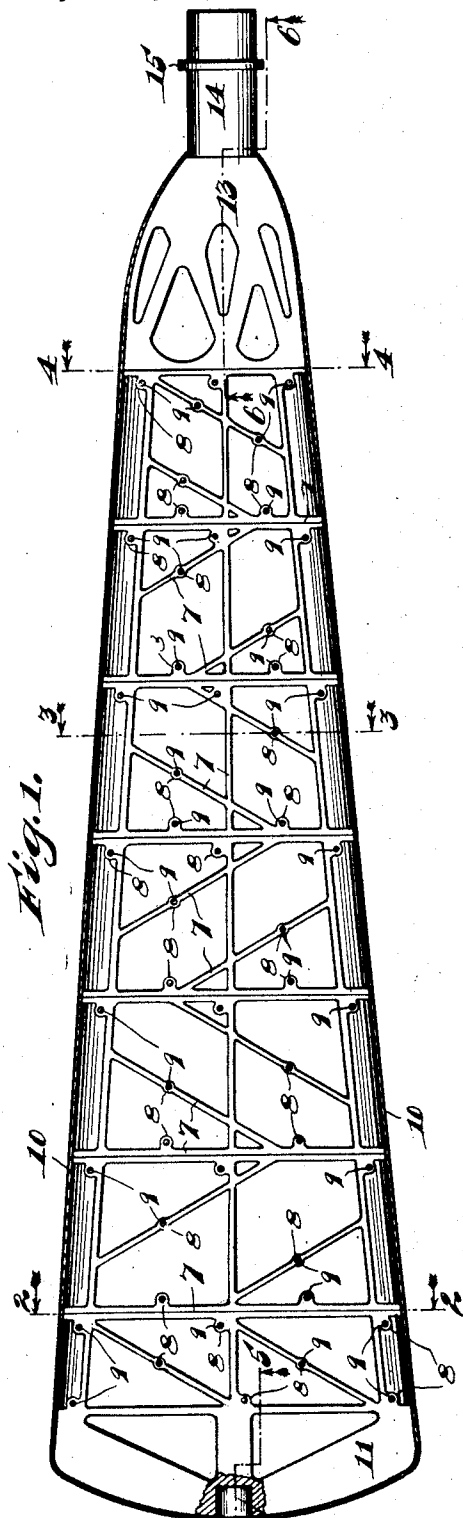


V. H. LEINWEBER.
PROPELLER BLADE.

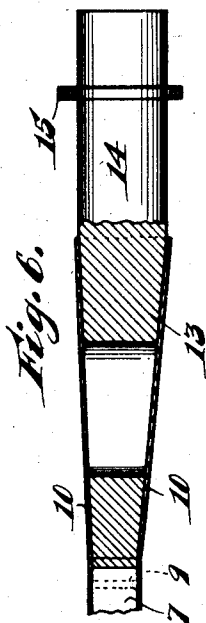
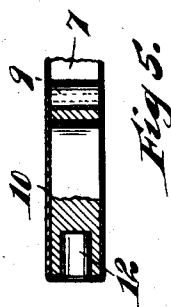
APPLICATION FILED JUNE 26, 1918.

1,344,640.

Patented June 29, 1920.



Witnesses:
C. E. Wessels.
B. G. Richards



Inventor:

Victor H. Leinweber,
By Joseph M. H. Foss
his Attorney.

UNITED STATES PATENT OFFICE.

VICTOR H. LEINWEBER, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO CONTINENTAL AIR CRAFT & TRANSPORTATION COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ARIZONA.

PROPELLER-BLADE.

1,344,640.

Specification of Letters Patent. Patented June 29, 1920.

Application filed June 26, 1918. Serial No. 242,018.

To all whom it may concern:

Be it known that I, VICTOR H. LEINWEBER, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Propeller-Blades, of which the following is a specification.

My invention relates to improvements in propeller blades, especially adapted for use on aeroplanes, airships, and the like, and has for its object the production of an improved construction of propeller blades whereby strong and durable blades may be conveniently and economically made out of metal.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which:

Figures 1, is a longitudinal section of a propeller blade embodying the invention.

Fig. 2, an enlarged section taken on line 2—2 of Fig. 1,

Fig. 3, an enlarged section taken on line 3—3 of Fig. 1,

Fig. 4, an enlarged section taken on line 4—4 of Fig. 1,

Fig. 5, an enlarged section taken on line 5—5 of Fig. 1, and

Fig. 6, an enlarged section taken on line 6—6 of Fig. 1.

The preferred form of construction, as illustrated in the drawings, comprises an interior framework made up of open frame sections 7 preferably of aluminum or other light metal cast in the forms indicated, and secured together at their joining edges by electrical welding, brazing, or the like. At intervals the various frames 7 are provided with suitable lugs 8, having rivet holes extending therethrough, adapted to receive and accommodate rivets 9 which serve to secure an outer shell or envelop 10 thereto, as indicated. The outermost section 11 of the frame is provided with a central pivotal socket 12 adapted to receive a pivoting stud or pintle for pivoting the blade for angular adjustments to vary the pitch thereof. Likewise, the innermost section 13 is

equipped with a shaft or axle extension 14 having an annular central collar 15, which is adapted to be mounted in a suitable bearing to cooperate with the socket 12 for such adjustment.

By this arrangement, a metal propeller blade may be readily made which is strong and serviceable in use and comparatively light in weight.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A propeller blade comprising an interior openwork frame comprising a plurality of sections each of which extends the width of the interior of the blade; and an exterior shell inclosing said frame, substantially as described.

2. A propeller blade comprising an interior openwork metallic frame comprising a plurality of sections each of which extends the width of the interior of the blade; and an exterior metallic shell inclosing said frame, substantially as described.

3. A propeller blade comprising an interior openwork frame made in sections secured together and each extending the width of the interior of the blade; and an exterior shell inclosing said frame, substantially as described.

4. A propeller blade comprising an interior openwork metallic frame made in sections secured together; and an exterior metallic shell inclosing said frame, substantially as described.

5. A propeller blade comprising an interior openwork metallic frame made in sections secured together, there being a pivotal socket formed in the outermost section; a pivotal axle on the innermost section; and in exterior metallic shell covering and inclosing said frame and secured thereto by means of rivets extending therethrough, substantially as described.

6. A propeller blade comprising an interior openwork frame made in sections, said sections abutting each other and secured together, and an exterior shell, inclosing said frame and secured thereto.

7. A propeller blade comprising an interior openwork metallic frame made in sections, said sections abutting each other and secured together and an exterior me-

tallic shell inclosing said frame and secured thereto. 10

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

VICTOR H. LEINWEBER.

Witnesses:

JOSHUA R. H. POTTS.

HELEN F. LILLIS.