

1831 T Iron

Port

Sunderland April

1877

Details of Main Boilers of the Steam Ship

TAPROENSON

tons

Diameter 11'-10 $\frac{1}{2}$ " Length 9'-8"Thickness of shell plates  $\frac{7}{8}$   $\frac{1}{32}$ 

Description of riveting of longitudinal joints double of circumferential joints double

Pitch of rivets ditto 4 $\frac{1}{2}$ " ditto 3 $\frac{3}{4}$ "Diameter of rivets ditto 1 $\frac{3}{8}$ " ditto 1 $\frac{1}{8}$ "Lap of plating ditto 6 $\frac{3}{4}$ " ditto 5 $\frac{1}{2}$ "

Size of manholes in circular shell 16' x 12' inside the dome.

How compensated for by flange of the dome 4 $\frac{1}{2}$  x 5 $\frac{1}{2}$ "

Number of furnaces in boiler 2

Diameter of furnaces 3'-3" Length of furnaces 6'-9"

Thickness of furnace plates  $\frac{1}{2}$ "

Description of joint of furnaces double butt and single riveted.

Whether strengthened with rings none Greatest length between rings

Thickness of combustion chamber plating  $\frac{1}{2}$ "Diameter of screw stays to ditto 1 $\frac{1}{4}$  over threads pitch of stays 7 $\frac{1}{2}$  x 7 $\frac{1}{2}$ "End plates, thickness  $\frac{3}{4}$ "Diameter of longitudinal stays to end plates 2" pitch of ditto 15 $\frac{1}{2}$  x 12 $\frac{3}{4}$ "

How stays are secured they are bolts extending through both ends.

Diameter of tubes 3 $\frac{1}{4}$  external, pitch of tubes 4 $\frac{1}{2}$  x 4 $\frac{1}{2}$ "Thickness of tube plates  $\frac{3}{4}$ "Stayed by stay tubes, pitch of stays 9' x 13 $\frac{1}{2}$ "

Description of steam receiver dome with contracted neck.

Diameter of ditto 3'-6" length of ditto 8'-0"

Thickness of plating of ditto  $\frac{3}{8}$ " ends  $\frac{1}{2}$ "

Ends, how stayed no stays, (the ends are spherical 3'-6" radii)

$$\text{Shell} = \frac{51520 \times 1\frac{3}{16} \times 6.9}{141 \times 6.5} = 70 \text{ lbs working pressure.}$$

$$\text{Furnaces} = \frac{89600 \times \frac{1}{2}^2}{6\frac{3}{4} \times 39} = 85$$