

Length
Pressure of
Registered i

19459 Lm

Port

Liverpool 20 June 1877
"Queen" 126 tons

Particulars of Main Boilers of the Steam Ship

Diameter 130" Length 9' 11"

Thickness of shell plates $\frac{7}{8}$ "

Description of riveting of longitudinal joints {Double butt straps of circumferential joints Double riveted laps

Pitch of rivets ditto $3\frac{1}{2}$ " ditto $3\frac{1}{2}$ "

Diameter of rivets ditto 1" ditto 1"

Lap of plating ditto Straps 14" wide ditto 7"

No. Size of manholes in circular shell 16" x 12"

How compensated for Angle iron ring

Number of furnaces in boiler Two

Diameter of furnaces 3' 3" Length of furnaces 7' 0"

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

Description of joint of furnaces Double butt straps

Whether strengthened with rings Yes Greatest length between rings 3' 6"

Thickness of combustion chamber plating $\frac{1}{2}$ "

Diameter of screw stays to ditto $1\frac{1}{4}$ " pitch of stays $8\frac{3}{4} \times 8\frac{1}{2}$ "

End plates, thickness $\frac{3}{4}$ "

Diameter of longitudinal stays to end plates $2\frac{1}{4}$ " pitch of ditto $15\frac{1}{2} \times 15$ "

How stays are secured 10" washers & double nuts

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4}$ "

Thickness of tube plates $\frac{3}{4}$ "

Stayed by Tube stays pitch of stays $9\frac{1}{2}$ " & 1 stay rod $1\frac{1}{2}$ " diam

Description of steam receiver Cylindrical egg ended

Diameter of ditto 3' 0" length of ditto 9' 6"

Thickness of plating of ditto $\frac{5}{8}$ " ends $\frac{5}{8}$ "

Ends, how stayed egg ended.

Malleable iron branches from steam chests
to boilers

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S.S. "Tyne Queen"

Shell plating $\frac{51520 \times 1.760 \times .71}{130 \times 6.5} \} = 76\frac{1}{2} \text{ lbs}$

Perct^{ge} of strength
in joints $\frac{(3.5 - 1) \times 100}{3.5} \} = 71\%$

Perct^{ge} of strength
in rivets $\frac{.7854 \times 4 \times 100}{3.5 \times .895} \} = 102\%$

Furnace plates $\frac{89600 \times .25}{3.5 \times 39} \} = 164 \text{ lbs}$

Flat plates $\frac{100 \times 64}{76.5} \} = 83 \text{ lbs.}$

Steam chests $\frac{51520 \times 1.25 \times 60}{36 \times 6.5} \} = 165 \text{ lbs.}$

Top of combustion chamber stayed with
bridges and bolts.

J. S. Kingston



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