

Steel main Centre Boiler. Furnaces Withy & Co. Sgs. 246 & 8.  
 Furnaces Wroughton & Co's Sgs. 149 & 166.  
Working press = 180 lbs.

Plate.	$\frac{9 - 1.345}{9} \times 100 = 84.4 \%$	
Rivets	$\frac{5 \times 1.48 \times 1.75 \times 85}{9 \times 1.434} = 85.1 \%$	
Shell.	$\frac{21 \times 84.4 \times (23-2)}{186} = 200.8 \text{ lbs.}$	
Furnace.	$\frac{1259 \times (8.5-2)}{41.75} = 196. \text{ lbs}$	
Ends Laps.	$\frac{185 \times 15.5^2}{15.5^2 + 15.2^2} = 188. \text{ lbs}$	
" " Stays.	$\frac{5.05 \times 10000}{15.5 \times 15.2} = 214.3 \text{ lbs.}$	
F. tube plate.	$\frac{150 \times 16^2}{14.5^2} = 182.6 \text{ lbs.}$	
B. " "	$\frac{140 \times 12^2}{4.5^2} = 358.4 \text{ lbs.}$	
Stay tubes in ret.	$\frac{4500 \times 1.64}{7.5^2 - (4.9 \times 4)} = 342.2 \text{ lbs.}$	
" " Margin.	$\frac{4500 \times 2.03}{(11 \times 7.5) - 4.9 \times 3} = 224.5 \text{ lbs.}$	
Boiler back twist L.C.	$\frac{135 \times 14^2}{14.2^2 + 7.87^2} = 200.0 \text{ lbs.}$	$\frac{135 \times 14^2}{15^2 + 7.87^2} = 184.5 \text{ lbs}$
" " Stays.	$\frac{9000 \times 2.09}{11.06 \times 7.84} = 216.2 \text{ lbs.}$	
L.C. backs.	$\frac{135 \times 9.5^2}{4.84^2} = 196.5 \text{ lbs}$	
" " " Stays	$\frac{8000 \times 1.5}{7.87^2} = 193.5 \text{ lbs.}$	
" " Laps.	$\frac{135 \times 9.5^2}{4.87^2} = 196.4 \text{ lbs.}$	
" " " Stays.	$\frac{9000 \times 2.09}{7.87^2} = 303.3 \text{ lbs.}$	
Girders.	$\frac{9900 \times 9^2 \times 1.75}{(30 - 7.87) \times 7.87 \times 20} = 268.5 \text{ lbs.}$	



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