

Sep 25 4

A. M. Herring Esq
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My dear Sir.

I thank you for requesting Mr French to send me your letter of 19th (to him); and having known of you since Feb 1 1892, when I cut out a paragraph concerning your experiments from a Rochester (N. Y.) paper, I hope to get into correspondence with you, especially after the many praises which I have heard from Mr French.

I am very much interested by your letter, and particularly gratified that you have repeated the experiments of Mr Lilienthal, which, while they seem to me to have advanced the solution of the question more than any hitherto tried, have left a misgiving in my mind that he has not yet observed all the conditions necessary for complete success.- Concerning this you can probably advise me.

I suspect that his apparatus requires constant personal interference to maintain the equilibrium, and that when a motor is added it will be more than a single man can do to run the motor and to preserve the balance at the same time; particularly if it be desired to change the course, either up or down or sideways.

In other words, I think that the equilibrium should be automatic; I believe it to be largely so in the soaring birds, and I imagine it can be obtained in an artificial machine.

Please tell me of the difficulties which you have encountered in gliding downward with your apparatus, and whether you consider that you could meet them and run the motor also.

I am amazed at the light weight of your wings (26 1/2 lbs) while Lilienthal's weigh 44 lbs, and a set designed by myself, (on a totally different plan however,) discouraged me with an estimated weight of some 90 lbs.

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I am also interested in knowing whether you have been troubled by the distortion of you surfaces while under way, or the fluttering of your fabric. Maxim had much trouble from these causes until he doubled his surfaces, and cut holes in the lower layer, to permit the pressure to distend the two apart. Partly perhaps because of this arrangement increasing the resistance, he seems to have lifted but: $10,000/363 = 28$ lbs. per H.P. in his recent flight.

It has seemed to me, as a result of my studies, that the next step after learning to glide downward, was to attempt to soar on the wind like the birds, and that the introduction of a motor was premature until soaring flight was mastered. I may however be mistaken in deeming soaring flight as comparatively easy, and it may [?] the most difficult point in the whole technique of flight. You seem by your article in No 3. of "Aeronautics" to have observed the birds; what is your opinion?

I regret very much not to have met you in New York. I would have told you of my recent visit to Mr Huffaker, in East Tennessee; to verify his assertion that the Buzzard soars in a dead calm. We found a current of 1 ft per second at the ground and estimated it at 5 ft per second where the buzzards were. I had seen them previously in Florida, maintain a personal speed of 30 ft a second, in a sea breeze of 7.5 ft per second.

Reply

O. Chanute