

these deflections it is possible to calculate the stresses, and thus some extremely valuable information is made available, information which could not be obtained in any other way than by "stunting the machine hard," as the saying is.

In his article, Herr Fieseler states that his Raab-Katzenstein "Schwalbe" has a factor of safety of 14. It seems quite likely that this is not strictly necessary, but until accurate stress estimates can be made, it is necessary to take as one's motto: "Safety first." At present, the estimation of stresses under some of the conditions met with in "aerobatics" is little better than guesswork, and we submit that if Herr Fieseler succeeds in ascertaining some of the worst of these stresses, and the effect of violent manœuvres on the pilot, he is doing something which, in addition to its spectacular character, will be of very real benefit to the science of designing aircraft structures.

One might ask what is the use of putting a machine into these abnormal attitudes anyway. The answer is that, in the first place, during air fighting, it is often necessary in order to avoid an opponent, or to get into a favourable position in relation to an opponent, to carry out manœuvres of an unusual nature, and if the pilot is doubtful as to whether his machine will stand this or that manœuvre, he will be less willing to attempt it than if he knows from practical experience that not only is his machine capable of it, but that he personally, as a result of practice, knows exactly how to carry it out. Secondly, even a commercial aeroplane not normally called upon to stand violent manœuvres may, owing to weather conditions such as fog, clouds and "bumps," be thrown into

an abnormal attitude. We had a striking example of this recently during Hinkler and McIntosh's flight to Poland, when their Fokker, heavily loaded as it was, fell from about 5,000 ft. to two or three hundred, probably in a spin, without the pilots being able to steady it because of the lack of a visible horizon. Thus it is not difficult to see very practical uses in the aerobatics demonstrated by Herr Fieseler, and we personally should like the Royal Aero Club to invite him to this country during the coming season to give a demonstration. As an attraction, the spectacular side of his evolutions would doubtless be a successful "draw," while pilots would learn much from watching him. The result might be that our R.A.F. pilots would start to do the same evolutions *in formation*, which would be a rather hair-raising spectacle, but then they will probably do that anyway!

There is a rather good story told of Costes, the famous French pilot, in connection with Herr Fieseler. Another French pilot, we believe it was Doret, was returning from the Zürich meeting, and at one of the French aerodromes he met Costes. Relating the match between himself and Fieseler at Zurich, Doret suggested that Costes should try to get up a match with Fieseler. To which Costes replied that he had already had two matches with Fieseler, in one of which Fieseler shot him in the foot! They were both pilots on the Macedonian front during the war. At the Amsterdam Show in 1919 Major Chris Draper challenged a rival to an air duel with machine guns. This did not come off, mainly because Draper insisted on using actual ammunition and not blanks! A duel in aerobatics would be no poor substitute, so what about a match between a British pilot and Herr Fieseler?



[" FLIGHT " Photograph

AERIAL "TRAMPS": Wintry weather delayed the start from Stag Lane, last week, of two D.H.9 machines for the East. Piloted by F/O Newall and F/O Vintcent, respectively, the two machines will make a survey tour to Singapore, with the object of discovering and operating air routes of medium range between inaccessible but busy centres. Mrs. Wise Parker, seen in the centre of the group, has booked a trip as far as Cairo. The two engineers are Mr. Childs and Mr. King, respectively, the former being official photographer to the expedition.