

16809 Iron

Port *Sunderland* July 27th 1876

Details of Main Boilers of the Steam Ship

Stelling

365.411 tons

Diameter *11" 0* Length *9' 9"*

Thickness of shell plates

*15 1/16"*Description of riveting of longitudinal joints *Double chain* of circumferential joints *Chain*Pitch of rivets ditto *3 5/8"* ditto *3 1/4"*Diameter of rivets ditto *1 1/16"* ditto *1 1/16"*Lap of plating ditto *Straps 12 1/8" broad* ditto *5 1/2"*Size of manholes in circular shell *None. Manholes in end plates*

How compensated for

Number of furnaces in boiler *2*Diameter of furnaces *3' 0"* Length of furnaces *7' 0"*Thickness of furnace plates *Bottom plate 9/16" Top 1/2"*Description of joint of furnaces *Butt joint. Single straps. Double riveted*Whether strengthened with rings *No* Greatest length between rings *11'*Thickness of combustion chamber plating *1/2"*Diameter of screw stays to ditto *1 3/8" over thread* pitch of stays *9" x 9"*End plates, thickness *3/4"*Diameter of longitudinal stays to end plates *2 1/8" effective* pitch of ditto *14 3/4" x 15"*How stays are secured *Secured to end plates with nuts inside & out*Diameter of tubes *5 1/2" outside* pitch of tubes *14 3/4" x 14 3/4"*Thickness of tube plates *3/4"*Stayed by *Solid stays 2 1/8" dia* pitch of stays *14 1/4" x 14 1/4"*Description of steam receiver *Annular Superheater*Diameter of ditto *Inside 4' 6" Outside 7' 0"* length of ditto *5' 10" overall*Thickness of plating of ditto *Inside 1/2" outside 5/8"* ends *5/8"*Ends, how stayed *No stays required to ends. Strengthening ring**round inside tube of superheater. Stays between inside**and outside plating of superheater 1 3/8" dia. Pitch 21 x 21 1/4"**Superheater double riveted longitudinally single riveted in the**Circumference. Dia of rivets in outside shell 1 1/16" Pitch 3 1/4"**In inside shell 1 1/16" Pitch 2 3/4"**Amos W. Am.*

Engineer Surveyor to Lloyd's Register of Shipping.

IRON 467-0436

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Shell $\frac{51520 \times 1\frac{1}{8} \times 10.6}{132 \times 6.5} = 19.4 \text{ lbs working pressure}$

Turnaces $\frac{89600 \times 3^2}{7 \times 36} = 88.8 \text{ lbs}$

Flat plates between Stays $\frac{100 \times 8^2}{9 \times 9} = 19 \text{ lbs}$

Strain on sq in of section of stay to flat end. $46\frac{1}{9} \text{ lbs}$

Wm. Rankin



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