July 22, 1930. J. WOLL 1,771,365

AEROPLANE PROPELLER

Filed Sept. 29, 1927

Fig. 1.

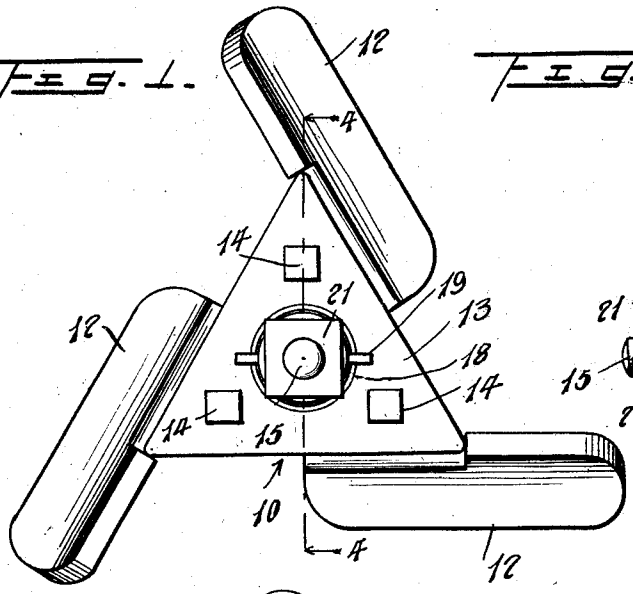


Fig. 2.

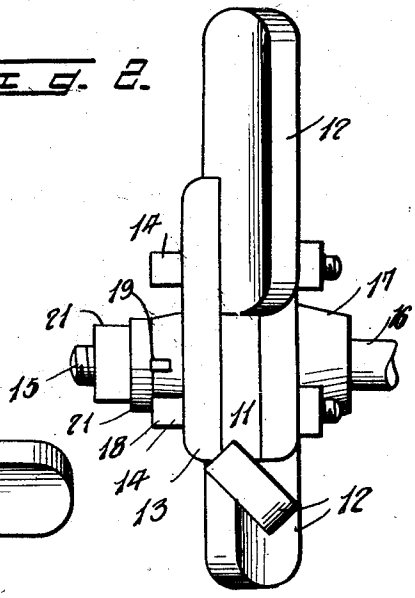


Fig. 3.

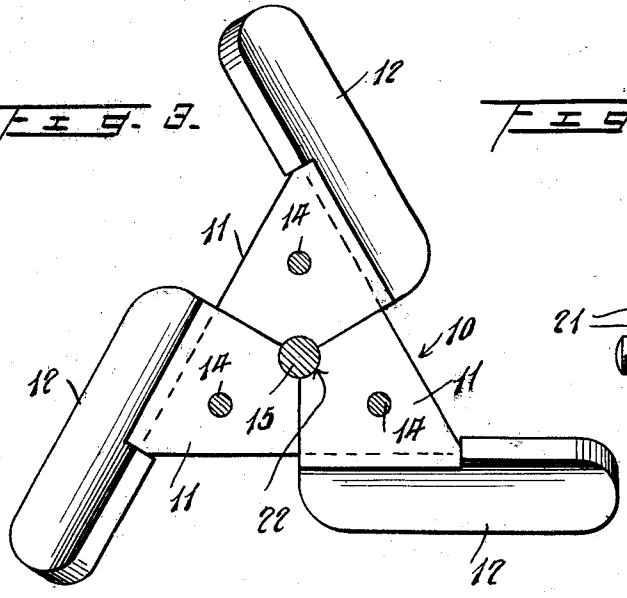
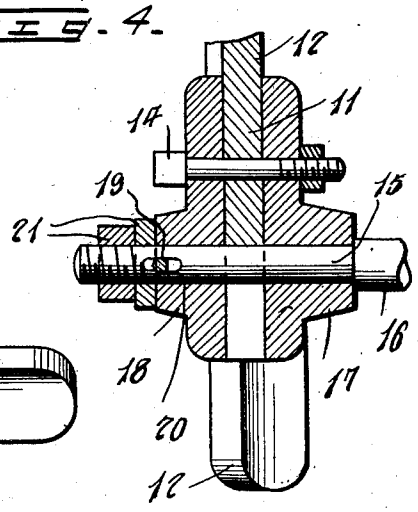


Fig. 4.



