

17709 Iron

Port

Sunderland

Dec. 1876

of Main Boilers of the Steam Ship

"Rossend Castle" 1126 tons

Diameter

12' 6"

Length

9' 2"

Revised 1/1/77

Thickness of shell plates

1 1/32"

Description of riveting of longitudinal joints

Double

of circumferential joints

Double

Pitch of rivets

ditto

4 3/4"

ditto

3 3/4"

Diameter of rivets

ditto

1 1/4"

ditto

1 1/8"

Lap of plating

ditto

12"

ditto

5 1/2"

Size of manholes in circular shell

(in dome) 16" x 12"

How compensated for

by the flange of dome 4 1/2" broad x 1/2"

Number of furnaces in boiler

3

Diameter of furnaces

2' 9"

Length of furnaces

6' 3"

Thickness of furnace plates

1/2", &amp; 9/16" bottom.

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 inch.

Diameter of screw stays to ditto

1 1/8" at bottom of throat

pitch of stays

7" x 7 1/2"

End plates, thickness

3/4"

Diameter of longitudinal stays to end plates

2"

pitch of ditto

16" x 11 1/2"

How stays are secured

they are bolts extending through both ends, and double nuts.

Diameter of tubes

3 1/4" external.

pitch of tubes

4 1/2" x 4 1/2"

Thickness of tube plates

3/4"

Stayed by

Stay tubes.

pitch of stays

9" x 13 1/2"

Description of steam receiver

Dome with a contracted neck.

Diameter of ditto

3' 6"

length of ditto

8' 0"

Thickness of plating of ditto

3/8"

ends

1/2"

Ends, how stayed

No stays, ends dished to 3' 6" radius.

$$\text{Shells} = \frac{51520 \times 2 \frac{1}{2} \times 73}{148 \times 6.5} = 80 \text{ lbs working pressure.}$$

$$\text{Furnaces} = \frac{89600 \times \frac{1}{2}^2}{33 \times 6 \frac{1}{4}} = 108 \text{ " " "}$$

William Allison.

Engineer Surveyor to Lloyd's Register of Shipping.