

Donkey Boilers by Riley Bros. of SK to
for Hawthorn Leslie & Co. Nos 315 & 316 vessels
100 lbs working pressure

$$\text{Plate } \% \frac{3.8125 - .9375}{3.8125} \times 100 = 75.4$$

$$\text{Rivet } \% \frac{2 \times .69 \times 1.45 \times 8 \times 85}{3.8125 \times 5} = 86.1$$

$$\text{Shell } \frac{20 \times 75.4 \times (10-2)}{120} = 100.5 \text{ lbs.}$$

$$\text{Furnace } \frac{89600 \times .593^2}{6.45 \times 33} = 141 \text{ lbs.}$$

$$\text{" Bottom } \frac{89600 \times .656^2}{8.8 \times 33} = 132 \text{ lbs.}$$

$$\text{End Stays per } \frac{145 \times 13.5^2}{14.45^2} = 101 \text{ lbs.}$$

$$\text{" Stays } \frac{3.55 \times 4500}{14.45 \times 13} = 116 \text{ lbs.}$$

$$\text{Brackets } \frac{100 \times 9.5^2}{8.45^2} = 114 \text{ lbs.}$$

$$\text{" } \frac{1.23 \times 8000}{8.45^2} = 128 \text{ lbs.}$$

$$\text{Boiler Rack } \frac{135 \times 10^2}{11^2} = 112 \text{ lbs.}$$

$$\text{" Stays } \frac{8000 \times 1.23}{10.25 \times 8.45} = 109.8 \text{ lbs.}$$

$$\text{Front tube } \frac{150 \times 13.5^2}{15.5^2} = 114 \text{ lbs.}$$

$$\text{Back } \frac{140 \times 9^2}{10.5^2} = 103 \text{ lbs.}$$

$$\text{Stay tubes } \frac{7500 \times (8.95 - 5.94)}{(13 \times 12.45) - 20} = 15.5 \text{ lbs.}$$

$$\text{Rivets } \frac{9900 \times 6.25 \times 1.25}{(27-7) 10 \times 24} = 89.6 \text{ lbs.}$$

$$\text{Combs } \frac{135 \times 9^2}{10^2} = 109 \text{ lbs.}$$

$$\text{Dome Shell } \frac{18.5 \times (7-2) \times 503}{30} = 15.5 \text{ lbs.}$$

W.H. 12/6/93