Take $b'o' = l'm'$, and draw the horizontal $o'r'$, then $b'r'$ represents the tension of $bn$, and $om'$, the thrust of $on$. Take $na'' = om'$, on $on$ produced, draw $ab = bp'$, parallel with $bn$, and, from $b'$, let fall $b'c'$, representing the weight ($=7w''$) at $c$, and the part below $nm$, represents the lift of $cm$, whence we derive the tension of $em$. The result should be the same as that obtained by the former operation.

XXXIV. If the point $b$ only, be loaded, we may take $ok''$ to represent the thrust of $ao$ resulting from a pressure of $6w''$ at $a$, let fall $k''l''$ cutting $on$ in $m''$, to represent the $7w''$ at $b$, and $m''l''$ represents the vertical lift of $bn$. Make $b'o'' = m''l''$, and draw the horizontal $o''r''$, and we have $bp''$ representing the tension of $bn$. This is the maximum stress of $bn$, since $bn$, can only sustain the weight at $b$, less the excess of lifting power of $ao$ over the depressing power of $on$, both having the same horizontal thrust; which excess is represented by $k'm'$ and $k''m''$, and is least when the weight bearing at $a$ is least. But the bearing at $a$ (and the lift of $ao$), can never be less than $\frac{1}{3}$ of the weight at $b$, and $k''m'$ etc., can never represent less than $\frac{1}{3}$ weight at $b$, or $\frac{1}{3}$ of the lift of $ao$, whence $m''l''$ etc., can never represent more than $\frac{1}{3}$ weight at $b$; consequently $bn$ can never sustain a weight greater than $5w''$ which is the amount represented by $m''l''$ when $b$ is fully loaded, and the remainder of the truss without load.

XXXV. With regard to $cm$, no simple and conclusive reason presents itself, why the result above obtained for the stress of that member when $b$ and $c$ alone are loaded, is the actual maximum. But, as the assumed condition is precisely analogous, as far as the