

17579 Iron

Port

Glasgow January 7th 1877

Details of Main Boilers of the Steam Ship

"Loudoun Castle" 1616

tons

Diameter

14' 2 1/2"

Length

10' 0"

Rec'd 1/11/77

Thickness of shell plates

1 1/16"

Description of riveting of longitudinal joints

Double riveted

of circumferential joints

Double riveted

Pitch of rivets

ditto

5 1/8"

ditto

Diameter of rivets

ditto

1 3/16"

ditto

1 1/8"

Lap of plating

ditto

4 1/4"

ditto

5 1/2"

Size of manholes in circular shell

13" x 1 1/4 3/4"

How compensated for

By flat bar 5" x 3/4"

Number of furnaces in boiler

Three

Diameter of furnaces

3' 4"

Length of furnaces

4' 3"

Thickness of furnace plates

1/16" full

Description of joint of furnaces

Lapped

Whether strengthened with rings

No

Greatest length between rings

Thickness of combustion chamber plating

1/16"

Diameter of screw stays to ditto

1 3/8"

pitch of stays

4 1/2" x 9 1/2"

End plates, thickness

1 1/16"

Diameter of longitudinal stays to end plates

2"

pitch of ditto

14" x 14"

How stays are secured

By double nuts

Diameter of tubes

3 1/2"

pitch of tubes

5"

Thickness of tube plates

1/16"

Stayed by

Lubes Screwed & filled with nuts

pitch of stays

10" x 13"

Description of steam ~~engine~~

Superheater Annular Vertical (Single Line)

Diameter of ditto

10" 10"

height of ditto

4 ft

Thickness of plating of ditto

1/16"

ends

10 1/16"

ends, ~~how stayed~~

Attached to Shell & Shell

Auxillary Boiler

Dia 9' 6" Length 8' 9" Shell plating 1/16"

Longitudinal joints double riveted, rivets 1" dia 4 1/2" pitch. Circumferential

joints double riveted 4 1/2" pitch. Combustion Chamber plating Screw Stay

4" dia, 4" x 9" pitch. Furnaces 3' 0" dia, x 5' 8" long, plating 1/16"

Lube plates 1/16". Lubes 3" dia x 4 1/4" pitch. Stay tubes 8" x 12 3/8" pitch

Longitudinal Stays 2" dia, 14" x 14" pitch. (Working Pressure 70 lbs)

James Morrison

Engineer Surveyor to Lloyd's Register of Shipping.

Formulae for Shell $\frac{51520 \times 2.125 \times 72\%}{168" \times 6.5} = 72 \text{ lbs}$

Formula for flat plates $\frac{100 \times 64}{71} = 90 \text{ lbs}$

Formula for Gues $\frac{89600 \times .25}{7.25' \times 40"} = 76 \text{ lbs}$

Longitudinal Stays 2" dia. 14" x 14" pitch = 4369 lbs

 J.M.



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