Steel Steel main Boilers No 386 by Rankin & Blackmore

for Russell & Co's No 605 Vessel

180 lbs per sq in Working pressure.

Plate % $\frac{9.75 - 1.406}{9.75} \times 100 = 85.5$

Rivet % $\frac{5 \times 1.55 \times 1.75 \times 85}{9.75 \times 1.344} = 88.5$

Shell $\frac{22 \times 85.5 \times (21.5 - 2)}{204} = 180$ lbs

Furnace $\frac{1259 (8.5 - 2)}{45.25} = 181$ lbs

Combustion Boilers $\frac{135 \times 9^2}{61} = 180$ lbs

" " Stays $\frac{1.76 \times 8000}{8 \times 7.625} = 232$ lbs

" " Back $\frac{135 \times 10^2}{72} = 184$ lbs

" " Stays $\frac{1.76 \times 8000}{7.68 \times 9.25} = 199$ lbs.

" " top $\frac{135 \times 11^2}{82.5} = 198$ lbs

" " Stays $\frac{2.08 \times 9000}{7.75 \times 10.25} = 237$ lbs

Girders $\frac{10860 \times 10^2 \times 1.625}{(34.6 - 7.75) 10.25 \times 34.6} = 181$ lbs

Ends top $\frac{185 \times 19^2}{345} = 193$ lbs

" " Stays $\frac{6.9 \times 10400}{17.5 \times 19.5} = 211$ lbs.

Front tube $\frac{140 \times (12\frac{3}{4})^2}{13.25^2} = 217$ lbs.

Back " $\frac{140 \times 12^2}{7.96^2} = 315$ lbs.

Boiler Back $\frac{135 \times 13^2}{121} = 189$ lbs

" " Stays $\frac{2.08 \times 9000}{10.1 \times 9.25} = 201$ lbs.

W.K.B. 3rd Nov. 1904.