cal depth of truss (between centres of chords), and let tension diagonals incline 45°, and posts lean 1 horizontally to 3 vertically; the space between posts being two-thirds of the depth of truss.

**Fig. 49.**

*Mr. Post's Truss*

Then, omitting counter ties up to \(tf\), from the left, as neutralized by weight of structure: we see that the weight at \(x\), being only \(\frac{1}{3}\) as great as at the other nodes, on account of the short space \(xy\), \(3w + 80\) (or \(3w''\), substituting for the occasion, \(w''\) for \(w + 80\)), represents the proportionate part of that weight, tending to bear upon the abutment at \(m\); and this, with \(12w''\) for weight at \(r\), and \(20w''\) for weight at \(u\), + \(2w''\) for weight at \(t\), makes \(63w''\) accumulated upon \(tf\), when \(x, v, u\) and \(t\) alone are loaded.

Now, the action upon this truss is less certain and determinate than where the thrust pieces are vertical, or inclined equally with the tension pieces. But supposing that the weight of superstructure at \(s\), or at \(s\) and \(r\) together, neutralizes, or reflects back a part equal to \(w'\), or \(\frac{1}{3}80w''\), \(= 27w''\) nearly, of this \(63w''\), we have a balance of \(36\frac{1}{3}w''\), as the maximum weight for \(tf\).

Then, whether this \(63w''\) which must go to the

*This full amount \(63w''\) is used here; for, although it is assumed that only a part of it is transmitted through \(tf\), the balance is restored from weight of structure which otherwise would pass to the abutment at \(y\).*