either abutment. The tension members of the web are called *ties*, and they may be either vertical or inclined. The compressive portions of the web are called *struts*, or *posts*, and may also be vertical or inclined. When ties are vertical, the posts are inclined, and *vice versa*, or both may be inclined. *Strut tie*, as the name implies, means that a web member may act either by tension or compression. The point where a tie and a strut intersect in a chord, is called a panel-point, and the distance between two such points is called a panel-length. Again, a portion of the web system are called *main* braces, or *ties*, and a portion *counter* braces, or *ties*. The former embrace all parts of the web which carry that part of the weight going to the nearer abutment either side of the centre of the truss, and are lightest toward the middle and heaviest toward the ends of the span, while the latter run in a contrary direction to that of the main braces, and carry that portion of the load going to the farther abutment, and they are heaviest at the *centrè* and least at the ends of the span. Main braces may be made to act as counters, if they are constructed to act either by tension or compression. The office of the "counters" is simply to prevent distortion or change of form in a truss, and they are only necessary when the truss is subjected to the action of a variable load, as is the case on all bridges. They can only act when the main braces to which they are opposed are relaxed, and then have an action equal to the difference between the effects of the variable and fixed loads, acting in opposite direc-