

THE STABILIZING EFFECT OF THE STATIONARY TAIL:  
By Gardiner H. Bell.

Belton Brough, Oct. 14, 1908:- One of the great problems seems to be, where to put the horizontal control, or controls, and whether or not to use a tail.

Undoubtedly the front control is the most effective, and for this reason, if not handled properly is the most dangerous. It can cause a fore-downward plunge quicker than anything. But it can also check a plunge more effectively than a rear control. The action of the front control, however, is limited by the position and area of the tail, supposing there is one.

For example a horizontal tail ten feet in the rear of the machine will have a more stabilizing effect than a tail five feet in the rear; the cause for this is leverage. Hence the power of a front control will be less in the first case than in the second.

In case I then, the fore and aft stability will be increased and the power of the front control will be diminished. It is obvious that with a stationary tail the horizontal control must be in front. You don't want to increase your sustaining area from fore to aft, but you do want to increase your stability. Hence why is not a stationary horizontal tail, say fifteen feet in the rear a good thing? G.H.B.

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