March 12, 1935. J. J. ADAM 1,993,727

BURNER

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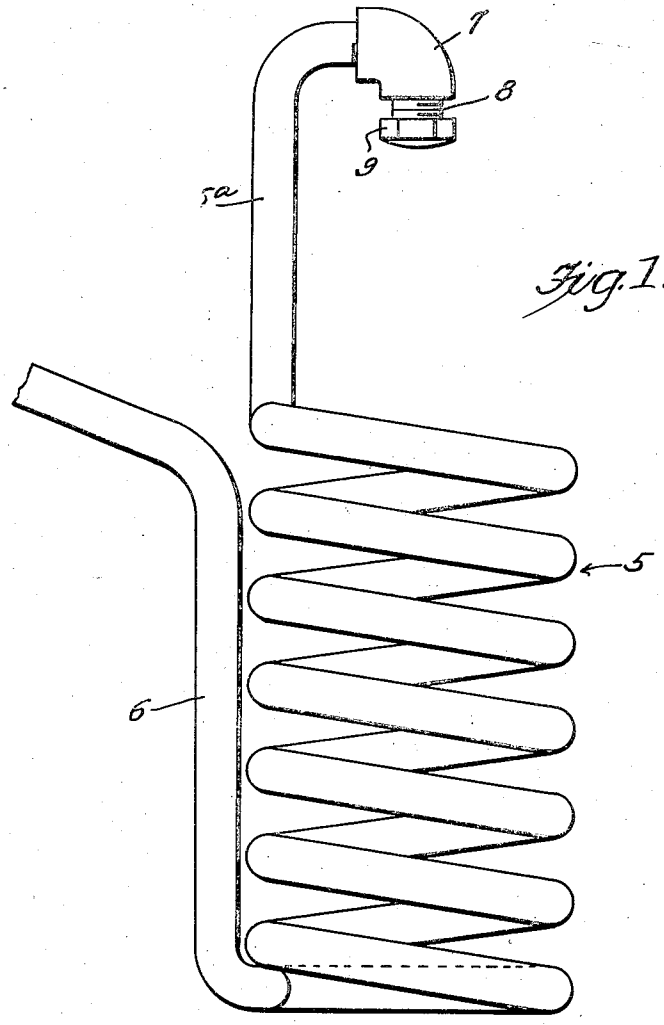


Fig. 1.

Fig. 2.

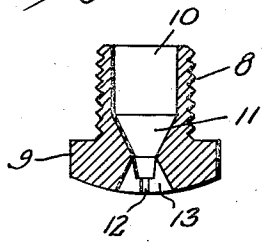
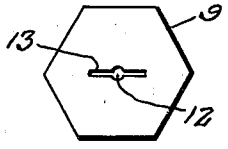


Fig. 3.



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UNITED STATES PATENT OFFICE

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BURNER

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Application March 6, 1934, Serial No. 714,336

2 Claims. (Cl. 299—153)

This invention relates to vaporizing burners, such as are used for burning gasoline, kerosene, distillate or other cheap fuel, and more particularly to such a burner especially designed for cactus burning, and more particularly for burning spines off prickly-pear.

An object of the invention is to provide an improved nozzle for burners of the character above mentioned to the end that the flame will be directed not only through the vaporizing coil of the burner but also against the convolutes of the coil.

The invention together with its objects and advantages will be best understood from a study of the following description taken in connection with the accompanying drawing wherein:

Figure 1 is an elevational view of a burner embodying the features of the present invention.

Figure 2 is a sectional view through the nozzle, and

Figure 3 is a bottom plan view of the nozzle.

Referring to the drawing by reference numerals it will be seen that the burner, as is conventional, consists of a vaporizing coil 5 that is connected at one end through the medium of piping 6 to a fuel supply, the vapor generated in the coil being delivered to a vapor-discharge or burner nozzle connected at the end 5a of the coil through the medium of an elbow 7. As is understood the vapor delivered through the nozzle produces a flame from the heat of which the vaporizer coil becomes sufficiently heated to convert its contents into a gas or vapor.

In accordance with the present invention the coil 5 is constructed with a departure from the conventional coil in that the convolutes of the coil are spaced a greater distance apart than in the ordinary form of coil. Thus, instead of winding the convolutes close together as is conventional the coil, in accordance with the present invention, consists of one-eighth inch pipe by three inch outside dimension having a material space between its convolutes or a clearance between each convolute of about three-eighths inches.

Further the invention resides in the provision of an improved discharge or burner nozzle which latter, in accordance with the present invention consists of a substantially cylindrical externally threaded body 8 having at its discharge end an enlarged or what may be termed, an integral nut portion 9. The threaded part 8 of the body of the nozzle is adapted to be threaded into one end of the coupling elbow 7, which latter is threaded on to the end 5a of the coil so that the burner is disposed in substantial alinement with the axial center of the coil 5.

As clearly shown in Figure 2 the body of the nozzle has an oil vapor passage therethrough which is especially designed to direct the flame not only through the coil but also upon the convolutes of the coil. The passage includes an inlet section 10 of relatively large diameter merging at its inner end with a substantially conical section 11 which at its smallest end merges into a discharge orifice 12. At opposite sides of the orifice 12 the discharge end of the nozzle is provided with slots 13 that taper inwardly and provide, auxiliary to the discharge orifice 12, a discharge mouth of such a cross sectional shape that the vapor will issue therefrom in the form of a fan shaped spray so as to impinge upon the convolutes of the coil 5.

From the above it will be apparent that the vapor discharging from the nozzle will include a straight jet or stream that passes through the orifice 12 and through the coil 5 together with a spray in the form of a fan which will impinge upon the convolutes of the coil.

With a nozzle of this character used in conjunction with the burner the efficiency of the same will be greatly increased and the burner will be found to be efficient in every respect and to meet the requirements of a burner used under the conditions proposed for the use of this burner.

Having thus described my invention, what I claim as new is:

1. An oil burner nozzle comprising a body formed with a centrally disposed inlet bore therein merging with a reduced intermediate bore, said body formed with a fan-like outlet slot communicating with the reduced intermediate bore, and said body further formed with a bore disposed centrally of the fan-like slot and merging with the end of the reduced bore.

2. An oil burner nozzle comprising a body having a centrally disposed inlet bore merging with a frusto-conical intermediate bore, the outer end of the body having a fan shaped slot with the apex joining an intermediate portion of the frusto-conical intermediate bore, said outer end formed with a round bore larger in diameter than the width of the slot and in the center thereof, the rear end of said round bore merging with the frustum of the intermediate bore so as to form a restricted outlet for the intermediate bore.

JOE J. ADAM.