

14697 Iron
S. S. Umballa

Greenock 6798

No. Size and Description of Boilers

Two. Oval or Flat Sided, Horizontal 14'-2" high x 9'-9" wide x 10'-0" long with two Furnaces in each, fired from forward. Working pressure 65 lbs.
Vertical Superheater, 4'-10" high x 5'-0" dia. Tube 1'-6" dia. plating (Larnley)
Shell plating $\frac{1}{16}$ " (Parkhead B⁵) 4 plates in the circumference, and 4 widths in the length, edges lapped $3\frac{1}{4}$ " single riveted holes punched for 1" rivets x 3" pitch, longitudinal joints lapped 8" treble riveted holes punched, 1" rivets x 4" pitch. End plating attached to angle Irons 4" x 4" x $\frac{5}{8}$ ". 3 Angle Iron Stiffeners on flat of sides 4" x 3 $\frac{1}{2}$ " x $\frac{1}{2}$ ". Web plates 15" x $\frac{9}{16}$ " attached to angle Iron 4" x 3 $\frac{1}{2}$ " x $\frac{5}{8}$ " running along above flat of sides, one on each side. Manholes have rings fitted around them.

$$\text{Formula } \frac{51,520 \times 1.375 \times 75}{115.625 \times 6.5} = 90 \text{ lbs per inch}$$

Combustion Chamber plating $\frac{8}{16}$ " back & sides, $\frac{1}{16}$ " on top. The Top is supported by screws passing through 4 Bridge Bearers 1'-8" dia. = .9940" sect. area x 8 $\frac{1}{4}$ " x 7" pitch = 57.75" area = 3770 lbs per inch. Bearers 5" deep x $\frac{7}{8}$ " thick, screw stays 1 $\frac{1}{4}$ " dia. = 1.227" sect. area .8" x 9" pitch = 72" area = 3814 lbs per inch.

$$\text{Formula for flat plate } \frac{100 \times 64}{72.25} = 88 \text{ lbs per inch}$$

Furnaces 6'-6" long x 38" dia. $\frac{8}{16}$ " plating, front plate flanged and longitudinal plates riveted thereto, rivets $3\frac{3}{4}$ " x 2" pitch. No anticollapsing rings.

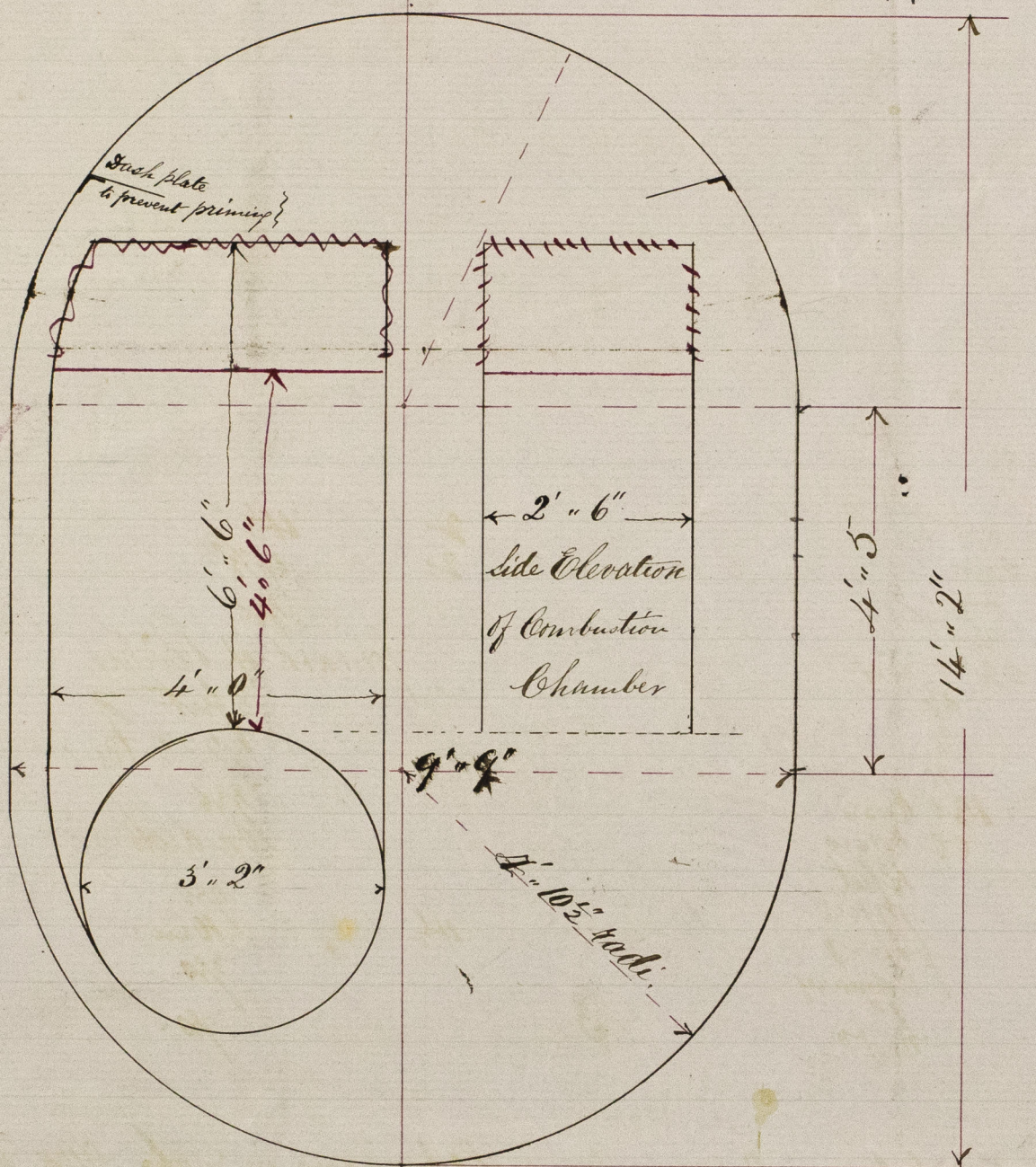
$$\text{Formula } \frac{89,600 \times .25}{6.5 \frac{1}{2} \times 38} = 90 \text{ lbs}$$

Longitudinal Stays in top 1 $\frac{3}{4}$ " dia. = 2.405" sect. area. 12" x 15 $\frac{1}{2}$ " pitch = 186" area = 4640 lbs per inch. Cross Stays 1 $\frac{3}{4}$ " dia x 13" pitch one row across top of tubes and 3 rows between tubes. 12 $\frac{3}{4}$ vert pitch

Lube plates $\frac{1}{16}$ " protected by 90 tubes in each Chamber, 3" dia 12 of which are stay tubes screwed & fitted with nuts. Combustion Chamber, Furnace & Lube plating are all of (Larnley)

James Morrison
Greenock June 18th 1895
P.I.O.

14697 Jan



James Mollison

Correction in Height of Combustion Chamber in Red
(See Mr. Mollison's letter of June 25th 1875)



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