Nov. 22, 1932. G. LAUSZAT 1,888,681

PROPELLER

Filed April 25, 1931

Fig. 4.

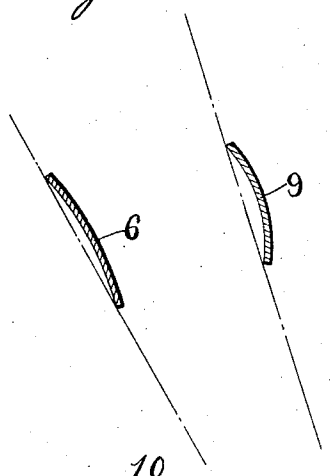


Fig. 1.

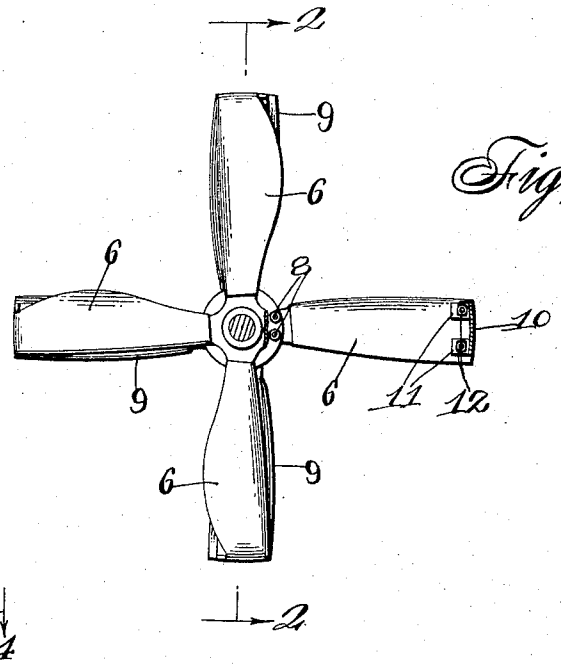


Fig. 2.

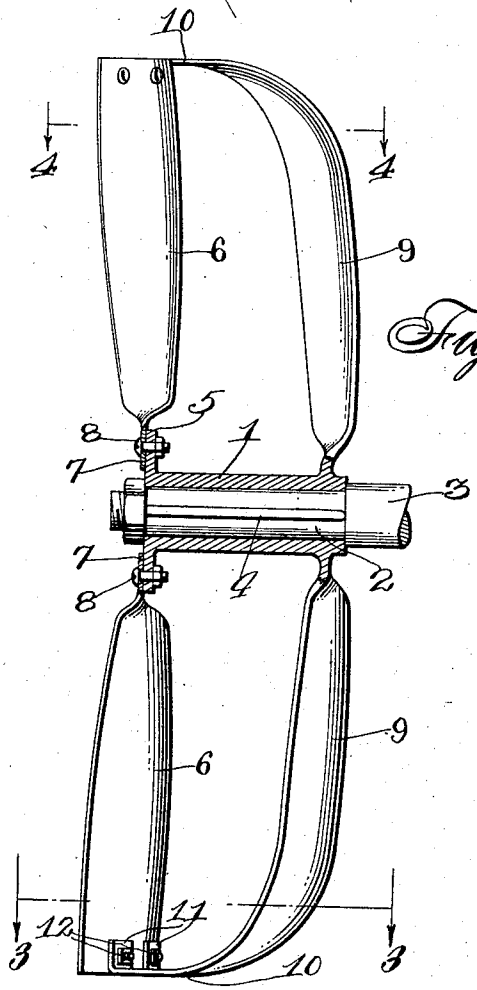
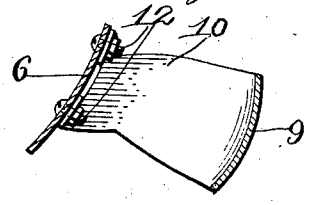


Fig. 3.



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UNITED STATES PATENT OFFICE

GUSTAV LAUSZAT, OF MILWAUKEE, WISCONSIN

PROPELLER

Application filed April 25, 1931. Serial No. 532,960.

This invention relates to improvements in propellers.

One of the objects of the present invention is the provision of a propeller of the double blade type, wherein the blades are arranged one in advance of the other, with one blade provided with a slightly greater curvature than the other blade to increase the action of the blades on the fluid.

Another object of the present invention is the provision of a propeller of the double blade type, wherein the outer ends of one set of blades are curved toward the other blades and attached thereto, and the curvature of the individual blades is such as to provide for the use of the blades on any type of fluid, and the blades are so arranged as to increase the pushing or pulling power of the blades in accordance with the direction in which they are rotating.

A further object of the present invention is the provision of a propeller comprising two opposed sets of blades, one arranged in advance of the other, with one set of blades having their outer ends connected to the other set, and wherein the blades are readily adapted for use for propelling airplanes, boats, or for other similar uses.

