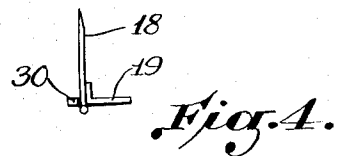
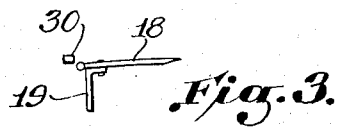
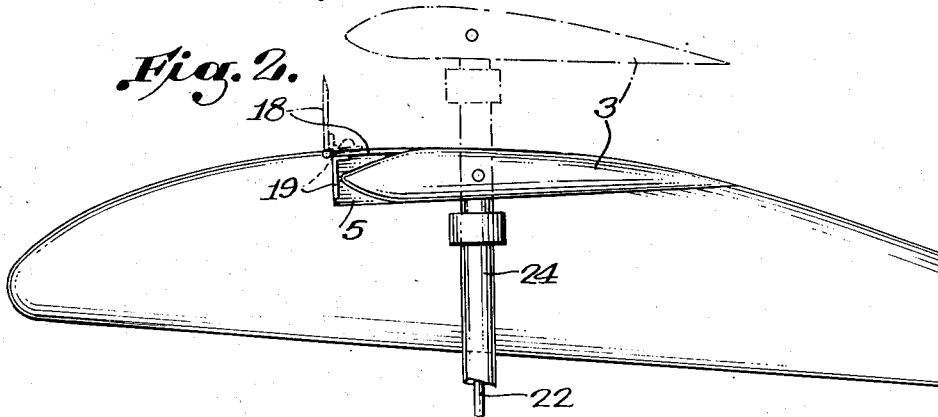
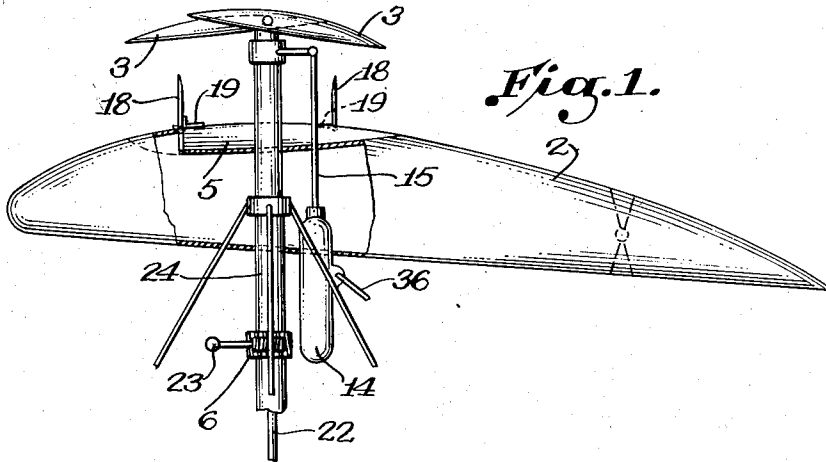


March 1, 1955

G. F. MYERS
HELICOPTER AIRPLANE
Filed Oct. 19, 1951

2,703,210



INVENTOR
GEORGE FRANCIS MYERS

1

2,703,210

HELICOPTER AIRPLANE

George Francis Myers, New York, N. Y.

Application October 19, 1951, Serial No. 253,430

1 Claim. (Cl. 244—6)

This invention relates to aircraft and has for its object to provide an aircraft with wings and fuselage, having a groove or channel mounted across the wings and fuselage into which the helicopter propeller is retracted when not in use, and the closure or cover closed and opened by contact of the propeller with the cover.

Among other objects that might be mentioned, are to produce an aircraft having a cover for the retractable propeller that is only wide enough to cover up the advancing edge of the same; and if the rotor be driven by a pair of ramjets or the like at or adjacent to the tips of the same all of the rotor is covered by the closure except the two ramjets which will project outside of the said channel containing the retracted or recessed rotor or helicopter propeller.

These and other objects and specific features, improvements and modifications will now be described, shown in the drawings and then pointed out more particularly in the appended claim.

