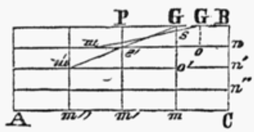
and $n' P$, which represents the weight on $G u$, will be equal to $n x$. From the equation of the parabola we have $y = \sqrt{p x} \therefore n y = n \sqrt{p x}$, or since $G u = n y = \sqrt{p \times B u}$, we will have $n y = \sqrt{p x'}$ (by calling $B u = x'$ for brevity) $\therefore$ $p x' = n^2 p x \therefore x' = n^2 x$. But from similar triangles, $n' O' : O' G :: n' P : P S$, or $n^2 x : \frac{n y}{2} :: n x : s p = \frac{y}{2} = \frac{A R}{2}$ = a constant quantity.

NOTE.—The fact established in the preceding demonstration furnishes a convenient method of describing the parabola by points.

FIG. 78.



Let A and B be two points through which a parabola is to be drawn. Divide $A C$ and $B C$ each into the same number of equal spaces: draw the horizontal and vertical lines through the points of division as represented in figure. Through G (the middle of the first space) draw $G o = B n$: lay off $o m = \frac{1}{2} A C$: draw $G m$, and its intersection (s) with the vertical through m will determine a point of the curve, the apex being at B.

Again, on the vertical through m (the middle of $m' C$) lay off $G o' = 2 B n = B n'$ make $o' m' = \frac{1}{2} A C$ as before, draw $G m'$ and its intersection with the vertical through m', will determine s': a second point of the curve.

In the same way any required number of points, at equal distances apart, may be determined.