tendency to action by $co$, and the action of $bn$ is destroyed or diminished. Therefore $1w''$ is the maximum weight sustained by $bn$. When $b$ and $c$ alone are loaded with the weight ($w$) at each, $cm$ sustains $3w''$, as already seen, with no tendency to action in $dn$. But if $d$, or any point on the right of $c$, be loaded, there is tendency to action in $dn$, which must diminish or destroy the action of $cm$. Hence, $cm$ sustains its maximum weight ($= 3w''$), when the points $b$ and $c$ alone are under their full load. And, it must be obvious that the maximum weight is sustained by each diagonal inclining to the right, when the point at its lower end, and all the nodes at the left are fully loaded, and all those at the right are without load. Hence we establish the following easy and expeditious practical method of determining the maximum weights and stresses upon this class of members, in trusses with any number of panels.

XL. Having made a rough diagram of the truss, as Fig. 12, for instance, place over the nodes $o, n, m, \&c.$, the numbers 1, 2, 3, \&c., high enough to admit of a second series under the first, formed by repeating the 1 under itself, adding the 1 and 2 together and placing the sum (3), under the 2 in the upper series. Then add 1, 2 and 3, and place the sum (6) under 3, and so on, placing under each figure of the upper series, the sum of that figure, and all those at the left, in said upper series.

Then, it will be seen that each figure in the upper line, prefixed to $w''$, shows the pressure caused at the right hand abutment, by the weight ($w$) directly under the figure, e.g., the upper figure 3 over $d$, indicates that $3w''$ is the bearing at $i$, produced by the weight ($w$) at $d$, and so of the other figures in the upper line.