$H = 1$, in the Formula for Deflection, (P. 291,) we have. . Deflection saved by counter-diagonals, = . . $(\frac{1}{3} \times 8 + 4) \div 28$, = a little less than 24 per C. of the whole deflection. If $H = 0.75$, (truss 48,) the result would be about $31\frac{1}{2}$ per C. saved.

But even these results are based upon conditions never occurring in practice. It has been assumed that all parts of the truss undergo equal degrees of change under a full load; which may be nearly true with respect to chords, but not to other parts. The maximum action upon *od* & *dp*, (F. 48,) requires those parts to be $2\frac{1}{2}$ times as great, as they need be under full load; while *pc* & *cq* require $\frac{1}{4}$ more, and, *qb* & *br*, 1-20th more cross-section at the maximum, than under a full load of the truss.

Now, the deflection resulting from elasticity in these parts, being less in proportion as the parts are greater, the saving by counter-bracing, must be less in the same degree, as far as it relates to such parts. This at once reduces the above computations for deflection retained, from $31\frac{1}{2}$ & 24, to 25 & 19 per C., for the two cases respectively; &, considering the increase of section required for uprignts, (in Iron trusses,) on account of great length and small diameter, as heretofore alluded to, it is deemed to have been fully demonstrated, that the effects of Counter-diagonals, of half the size of the Mains, are, to retain in the truss when unloaded, from one sixth or less, to one fourth, of the deflection produced by a full movable load.