not a commendable form of truss, since the intersections of the different systems must be riveted together, which vitiates more or less the calculations, based, as they necessarily must be, upon the hypothesis of an independent action of each system of triangles.

![Fig. 48.](image)

**The Fink Suspension Truss (Fig. 48).—**This form of truss is only well adapted for deck spans, and is precisely the same truss as the ordinary iron roof turned upside down, with the reversal of the quality of strains. The maximum chord strains and all parts of the primary system (marked 1) occur when all points are loaded. On the secondary system (marked 2), maximum strains occur when all the panels embraced in that system alone are loaded, and so on. Let the load on each apex be \( w \), then posts 3 support \( w \) only; posts 2 support \( w + \frac{1}{2} w \), delivered to it from each sub-post 3, or 2 \( w \); post 1 sustains its own \( w + \frac{1}{2} w \) of the load on each sub-post 2, + \( \frac{1}{2} \) the load from each adjoining sub-post 3, in all 4 \( w \). The suspension rods are strained in proportion to their inclination or \( \frac{\text{length of rod}}{\text{height of post}} \).

**Example.**—Span, 120 feet; 8 panels, 15 feet; height of centre-post, 15 feet; load on each apex, 10,000 lbs.; ratio of length of any rod to post