Oct. 20, 1931. S. E. NORTON 1,828,613

ICE REMOVING SYSTEM

Filed July 26, 1930 2 Sheets-Sheet 1

Fig. 1.

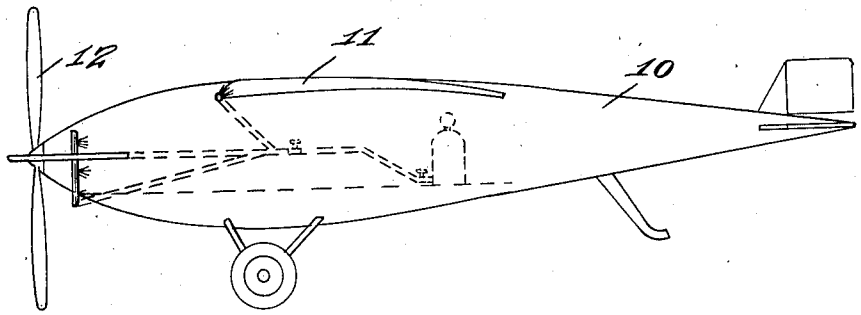
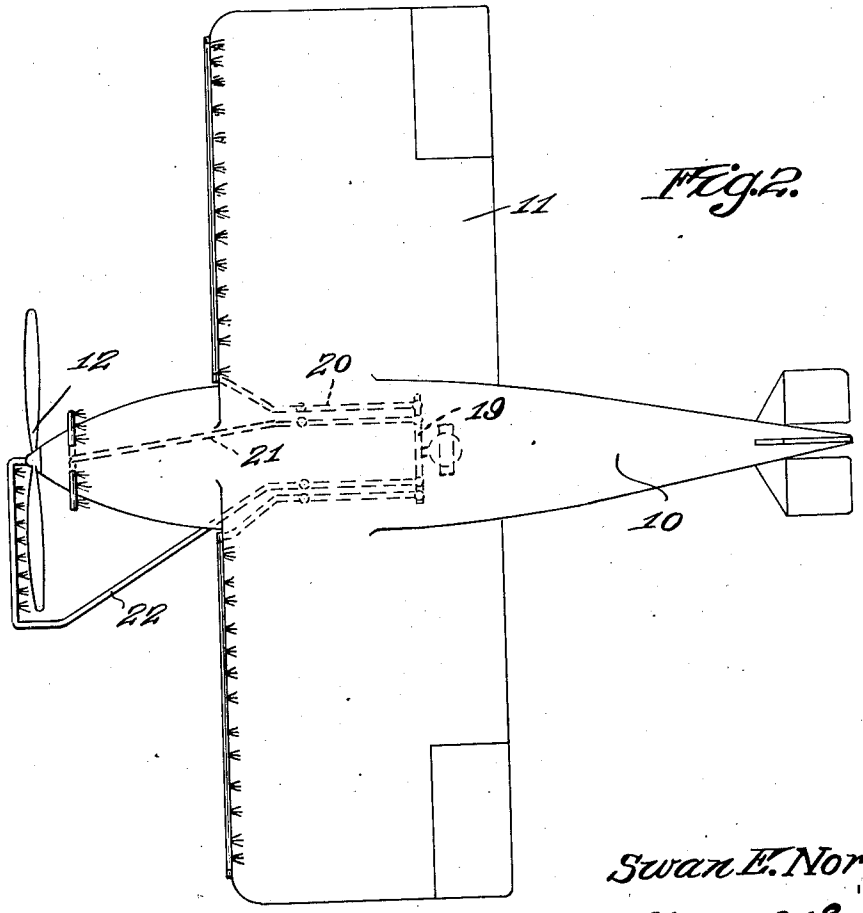


Fig. 2.



Swan E. Norton,
INVENTOR

BY Victor J. Evans
ATTORNEY

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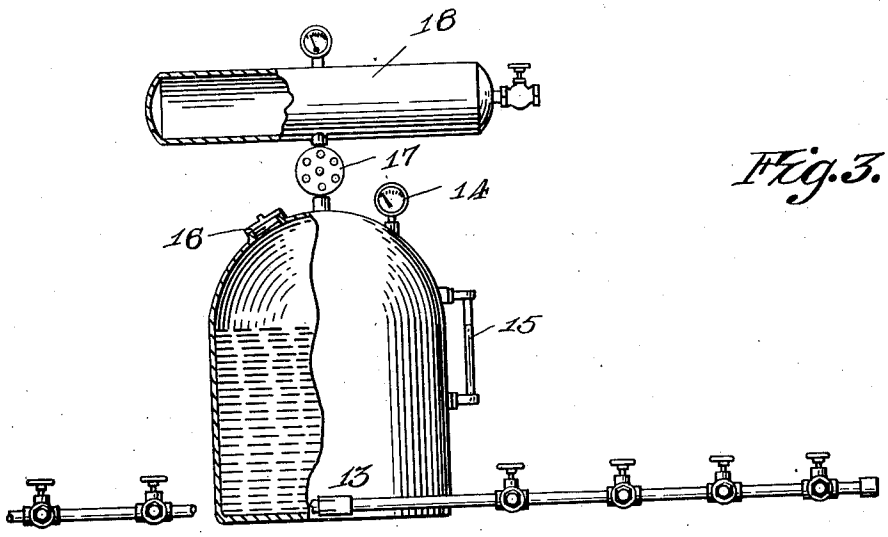
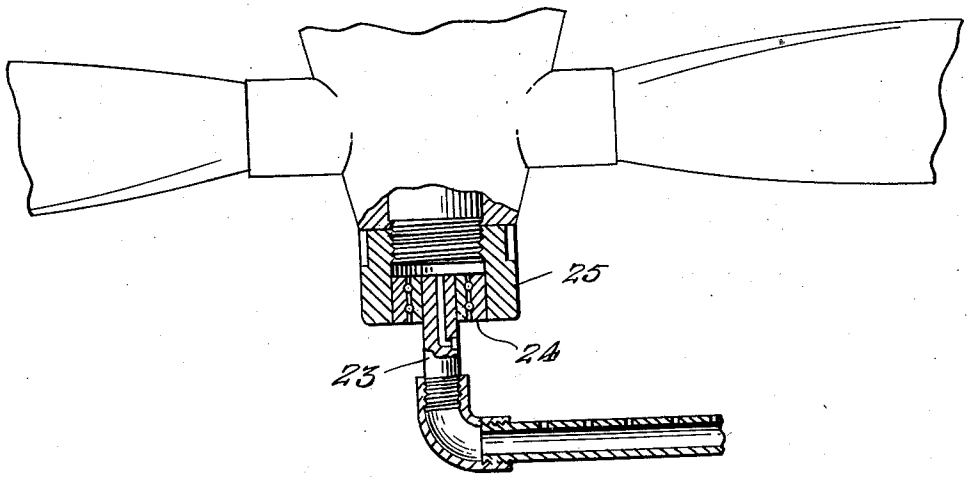


