

19452 Iron Rev 24/10/77  
Port Liverpool 6<sup>th</sup> October 1877

Details of Main Boilers of the Steam Ship "H. J. Barry" 545 tons

Diameter 10' 0" O.D. Length 8' 3"

Thickness of shell plates  $\frac{3}{4}$ " full

Description of riveting of longitudinal joints Double riveted laps of circumferential joints Double riveted laps

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

Diameter of rivets ditto  $\frac{13}{16}$ " ditto  $\frac{13}{16}$ "

Lap of plating ditto  $4\frac{1}{2}$ " ditto  $4\frac{1}{2}$ "

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 2' 10" Length of furnaces 6' 3"

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

Description of joint of furnaces Lapped under furnace bars

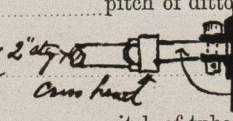
Whether strengthened with rings Yes Greatest length between rings 3' 4"

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

Diameter of screw stays to ditto  $1\frac{1}{2}$ " pitch of stays  $7\frac{1}{2}$ " x  $7\frac{1}{2}$ "

End plates, thickness  $\frac{9}{16}$ "

Diameter of longitudinal stays to end plates 2" pitch of ditto 22"

How stays are secured as per sketch  End plates of boiler

Diameter of tubes 3" O.D. pitch of tubes 4"  $2\frac{1}{2}$ " diam can heat 2 bolts  $1\frac{1}{2}$ " diam

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

Stayed by Tube stays pitch of stays  $12\frac{3}{4}$ "

Description of steam receiver Vertical steam dome

Diameter of ditto 3' 6" height length of ditto 3' 6"

Thickness of plating of ditto  $\frac{1}{2}$ " ends Lap  $\frac{5}{8}$ " bare

Ends, how stayed 1 stay rod 2" diam fitted from crown of steam dome to boiler shell plates

Mr. W. B.

J. G. Vinyham

Engineer Surveyor to Lloyd's Register of Shipping.

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S. S. F. J. Barry

Shell plating.  $\frac{51520 \times 1.58 \times .55}{119 \times 6.5} \} = 57 \text{ lbs.}$

Per cent of strength in joints  $\left\{ \frac{(2.5 - .812) \times 100}{2.5} \right\} = 67\%$

Per cent of strength in rivets  $\left\{ \frac{(.52 \times 2) \times 100}{2.5 \times .75} \right\} = 55\%$

Furnaces  $\left\{ \frac{89600 \times .25}{3.35 \times 34} \right\} = 196 \text{ lbs}$

Flat plates  $\left\{ \frac{100 \times 64}{56} \right\} = 114 \text{ lbs.}$

Steam chest  $\left\{ \frac{57520 \times 1 \times .60}{42 \times 6.5} \right\} = 113 \text{ lbs.}$

Top of combustion chambers stayed with 1 1/2" bolts and bridges 8 1/4" apart.

S. G. Wingham



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