In the case of truss Fig. 12, the action of tension diagonals is precisely the same, whether the weight be applied at the upper or lower chord. But the compression verticals, in the deck bridge, sustain as their maximum, the weights indicated by the figures immediately above them respectively, from the centre toward the right hand; and these weights, of course, are equal to those acting upon the diagonals respectively meeting the verticals at the lower chord; and consequently, greater than when the weight is applied at the lower chord. For illustration, in Fig. 12, as the truss of a deck bridge, the vertical $fj$ sustains $15w''$, the same as $jj$, whereas, in the case of a "Through bridge" (with load applied at the lower chord), $fk$ sustains only $10w''$ communicated to it through $ek$.

In the deck bridge also, the tension verticals $he$ and $jg$ are essentially inactive, merely sustaining a small portion of the lower chord. The chords suffers the same stress in both through, and deck bridges.

LXII. Load applied at the upper chord of truss Fig. 13, acts by thrust directly upon the diagonals meeting at the upper chord, and the maximum weight (from movable load), sustained by diagonals meeting at one of the upper nodes, are indicated by the two figures immediately over the node; the larger figure referring to the diagonal running toward the nearer abutment; e.g., the numbers 4 and 6 over the point $m$, signify $6w''=$ greatest weight borne by $mc$, and $4w''=$ the greatest borne by $me$.

It is obvious also, that the maximum thrust of any diagonal, equals the maximum tension of the diagonal meeting the former at the lower chord; that is, maximum thrust of $mc$, is equal to $6w'' \frac{D}{\phi} = \text{maximum ten-}$