Feb. 23, 1932. J. A. BENSON 1,846,468

AEROPLANE PROPELLER

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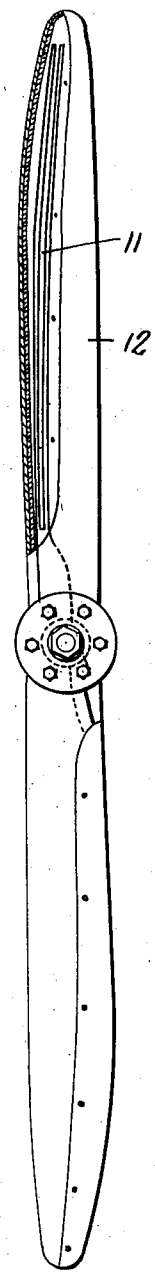


Fig. 1.

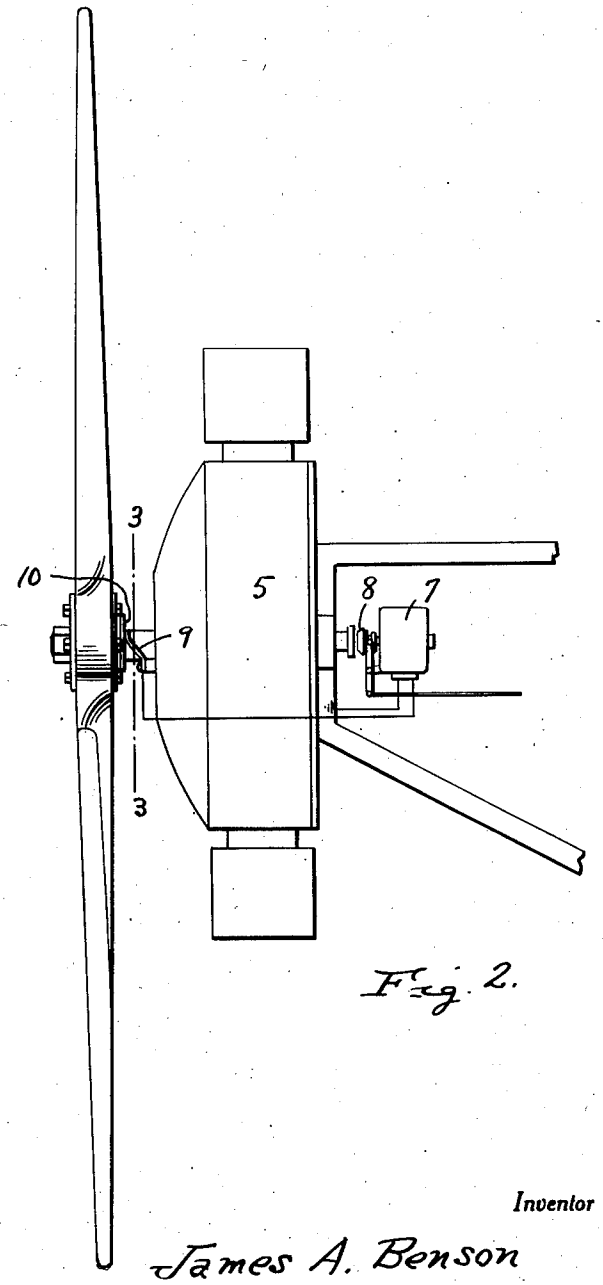


Fig. 2.

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Fig. 3.

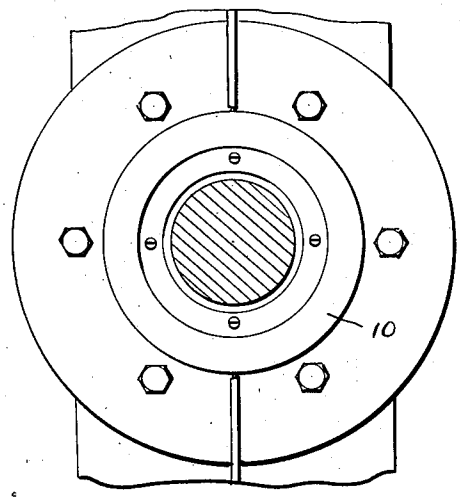


Fig. 4.

