is \( 8 \times \frac{1}{2}(n^2 + 1) + 4 \times 1(4n^2 + 1) + 2 \times 2(16n^2 + 1) \) M, being the number of pieces in each class, multiplied by co-efficients of W in weights sustained, and squares of lengths respectively, and the sum of products multiplied by M. [See Pages 168...9.]

Substituting in the above expression, the value of \( n^2 \), (0.964,) and, reducing & adding terms; we derive .. Materials in obliques = 70.296 M.

**Fig. 44,—Finck Truss.**

The Compression upon the Chord \( al \) is equal to the horizontal action of one member of each of the three classes of obliques, communicated at each end; that is, equal to \( \left( \frac{1}{2}n + 2n + 8n \right) \times W, = 10\frac{1}{2}n \times W \); and, multiplying by length, & substituting .833 for \( n \), and M for W, we have \( 8.75 \times 6.66 \times M, = 58\frac{1}{3}M, \) material required in \( al \); being the same as in case of Fig. 43.

The uprights of the Finck Truss, obviously sustain an aggregate of \( 12W \), being \( 3\frac{1}{2} \) at each end, 3 at the centre, and 1 at each of the two quarterings, \( r & n \). But, as it seems reasonable in comparing this with the Bollman truss, I propose to