

**AERODROME NO. 1, SELFRIDGE'S RED WING;
by F. W. Baldwin.**

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The first motor driven aeroplane built by the A.E.A., which was known as the Red Wing had double superposed surfaces and would come under the class generally known as the Chanute type. There were two distinctive features in this design. The first was in the general principle and arrangement of the truss which supported the two surfaces and the second in the shape of the surfaces themselves.

The frame of the usual double decker, is the simple Pratt Truss, with parallel upper and lower chords and panels of consequently constant depth. The vertical posts in this form of truss are held at two points only (at the top and bottom). (See page 2).

In the Red Wing Truss (page 2) the upper and lower chords were made converging toward their extremities, giving the panels greater height in the center where the bending moments are at a maximum, and gradually decreasing in height towards the outside panels where the bending moments approach zero. In this way the height of the truss was proportional to the bending moments; and, as the stresses due to bending are by far the greatest ones to be considered, the structural advantage in having the chords bowed is obvious at a glance.

Another equally, if not more important advantage, is in the lateral support afforded to the vertical posts of the