

# Correspondence

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## NORTHROP TAILLESS AIRCRAFT

### Wing-tip Design Modified

I WAS very interested to note that the Northrop tailless aircraft shown in a current news reel did not have wing tips with negative dihedral as shown in your issue of December 25, 1941.

It is quite possible that the negative dihedral tended to cause instability, and in any case normal ailerons would tend to act as rudders.

Or was I suffering from an optical illusion?

COLIN R. BARTY.

[Later photographs, one of which is published below, have since reached us showing a modified type without anhedral angle on the wing tips.—ED.]

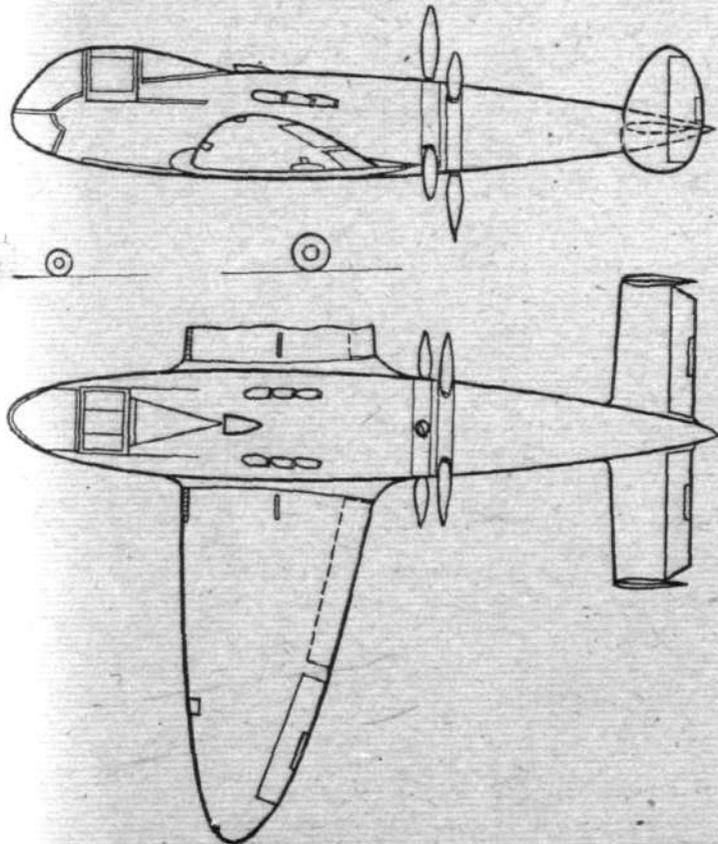


## FIGHTER DESIGN

### Another "Pusher" Possibility

SOME years ago I had ideas of a fighter of similar layout to that described by Mr. P. Taylor. The drawings I made were almost identical, except that on my design the nose was rather more streamlined.

But I soon discovered plenty of disadvantages. The control would suffer badly because of the absence of slipstream flowing



over the tail surfaces. Also there was the possibility of damage to the propellers when landing.

Feeling rather downhearted, I gave up the idea. Somehow it still haunted me. So I got down to it and evolved a new idea, the drawings of which I enclose.

The position of the propellers is not new—this idea was used on the Galaudet pusher in 1913—but it lends itself to greater efficiency than the "stern propeller."

Here are some of the advantages:—

- (1) The same advantages as in Mr. P. Taylor's design, but with better control.
- (2) Better weight distribution.
- (3) Less chance of damaging the propellers when landing.
- (4) Owing to the large propeller "hub," more blades could easily be added.
- (5) The "hub" could be used as a reduction gear.
- (6) No great length of shafting needed.

Disadvantages:—

- (1) The problem of baling out.
- (2) The expense of producing the propeller gear.

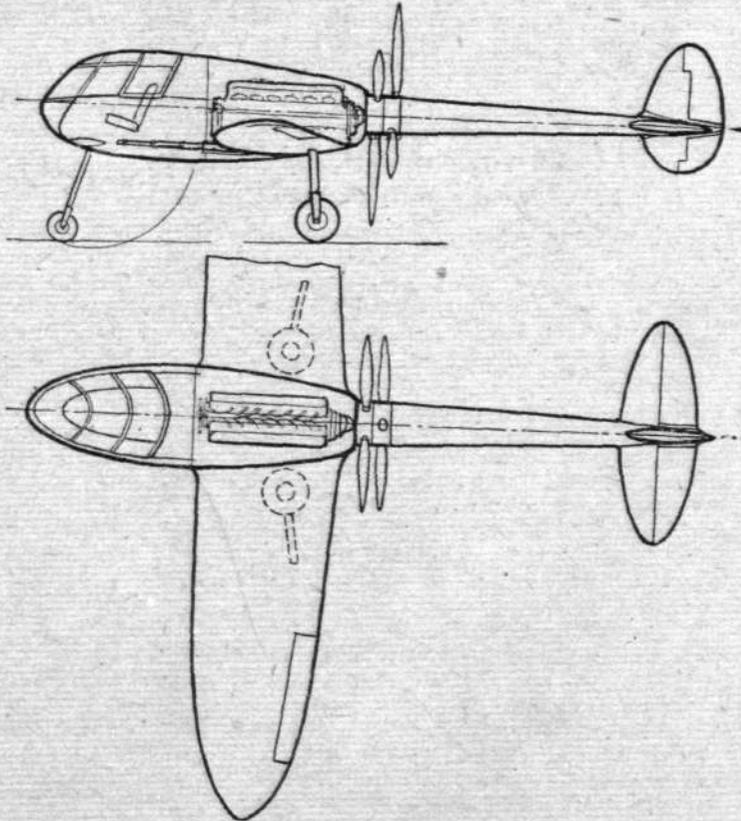
A machine of this type fitted with a barrel engine of 3,000 h.p. and with the pilot in the prone position is my idea of the ideal fighter.

R. CAMPBELL.

### Yet Another Suggestion

MY suggestion for an improved form of fighter is that the tail-unit be carried on a thin boom passing through the prop. boss. In effect, this would be equivalent to having the prop. rotating around the centre of the fuselage.

As the average prop. seems to have a boss of about 18in. and the blade roots of non-aerofoil section for about another 6in., it should be possible, with correct design, to run a shaft of about 18in. diameter through the prop. boss in a similar way



to the cannon in, say, the Airacobra. I doubt that cutting out the very non-effective centre of the prop. would cause much loss of thrust.

I should imagine that if the idea worked at all it would have many advantages over the conventional layout of the average fighter. For instance, the motor would be very near the C.G. as in the Airacobra, but without the complications of the shaft drive. It would also clear the nose of the machine for the cannon now coming into general use; fire concentration is better with grouped armament than spread along the wings.

This layout should give all the advantages of the twin fighter as to reloading, taking recoil and position near C.G.; without the complications of two engines, with their large weights out-