

Port

Sunderland Oct 21 1876

17290 Iron 13/11/76

Details of Main Boilers of the Steam Ship

"Pera" 1102.44 tons

Diameter

10' 4 3/8 inches

Length

16' 0"

Thickness of shell plates

3 1/16"

Description of riveting of longitudinal joints

Double Yag Yag

of circumferential joints

Yag Yag

Pitch of rivets

ditto

4"

ditto

3 1/8"

Diameter of rivets

ditto

1"

ditto

1"

Lap of plating

ditto

Double straps 10 1/4 broad

ditto

5"

Size of manholes in circular shell

15 x 12

How compensated for

Rings round holes 6 x 3 1/16"

Number of furnaces in boiler

4

Diameter of furnaces

3' 3" inside

Length of furnaces

6' 0"

Thickness of furnace plates

1/2"

Description of joint of furnaces

Butt joint, Single straps

Whether strengthened with rings

No

Greatest length between rings

2

Thickness of combustion chamber plating

1/16"

Diameter of screw stays to ditto

1 1/4 inch thread

pitch of stays

7' x 7 3/4"

End plates, thickness

9/16"

Diameter of longitudinal stays to end plates

1 3/4 effective

pitch of ditto

11" x 12"

How stays are secured

Nuts inside & out

Diameter of tubes

3 1/4 outside

pitch of tubes

11 1/2" x 4 1/2"

Thickness of tube plates

3/4 back

4/16 front

Stayed by

Stay tubes

pitch of stays

9" x 13 1/2"

Description of steam receiver

Neck ended dome

Diameter of ditto

3' 6" Dia of neck 18"

length of ditto

6' 6"

Thickness of plating of ditto

3/8"

ends

1/2"

Ends, how stayed

3 stays in dome 1 3/4" dia

Shell

$$\frac{51520 \times 1.58 \times .75}{124 \times 3/8 \times 6.5}$$

= 44 lbs Working Pressure

Furnaces

$$\frac{89600 \times 1/2^2}{6 \times 39}$$

= 95 lbs . .

Stays in Combustion Chamber

$$\frac{109 \times 1/2^2}{7 \times 1/4 \times 1/4}$$

= 90 lbs . .

James Dani

Engineer Surveyor to Lloyd's Register of Shipping.