assume the temperature of the gases on leaving the combustion chamber to be 1750° Fahr. The temperature of the water in the boiler at 168 pds. pressure is 374° Fahr., and 250 pds. pressure is 406° Fahr. Then for same thickness and condition of plates, we get $\frac{(1750°—406°)^2}{(1750°—374°)^2} = .49.$

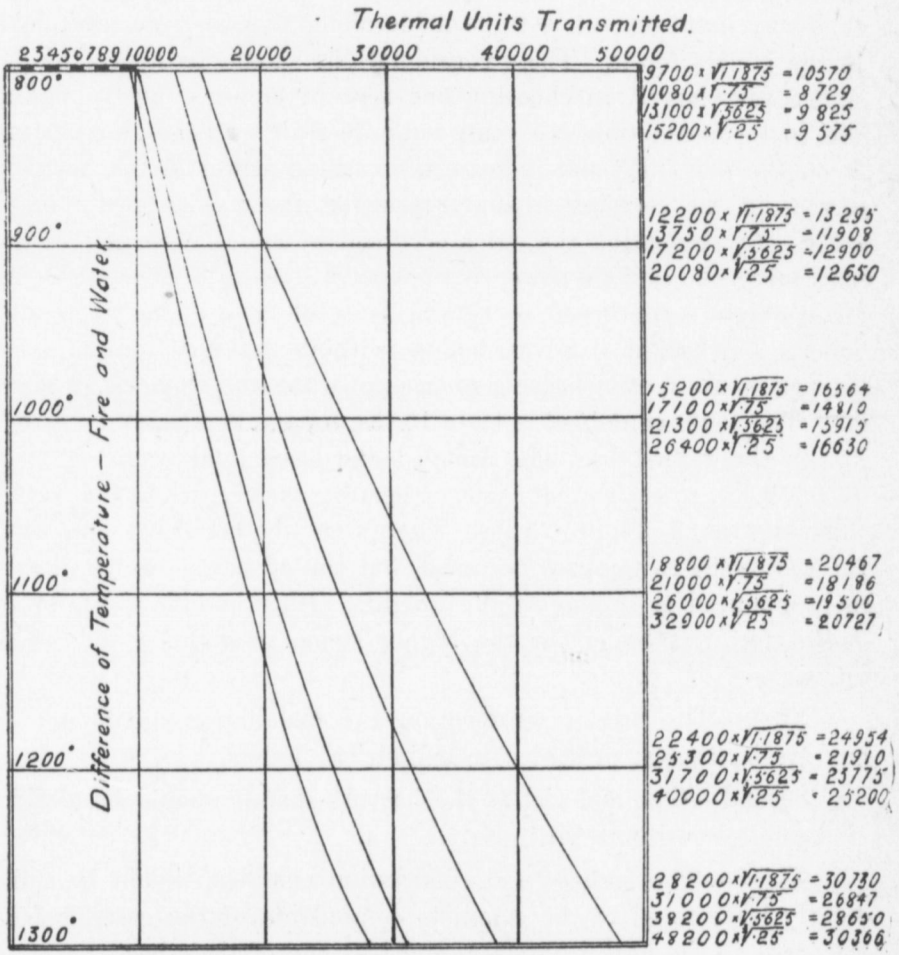

FIG. 1.

From this it would seem that the fire will only transmit 94% as much heat to water and steam under 250 pds. pressure, as to water and steam at 168 pds., or to have same amount of heat transmitted, we shall need 6% more heating surface. Hence with the higher