Horizontal strain at \( f = \frac{35,000 \times 75 - 15,000 \times 15(1+2+3+4)}{7.5} \)

\( = 50,000. \)

64,103 less 50,000 = 14,103 = horizontal component.

14,103 \( \times \frac{1}{12} = \) longitudinal tension in \( ef' \), 15,983.

The compressive strain in verticals from a moving load occurs when all panel-points between any given one and the abutment are loaded. Thus \( d \ d' \) is compressed the greatest when \( b \) and \( c \) or \( e \) and \( f \) are loaded. The strain (supposing the load is at \( b \) and \( c \)) on \( d \ d' \) will be the vertical component from \( d \ e' \), less the tension of one panel of dead load. It is necessary, then, to find the longitudinal strain on the different diagonals when the panel-points beyond are loaded, and that of the given diagonal unloaded.

On \( c \ d' \), when \( b \) alone is loaded, reaction = \( \frac{5}{6} w' = 12,500. \)

Horizontal strain at \( c = \frac{12,500 \times 30 - 15,000 \times 15}{11.7} \) = 12,820.

\( \therefore \ d = \frac{12,500 \times 45 - 15,000 \times 30}{13} \) = 8654.

12,820 less 8654 = 4166 = horizontal component, which multiplied by \( \frac{17}{12} = 5521 \) = longitudinal strain. Converting this last strain into vertical strain by multiplying it by the ratio of diagonal to vertical, or \( \frac{18}{20} \), the compression on post \( c \ c' \) from line load is obtained. Since there is always a tension caused by one panel of dead load, the compression above found must be reduced by that amount, to obtain the maximum compression.