The two single diagonals meeting at $e$, may be halved into one another at the crossing, and a $3 \times 11$ inch piece lapped and locked on to each, as shown by $aa$ in Fig. 67; thus serving to fill the space in the chord, and to restore strength to the diagonals. The lap pieces are to be reduced to $2\frac{1}{2}$" in thickness below the lock at $l$. Two $1\frac{1}{2}$" bolts are sufficient at the point $e$.

Transverse joists, or floor beams may be placed upon, or suspended below either the lower or upper chords. Sway bracing may be locked and bolted upon the upper chords, and iron $\times$ tie rods used at the lower chords; the beam timbers being shouldered against the inside of cords, so as to strut them apart against the action of the ties.

Angle braces from the king brace $ai$, to a transverse beam from truss to truss at $i$, will aid in preserving the erect position of trusses. These braces should usually be lapped and bolted at the ends, so as to act by either tension or thrust.

The preceding specifications, it is hoped, will serve to make the peculiarities of detail in the kind of truss under consideration, properly understood. It may be deemed advisable to adopt the rectangular, instead of the Trapezoidal form of outline for the truss, by extending the upper, to the same length with the lower chord, inserting vertical posts at the ends, and exchanging the double vertical $bi$, to a single diagonal meeting the upper chord and end post at their point of junction; thus simplifying the connections at $b$ and $i$.

This modification, unlike the case of the trapezoid with verticals, involves no increase in amount of action upon materials, though it increases the number of members, and changes the manner of distribution of the action.