above the top of the stringer, and the diagonal $b$, 9 or 10 inches beyond the bolt holes. The vertical receives the lower stringer pieces into a $\frac{1}{2}$ inch boxing, and also receives between its two parts, a 4 inch tenon upon the lower end of the diagonal $c$, which is $4 \times 9$ inches, and stands edgewise to view. There is also an inch boxing on the edge of the vertical, just above the stringer, to receive the cross bearer; which latter is boxed 5 inches deep to receive the vertical, as in the case of the last plan. It is desirable that the centre of the beam should be brought nearer to the centre of the vertical, but a good plan for effecting it has not occurred to me. The arrangement here adopted can not, however, be very objectionable.

The vertical pieces extend 5 or 6 inches below the bottom of the stringer. Two $1\frac{1}{2}$ inch bolts placed diagonally about 7 inches from centre to centre, and passing through stringer, vertical and diagonal pieces, as shewn in the figure, complete the connection at this point.

The diagonal $b$, (being $10 \times 4$ inches,) passes through a mortice in the centre of $c$, and also through a mortice near the lower end of the diagonal $c$. The latter piece being $7 \times 4$ inches, has an oblique shoulder of $\frac{1}{2}$ an inch on each side, fitting into a triangular boxing of corresponding depth on the inside of the stringer. Two $1\frac{1}{2}$ inch bolts pass through the whole, and a $1\frac{1}{2}$ inch pin, 7 inches long, passes through $b$ about midway of its width and close to the under side of $c$, with a $\frac{1}{4}$ inch plate, 3 inches long by 2 inches wide, for each end of the pin to bear on.

The cross bearer at this point is boxed on, so as to bear upon both the diagonals and the stringer pieces.

At the upper end of $c$, is a mortice $3 \times 9$ inches for the end of $d$ to pass through; $d$ being also $3 \times 9$. On each side of $c$, is a shoulder of 1 inch, oblique to the piece, but in a vertical line, acting against the ends of the inner plank of the top stringer; one inch of the ends of the plank being halved off, to let the piece $c$ pass by with a width of 7 inches. A $1\frac{1}{2}$ inch bolt passes through the