Fig. 3.

Fig. 4.



Swan E. Norton,
INVENTOR

BY Victor J. Evans
ATTORNEY

Patented Oct. 20, 1931

1,828,613

UNITED STATES PATENT OFFICE

SWAN E. NORTON, OF ROCKFORD, ILLINOIS

ICE REMOVING SYSTEM

Application filed July 26, 1930. Serial No. 470,983.

This invention relates to certain new and useful improvements in coating systems to render airplane fuselages, wings, propellers and the like immune to the formation of ice thereon.

One of the principal objects of the invention consists of a system of this character having spray applicators arranged in advance of the different parts of the plane to be coated either through a pressure system or by the natural velocity of headwinds, the suction formed by the tractor types of propellers and the like.

Another object of the invention contemplates the provision and arrangement of a form of support for the coating system upon the propeller for the plane whereby the anti-freeze solution may be adequately applied without causing injury to or interfering with the operation of the propeller.

With the above and other objects in view, the invention further consists of the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:—

Figure 1 is a side elevation of an airplane showing by full and dotted lines the particular disposition of the system.

Figure 2 is a top plan view of the plane showing the system in operation.

Figure 3 is a fragmentary elevation of the storage tank and compression chamber of the system.

Figure 4 is an enlarged detail sectional view taken through the journal connection for the system at the hub of the airplane propeller.

Referring to the drawings in detail wherein like characters of reference denote corresponding parts, the reference character 10 indicates generally the fuselage of an airplane, which as shown in Figure 1 of the drawings is of the cabin variety monoplane having a wing 11 and the propeller blade 12 disposed axially of the longitudinal center of the fuselage in advance of the wing. The above is of the usual and well known construction followed by airplane builders and is mentioned for purposes of illustration in bringing forward the novel advantages of the present invention.

It is my intention to provide and arrange a system of the character described by means of which the propeller, fuselage and wings of planes will be coated with a suitable solution either to prevent ice formation thereon or else to melt off previous formations when same overweight the craft.

The invention primarily resides in the provision of a tank or reservoir 13 of the closed variety having a pressure gauge 14, a sight gauge 15, a filling plug 16 and a valve controlled connection 17 between its upper portion and a compressed air tank 18. The reservoir may contain a suitable solution for the purpose intended and to be discharged through a pipe section 19 having tributaries 20, 21 and 22. Pipe sections drilled or otherwise provided with orifices or jets at intervals thereon and in communication with the respective pipe sections 20, 21 and 22, are disposed immediately in advance of the wing, fuselage and propeller.

The spray pipe located in advance of the propeller is provided with a stub shaft 23 upon one end, inwardly projected for journal association with a bearing member 24 carried within a hub cap 25 for the airplane propeller. The stub shaft 23 is drilled or otherwise provided with rightangularly intersecting passageways by means of which lubricant may be introduced into the hub cap 25 behind the bearing 24. Such arrangement will provide an adequate rotary form of support for the spray apparatus located in advance of the airplane propeller and from which position the spray apparatus may not become displaced to hinder or otherwise interfere with the proper operation of the airplane propeller. As suggested from the illustrations of the invention in Figures 2 and 4 of the drawings, it is only necessary to have the spray apparatus for the propeller extend or otherwise project to a distance equivalent to that of the propeller radius.

Although I have shown and described my invention as having particular application upon airplanes and the like, it is obviously

understood that the system could be applied to equal advantage upon boats, automobiles, etc.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claims.

Having described the invention, what is claimed is:

1. A coating system for vehicles comprising a pressure dispensing receptacle, pipe sections leading therefrom, and a spray pipe having communication with the pipe sections having discharge openings located immediately in advance of the propeller blade and terminating at the axis thereof.

2. A coating system for airplanes comprising a pressure dispensing receptacle having a multiplicity of pipe sections leading to different portions of the plane, spray pipes having communication with the pipe sections and disposed immediately in advance of the wings, fuselage and propeller of the plane, and the spray pipe for the propeller being journally associated therewith.

In testimony whereof I affix my signature.

SWAN E. NORTON.