the whole of the framework is built up of cane, and this is a material which does not lend itself very well to neat jointing.

The Weiss flyer is of the monoplane type, and is peculiar amongst such machines in having no tail whatever. Let into the rear edges of the main wings, however, are a pair of righting planes operated by pedals so that they can work in unison for ascending and descending, and in opposite directions for steering and

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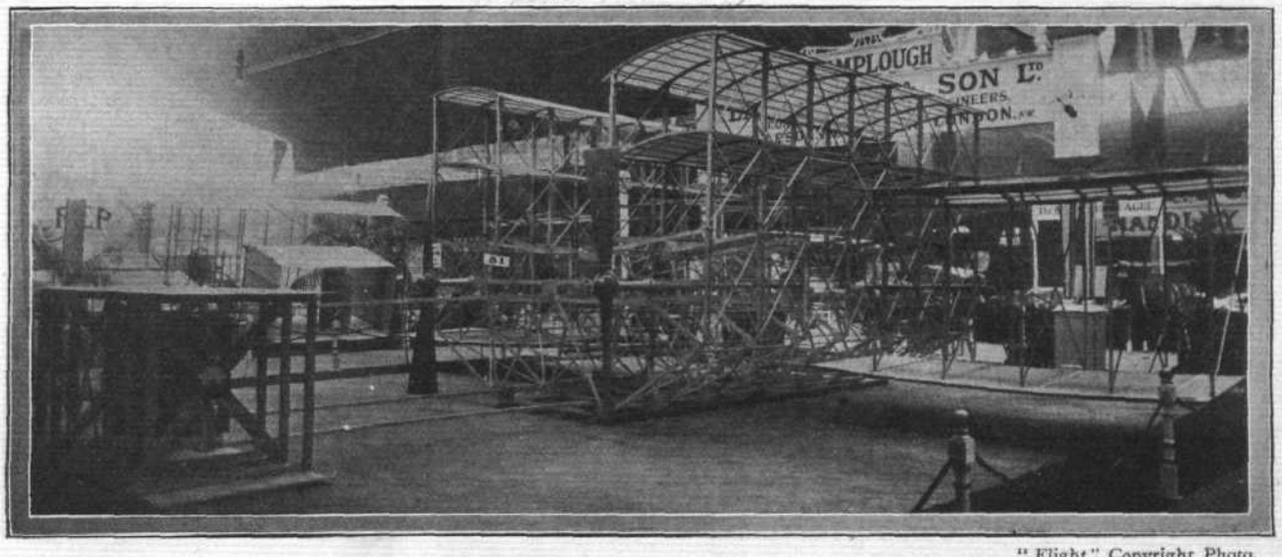
AERO SHOW.—The Weiss Monoplane, seen from in front. This is a full-sized model built by the inventor himself, and is mainly constructed of cane. The use of two propellers on a monoplane is an uncommon feature.

righting. Another peculiarity of the construction of the wings is their double curvature at the tips, it having been found from the gliding experiments with the models that everything depends upon having this curvature absolutely correct. Propulsion is effected by two propellers placed between the righting planes and the rear edges of the main planes. These propellers are chain-driven from an engine which is situated immediately behind the pilot. The machine, although comparatively small in appearance, has a considerable extent of supporting surface. As yet no actual man-lifting flight has been accomplished.

In order to appreciate its principle it is necessary to know what idea governed its design, and for that it is necessary to revert to Professor Pedigrew's theory of bird wing flight. Broadly speaking, that theory may be summed up by stating that the stroke of a bird's wing forms the figure eight, and Mr. Lamplough, accepting that view as suitable for a basis of mechanical flight, set himself the problem of reproducing it in an actual machine. The mechanical system he has devised consists in imparting a kind of swaying motion to two biplanes arranged longitudinally with their cutting edges facing one another. The planes are hinged, as also are the columns which support them, and as they sway to and fro a pair of cranks dip and tilt alternately, the adjacent edges, so that in a complete cycle an approximate figure of eight is performed. As the two biplanes approach one another the adjacent edges are tilted, and the planes being forced through the air create a lifting effect; when their motion is finished these edges are drawn downwards by the cranks, and as the biplanes recede it is their outer



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AERO SHOW.—The Lamplough Orthopter Biplane, seen from behind. The central planes, which run longitudinally, sway to and fro with a lifting effect, while the lateral biplanes on either side are rigid in the usual way. At the extreme rear is a biplane elevator containing a rudder, and in front there is a precisely similar structure. The machine is unfinished.

Lamplough (LAMPLOUGH AND SON).

The flying machine which has been designed by Mr. Lamplough and constructed by his firm at Willesden is of an altogether unusual description, and quite unlike anything which has probably ever been built elsewhere. edges which are in turn relatively elevated so that once more a lifting effect is produced. The outer edges do not actually vary their position—it is only the inner edges which rise and fall—for it is along these edges that the planes are hinged to their supports. This part of the machine is a