

To secure compression members against this deflection is then the problem with which we are confronted.

Take for example the simple Pratt truss (Fig. 1) which has been very generally used as an aeroplane truss. This with its long unsupported vertical posts would seem to be a poor form to build, if we are to make it of material fish-shaped in cross-section.

The Howe truss (Fig. 2) has one great advantage over the Pratt:- It has no long unsupported compression-members. The diagonals, which are the compression-members, intersect, and thus afford support against lateral deflection in the planes in which it is needed.

The Howe truss, however, has a greater aggregate length of compression-members than the Pratt, and this is clearly disadvantageous.

For this reason then, if we adopt the general form of truss with upright compression-members, the problem resolves itself into one of securing these vertical posts against lateral deflection. This can be done in a variety of ways.

First of all struts can be run across the truss horizontally supporting the vertical posts at their centers. These struts could be themselves supported at their central points by the diagonals, and a very rigid construction obtained (Fig. 3).

The introduction of more compression-members is to be avoided, however, as these offer greater resistance than do the comparatively fine wires that can be safely used to