$381 \times \frac{8 \cdot 3}{11 \cdot 8} = 268$ lbs. = pressure per square inch on arch at top.

$381 \times \frac{7 \cdot 2}{11 \cdot 8} = 232$ lbs. = strain per square inch on lower chord.

$381 \times \frac{11 \cdot 7}{11 \cdot 8} = 377$ lbs. = strain per square inch on perpendicular of arch at skew-back.

Vertical Pressure.

Assuming that the weight sustained by each system will be in proportion to its power of resistance, the greatest weight that the truss can sustain will be the limit of flexure of the braces in the end panels. This has already been found to be 223,000 pounds, which will be produced by a vertical pressure of $\frac{223{,}000 \times 15 \cdot 5}{17 \cdot 7} = 200{,}000$ pounds: this is the extreme limit of the power of resistance of the end braces.

The proportion of surface at the skew-back which resists the vertical pressure is 388 square inches. If we suppose the vertical pressure on the base of the skew-back to be the same per square inch as the horizontal pressure upon the perpendicular, it will be capable of resisting 180,830 pounds; this deducted from the whole pressure, 275,000 "

will leave for the portion to be sustained by the braces 94·170 "

which is below the resisting power. The actual limit of the resisting power of the arch is very great, but, assuming that in practice it is not safe to exceed 1000 pounds per square inch, the proportions of the weight sustained by the truss and arch would be,

For the truss $275{,}000 \times \frac{108{,}663}{338{,}000 + 108{,}663} = 68{,}700$ nearly.

And for the arch $275{,}000 \times \frac{338{,}000}{446{,}663} = 206{,}100$ nearly.