

each stroke of the piston; and therefore the number of strokes which would discharge one cubic foot in each of the three experiments, would be 13.164, 12.941, and 12.724, respectively.

The steam was conducted from the cylinder, after passing the valve, by means of an iron pipe attached to a small copper one, having its end bent down, and immersed a short depth into a cistern of water. The cistern was made of fir-wood, and painted inside and outside with white paint; was about 30 inches square, and 26 inches deep; and the quantity of water in it was ascertained by weighing it, as was also the accession to it by the condensed steam.

The elasticity of the steam was ascertained by measuring an actual column of mercury which it supported; and the number of strokes was ascertained by a machine called a counter.

The following table contains the principal facts of these experiments.

I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.
Number of the Experiment.	Duration of the Experiment in Minutes.	Whole Number of Strokes.	Number of Strokes per Minute.	Weight of Water in Cistern at beginning.	Temperature of Ditto.	Weight of Water gained by condensed Steam.	Temperature of Water in Cistern at the end.	Temperature gained.	Elasticity of Steam in Boiler.	Temperature of Ditto.
1	121 $\frac{3}{4}$	5154	42.3	lb. 721 $\frac{3}{4}$	° 45 $\frac{2}{3}$	lb. 20.25	° 76	° 30 $\frac{1}{3}$	Inches merc. 40	° 229
2	51 $\frac{1}{2}$	2434	41 $\frac{1}{4}$	722	48	20.00	80 $\frac{1}{4}$	32 $\frac{1}{4}$	80	270
3	38 $\frac{1}{4}$	1599	41.8	722	48	19.45	79 $\frac{3}{4}$	31 $\frac{3}{4}$	120	295

If the whole number of strokes in each experiment be divided by the number, found as above, that were required to discharge one cubic foot of steam, the whole number of