Then, in order to ascertain the tension, (or compression, as the case may be,) respectively produced upon these diagonals by the maximum weights determined in the manner above explained, we have only to apply the rule, or formula in Note 1; that is, multiply the weight by the length of diagonal, and divide by the vertical reach, or distance *ob*, between centres of chords. Or, in case $ob = bc$, $= 1$, the tension of diagonal equals the weight sustained by it, multiplied by $\sqrt{2}$, which represents the length of diagonal: that is, the maximum tension of *dl*, equals $\frac{6}{7}w\sqrt{2}$, and that of *ek*, equals $\frac{10}{7}w\sqrt{2}$.

The compression or thrust of *ih*, in this case, is equal to $\frac{21}{7}w\sqrt{2}$, $= 3w\sqrt{2}$.

With regard to the stress upon Verticals; the maximum weight upon *dl*, for instance, is transferred to *le*, without increase or diminution, and is the measure of the greatest stress to which *le* is liable, since any weights at *f* and *g*, (which alone can affect *le* except through *dl*,) will diminish the maximum action of *dl*, and consequently, will relieve *le* of just as much of the action of *dl*, as is communicated to it through *fl*.

For similar reasons, the maximum action on *kf*, equals the maximum weight sustained by *ek*, previously seen to be equal to $\frac{10}{7}w$.

ig and *ob*, manifestly act by tension, and when the truss is loaded throughout, uniformly with a weight *w* at each of the bearing points, *b*, *c*, *d*, &c., which may be called the *nodes* of the lower chord,