For Web Strains.—1st. Dead-load. One half of that at central apex, or 1500 lbs., goes down diagonal 6, up 5, down 4, which receives in addition a full panel-load, making 3000 + 1500 lbs., which goes up diagonal 3, being again increased before passing down 2, with another panel-load, or 3000 + 3000 + 1500 lbs., which, in turn, passes up diagonal 1 to point of support. The diagonals to right of centre are traversed by the load on that side in the same way. These vertical effects need only to be multiplied by \(\frac{\text{length of diagonal}}{\text{height}}\) to give the sought-for longitudinal strains in the diagonals due to dead-load. When the load passes down, compression is induced; and when up, tension. Thus, 1, 3, and 5 are in tension, and 6, 4, and 2 are in compression. 2d. Variable load. Commence by loading the first apex on the left with moving panel-load 9000 lbs.; of this \(\frac{1}{6}\) is supported by the left abutment, and \(\frac{1}{6}\) by the right abutment. These proportions of the load only reach their destination by passing down and up alternately the different web members, inducing compression and tension alternately. Tracing out the effect of each load \((p, q, r, s, t)\) in succession, commencing at the left apex, the vertical effect on diagonals will be as follows:

\[
\frac{1}{6} p + \frac{1}{6} q + \frac{1}{6} r + \frac{1}{6} s + \frac{1}{6} t \text{ all produce tension on 1.}
\]

\[
\frac{1}{6} p + \frac{1}{6} q + \frac{1}{6} r + \frac{1}{6} s + \frac{1}{6} t \text{ " " compression on 2.}
\]

3 receives a compression from \(\frac{1}{6}\) the load at \(p\), and tension from all loads to the right, amounting to \(\frac{1}{6} q + \frac{1}{6} r + \frac{1}{6} s + \frac{1}{6} t\).