

Port *Sunderland* 17372. *Iron Reu* 17/11/96
Sunderland Nov^r 1876.
 "Libra" 617 tons

Details of Main Boilers of the Steam Ship

Diameter *11 7/8* Length *18-1*

Thickness of shell plates *13 1/32 / 16*

Description of riveting of longitudinal joints *Treble* of circumferential joints *double*

Pitch of rivets ditto *3 7/8* ditto *2 7/8*

Diameter of rivets ditto *1* ditto *1*

Lap of plating ditto *6 1/2* ditto *5 1/4*

Size of manholes in circular shell *15 1/2 x 11*

How compensated for *by a ring 6 x 7/8*

Number of furnaces in boiler *4*

Diameter of furnaces *3-0* Length of furnaces *6-2*

Thickness of furnace plates *1/2*

Description of joint of furnaces *lapped and double riveted*

Whether strengthened with rings *none* Greatest length between rings *—*

Thickness of combustion chamber plating *1/2*

Diameter of screw stays to ditto *1 1/2 over the thread* pitch of stays *8 x 8 1/2*

End plates, thickness *7/8*

Diameter of longitudinal stays to end plates *1 1/4 square* pitch of ditto *17 1/2 x 12*

How stays are secured *to double angle irons 5 x 3 1/2 x 7/8 pins 1 7/8 dia*

Diameter of tubes *3 1/2 external dia* pitch of tubes *4 7/8 x 4 7/8*

Thickness of tube plates *3/4*

Stayed by *stay tubes* pitch of stays *14 5/8 x 13 7/8*

Description of steam receiver *dome with a contracted neck*

Diameter of ditto *4-0* length of ditto *8-0*

Thickness of plating of ditto *7/16* ends *9/16*

Ends, how stayed *3 square stays 2 square*

Shells = $\frac{51520 \times 1 7/8 \times 74}{138 \times 6.5} = 71$ lbs working pressure.

Furnaces = $\frac{89600 \times 1/2^2}{6 1/2 \times 36} = 100$ u u u

