April 24, 1928. 1,667,569

E. N. SORENSEN

THERMOSTATIC CONTROLLING DEVICE FOR CARBURETORS

Filed March 20. 1925

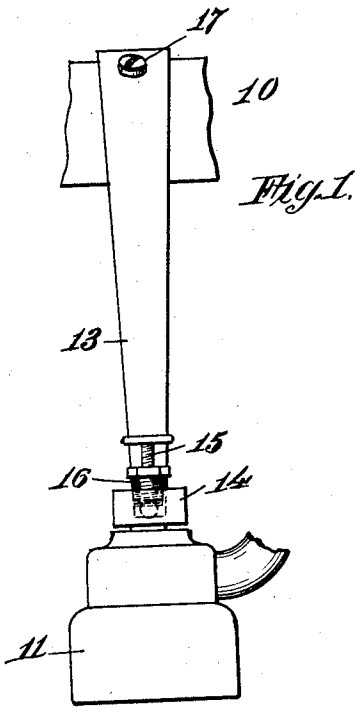


Fig. 1.

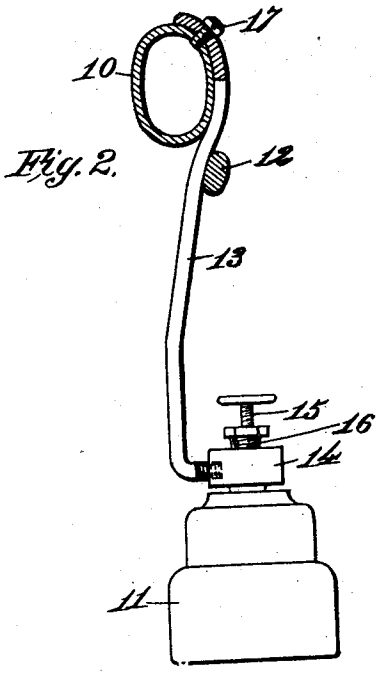


Fig. 2.

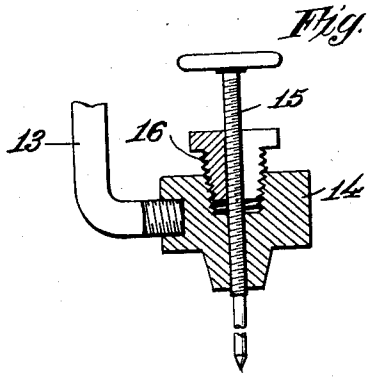


Fig. 3.

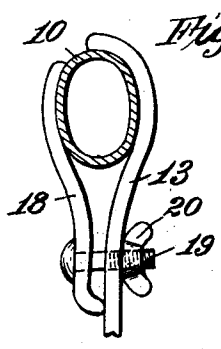


Fig. 4.

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UNITED STATES PATENT OFFICE.

EINAR N. SORENSEN, OF FERNANDINA, FLORIDA, ASSIGNOR TO AUTO-CARBURETOR CORPORATION, OF FERNANDINA, FLORIDA, A CORPORATION OF FLORIDA.

THERMOSTATIC CONTROLLING DEVICE FOR CARBURETORS.

Application filed March 20, 1925. Serial No. 17,088.

My invention relates to thermostatic controlling devices for carburetors, that is, to devices for automatically controlling the carburetor of internal combustion engines and particularly in automobiles.

It is a well known fact that when an internal combustion engine becomes heated, less gasoline is needed than when the engine is cold. The object of my invention, therefore, is to provide an improved device whereby as the engine becomes heated the flow of gasoline will be diminished, and as the engine cools, the flow of gasoline will be increased. I am aware that numerous thermostatic controllers have been devised, but these are all more or less intricate in construction or require particular care in arranging the same on the engine. A further and particular object of my invention is to provide a device of the character mentioned which shall be of simple construction and which may be readily applied to the engine by any one without the need of employing a mechanic and without the use of special tools. Other objects will appear hereinafter.

With these objects in view my invention consists generally in a bar of suitable material having a known co-efficient of expansion, equipped with means for attaching the same directly to the exhaust manifold of an internal combustion engine and having the carburetor needle valve adjustably mounted on the opposite end thereto. My invention further consists in various details of construction and arrangements of parts, all as will be fully described hereinafter and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which—

Fig. 1 is a front elevation of a device embodying my invention,

Fig. 2 is a front elevation of the same,

Fig. 3 is a detail section upon an enlarged scale, illustrating the lower end carrying the needle valve, and,

Fig. 4 is a modified form of the upper end of the device illustrating means for clamping the device to the manifold.

Referring now to the drawing, 10 indicates the exhaust manifold of an engine, 11 a carburetor and 12 a manifold clamp. These parts are illustrated conventionally only and may be of any preferred form. 13 indicates the bar which is connected directly to the manifold 10. This is preferably of bronze or other suitable heat conducting material having a known co-efficient of expansion. At the lower end of said bar is the head 14 through which is adjustably threaded the needle valve 15 of the carburetor. 16 indicates a conical clamping bushing threaded into the head 14 for securing the needle valve 15 in adjusted position.

As illustrated in Figs. 1 and 2, the bar 13 is attached to the manifold 10 by a screw 17, and it will be noted that the upper end of the bar is curved to fit the manifold snugly so as to receive heat therefrom. If, preferred, the attaching means as illustrated in Fig. 4 may be employed. With this form of device, it is not necessary to tap the manifold, but a clamping element 18 is provided, held in place by bolt 19. It is obvious that with this construction, the device may be attached to the engine without the use of any tools whatever, the bolt 19 being provided with a thumb nut 20. In applying the device, the bar 13 is attached to the manifold 10 in such a position that the head 14 will be positioned directly above the carburetor. The needle valve 15 is then adjusted to the upper position for running the engine when cold, and the clamp bushing 16 tightened. As the engine heats up the bar 13 will expand, and by expanding will move the needle valve further into its seat within the carburetor, thus decreasing the flow of gasoline. It is obvious that with this device no lever or intricate mechanisms is employed or any adjustments necessary other than the mere adjustment of the needle valve 15.

I claim:

1. A fuel feed control for carburetors comprising a solid metal bar, means for attaching the bar directly to an engine manifold, a head on the lower end of said bar, a needle valve adjustably mounted in said head and a clamp bushing threaded in said

head for locking said needle valve, substantially as described.

2. A fuel feed control for carburetors comprising a solid metal bar having its upper end curved to conform to the side of an engine exhaust manifold, a clamping member adjustably secured to said bar and adapted to engage the opposite side of the manifold, and a needle valve adjustably mounted at the lower end of said bar, substantially as described.

In testimony whereof I have signed my name to this specification.

EINAR N. SORENSEN.