Oct. 14, 1930. A. B. WOOD 1,778,138

ANTIFREEZE DEVICE

Filed March 7, 1929

Fig. 1.

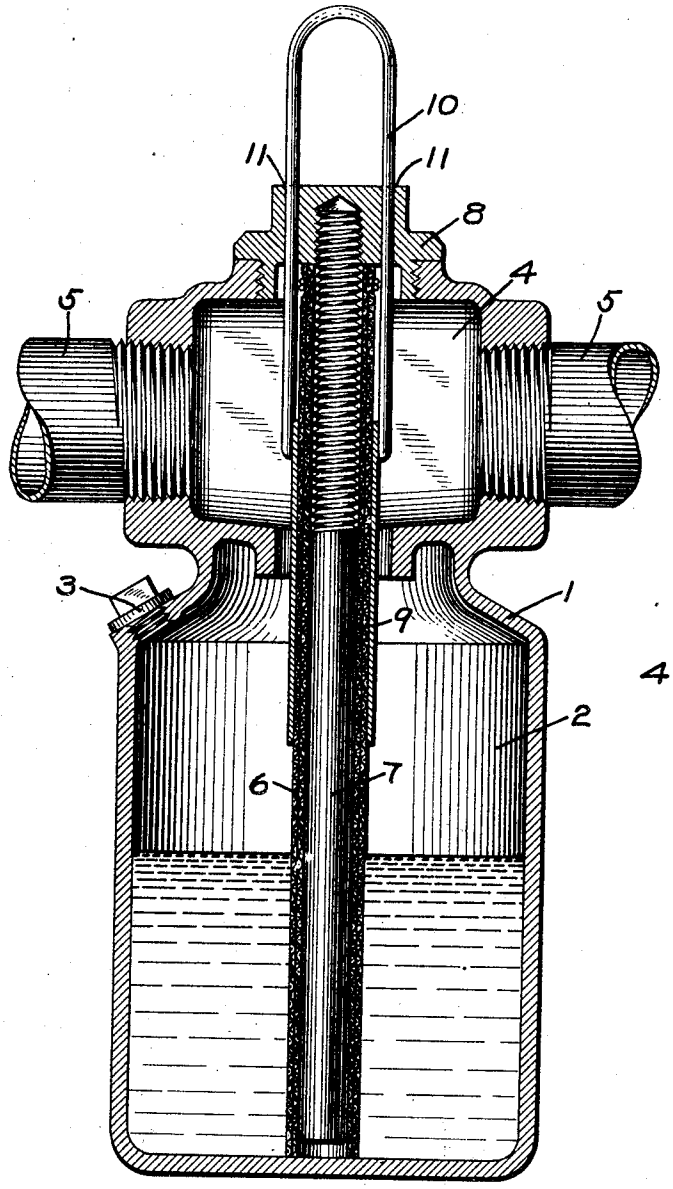
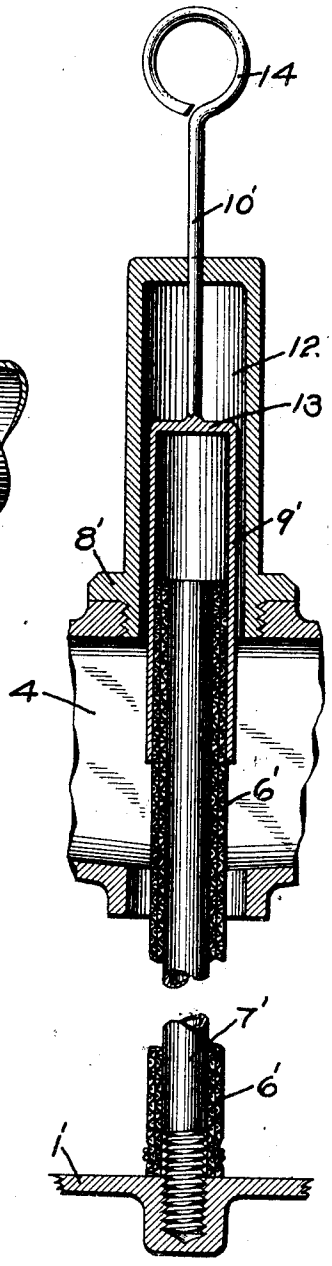


Fig. 2.



