Details of Main Boilers of the Steam Ship

St. Clair 380 tons

Diameter 13'-0" Length 12'-6"

Thickness of shell plates $\frac{15}{16}$ "

Description of riveting of longitudinal joints *double butt straps* of circumferential joints *lapped & double riveted*

Pitch of rivets ditto *one row 6 $\frac{3}{8}$ " the other 3 $\frac{3}{8}$ "* ditto *4 $\frac{1}{2}$ "*

Diameter of rivets ditto *1 $\frac{1}{16}$ "* ditto *1 $\frac{1}{16}$ "*

Lap of plating ditto *butt straps 11" broad x $\frac{1}{16}$ "* ditto *5"*

Size of manholes in circular shell *11 $\frac{3}{4}$ " x 16"*

How compensated for *A.S. ring 3" x 3" x $\frac{1}{2}$ "*

Number of furnaces in boiler *Six (three in each end)*

Diameter of furnaces *3'-3"* Length of furnaces *5'-4"*

Thickness of furnace plates *$\frac{7}{16}$ "*

Description of joint of furnaces *welded*

Whether strengthened with rings *Cocks comp joint in Centre of furnace* Greatest length between rings *2'-8"*

Thickness of combustion chamber plating *$\frac{7}{16}$ "*

Diameter of screw stays to ditto *1 $\frac{1}{4}$ "* pitch of stays *4 $\frac{3}{4}$ " x 4 $\frac{3}{4}$ "*

End plates, thickness *$\frac{1}{16}$ "*

Diameter of longitudinal stays to end plates *2 $\frac{3}{8}$ "* pitch of ditto *18" x 18"*

How stays are secured *with double nuts on washers*

Diameter of tubes *3"* pitch of tubes *4 $\frac{1}{4}$ "*

Thickness of tube plates *$\frac{1}{16}$ "*

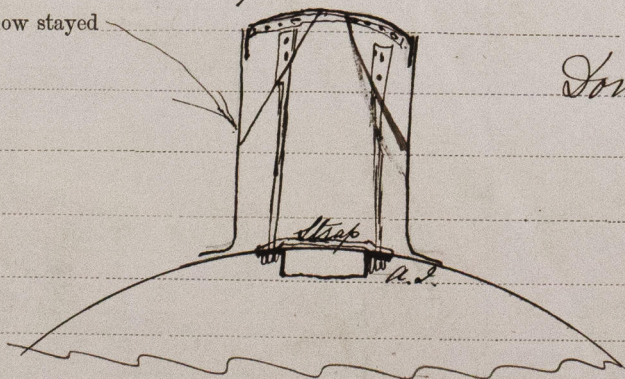
Stayed by *tubes* pitch of stays *12 $\frac{3}{4}$ " x 12 $\frac{3}{4}$ "*

Description of steam receiver *None*

Diameter of ditto *3'-0"* height of ditto *4'-0"*

Thickness of plating of ditto *$\frac{7}{16}$ "* ends *$\frac{7}{16}$ "*

Ends, how stayed



Donkey Boiler 5 ft dia x 4'6" high

James Morrison

Engineer Surveyor to Lloyd's Register of Shipping.

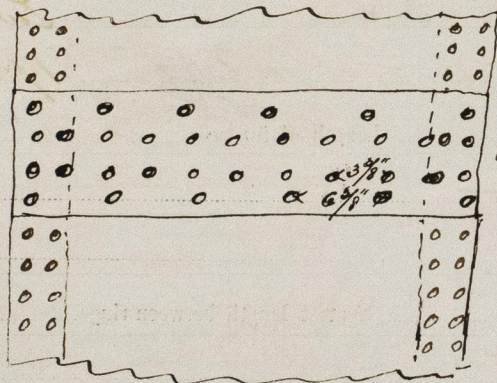
Lloyd's Register
Foundation

Formula $\frac{575 \cdot 20 \times 1.86 \times \overset{\text{about 5}}{75\%} \text{ rivets, in double shear}}{154" \times 6.5} = 41 \text{ lbs}$

Formula $\frac{100 \times 64}{60} = 106 \text{ lbs}$

Formula for Lues $\frac{89,600 \times .25}{5.35 \times 39} = 108 \text{ lbs}$

Longitudinal Stays $2\frac{3}{8}" \text{ dia. } 18" \times 18" \text{ pitch} = 5119 \text{ lbs per inch}$



Double But Strap & double riveted