

Port of Newcastle. July 28th 1877

Details of Main Boilers of the Steam Ship "Lizzie and Annie" 62.40 tons

Diameter 6' 10" Length 7' 0"

Thickness of shell plates $\frac{7}{16}$ "

Description of riveting of longitudinal joints lap double riveted
of circumferential joints lap single riveted.

Pitch of rivets of longitudinal joints $2\frac{1}{2}$ " of circumferential joints 2".

Diameter of rivets ditto $\frac{3}{4}$ " ditto $\frac{3}{4}$ "

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

Size of manholes in circular shell 16" x 11".

How compensated for Wrought iron ring $4\frac{1}{2}$ " x $\frac{1}{2}$ ".

Number of furnaces in boiler One.

Diameter of furnace 3' 2". Length of furnaces 5' 0"

Thickness of furnace plates $\frac{3}{8}$ "

Description of joint of furnaces Single riveted lap.

Whether strengthened with rings None. Greatest length between rings

Thickness of combustion chamber plating $\frac{7}{16}$ ".

Diameter of screw stays to ditto $1\frac{1}{8}$ ". Pitch of stays 10" x 10" fitted with nuts

End plates thickness $\frac{7}{16}$ "

Area of longitudinal stays to end plates Gussets 4' 9" Pitch of ditto 13" x 21"

How stays are secured by double angle irons $3\frac{1}{2}$ x $3\frac{1}{2}$ " x 16" wide - 13' 2 1/2"

Diameter of tubes 4". Pitch of tubes 6" x 6"

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

Stayed by Tube stays Pitch of stays 12" x 12"

Description of steam receiver Dome.

Diameter of ditto 2' 3". Length of ditto 3' 2"

Thickness of plating of ditto $\frac{7}{16}$ " end $\frac{1}{2}$ ".

End how stayed. Spherical main shell stiffened by $3\frac{1}{2}$ x $\frac{1}{2}$ " A. Iron.

Working pressure main Cyl^l shell = $\frac{51520 \times 87 \times 70}{82 \times 6.5}$ = 58.8 lbs.

do. Furnace Hue. = $\frac{89600 \times 14}{5 \times 38}$ = 66.0 lbs.

do. Gussets = $\frac{244 \times 13 \times 55}{4.9}$ = 3502 lbs.

do. Combustion chamber stays = $\frac{10 \times 10 \times 55}{81}$ = 5555 lbs.

do. Flat plates main stays = $\frac{100 \times 29}{81}$ = 60 lbs.

Working pressure, Flat plates. Comⁿ. chambers = $\frac{120 \times 49}{10} = 58 \text{ lbs.}$

Smallest space between Bunkers & Boilers at sides 9",
Forward end 11".

(Signed) George H. Manuel
Engineer Surveyor to Lloyds Register of Shipping
North Shields



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