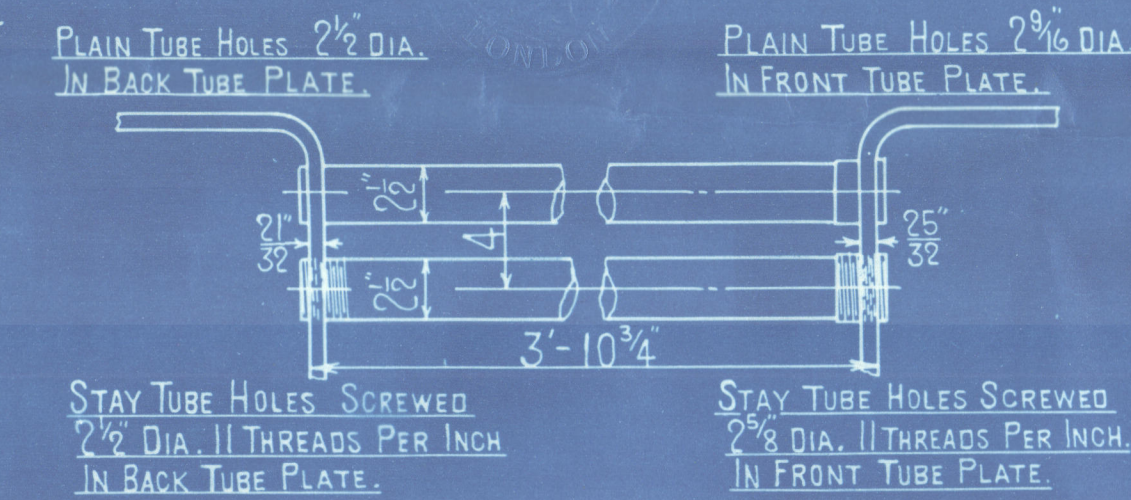


### HORIZONTAL FLUE TUBES.

24/2/12



|                            |             |
|----------------------------|-------------|
| HEATING SURFACE            |             |
| TUBES                      | 273 Sq. Ft. |
| PLATE                      | 77 Sq. Ft.  |
| TOTAL                      | 350 Sq. Ft. |
| GRATE AREA = 18.75 Sq. Ft. |             |

| LLOYDS.          |  |                        |                        |
|------------------|--|------------------------|------------------------|
| PLATE            | $\frac{268 - 28375}{268}$                          | $\times 100$           | $= 68.5\%$             |
| RIVETS.          | $\frac{2 \times 5591 \times 85}{2375 \times 4875}$ |                        | $= 70.5\%$             |
| FRONT TUBE PLATE | $\frac{4 - 2.58}{4}$                               | $\times 100$           | $= 35.2\%$             |
| BACK TUBE PLATE. | $\frac{4 - 2.5}{4}$                                | $\times 100$           | $= 37.5\%$             |
| SHELL            | $\frac{20.5(75.5 - 2) \times 68.5}{75}$            |                        | $= 172 \text{ LBS.}$   |
| FRONT TUBE PLATE | $\frac{20.5(75.5 - 2) \times 35.2}{67.75}$         | $\times \frac{26}{28}$ | $= 103 \text{ LBS.}$   |
| BACK TUBE PLATE  | $\frac{20.5(75.5 - 2) \times 37.5}{67.75}$         | $\times \frac{26}{28}$ | $= 105.9 \text{ LBS.}$ |
| FURNACE.         | $\frac{12000 \times .5}{60}$                       |                        | $= 100 \text{ LBS.}$   |

|                  | BUREAU VERITAS.   |                        |
|------------------|---|------------------------|
| SHELL            | $\frac{85 \times 28 \times 2840}{7 \times 4} \times (46875 - 04)$                     | $= 1279 \text{ LBS}$   |
| RIVETS           | $\frac{2 \times 2 \times 5580 \times 24 \times 2840}{9 \times 375 \times 5 \times 2}$ | $= 1161 \text{ LBS}$   |
| FRONT TUBE PLATE | $\frac{04000 \times 18125 \times (4 - 259375)}{2 \times 65625 \times 4}$              | $= 126 \text{ LBS}$    |
| BACK TUBE PLATE. | $\frac{04000 \times 165625 \times (4 - 25)}{2 \times 65625 \times 4}$                 | $= 112.91 \text{ LBS}$ |
| FURNACE.         | $\frac{600(35 - 3)}{80}$  | $= 100 \text{ LBS}$    |

**COCHRAN & CO ANNAN LTD.**  
**ENGINEERS & BOILERMAKERS**  
**ANNAN, SCOTLAND.**

### PLAN OF FURNACE CROWN

JOINT IN TOP &amp; BOTTOM STRAKE OF SHELL.

### PLAN OF SHELL CROWN JOINTS

PATENT BOILER N° 5804 &amp; 5805

6'-0" x 12'-6" x 350# x 100 LBS.

SCALE 1 INCH TO 1 FOOT.

SIEMENS MARTIN MILD STEEL PLATES.

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**DRAWING N° R9043**



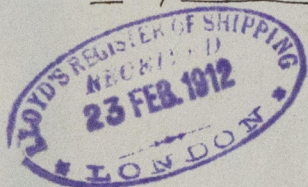
COCHRAN & CO., ANNAN, LD.

Boiler No. 5804

Drawing No. 9043

S.S. NESTOR

Sld. Rpt. No. 25369.

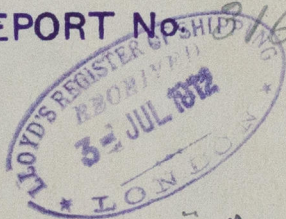


MacColl & Pollock C. 234

Murray Bros s/s 17

GLASGOW REPORT No.

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