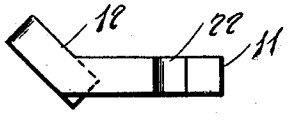


Fig. 5.

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UNITED STATES PATENT OFFICE

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AEROPLANE PROPELLER

Application filed September 29, 1927. Serial No. 222,810.

This invention relates to a propeller primarily adapted for aeroplane use.

It is aimed to provide an exceedingly simple construction, which is efficient and durable and wherein the blades may be readily removed and replaced.

Another object is to provide a particular construction wherein the propeller substantially forms a triangle with the blades extending at least one-half the length of a side of the triangle so as to give maximum wind pressure and have two ways of forcing or impinging against the wind.

The more specific objects and advantages will become apparent from a consideration of the description following taken in connection with accompanying drawings illustrating an operative embodiment.

In said drawings:—

Figure 1 is a view of the propeller in front elevation;

Figure 2 is an edge view thereof, with parts partly broken away and in section to disclose details;

Figure 3 is an elevation similar to Figure 1 but with the fastening elements partly removed and in section;

Figure 4 is a sectional view taken on the line 4—4 of Figure 1, and

Figure 5 is an edge view of one of the blades.

Referring specifically to the drawings, the propeller is made up of three or more blade elements 10 each comprising attaching plate portions 11 and blades proper 12, integral therewith. It will be noted that the blades 12 are disposed at an angle of 45° with respect to the plates 11 and are approximately twice as long as the plates.

In assembling the blade members, they are arranged with the plates 11 in the same plane as shown particularly in Figure 3 so as to form a triangle and the blades 12 extend at least half way along the sides of said triangle. The meeting edges of the plates 11 are in diverging relation as shown particularly in Figure 3. On opposite sides of the plates 11, triangular securing plates 13 are provided and they are secured together and to the plates 11 by means of removable bolts 14. Extending through the securing plates 13 and at the center of the triangle formed by plates 11, is a shaft 15, such shaft having a shoulder at 16 against which a hub 17 on one of the securng plates 13 abuts. A hub 18 is provided on the other securing plate and a detachable key 19 extends through a slot 20 therein and through the hub 18, whereby the propeller is connected to the shaft against relative turning movement. Nuts 21 are threaded on the shaft 15 beyond the hub 18 and one serves as a lock for the other.

The portions of the plates 11 engaging the shaft 15 are arcuate as at 22 in order to fit the same.

While the triangular formation illustrated is preferred, it is to be understood that I do not limit myself to the use of three of the members 10 since any desired number may be provided with the plates 13 shaped accordingly.

Various changes may be resorted to provided they fall within the spirit and scope of the invention.

I claim as my invention:—

1. A propeller having one-piece blade members, each blade member consisting of an attaching plate and a blade longer than the same disposed at an angle to the plane thereof and at one side edge thereof, and means securing the attaching plates in edge contact and in substantially the same plane.

2. A propeller having one-piece blade members, each blade member consisting of an attaching plate and a blade disposed at an angle thereto, said attaching plates extending laterally from one side of the blades, and means securing the blade members in edge contact and in substantially the same plane, said edges having arcuate portions to accommodate a shaft.

3. A propeller comprising one-piece blade members, said members comprising attaching plates and blades straight throughout and longer than said plates and disposed at an angle thereto, said blades being arranged tangentially with respect to a circle described from the center of the propeller, said plates extending laterally from said blades and

having diverging edges, said edges being arranged in contact, securing plates disposed against the first mentioned plates, fastening elements detachably connecting the first mentioned plates and securing plates.

In testimony whereof I affix my signature.

JOSEPH WOLL.