

An American Extravaganza

PUBLICITY in the United States once had a reputation shadowed. But America rarely declines a challenge for long. A war, even if it happens to be somebody else's, can serve as a fine stimulant to the imagination. And when that war opens the door to markets, there is good reason for harnessing that imagination to advance publicity.

Fantastic claims are periodically exported by America concerning the alleged performance of American-built aeroplanes. The latest and one of the most fantastic of these claims has been broadcast about the Bell P-39 Airacobra single-seat fighter (1,250 h.p. Allison liquid-cooled motor). Superficially it looks a beautiful aeroplane but in detail it is fantastic considered as a serious fighter.

The features of this aeroplane are the mounting of the motor in the centre-section of the fuselage driving the airscrew through shafting, the tricycle undercarriage and the armament,—one 37 mm. (1.457 in.) cannon firing through the airscrew hub and four synchronised machine-guns in the fuselage.

The span is 34 ft., length 29 ft. 9 ins., the maximum width of the fuselage 34 ins. The U.S. War Department identifies itself with the wonderful claims for this aeroplane by the allegedly "conservative" statement that the maximum speed of the Airacobra is more than 400 m.p.h. flying straight and level at an unspecified height, that the machine can "operate at an altitude above 36,000 ft.," has a cruising range of "over 1,000 miles" and a cruising speed of "approximately 325 m.p.h." Fully loaded the aeroplane is claimed to weigh "approximately 6,000 lb.," The wing loading is given as 28.3 lb. per sq. ft., which would make the wing area of the order of 212 sq. ft. on these figures,—compared with the 242 sq. ft. of the Spitfire and the 257 sq. ft. of the Hurricane.

We believe these figures to be absurd. The speed may be all right but the weight in particular is not possible with the big motor, the shaft drive, the tricycle undercarriage, the armament specified and the range and wing loading claimed. At the claimed loaded weight the Airacobra cannot have the range and the armament,—or if it has the range and armament it cannot have the speed and the small wing area.

The Airacobra seems to be a thoroughly ill-conceived aeroplane considered as a fighter, taken in general and in detail. The layout has all the disadvantages of the pusher,—no motor to protect the pilot but a motor ready to hit him in the small of the back when the nose-wheel folds up. It has also all the disadvantages of the tractor slipstream drag, the pilot looking through the airscrew disc and the armament tucked in the fuselage where the rate of fire of the machine-guns will be slowed down by the interrupter gear. The Airacobra has also a few special disadvantages peculiar to itself alone,—such as an unnecessarily long and heavy extension shaft and an air-intake which cannot be efficient.

The specification indicates that the Airacobra has the absurdly low aspect-ratio of 5.4—probably less because the weight of 6,000 lb. quoted must be an understatement.

OPTIMISM IN EXCELSIS.—The Bell Airacobra single-seat fighter (1,250 h.p. Allison motor)—a famed American photograph. A fantastic performance is claimed which can hardly be substantiated. The Airacobra has all the disadvantages of both the pusher and tractor layouts with some more of its own.

The span loading is very high indeed. The diameter of the airscrew seems to be a couple of feet less than it ought to be for real efficiency. None of these things affects the top speed but they do affect the climb which is the more important in a fighter.

The idea seems to be to get a spectacular top speed for advertising purposes at the expense of everything else. That is all right in America where they only use fighters for advertising purposes anyway. When they are exported for War they have to be modified to make them lethal.

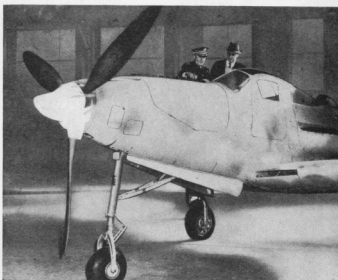
Turning to the weight problem, Mr. Bell and his Chief Designer, Mr. R. J. Woods, must have discovered some wonderful new law of nature if they can build an aeroplane which weighs no more than a Hawker Hurricane yet has more horse-power, radiators in the wings, about 800 lb. more fuel, a cannon, a tricycle undercarriage, a long extension shaft and a constant-speed airscrew.

If on the other hand, the U.S. War Dept. has conveniently dropped off 800 lb. or so weight from their "approximately 6,000 lb." then the wing area must be more, the Aspect Ratio even less, and the climb worse still. Otherwise the wing-loading is more than quoted, which has the same effect. If it is really only 28 lb. per sq. ft. the complication and weight of the tricycle undercarriage should not be necessary.

We may have done Mr. Bell and his associates and the U.S. Army Air Corps an injustice. If so we are sorry and we should like to know how the miracle has been performed and our own designers might as well pack up and go to the U.S.A. for instruction.

As a serious fighter the Bell is all wrong. We trust the British Purchasing Commission in the U.S.A. will not be hoodwinked into placing an order.

The more "wonderful" fighters are turned out abroad the better our own Hawker Hurricane and Supermarine Spitfire appear. They were designed as efficient fighting machines and have shown themselves to be such in practice.



INJUDICIOUS INGENUITY.—The Bell P-39 Airacobra being inspected at Washington by General Britt and the Secretary to the Treasury. The air-intake to the radiator in the wing-root, the air-scoop behind the cockpit, the slender nose-wheel and the small-diameter Curtiss airscrew are noticeable points. The Airacobra is in production for the U.S. Army Air Corps.