edge for each flange, making 1.616 inches as the amount that the full depth is reduced, or 15" less 1.616 inches, equal to 13.38 inches, being practically the same as the effective depth assumed.

In comparing riveted beams with solid rolled beams, it must not be forgotten that the latter are at least 10 per cent stronger than the former; or, in other words, if 10,000 is the unit of strain selected for the riveted work, the solid beam will have as great strength if proportioned for a unit of strain of 11,000 lbs. per square inch.

In order to develop the full strength of a riveted beam, due to the section, more attention should be paid to the riveting than is usually done, as to number, size, pitch, and method of driving. The duty of the rivets is to take up all the horizontal increments of strain delivered by the web to the flanges. The horizontal strains in the flanges diminish in intensity either way from position of maximum M at centre, toward either abutment, where they are least, and may be found at any point by dividing the moment at that point by the effective depth. The horizontal increments of the web are greatest, however, at the ends, and least under position of maximum M. This can be made clear from an inspection of the accompanying illustration (Fig. 40),