

17584 Iron

Port *Aberdeen* 27th Decr 1876
"Petrel." Rev 4/11/77
 540 tons

Details of Main Boilers of the Steam Ship

Diameter *13' 0" outside* Length *11' 0" outside*

Thickness of shell plates *1" inch*

Description of riveting of longitudinal joints *Triple Rivet Lap* of circumferential joints *Double rivet-Lap*

Pitch of rivets ditto *4 $\frac{3}{4}$ "* ditto *4 $\frac{3}{4}$ "*

Diameter of rivets ditto *1 $\frac{1}{4}$ "* ditto *1 $\frac{1}{4}$ "*

Lap of plating ditto *12"* ditto *7 $\frac{1}{2}$ "*

No. Size of manholes in circular shell *16" x 11 $\frac{1}{2}$ "*

How compensated for *By angle iron ring*

Number of furnaces in boiler *Three*

Diameter of furnaces *3' 3"* Length of furnaces *7' 9"*

Thickness of furnace plates *Upper $\frac{3}{8}$ " = $\frac{7}{16}$ " Bottom $\frac{1}{2}$ "*

Description of joint of furnaces *single rivet Lap*

Whether strengthened with rings *Flanged in Center* Greatest length between rings *3' 10 $\frac{1}{2}$ "*

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

Diameter of screw stays to ditto *1 $\frac{1}{4}$ "* pitch of stays *8 $\frac{1}{4}$ " x 8 $\frac{1}{2}$ "*

End plates, thickness *$\frac{5}{8}$ " inches*

Diameter of longitudinal stays to end plates *1 $\frac{3}{4}$ "* pitch of ditto *12 $\frac{3}{4}$ " x 12 $\frac{3}{4}$ "*

How stays are secured *through end plate with nuts & washers at sides*

Diameter of tubes *4" outside* pitch of tubes *5 $\frac{1}{4}$ " x 5 $\frac{1}{4}$ "*

Thickness of tube plates *$\frac{5}{8}$ "*

Stayed by *Tube stays with nuts* pitch of stays *10 $\frac{1}{2}$ " x 10 $\frac{1}{2}$ "*

Description of steam receiver *Vertical Domet*

Diameter of ditto *2' 3" at bottom 1' 3" at top* length of ditto *11' 0"*

Thickness of plating of ditto *$\frac{1}{2}$ " for 1' 9" at bottom Rest $\frac{7}{16}$ " ends $\frac{3}{4}$ "*

Ends, how stayed *None*

$$\text{Working Pressure Shell} \quad \frac{51520 \times 2 \times .73}{154 \times 6.5} = 75 \text{ lbs}$$

$$\text{" " Flat Plates Bottoms} \quad \frac{100 \times 10^2}{12 \frac{3}{4} \times 12 \frac{3}{4}} = 62 \text{ - } 4666 \text{ lbs per sq ft}$$

$$\text{" " " Screws " } \quad \frac{100 \times 7^2}{8 \frac{1}{4} \times 8 \frac{1}{2}} = 70 \text{ - } 4900 \text{ lbs}$$

$$\text{" " " Furnaces " } \quad \frac{89600 \times 76^2}{3.87 \times 39} = 106 \text{ lbs}$$