meeting at the point of application; and is the only weight which those diagonals sustain, while each succeeding one sustains the weight applied to itself directly, together with all those between itself and the centre, including half of that at the centre.

The weight thus determined, multiplied by length of diagonal and divided by length of upright, is equal to the tension or thrust, as the case may be, of the diagonal,—due to weight of superstructure. For example: if \( f^i \) act by tension, \( f \) is the lower end, as well as the end nearest the centre of truss; and the number under \( f \) being 2, we have \( 2w^f \) (one applied at \( e \) and the other at \( f^i \)) for the weight sustained by \( f^i \). Again, as \( ib \), (the end brace,) always acts by thrust, we know by the figure 3 under its upper end, that it sustains a weight equal to \( 3w^i \), & a thrust equal to \( 3w^i \times ib = ig \).

When the verticals act by tension, with thrust diagonals, their respective amounts of tension due to weight of structure, are found by multiplying \( w^i \) by the figure under each. If verticals act by thrust, with floor along the lower chord, the thrust of each vertical, equals \( w^i \) multiplied by the number under the vertical less 1; that being the weight acting on the diagonal communicating such thrust.

It will be noticed, that with this form of truss, \( ob \) & \( ig \) always act by tension, and their tension, arising from weight of superstructure, when the other verticals act by thrust, will be equal to \( w^i \) upon each.