end of the main brace, when the form of connection shown by the black line is used.

As the counter braces cross, or meet in the centre of the panel, one may be in two pieces thrusting into the other as at c Fig. 62; or one member may be in two full length pieces, and the other a single brace between the former, of such width vertically, as to possess the required cross-section; say $2\frac{1}{2}'' \times 6''$ for the outside, and $4 \times 8$ for the middle one, and the whole connected by a small transverse bolt at the crossing.

**Fig. 62.**

The stresses of the several parts of the truss may be determined in the manner explained in section xviii, and the timbers proportioned accordingly, and in conformity to rules in relation to strength of timber [cxl and cxl]. For a truss of 30 feet to carry a gross load of 15,000lbs. to the panel, with a horizontal reach of brace equal to twice the vertical — chord and "straining beam," (bb', Fig. 7), should be $7''$ deep $\times 9''$ wide; main braces $8'' \times 9''$. Counter-braces being subject to only one-third of the movable panel load, may properly be $4 \times 8$ or $5 \times 6$, if one be severed at the crossing, or as above specified, if one member be in 2 full length pieces.

Two counter-braces might cross one another side by side, but this would not produce a well balanced action.