Sept. 29, 1925. 1,555,043

A. WAGNER

PROPELLER

Filed May 31, 1924

Fig. 1.

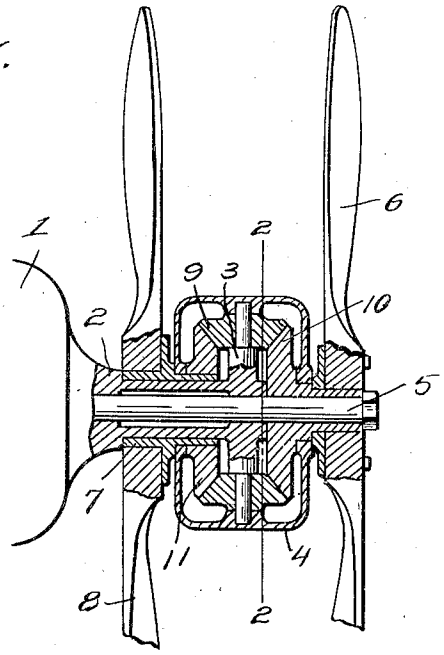
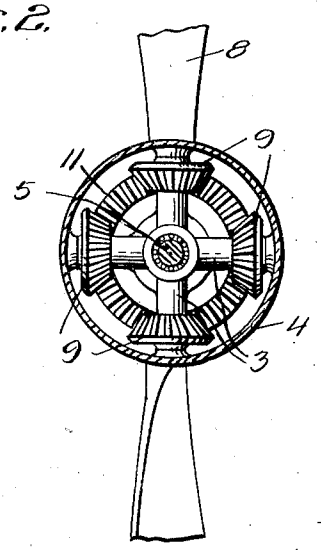


Fig. 2.



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UNITED STATES PATENT OFFICE.

ALFRED WAGNER, OF WHITTEMORE, IOWA.

PROPELLER.

Application filed May 31, 1924. Serial No. 717,188.

To all whom it may concern:

Be it known that I, ALFRED WAGNER, a citizen of the United States, residing at Whittemore, in the county of Kossuth and State of Iowa, have invented certain new and useful Improvements in Propellers, of which the following is a specification.

This invention relates to propeller structures, and it consists in the novel features hereinafter described and claimed.

An object of the invention is to provide in a propeller structure a pair of sets of propeller blades, with means for simultaneously rotating the sets in opposite direction whereby the blades will cleave the air, in opposite directions, thus preventing side draft and assist in balancing the aeroplane to which the propeller is attached.

A further object is to provide a propeller structure, which will develop maximum power and speed.

In the accompanying drawing,

Figure 1 is a side elevation of the propeller structure, with parts thereof broken away, and parts in section.

Figure 2 is a transverse sectional view, cut on the line 2—2 of Figure 1.

The propeller structure comprises a housing 1, having a bearing 2, and a spider 3, mounted upon the bearing. The housing 4 is carried by the spider. A shaft 5 is journalled in the bearing 2 and a set of propeller blades is mounted at the end of the said shaft 5. A hub 7 is journalled upon the bearing 2 and a set of propeller blades 8 is mounted upon the hub 7. The air cleaving edges of the blades 8 are disposed in an opposite direction from the direction in which the air cleaving edges of the blades 6 are disposed. Bevelled pinions 9 are journalled upon the arms of the spider 3, and mesh at one side with the bevelled gear wheel 10, which is mounted upon the shaft 5. The bevelled gear wheel 11 is mounted upon the hub 7 and meshes with the pinion 9 at the opposite sides thereof, from the sides at which the said pinions mesh with the gear wheel 10. In other words, the gear wheels 10 and 11 are located at the opposite sides of the spider 9.

Therefore, it will be seen that as the shaft 5 rotates, the blade 6 will be rotated in one direction, and the blades 8 will rotate in an opposite direction. Therefore the said blades cleave the air in opposite directions. With the arrangement described, maximum power may be gained, and the set of blades in advance will crowd the air back toward the set of blades at the rear, thereby rendering the air denser at the rear set of blades and affording better resistance for the blades to work upon.

Having described the invention, what is claimed is:

A propeller structure comprising a housing, a bearing extending through one side of the housing and provided with a spider located in the housing, a shaft extending through the housing, the bearing, and the spider, blades fixed to the shaft on one side of the housing and having their cleaving edges disposed in one direction, a hub journaled upon the bearing and extending through the other side of the housing, a set of blades mounted upon the hub on the other side of the housing and having their cleaving edges disposed in an opposite direction from that in which the edges of the first mentioned blades are disposed, beveled gears carried by the spider, a beveled gear meshing with the beveled spider gears and rotatable with the shaft and a second beveled gear meshing with the beveled spider gear and rotatable with the hub whereby the sets of blades are rotated in opposite directions upon rotation of the shaft.

In testimony whereof I affix my signature.

ALFRED WAGNER.