Referring now to the accompanying drawings in which similar numerals of reference denote similar parts throughout the several views:

Fig. 1 is a side elevation on an enlarged scale of the cover or closure for the channel or groove along the top of the wings and fuselage with the propeller blades extracted and showing the mechanism for extracting the propeller as well as the means for turning the blades by hand when the blades are no longer rotated by the power of the engines.

Fig. 2 is a still larger side elevation of the wing showing the closure covering the advancing edge of the rotor in full lines and in dotted lines showing the position of the rotor when extracted.

Fig. 3 is an enlarged detail view of the cover or closure when the rotor is retracted.

Fig. 4 is a similar view to Fig. 3 showing the cover or closure in its position when the rotor is extracted from the channel.

The invention is constructed and operated substantially and preferably as follows:

The reference numeral 2 designates the wing, and 3 the rotor or helicopter propeller. A channel or groove or trench or box 5 extends lengthwise of the wings and across the fuselage and a closure covers the advancing edge of the rotor. When the power of the engines no longer rotates the rotor the blades may be rotated manually by the ratchet wheel 6.

14 is a high pressure container which through the rod 15 retracts the blades of the rotor into the wings and across the fuselage, only the forward or advancing edges of the blades are shielded by the cover; the rest of the blades fit into the box 5, the blades conforming substantially to the curve of the wing.

When the blades are being extracted the top of the blades strike the portion 18 of the cover and lifts up the same, the lower portion 19 follows the bottom of

2

the blades until the cover takes the position as in Fig. 4. When being retracted the bottom of the blades strikes the lower portion 19 and the top portion 18 follows downward and covers the forward portion of the blades only.

5 There is substantially no break in the continuity of the top surface of the wing. The pitch or angle of incidence of the blades is controlled by the rod 22 in any convenient manner. The ratchet mechanism is operated by the handle or lever 23.

10 The pilot when starting from the ground will manipulate the handle or lever 36 which will cause the rod 15 to lift up the rotor from out of the box 5 by the top or upper surface of the rotor pushing up the portion 18 of the cover out of the way until it stands as in Fig. 4 and engages the stop 30.

The rotor can now be rotated as desired. When it is desired to land the pilot operates the same lever but reversely, and the rotor will descend striking the lower part 19 of the cover and the rotor will be seated in the box. If in descending the rotor is not in line with the box, the pilot will ease the rotor one way or another by turning the ratchet 6 by the lever 23.

As my invention is in some of its aspects generic, I do not limit myself to the particular construction shown and described, but also contemplate the employment of such equivalents as fairly fall within the scope of the claim.

The lower portion 19 of the closure may be in one piece with the upper portion 18 thereof, or the same may be placed intermittently; any form or configuration of the fuselage or wing may be used; and while the mounting of the rotor is preferably as shown the same may be changed.

This application is a continuation-in-part of my companion application Serial No. 477,359, filed February 27, 1943, now Patent No. 2,575,886; the invention is also shown in my application Serial No. 165,945, filed September 27, 1937, and now abandoned.

Therefore it should be understood that various changes may be made in the form, proportion, size and detail of the structures shown and described, the number and position of certain elements used, as well as the character of the motive power employed, without departing from the spirit of the invention.

I claim:

The combination in a flying machine, of a retractable helicopter propeller blade having a curved upper surface, a wing having a space therein to receive the propeller blade, a closure for the space, said closure comprising an elongated member, angular in cross section, and means hingedly connecting said closure member to the upper portion of the wing at the edge of said space occupied by the leading edge of the propeller blade when in retracted position, whereby the leading edge of the propeller blade, when in retracted position, lies between the legs of the angular closure member, and the upper leg of the closure member rests against the upper surface of the propeller blade thereby completing the upper contour of the wing.

References Cited in the file of this patent

UNITED STATES PATENTS

1,834,254	Reid	Dec. 1, 1931
1,851,368	Morse	Mar. 29, 1932
1,923,110	Morse	Aug. 22, 1933
2,008,843	Smith	July 23, 1935
2,094,105	Myers	Sept. 28, 1937

FOREIGN PATENTS

100,887	Australia	Apr. 27, 1937
---------	-----------	---------------