The Finck Truss, Fig. 44,

Possesses several of the characteristics which distinguish the Bollman Plan. Both dispense with the Bottom Chord, which is common to most, if not all other plans of truss, for both Iron & Wooden Bridges. Both also employ a pair of Tension obliques, acting in horizontal antagonism to each-other, at each of the bearing points, *c*, *d*, *e*, &c.. But while in the one, the members of each pair of obliques, are of equal length and tension, in the other, the pairs consist of unequal members; as the diagrams will sufficiently illustrate.

It will readily be seen that Fig. 44 exhibits 3 classes of obliques, consisting respectively of 2, 4, & 8 members to the class. Supposing a truss of the same dimensions and proportions, and subjected to the same load, as in case of Fig. 43; and using the same notation, as far as applicable; it is manifest that each of the 8 short obliques, sustains $\frac{1}{2}$W. The 4 next longer sustain, upon each, a weight equal to W, one half directly, and the other, from the short obliques, through the upright. The 2 long obliques sustain 4W, (or 2W each,) made up of 1 received directly at *f*, and 1 & 2 respectively, from members of each of the other classes, meeting at the point *p*.

The material required for all the obliques, then, (*ab* being = 1, *bc* = n, & M = material sufficient to support the weight W, with a length = *ab*, = 1,)