With the above and other objects in view, the invention consists in the novel features of construction, the combination and arrangement of parts hereinafter more fully set forth, pointed out in the claims and shown in the accompanying drawing wherein:

Figure 1 is a front elevation of a propeller constructed in accordance with my invention, with parts thereof broken away and illustrated in cross section;

Figure 2 is a sectional view on the line 2—2 of Figure 1, with the blades in elevation;

Figure 3 is a detailed section on the line 3—3 of Figure 2; and,

Figure 4 is a detailed section on the line 4—4 of Figure 2.

In constructing a propeller of this type, it is to be understood that the pitch of the blades can be varied according to the use of the propeller, and while the propeller in the present instance is disclosed at a certain angle of pitch and curvature of the different blades, it will be readily apparent that changes can be made when the device is put into practice.

As shown in Figure 2, the propeller consists of two opposed sets of blades, mounted upon a single sleeve 1. This sleeve 1 can be mounted upon the reduced portion 2 of a driven shaft 3 and the reduced portion is provided with a key 4, whereby the sleeve 1 can be keyed to the shaft.

In constructing the propeller, it will be apparent that the blades may be formed integral with the sleeve 1 or detachably connected thereto, and in the present instance, the sleeve 1 is formed at one end with an annular flange 5, and the forward set of blades generally indicated at 6, are provided with attaching ends 7 adapted to be arranged in intimate contact with the flange 5 and bolted or otherwise connected thereto by means of the bolts 8.

In Figures 3 and 4, the curvature of the blades is illustrated and it will be noted that the blades 6 are provided with a slight arcuate curve and at the same time are disposed at an angle relative to the sleeve 1. The second set of blades generally indicated at 9 are in the present instance formed integral with the sleeve 1 and this second set of blades is preferably spaced a predetermined distance from the blades 6 and have their outer ends formed with a laterally disposed portion 10 directed toward the blades 6. The outer ends of the laterally disposed portions 10 are provided with apertured ears 11, whereby the bolts 12 or similar fastening members may be used for connecting the laterally disposed portions 11 of the outer ends of the blades 6. It will be noted that by curving the outer ends of the blades 9 toward the blades 6, the fluid during the rotation of the propeller, will have a tendency to be directed inwardly toward the shaft 3 and thus provide the least resistance. If both of the sets of propeller blades were of the same type as the blades 6, the fluid would be carried back in a comparatively large volume, offering considerable resistance to the atmosphere when used on an aeroplane, or when used in water for propelling a boat,

the large volume of water being directed rearwardly would contact with a large surface of the body of the water, and the power of the propeller is increased by causing the fluid to be directed toward the central shaft 3 and concentrated into a small volume to offer a minimum amount of resistance.

Propellers of this type can be used for a great many purposes and due to the increased curvature of the blades 9 of the second set of blades, a greater volume of fluid will be acted upon, so that when the propeller is used for pulling, such as would be the case if the device was used on an aeroplane, the two sets of blades will engage a greater amount of fluid and thus increase the pulling power. However, the air or fluid which is directed back toward the body of the aeroplane during propulsion is concentrated around the shaft 3, thus offering less resistance than if both sets of propellers were of the same style and shape.

In the present instance, the two sets of propellers are shown attached to the sleeve 1 in two different ways. However, the blades 6 can also be formed integral with the sleeve 1 in the same manner as the blades 9, or the blades 9 could also be detachably connected to sleeve 1 the same as the blade 6.

While I have shown and described the preferred embodiment of my invention, it will be apparent from the foregoing that slight changes may be made in the construction when putting the invention into practice without departing from the spirit of the same or the scope of the appended claims.

I claim:

1. A propeller comprising a bearing sleeve, opposed sets of spaced propeller blades carried by said bearing sleeve, each set of blades including radially extending elongated substantially parallel body portions, the body portions of one set of blades being provided with a greater transverse curvature than the other set of blades.

2. A propeller comprising a single bearing sleeve, propeller blades arranged in spaced opposed sets and carried by the sleeve, each set of blades including radially extending elongated substantially parallel body portions, the body portions of one set of blades having a greater transverse curvature than the other set, the tips of the blades having the greatest transverse curvature being curved laterally and forwardly toward the tips of the blades of the other set, and means for connecting the tips of the blades of the two sets together.

3. A propeller comprising a bearing sleeve, spaced sets of propeller blades connected to said bearing sleeve, each set of blades including radially extending elongated substantially parallel body portions, the body portions of one set of blales being provided with a greater transverse curvature than the body portions of the blades of the other set, the set of blades having the greatest transverse curvature having their tips curved forwardly toward the tips of the other set, and means detachably connecting the tips of the two sets of the blades.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin.

GUSTAV LAUSZAT.