

that the forward component, which has been called Lilienthal's tangential, existed even when the plane was made to assume an attitude of minus three degrees angle of incidence. The early experiments of the Wright Brothers, made by flying their glider as a kite, showed conditions in which the propulsive component due to the forward inclination of the resultant was sufficient to overcome the head resistance of all the subsidiary framework not contributing to the lift. Their more recent experiments have been made with a view to ascertaining the simplicity or otherwise of controlling a glider under soaring conditions. The result showed that a considerable measure of skill, and far more active operation of the control organs, was necessary than in the case of ordinary gliding or flying.—ED.]

## MODELS.

### Pendulum Stability for Models.

[1478] An idea which has occurred to me makes me wonder whether any arrangement in connection with a pendulum has been used for the purpose of obtaining fore and aft stability in aeroplanes. Perhaps this sort of thing is no longer entertained with regard to real machines; but how would it be as to models?

The idea is shown roughly in the accompanying sketch, which is supposed to represent a Blériot type. (I fear it is reminiscent of an older business than the aeroplane industry.) A pendulum working on an axle at *x* is allowed a certain freedom of motion when the



model is flying. Should the model's head be thrown down, the pendulum will be at *b*, should the tail fall, at *c*, and in horizontal flying at *a*. The movement of the pendulum will, of course, govern the tail, which at *a*, *b* and *c* corresponds with the *a*, *b* and *c* of the pendulum.

The obvious disadvantages are (1) the weight of the pendulum (it would have to be sufficient to move the tail), and (2) alteration of the centre of gravity. As to the weight, after all, it would not, perhaps, have to be more than the corresponding weight of the landing chassis on a real machine, while in general position it would correspond with the disposition of that weight. With regard to the centre of gravity, the difficulty could, perhaps, be overcome by experiment.

The idea could be applied in the same way to a model flying "elevator on," only in this case the connecting "wires" would not need to be crossed.

Of course, the tail need not necessarily be fixed at a right angle to the pendulum (as in sketch), but at any angle required. Interesting results, both with gliding and power models, should be obtained in this way.

ONLOOKER.

### A Question of Name.

[1479] Our attention has been called to an advertisement in the current issue of FLIGHT in which another firm are advertising model aeroplanes under a similar name to that used by ourselves for the last three months.

To avoid any possible confusion in the minds of readers of FLIGHT we would point out that the "Victor" model aeroplanes flown so successfully by Mr. A. B. Clark and Mr. L. Brough at the Lee Aerodrome were made entirely by the Victor Aero Co., and these models can only be obtained direct from us, as we have not appointed any agents.

VICTOR AERO CO.

VICTOR C. BENTLEY, Manager.

1, Railway Approach, Brockley, S.E.

### Natural Stability.

[1480] With reference to the letter of Mr. W. H. Booth (No. 1,469), like most of my critics—and I have a good many—he gives as reasons against my design a number of things which he says would occur, and quite ignores the fact that in my book, which possibly he has not read, I state plainly enough that I have only set forth things that actually have occurred. May I assure Mr. Booth that, before venturing into print, I spent some years in making hundreds of models of all sizes and weights, and testing them in all possible conditions, with the result that I found that none of the things which Mr. Booth prophesies ever happened. The only criticism I have ever seen which I think at all touches the practicability of the device is one that was given in a review in one of your contemporaries, which suggested that there would probably be a loss

of efficiency. I cannot deny this, as I have never been able to make a model having the centre of gravity and the thrust in the right place without using a gear, which, of course, means too much friction for any model to stand. But, naturally, I do not believe there would be any loss of efficiency; and if there was, it would be well lost in exchange for the absolute stability of the machine. As you remark, with regard to the Dunne machine, "the acquisition of a reasonably high degree of natural stability in aeroplanes would do more than anything else just now to revitalise other and older branches of the art, and also to bring new fields of activity into existence." I can greatly appreciate your attitude on this point as it stands out so clearly against that of some of your contemporaries, who contend that an aeroplane is already as stable as it needs to be, and persist in this absurd attitude in spite of the daily evidence of their own senses, fancying that in this way they may be able to persuade the public to take up flying as an ordinary form of sport. There is no need to exaggerate the dangers of aviation, as the ordinary newspapers seem to be quite capable of doing that, but on the other hand, surely no good end is to be served by shutting our eyes to the fact that aeroplanes are really capable of improvement in this, as in other respects.

With respect to Mr. Booth's sketch, he himself recognises that the lower half of his box kite duct "somewhat counteracts" the effect of the upper half, which is precisely the reason why I think it better to use only one half.

I think there is nothing else in Mr. Booth's letter that needs a reply, since we seem to be agreed as to the essentials of the device, but I would really like to know how, exactly, one can "close my irregular diamond panels in streamline form"? This, I must confess, is above my limit.

Maida Vale, W.

W. LE MAÎTRE.

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PUBLICATION RECEIVED.

*Stability in Aviation.* By G. H. Bryan, Sc.D., F.R.S. London: Macmillan and Co., Ltd. Price 5s. net.

✪ ✪ ✪ ✪

### Aeronautical Patents Published.

Applied for in 1910.

Published January 25th, 1912.

28,140. C. CONSTANTINI. Flying machines.

Applied for in 1911.

Published January 25th, 1912.

- 83. R. J. ISAACSON. Driving of aerial propellers.
- 1,605. N. A. THOMPSON. Aeroplanc.
- 9,155. A. KRUMHOLZ. Movable roof for airship garages.
- 11,697. A. J. A. DEPERDUSSIN. Aeroplanes.

### PRINCIPAL CONTENTS.

	PAGE
Editorial Comment	74
A Volunteer Motor Kite and Wireless Corps.	
Our Astonishing War Office.	
France, Britain, and Naval Aviation.	
The Sommer All-Steel Biplane. With scale drawings	76
A Summer Flight (Eastchurch, Sheppey)	77
Rough Drawings for a Bomb and Sight	78
Aeroplane Accident Statistics	79
Air Eddies. By "Oiseau Bleu"	80
Royal Aero Club Notes	81
From the British Flying Grounds	82
British Patents	85
Exploiting the Sahara Desert	86
Two-Passenger Records	86
Ae.C.F. Pilots	87
Airship and Balloon News	87
Foreign Aviation News	88
Kite and Model Aeroplane Association	89
Models. Conducted by V. E. Johnson, M.A.	90
Progress of Flight about the Country	91
Dr. Hankin's Lecture at the Aeronautical Society	93
Correspondence	94

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