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Port *Sunderland* *Jan^y Rev^y 1877*
 Details of Main Boilers of the Steam Ship *"Austin Friars"* 1015 tons

Diameter *13' 6"* Length *10' 0"*

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

Description of riveting of longitudinal joints *double & double butt* of circumferential joints *double*

Pitch of rivets ditto *$4\frac{3}{4}$ "* ditto *$3\frac{1}{4}$ "*

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

Lap of plating ditto *9' straps* ditto *6"*

No. Size of manholes in circular shell *Manhole in end. 16×12*

How compensated for *by a plate $2' 0 \times 2' 0 \times \frac{1}{8}$ thick*

Number of furnaces in boiler *3*

Diameter of furnaces *$3' 3"$* Length of furnaces *$6' 11"$*

Thickness of furnace plates *$\frac{1}{2}$ "*

Description of joint of furnaces *double butt straps and double riveted*

Whether strengthened with rings *none* Greatest length between rings

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

Diameter of screw stays to ditto *$1\frac{3}{16}$ " at bottom of throat* pitch of stays *$8 \times 7\frac{1}{2}$ "*

End plates, thickness *$\frac{13}{16}$ "*

Diameter of longitudinal stays to end plates *$2\frac{1}{8}$ "* pitch of ditto *17×15 "*

How stays are secured *they are bolts extending through both ends*

Diameter of tubes *$3\frac{1}{4}$ " external diameter* pitch of tubes *$4\frac{1}{2} \times 4\frac{1}{2}$ "*

Thickness of tube plates *$\frac{11}{16}$ "*

Stayed by *stay tubes* pitch of stays *$9 \times 13\frac{1}{2}$ "*

Description of steam receiver *dome with a contracted neck*

Diameter of ditto *$3' 0"$* length of ditto *$6' 6"$*

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

Ends, how stayed *no stays (the ends are spherical)*

$$\text{Shells} = \frac{51520 \times 1\frac{1}{8} \times 73}{160 \times 6.5} = 67 \text{ lbs working pressure}$$

$$\text{Furnaces} = \frac{89600 \times \frac{1}{2}^2}{6\frac{1}{2} \times 39} = 83 \text{ lbs " "}$$

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