Other parts, such as short bolts, nuts, connecting pins, &c., although just as essential, are comparatively, of small amount and cost, except the intermediate uprights, which will be referred to hereafter.

If the truss be used in a deck bridge, and the end posts be replaced with masonry, the intermediates will sustain the same weight as the ends sustain in a through bridge, thus giving the same representative of material as above found.

The Finck Truss, Fig. 48,

CXXXIII. 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 and wooden bridges. Both also employ a pair of tension obliques acting in horizontal antagonism to each other, at each of the supporting 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 (except at the centre), as the diagrams will sufficiently illustrate.

It will readily be seen that Fig. 48 exhibits three classes of obliques, consisting respectively of 2, 4, and 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. 47, 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, through the short obliques and uprights. The two long obliques sustain $2W$ each, being the half of $1W$, received directly at $f$, and 1 and 2 respectively.