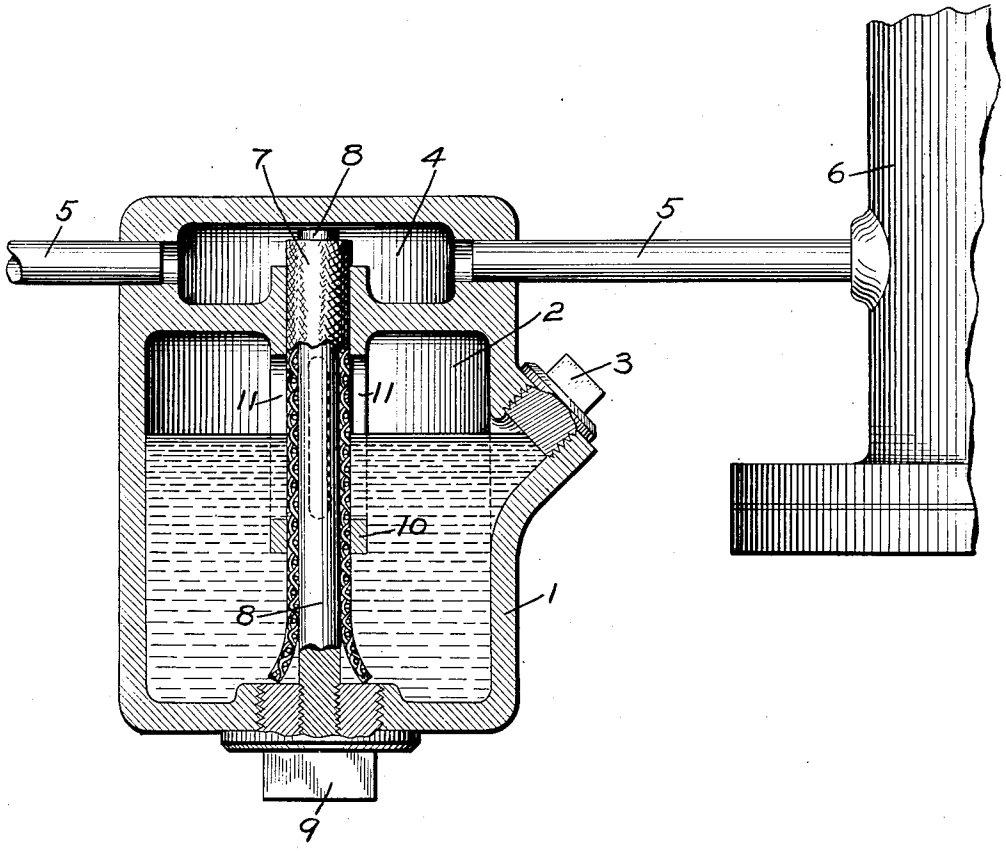
A. B. WOOD.

ANTIFREEZE DEVICE FOR FLUID PRESSURE SYSTEMS.

APPLICATION FILED MAY 22, 1919.

1,336,984. Patented Apr. 13, 1920.



INVENTOR

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To all whom it may concern:

Be it known that I, ALFRED B. WOOD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Antifreeze Devices for Fluid-Pressure Systems, of which the following is a specification.

My invention relates to fluid pressure systems, and more particularly to means for preventing the freezing of moisture in compressed air.

It has heretofore been proposed to provide means for introducing alcohol into air or other fluid which is to be conducted through a fluid pressure system, particularly a fluid pressure brake system, so as to prevent the freezing of moisture which is usually present to a greater or less extent in fluid which has been compressed.

The principal object of my invention is to provide improved means for introducing alcohol or other anti-freezing medium into the fluid of a fluid pressure system which will reduce the consumption of alcohol to a minimum, yet sufficient to accomplish the desired end and which is so located as to insure against freezing of moisture in all parts of the fluid pressure system.

In the accompanying drawing, the single figure is a sectional view of a device, embodying my invention, for introducing alcohol into a fluid pressure system.

As shown in the drawing, the device may comprise a casing 1 having a reservoir chamber 2, adapted to be filled with alcohol or other anti-freezing medium through the opening provided by removing the screw plug 3.

At the top, the casing is provided with a chamber 4, which is connected at the opposite ends to a pipe 5 through which the fluid passes.

Preferably the pipe 5 is the intake or suction pipe of the compressor 6 which compresses fluid into the fluid pressure system, so as to insure the vaporization of the alcohol and the distribution of the alcoholized fluid to all parts of the system.

For introducing the alcohol into the fluid, a tubular wick 7 is provided, which is carried on a guide rod 8. The guide rod is secured to a screw plug 9, which is screwed into the bottom of the casing 1.

The wick 7 extends through an outer cylindrical guide portion 10 of the casing and projects into the passageway 4, the guide portion 10 being provided with elongated openings 11, to permit free access of the alcohol to the wick.

In operation, alcohol is drawn into the wick by capillary attraction and up into the wick portion which is exposed in the chamber 4.

When the compressor is running, the current of air or fluid passing through the suction pipe 5 to the compressor takes with it alcohol from the wick by evaporation, and it will be evident that the amount of alcohol which is evaporated from the wick will be in proportion to the rate at which air is flowing to the compressor.

Furthermore, when the compressor is not running, practically no alcohol will be used, as there is little incentive for the alcohol to evaporate from the wick when there is no air current.

Since the alcohol is supplied at the suction intake of the compressor, every part of the fluid pressure system, including the cooling pipes and the storage reservoirs will contain alcoholized fluid, so that there will be no danger of freezing in any part of the apparatus.

It will be apparent that a flat or other form of wick adapted to take up the anti-freeze medium by capillary attraction may be employed.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. The combination with a fluid pressure system, of a receptacle containing an anti-freeze medium and a wick exposed to the current of fluid in the system and adapted to be saturated by capillary attraction with the anti-freeze medium.

2. The combination with a fluid pressure system, of a receptacle containing alcohol and a wick exposed to the current of fluid in said system and extending into said receptacle and adapted to be saturated with alcohol by capillary attraction.

3. The combination with a fluid pressure system including a compressor for compressing fluid, of a receptacle containing alcohol and a wick exposed to the current of fluid passing to the suction inlet of the compressor and extending into said receptacle and adapted to be saturated with alcohol by capillary attraction.

4. The combination with a fluid pressure

system including a compressor for compressing fluid, of a casing having a reservoir containing alcohol, and having a chamber communicating with the suction intake of the compressor, and a wick adapted to be saturated with the alcohol in said reservoir and exposed to the current of fluid through said chamber.

5. The combination with a fluid compressor, of means for introducing an anti-freeze medium at the suction intake of the compressor.

In testimony whereof I have hereunto set my hand.

ALFRED B. WOOD.