

Port

17402 Iron. Recd 8/12/76  
Sunderland Nov. 1876.

## Details of Main Boilers of the Steam Ship

"Armstrong" 597 tons

Diameter

13.0.

Length

10.6.

Thickness of shell plates

1.

Description of riveting of longitudinal joints

treble

of circumferential joints

double.

Pitch of rivets

ditto

4 1/4.

ditto

3 1/2.

Diameter of rivets

ditto

1 1/8.

ditto

1 1/8.

Lap of plating

ditto

7.

ditto

5 1/4.

Size of manholes in circular shell

16" x 13.

How compensated for

by a ring 6 1/2" x 7/8."

Number of furnaces in boiler

3.

Diameter of furnaces

3.0.

Length of furnaces

7.6.

Thickness of furnace plates

1/2" x 9/16"

Description of joint of furnaces

lapped and double riveted.

Whether strengthened with rings

none.

Greatest length between rings

—

Thickness of combustion chamber plating

7/16."

Diameter of screw stays to ditto

1 1/8" at bottom of thread

pitch of stays

7 3/4" x 7 3/4."

End plates, thickness

1 1/16" and large washers.

Diameter of longitudinal stays to end plates

2."

pitch of ditto

16" x 14" x 15" x 14 1/2"

How stays are secured

they are bolts extending through both ends.

Diameter of tubes

3 3/4 external

pitch of tubes

4 7/8" x 4 7/8."

Thickness of tube plates

5/8."

Stayed by

stay tubes

pitch of stays

9 3/4" x 9 3/4."

Description of steam receiver

Horizontal chest

Diameter of ditto

4.3"

length of ditto

9.3."

Thickness of plating of ditto

3/8."

ends

3/8"

Ends, how stayed

no stay. the ends are spherical

Shells =  $\frac{51520 \times 2 \times 70}{154 \times 6.5} = 72$  lbs working pressure.

Furnaces =  $\frac{89600 \times 12}{7 \frac{1}{2} \times 36} = 83$  " " "

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