This amount may be furnished nearly, by a section of $8\frac{1}{2}'' \times 10''$, $8 \times 11$, or $7 \times 12$. Assuming the second, the end braces should be $8\frac{1}{2} \times 11$, the next $7 \times 11$, and the middle ones, $5\frac{1}{2} \times 11$.

We have seen above, that 62,000lbs. of tension, are communicated to the long timbers of the lower chord, while the splice at the middle is only good for 500lbs., to the inch of gross section, being 44,000lbs.; thus leaving a deficiency of 18,000lbs. to be sustained and made up by the upper timber. In the mean time, the middle braces exert about 8,000lbs. of horizontal action upon this piece, under a full load of the truss, and near 13,000lbs. at the maximum action of those braces. Hence that timber should have a minimum net section of 26 inches, + 18 inches to be severed for the insertion of transfer blocks. The timber should therefore be at least 4'' deep.

The transfer blocks should be $1\frac{1}{2}''$ thick, in this case, and 15 or 16 inches long, and be well fitted in position as indicated in Fig. 63. This mode is preferable to that of using blocks twice as thick, and letting one-half into each timber by a square boxing; because it leaves a larger section of timber opposite the middle of the block where bolt-holes are required. Otherwise it would be necessary to provide additional gross section on account of bolt holes. The same reason applies in the case of braces toeing into chords, &c.; where the boxing, instead of being as deep at the heel as at the toe of the brace, should taper out to nothing at the heel. See black line at foot of counter brace c, Fig. 62.

This case has been given in pretty full detail, since the plan seems to merit, as it certainly enjoys, a high degree of popularity, for small bridges for ordinary use.