Strain in counter-braces, one post unloaded. In this case, as the dead load is unchangeable, we are concerned with the live load alone, or 2000 lbs. per ft. = 30,000 lbs. per panel. The reaction of the left abutment from this (supposing the post to the right is unloaded) is 20,000 lbs., and of the right abutment 10,000 lbs.

\[
\text{Horizontal strain from left diagonal,} \quad \frac{20,000 \times 15}{5} = 60,000 \\
\text{Horizontal strain from right diagonal,} \quad \frac{10,000 \times 15}{5} = 30,000
\]

\[\text{diff. } 30,000.\]

This difference being horizontal difference, for conversion into longitudinal strain on the counters, it is to be multiplied as before by \(\frac{15,81}{15}\), which gives 31,620 lbs. as tension on the counters; or by applying the formula, the strain is at once given—

\[
\frac{P \cdot w}{27 \times \frac{h}{2}} \times \sqrt{\frac{P \cdot w + h^2}{h^4}} = \frac{45^2 \times 2000}{27 \times 5} \times \frac{15,81}{15} = 30,000 \times 1.054 = 31,620, \text{ as before.}
\]

**The Whipple Truss (Fig. 46).—** By extending the Queen Post so as to embrace additional panels, the