erated in the directions of the lines $ao$, $on$, $ob$ and $oc$, of which $ao$ has just been found equal to $3w \sqrt{2}$, and $ob$ is equal to $w$, being simply the weight resting at the point $o$. Then, extending $ao$ and taking $op = ao$ to represent $3w \sqrt{2}$, letting fall the perpendicular $pq = \frac{3}{4}ob$, we have $oq$, representing the resultant of $ao$ and $ob$, which reduces the forces to 3. Then drawing $qr$ parallel with $oc$, $qr$ obviously represents the tension of $oc$, which is equal to $2w \sqrt{2}$, and $or$ represents the thrust of $on$, which is equal to $5w$. The tension of $bc$ is $3w$, the same as that of $ab$, since the parts $ob$ and $bn$ have no action.

Nextly, at the point $c$, the tension of $oc$ has a horizontal action equal to $2w$, which added to the tension of $bc (=3w)$ gives $5w$ as the tension of $cd$. The tension of $oc$ has also an upward action equal $2w$, counteracted by the thrust of $cn$, which, of course, is also equal to $2w$. One half of this thrust of $cn$, is counteracted by the weight $w$ at $n$, and the other half by the oblique action of $nd$, which, of consequence, is equal to $w \sqrt{2}$, and exerts a horizontal force equal to $w$ upon the part $nm$. But $nm$ is also acted on in the same direction by the thrust of $on$, before shewn to be equal to $5w$, consequently the thrust of $nm$ is equal to $6w$.

At $d$, the horizontal action of $nd$, ($=w$) in addition to the tension of $cd$, ($=5w$) gives $6w$ as the tension of $dc$. The upward action of $nd$ ($=w$) just sustains the weight $w$ at $m$, through the medium of $dm$, and the thrust of $nm$ ($=6w$) is counteracted by the thrust of $ml$, which, of course, must also be equal to $6w$. 