

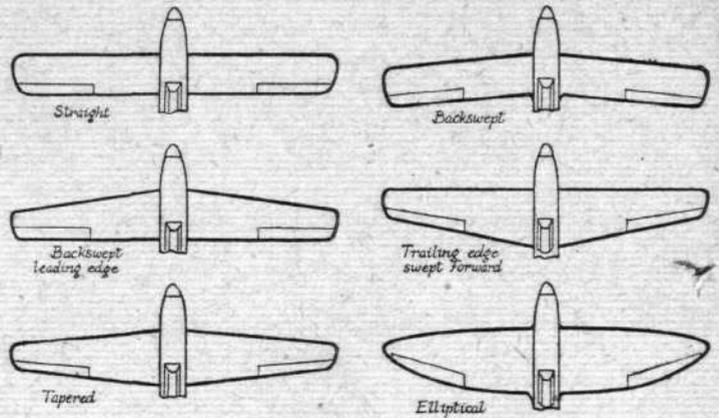
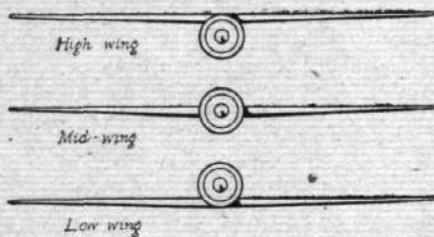
WHAT IS IT?

Aircraft Characteristics That Aid the Spotter : Basic Features in Design Classified : A Simple Guide for the Beginner

ALTHOUGH many of *Flight's* readers will be familiar with the visible characteristics of aircraft from the spotter's point of view, identification is a comparatively new "science," and there will inevitably be a constant stream of newcomers to this important study. It was felt, therefore, that a few notes dealing with the fundamental externals of aircraft would greatly help the beginner, be he 14-year-old Air Scout or 1914 Veteran.

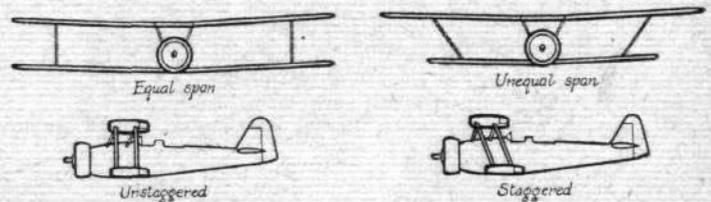
No attempt is made, in this limited space, to cover all the many subdivisions into which aircraft can be classified; the scope of the article is necessarily limited to the basic differences in design, but it will give the learner-spotter a useful start.

Probably because it is the most easily observed feature, the position of the wings in relation to the fuselage section divides aircraft into three main groups: (1) low-wing, in which the wing is level with the underside of the fuselage; (2) mid-wing, in which it passes through the sides of the fuselage; and (3) high-wing, in which it is level with the top of the fuselage. There are, in point of fact, subdivisions of the mid-wing class according to whether it is nearer the bottom or the top, but we shall not bother with that here. Pedestal and parasol wings are, similarly, subdivisions of the high-wing class.



Biplanes

ADMITTEDLY very much in the minority nowadays, the biplane is, however, anything but obsolete and can be divided into two broad classes: those with equal wing-span and those having a top wing of greater span than the lower one. In both classes the wings may be set one immediately below the other, or they may be staggered, i.e., the lower wing set farther back than the top one and with sloping inter-plane struts.



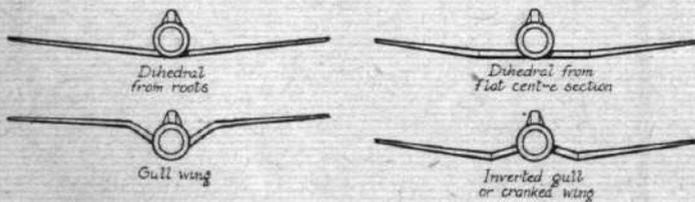
Tails

READERS of *Flight* should, by now, be fairly familiar with the wide variety of design in tail assemblies. But ignoring the almost endless choice in surface contours, their structural features fall into a series of clearly defined groups. These may be classified according to the number of fins and rudders (considered as a single unit) and their position in relation to the tailplane. They must also be classified according to the position of the tailplane in relation to the cross-section of the fuselage.

First there is the simple unit with a single fin and

The next point about the wings is the angle, or angles, they make with the fuselage. A few high-wing types are flat, but the vast majority of all three types are raised towards the tips to increase stability; this is called dihedral angle and may either be applied right from the roots at the fuselage or from a flat centre-section as shown in the accompanying diagram.

There is also a third class in which the centre section makes a sharp dihedral angle with the fuselage and the rest of the wing is flat, and a fourth style in which the centre-section makes a downward, or anhedral angle with the fuselage and the rest of the wing rises towards the tips at a dihedral angle. The former is called a gull-wing and the latter an inverted gull, or cranked wing. The cranked wing type is found with angles of varying degree from the moderate (e.g. Miles Master) to the acute (e.g. Ju 87).



Seen in plan, wings fall into six groups as illustrated—straight parallel edges, at right angles to the fuselage, the whole wing backswept on each side of the fuselage, leading-edge only backswept, trailing-edge swept forward, tapered on both edges, and elliptical. With the necessary exception of the sixth type, only straight edges are shown in the diagrams, but there are obvious variations with curved edges. The same principle, of course, applies to tailplane plan.

