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R. E. KRAUSE.

DEVICE FOR PREHEATING HYDROCARBONS IN CARBURETERS.

APPLICATION FILED JAN. 4, 1913. RENEWED JAN. 25, 1915.

1,135,195. Patented Apr. 13, 1915.

Fig. 1.

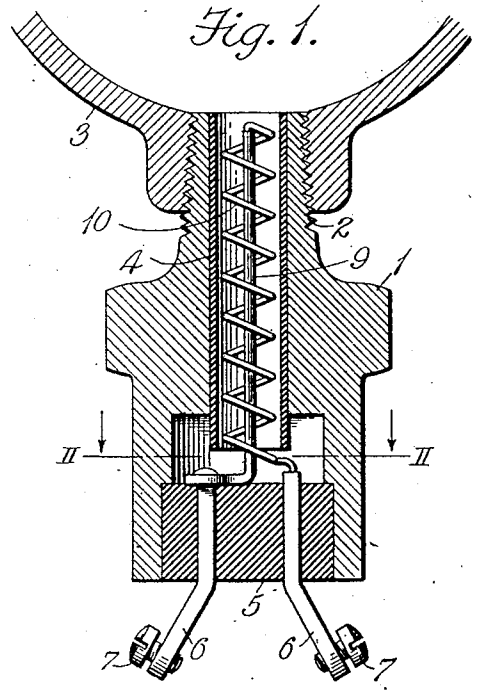
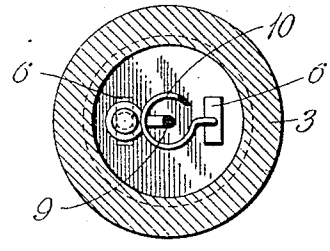


Fig. 2.



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UNITED STATES PATENT OFFICE.

RICHARD E. KRAUSE, OF DETROIT, MICHIGAN, ASSIGNOR TO KRAUSE MANUFACTURING CO., OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

DEVICE FOR PREHEATING HYDROCARBONS IN CARBURETERS.

1,135,195. Specification of Letters Patent. Patented Apr. 13, 1915.

Application filed January 4, 1913, Serial No. 740,110. Renewed January 25, 1915. Serial No. 4,405.

To all whom it may concern:

Be it known that I, RICHARD E. KRAUSE, a subject of the King of Sweden, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Devices for Preheating Hydrocarbons in Carbureters, of which the following is a specification, reference being had therein to the accompanying drawings.

In the operation of carbureters or fuel vaporizing devices in cold weather it is difficult to obtain the proper mixtures oftentimes on account of low temperature of the fluid.

This invention relates to a heating device that can be applied directly to a carbureter whereby the contents of the fuel holding chamber of the carbureter is heated by direct contact with a heating member of the device and is rapidly raised to that point at which the fuel vaporizes readily.

The invention also includes an arrangement of the parts which enables it to withstand rough usage without injury.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in longitudinal section of a device that embodies features of the invention applied to the wall of a carbureter, the view being greatly enlarged to show the details more clearly; and Fig. 2 is a view on line II—II of Fig. 1.

As herein shown, a casing 1 has an exteriorly screw-threaded nipple 2 whereby it may be readily inserted through an opening in the wall 3 of a carbureter or the like below the level of fluid in the compartment of which the wall is a part. Preferably the nipple is proportioned so that the device may replace a drainage plug or the like in a carbureter. The casing, which is exteriorly fitted for the application of a wrench or like turning tool, has a recess formed by a counterbore in its outer end in communication with the bore of the nipple 2. A bushing 4 of suitable insulating material is inserted in the nipple and a plug 5 closes the counter-bored end.

Terminal strips 6 are embedded in the plug 5 which is of suitable insulating material and are provided with binding screws 7 or the like. A stem 9 is secured to the inner end of one of the terminals of one of the connections 6 in concentric relation with the bushing 4 into which it extends. A helically disposed conductor 10 of high resistance, as for example, German silver or the like, connects the outer end of the stem 9 with the other terminal member. The coils of the helix are so proportioned in relation to the bushing 4 that when heated and expanded by the passage of a current they bear against the bushing and thereby hold their position and conformation without sagging. As a result of this construction any fuel that is introduced into the chamber through whose wall the plug extends, comes into direct contact with the comparatively large surface of the resistance coil so that when the latter is heated as by a battery or the like the fuel of the chamber is quickly warmed to a point where it is quickly vaporized regardless of the exterior temperature.

The device may be readily fitted to any carbureter having a fuel chamber and if the latter be provided with a drain cock it may replace the latter.

Obviously, changes in the details of construction may be made without departing from the spirit of my invention and I do not care to limit myself to any particular form or arrangement of parts.

What I claim is:—

1. Heating means for a carbureter comprising a casing with an axially apertured nipple fitted for insertion in the apertured wall of the carbureter, a plug of insulating material seated in the counterbored outer portion of the casing, an insulating bushing in the casing extending through the nipple, a pair of terminals extending through the plug, a stem connected to one of the terminals in axial alinement to the bushing, and a helical member of high resistance connecting the outer end of the stem with the other terminal member, the bushing being adapted to support the turns of the helix when the latter is expanded by heat.

2. Heating means for a carbureter comprising a hollow casing adapted to be secured in an opening in the wall of a carbureter, a terminal member axially secured in the casing in insulated relation, a conductor of high resistance in the interior of the casing connected with the terminal, and a tubular insulating member adapted to en-

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gage and form a support for the conductor when the latter is expanded by heat.

3. The combination with the wall of a carbureter, of a casing, a screwthreaded nipple on the casing adapted to engage an opening in the carbureter wall, an insulating bushing in the bore of the nipple, an insulating plug secured in an outer counterbored recess in the casing, a terminal member mounted in the plug, and a helical member of high resistance forming an electric connection with the member and lying in the bushing, the latter being adapted to be engaged by and to support the turns of the helix when the latter is heated.

In testimony whereof I affix my signature in presence of two witnesses.

RICHARD E. KRAUSE.

Witnesses:
ANNA M. DORR,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."