

S. S. Australia

15569 Iron

Size and Description of Boilers

Two, Round, Horizontal <sup>(14' 0" dia)</sup>  $\times 15' 6''$  long with 3 Furnaces in each end, fired fore and aft, and Superheater

Working pressure 95 lbs

Shell plating  $\frac{1}{16}''$  (2" Boiler) 4 plates in the circumference and 5 widths in the length. Circumferential joints lapped, double riveted, rivets  $1\frac{1}{4}''$  dia  $\times 5''$  pitch longitudinal joints lapped, double riveted, rivets  $1\frac{1}{2}''$  dia,  $\times 5''$  pitch. End plating double riveted to angle iron round outside of shell  $6'' \times 5\frac{1}{2}'' \times \frac{3}{8}''$ . Manholes have rings fitted round them. —

$$\text{Formulae } \frac{51520 \times 2.125 \times \frac{1}{16}}{165.845 \times 6.5} = 76 \text{ lbs.}$$

Combustion Chamber plating  $\frac{1}{16}''$  The top is supported by screws  $1\frac{1}{8}''$  dia. (4 rows) passing through Bridge Bearers,  $7'' \times 7''$  pitch, Bearers are  $6''$  deep  $\times \frac{3}{4}''$  thick. Screw Stays  $1\frac{1}{8}''$  dia. = 994 lbs. area  $7'' \times 7''$  pitch = 3965 lbs per inch. —

$$\text{Formula for flat plates } \frac{100 \times 49}{49} = 100 \text{ lbs}$$

Furnaces  $6' 2''$  long  $\times 3' 6''$  dia. plating  $\frac{1}{16}''$  Butt joints with double straps and riveted to angle iron round mouths (inside) which is attached to front plate. —

$$\text{Formula for Stays } \frac{89.600 \times .20}{6.16 \times 42} = 86 \text{ lbs}$$

Tube plates  $\frac{1}{16}''$  protected by 121 tubes in centre Chamber,  $3\frac{1}{4}''$  outside dia, 17 of which are stay tubes screwed & fitted with nuts and 91 in side chambers 15 of which are stays. —

Longitudinal Stays  $2\frac{1}{4}''$  dia.  $15\frac{1}{2}'' \times 15\frac{1}{2}''$  pitch = 4538 lbs per inch

Superheater. Round. Vertical with single tube & 3 cross tubes, outside dia.  $11' 0''$ . Tube  $8' 0''$  height  $9' 0''$  plating  $\frac{1}{16}''$ . Ends attached to angle iron  $6'' \times 5\frac{1}{2}'' \times \frac{3}{8}''$  double riveted, rivets  $1''$  dia  $\times 3''$  pitch. Cross tubes about  $12''$  dia. —

Direct Spring Safety Valves are fitted,  $6\frac{3}{8}''$  dia. No opportunity has been afforded me of testing them under steam. but from their construction and arrangement they appear satisfactory. —

James Mollison  
Glasgow Dec<sup>r</sup> 23<sup>rd</sup> 1875