

A. L. FLATTUM.
AERIAL PROPELLER.
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1,344,496.

Patented June 22, 1920.

Fig. 1.

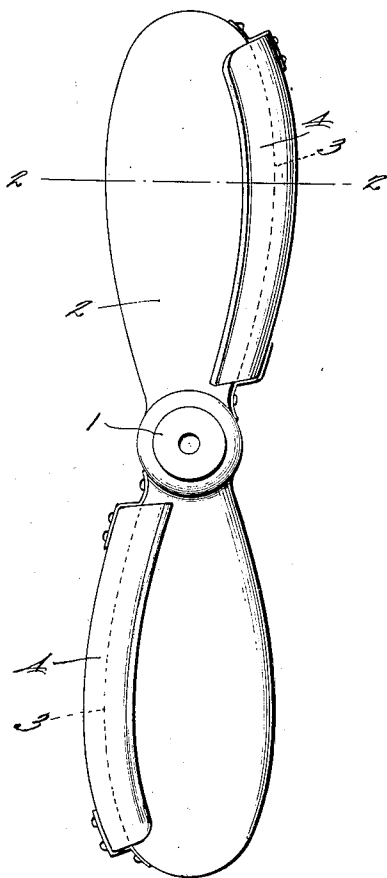
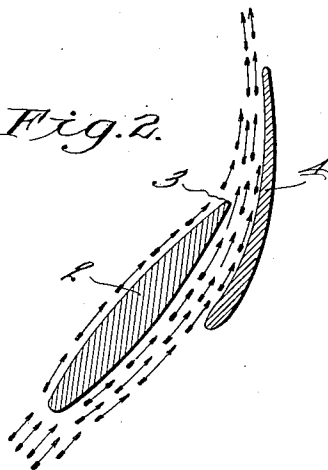


Fig. 2.



Witnesses
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AERIAL PROPELLER.

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To all whom it may concern:

Be it known that I, ALBERT L. FLATTUM, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented new and useful Improvements in Aerial Propellers, of which the following is a specification.

This invention relates to aerial propellers, the same being especially designed for the propulsion of aircraft.

The object of the invention is to produce a propeller embodying a novel blade arrangement by means of which the air acted upon by the blades of the propeller is deflected after leaving the main bodies of the blades and directed in a true rearward direction from the propeller and the aircraft actuated thereby, thereby imparting increased efficiency to the propeller or enabling the same efficiency to be obtained by a propeller of relatively smaller size.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts, herein fully described, illustrated and claimed.

In the accompanying drawings:—

Figure 1 is a front elevation of an aerial propeller embodying the present invention.

Fig. 2 is a cross section through one of the blades on the line 2—2 of Fig. 1.

In illustrating the present invention, I have shown the same as applied to a propeller embodying two blades, but it will be apparent that the invention may be used in conjunction with a propeller having any desired number of blades.

In the drawings 1 designates the hub of the propeller and 2, as they may be termed, the main sections of the blades.

Extending substantially parallel to the trailing edge 3 of each blade of the propeller, is an auxiliary blade or blade section 4. The auxiliary blade or section 4, as shown in Fig. 2, is pitched at a greater angle than the main section or blade 2. This is very clearly illustrated in Fig. 2 and it will be observed that the air driven rearwardly

by the section 2 of the blade, after leaving the trailing edge thereof, is deflected more directly to the rear thereby confining the volume of air thrust rearwardly from the propeller as a whole to a smaller zone or area. This adds to the efficiency of the propeller. Furthermore the currents of the air gathered in by the propeller and passing along the forward side of the main blade or section 2, pass between the sections 2 and 4 and augment the supply of air delivered from the rear side of the blade or section 2. The blade sections 2 and 4 will preferably be of the usual parabolic curvature in cross section or in other words each blade section will comprise a concaved side and a convex side. This will insure the gathering of the air on the convex or forward side of the blade section 2 and the subsequent action on the air of the concaved side of the blade or section 4. This still further increases the efficiency of the propeller as a whole. By terminating the tip of the auxiliary blade short of the tip of the main blade, air flowing inwardly along the tip of the main blade toward the hub of the propeller may pass freely under the tip of the auxiliary blade, further increasing the efficiency and thrust of the propeller.

I claim:—

1. A propeller, the combination of a hub and blades radiating therefrom, each blade comprising a main section and an auxiliary section having a greater pitch and arranged in spaced relation to the main section and said auxiliary section having its inner end spaced from the hub.

2. A propeller comprising a hub, blades radiating therefrom, an auxiliary blade for each main blade and means for supporting the auxiliary blade in spaced relation to the trailing edge of the main blade with its inner end spaced from the hub and its outer end spaced inwardly from the outer end of the blade.

In testimony whereof I affix my signature.

ALBERT L. FLATTUM.