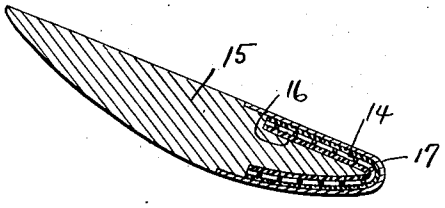
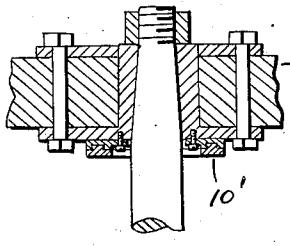


Fig. 5.



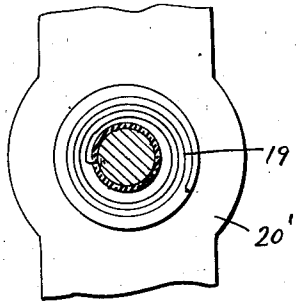


Fig. 7.

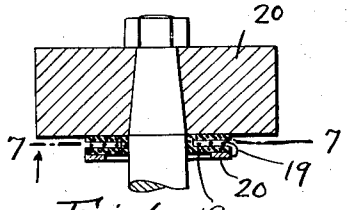


Fig. 6.

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Patented Feb. 23, 1932 1,846,468

UNITED STATES PATENT OFFICE

JAMES A. BENSON, OF MINERAL POINT, WISCONSIN

AEROPLANE PROPELLER

Application filed August 29, 1930. Serial No. 478,763.

The present invention relates to an aeroplane propeller and has for its prime object to provide means for heating the propeller in such a manner as to prevent the formation of ice thereon when there is moisture in the air at extremely low temperatures.

Another very important object of the invention resides in the provision of heating means for aeroplane propellers embodying the features of simplicity, durability, inexpensiveness of operation and installation, reliability and efficiency and being otherwise well adapted to the purpose intended.

With the above and numerous other objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a sectional elevation of a hollow propeller embodying the features of my invention,

Figure 2 is a side elevation of a propeller assembly,

Figure 3 is a sectional view taken substantially on the line 3—3 of Figure 2,

Figure 4 is a transverse section through a blade using a cap on the leading edge thereof,

Figure 5 is a sectional view through the hub portion thereof,

Figure 6 is a sectional view through the hub portion of a solid blade propeller structure of the all metal type, and

Figure 7 is a sectional view taken substantially on the line 7—7 of Figure 6.

Referring to the drawings in detail it will be seen that the numeral 5 denotes an engine having a crank shaft 6 on the rear end of which is a generator 7 having a clutch operating connection 8 with the shaft 6 so as to be brought into operation when needed. A finger 9 is inserted with the generator and impinges against the collector ring 10 in circuit with heating elements 11 in a hollow propeller structure 12.

In Figures 4 and 5 I have shown a collector ring 10′ in circuit with heating element 14 disposed on the leading edge of the wooden blade 15 in suitable insulation 16 and under the metal or pigskin cap 17 usually provided on the leading edges of this type of propeller.

In Figures 6 and 7 I have shown a spool of insulating material 18 with a heating element 19 incorporated therein and an electrical contact for engagement with the collector ring 20. This type is used on a solid propeller structure 20′ usually of metal.

It is thought that the construction, utility and advantages of this invention will now be quite apparent to those skilled in this art without a more detailed description thereof.

The present embodiments and installations of the invention have been disclosed merely for the purpose of exemplification since in actual practice they attain the features of advantage enumerated as desirable in the statement of the invention and the above description.

It will be apparent that changes in the details of construction, and in the combination and arrangement of parts may be resorted to without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described my invention, what I claim as new is:

In combination with a propeller of an aircraft having wooden blades and caps on the leading edges thereof, and heating elements embedded in installation on the leading edges under the cap.

In testimony whereof I affix my signature.

JAMES A. BENSON.