C. E. WARWICK.

HEATER FOR CARBURETERS.

APPLICATION FILED JUNE 24, 1919.

1,352,854. Patented Sept. 14, 1920.

Fig. 1.

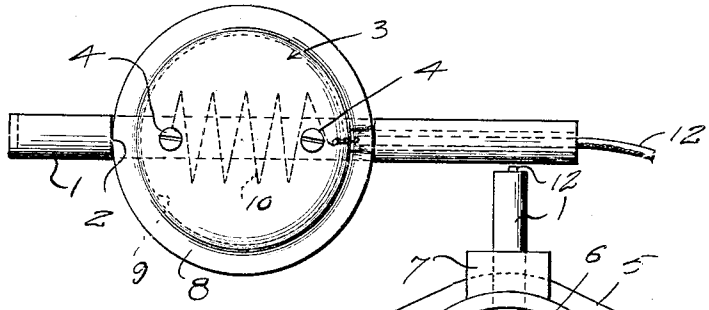
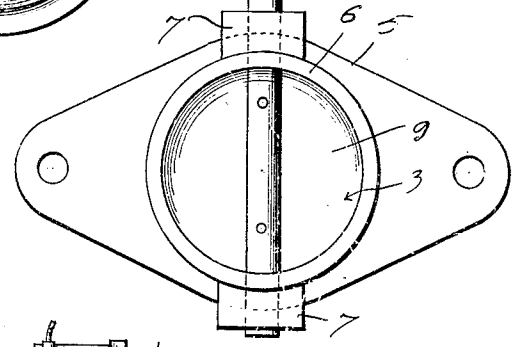


Fig. 2.



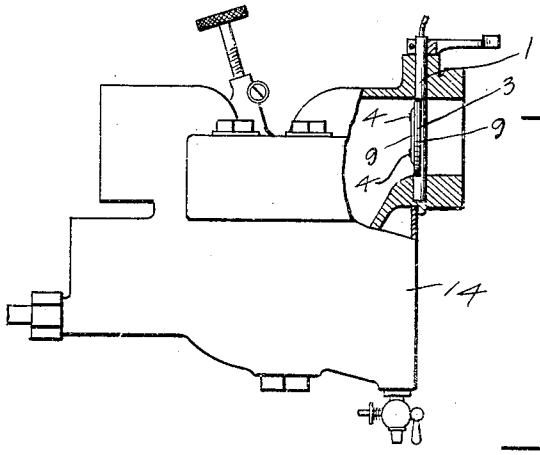
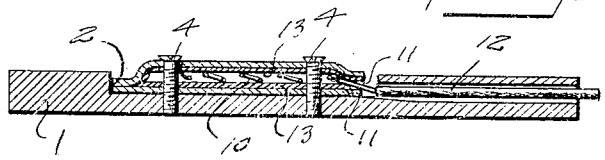


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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HEATER FOR CARBURETERS.

1,352,854. Specification of Letters Patent. Patented Sept. 14, 1920.

Application filed June 24, 1919. Serial No. 306,313.

To all whom it may concern:

Be it known that I, CLARENCE E. WARWICK, a citizen of the United States, residing at Whitetail, in the county of Sheridan and State of Montana, have invented certain new and useful Improvements in Heaters for Carbureters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in fuel heaters for internal combustion engines and has for one of its objects the provision of means whereby the controlling valve of the fuel is utilized as a heating medium so that the starting of an engine is made comparatively easy and also permits of low grade fuel to be used with good results.

Another object of this invention is the provision of a heater for carbureters of the above stated character, which shall be simple, durable and efficient, and which may be manufactured and sold at a comparatively low cost.

With these and other objects in view as will become more apparent as the description proceeds, the invention consists in certain novel features of construction, combination, and arrangement of parts as will be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which:—

Figure 1 is a plan view of a heater constructed in accordance with my invention,

Fig. 2 is a front elevation of the heater applied to a casing or member for attachment between a carbureter and a manifold,

Fig. 3 is a fragmentary sectional view of a carbureter illustrating my invention applied thereto, and

Fig. 4 is a sectional view of the heater.

Referring in detail to the drawing, the numeral 1 indicates a hollow stem having a cut out portion 2 to receive a circular plate or member 3 and which is secured in said cut out portion by means of set screws 4. The stem 1 and member 3 is adapted to constitute what is known as a butterfly valve to be used within a carbureter or an insert member or casing 5 which is adapted to be connected between a carbureter and a manifold and consisting of the cylindrical portion 6 having oppositely disposed bosses 7 in which is journaled the stem 1, so as to position the member 3 within the opening of the cylindrical portion 6 for controlling the fuel therethrough. The member 3 consists of a pair of plates 8 soldered or otherwise secured together forming a chamber 9 in which is positioned a heating coil 10 having one end connected to one of the plates while its opposite end extends through a notch or groove 11 in said plate and connected to a conductor 12. The conductor 12 is adapted to be connected to any suitable source of electricity. A plurality of mica disks 13 are positioned within the chamber 9 to insulate the heating coil 10 from said plate but which will permit heating of said plates to a high degree.

If desired, the heater forming the butterfly valve may be employed within a carbureter 14 for the purpose of controlling the fuel therefrom to the usual manifold (not shown) of an engine.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of the invention as claimed.

Having thus described my invention what I claim is:—

A heater for carbureters comprising a stem having an elongated cut out portion intermediate its ends and a passage through one of its end portions, circular plates positioned in the cut out portion and one of said plates being concaved with its edges in abutting engagement with the other plate, fastening elements extending through the plates and secured to the stem, mica disks engaging the inner faces of the plates, said disks and plates having alining grooves in one of their edges, and an electrical heating medium arranged between the disks and extending through the grooves and the passage of said stem.

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

CLARENCE E. WARWICK.

Witnesses:

J. J. GOEHRING,

GEORGE J. BERG.