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UNITED STATES PATENT OFFICE

ALFRED B. WOOD, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO ANTI-FREEZER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

ANTIFREEZE DEVICE

Application filed March 7, 1929. Serial No. 345,165.

This invention relates to fluid pressure systems, and more particularly to a device for preventing the freezing of moisture in the fluid of a fluid pressure system, being in the nature of an improvement on the device disclosed in my prior Patent No. 1,336,984, issued April 13, 1920.

One object of my invention is to provide means for regulating the rate of evaporation of the anti-freeze liquid from the outside of the device.

Another feature of my invention is to provide means for cleaning the wick which conveys the anti-freeze liquid from the outside of the device.

Other objects and advantages will appear in the following more detailed description of the invention.

In the accompanying drawing; Figure 1 is a central sectional view of an anti-freeze device embodying my invention; and Fig. 2 a fragmentary sectional view of an anti-freeze device embodying a slightly modified form of my invention.

As shown in Fig. 1 of the drawing, the anti-freeze device may comprise a casing 1 having a chamber 2 adapted to contain a quantity of alcohol or other anti-freeze liquid, the liquid being introduced by removing a screw plug 3. Above the chamber 2, is provided a chamber 4 which is connected at its opposite sides to a pipe 5, through which flows fluid under pressure of a fluid pressure system, such as the brake system of a train.

Extending from the bottom of the chamber 2 and through the chamber 4, is a tubular wick 6, which is mounted on a guide tube 7, and in the present construction said tube is exteriorly threaded at its upper end for screw-threaded engagement with a screw plug 8 which is screwed into the upper wall of the casing 1.

A section 9 of tubing, preferably of brass, has a sliding fit on the wick 6, and for shifting the tubular section, a U-shaped member 10 of wire or rodding is secured at its opposite ends to the upper end of the section.

The legs of the U-shaped member extend through the corresponding openings 11 in the plug 8, so that the vertical position of the tube section 9 may be adjusted from the outside of the device by moving the member 10 up or down.

The anti-freeze liquid in the chamber 2 is carried up the wick by capillary attraction and is exposed to the flow of fluid through pipe 5 and chamber 4, so that the liquid evaporates from the wick and is carried along with the current of fluid.

By shifting the tubular section 9, the extent or area of wick surface exposed to the current of fluid may be varied, as will be evident, or may even be entirely cut off, and consequently the rate of evaporation may be easily adjusted as may be desired, or the evaporation of anti-freeze liquid may be entirely cut off.

It has been found that in time, dirt is liable to collect on the outside face of the wick, and if dirt collects on the wick, the dirt may be cleaned off by operating the member 10 so as to move the tube 9 up and down on the wick.

In the modified form shown in Fig. 2, the tubular section 9′, slidably mounted on the wick 6′, extends into a chamber 12 provided on the screw plug 8′, the screw plug being extended upwardly as shown, to provide space to permit up and down movement of the tubular section 9′.

In this case, a single rod 10′ may be secured to an end wall 13 of the tube 9′ and may extend through a central opening in the upper end wall of the screw plug, a finger portion 14 being bent at the upper end of the rod to provide means for operating the rod.

With the construction shown in Fig. 2, the guide tube 7′ may be screw-threaded at its lower end, instead of the upper end, for threaded engagement in the base wall of the casing 1.

While two illustrative embodiments of the invention have been described in detail, it is not my intention to limit its scope to these embodiments or otherwise than by the terms of the appended claims.

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

1. An anti-freeze device comprising a casing having a chamber containing an anti-freeze liquid, a wick supplied with liquid from said chamber and exposed to a current of fluid, an element slidably mounted on said wick for varying the area of the wick exposed to the current of fluid, and an operating member secured to said element and extending outside of said casing.

2. An anti-freeze device comprising a casing, a tubular wick mounted in said casing and having an area exposed to a current of fluid, a tubular section slidably mounted on said wick and movable to vary the area of the wick exposed, and a member secured to said section and extending outside of said casing for operating said section.

3. An anti-freeze device comprising a casing, a tubular wick mounted in said casing and having an area exposed to a current of fluid, a tubular section slidably mounted on said wick and movable to vary the area of the wick exposed, a screw plug engaging said casing, and a rod secured to said section and extending out of the casing through an opening in said plug.

In testimony whereof I have hereunto set my hand, this 5th day of March, 1929.

ALFRED B. WOOD.