

17061 Lm

Port

Sunderland

Rec 2/10/96  
1896.

## Details of Main Boilers of the Steam Ship

"Usworth"

331 tons

Diameter 13' 4" Length 9' 9"

Thickness of shell plates  $\frac{9}{16}$ "

Description of riveting of longitudinal joints double of circumferential joints double

Pitch of rivets ditto 3" ditto 3"

Diameter of rivets ditto  $\frac{7}{8}$ " ditto  $\frac{7}{8}$ "Lap of plating ditto 4  $\frac{1}{4}$ " ditto 4  $\frac{1}{4}$ "Size of manholes in circular shell 15" x 11  $\frac{1}{4}$ "How compensated for by a ring 3  $\frac{1}{2}$ " broad x 5" thick

Number of furnaces in boiler 3

Diameter of furnaces 2' 10" Length of furnaces 7' 0"

Thickness of furnace plates  $\frac{7}{16}$ "

Description of joint of furnaces lapped and single riveted.

Whether strengthened with rings none Greatest length between rings

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

Diameter of screw stays to ditto 18" over the thread pitch of stays 9" x 9"

End plates, thickness  $\frac{1}{2}$ "Diameter of longitudinal stays to end plates 1  $\frac{3}{4}$ " sq. pitch of ditto 19" x 18"How stays are secured between 2 angle irons 5" x 3  $\frac{1}{2}$ " x  $\frac{9}{16}$ " with a pin 1  $\frac{1}{8}$ " dia. through them.Diameter of tubes 3  $\frac{1}{4}$ " external pitch of tubes 4  $\frac{3}{4}$ " x 4  $\frac{1}{2}$ "Thickness of tube plates  $\frac{11}{16}$ "

Stayed by stay tubes pitch of stays 18" x 15"

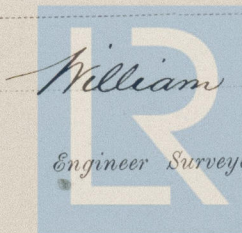
Description of steam receiver dome with a contracted neck.

Diameter of ditto 4' 0" length of ditto 7' 6"

Thickness of plating of ditto  $\frac{3}{8}$ " ends  $\frac{1}{2}$ "Ends, how stayed Ends are dished 4 ft radius and 3 stays 1  $\frac{3}{4}$ " sq.

$$\text{Shell} = \frac{51520 \times 1 \frac{1}{2} \times 70}{159 \times 6.5} = 40 \text{ lbs working pressure.}$$

$$\text{Furnaces} = \frac{89600 \times \frac{7}{16}}{7 \times 34} = 72$$



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