

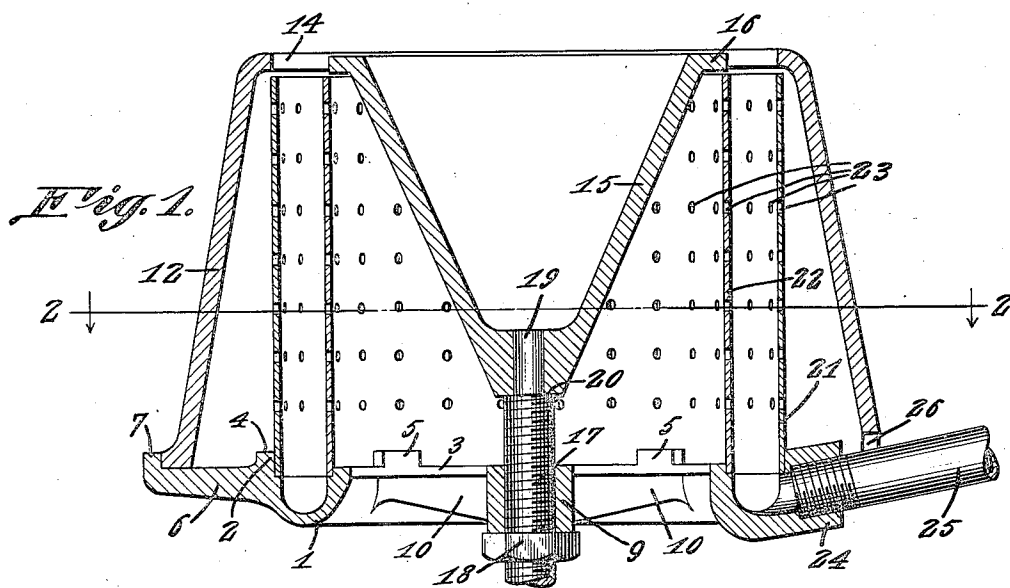
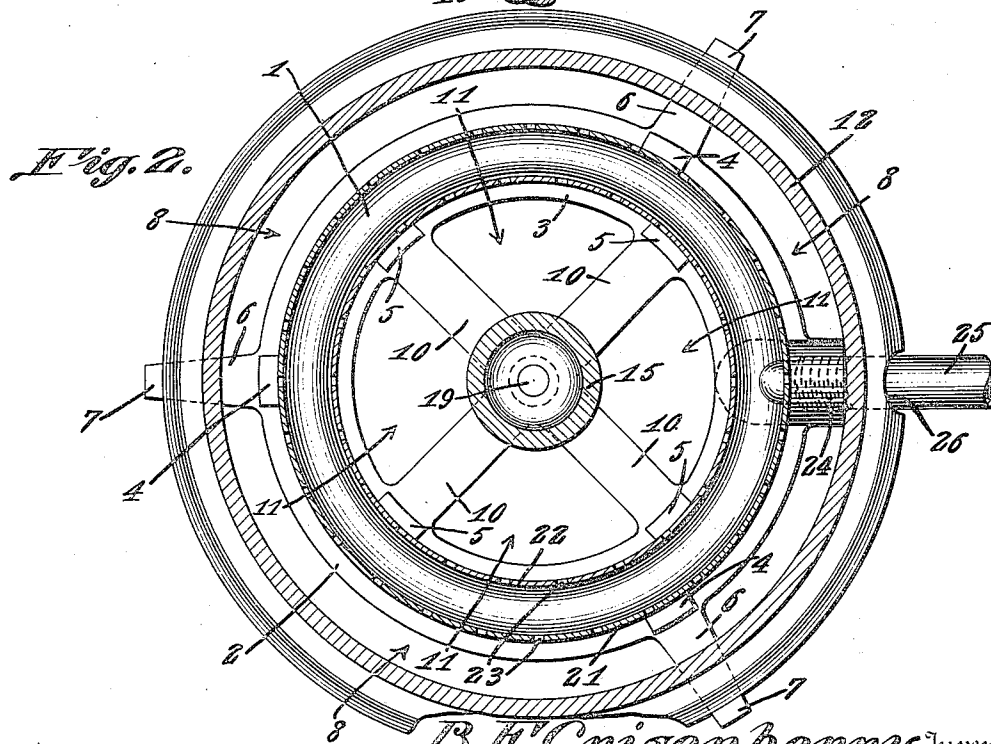
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B. F. CRISENBERRY

VAPORIZER AND BURNER

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UNITED STATES PATENT OFFICE.

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VAPORIZER AND BURNER.

Application filed December 17, 1921. Serial No. 523,126.

To all whom it may concern:

Be it known that I, BENJOHN F. CRISENBERRY, a citizen of the United States, residing at Kokomo, in the county of Howard and State of Indiana, have invented a new and useful Vaporizer and Burner, of which the following is a specification.

This invention aims to provide a burner so constructed that the flame will be prevented from spreading downwardly, a thorough admixture of air and gas being brought about, and a high degree of heat being produced with a minimum expenditure of fuel.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 shows in transverse section, a device constructed in accordance with the invention; Figure 2 is a section on the line 2—2 of Figure 1.

In carrying out the invention there is provided a base 1 in the form of annular trough, having an upstanding outer annular rib 2 and an upstanding annular rib 3, the rib 2 having upstanding retainers in the form of lugs 4, and the rim 3 having upstanding retainers in the form of lugs 5. Arms 6 project outwardly from the base 1 and are provided at their outer ends with upwardly projecting fingers 7, there being openings 8 between the arms. A hub 9 is disposed centrally of the base 1 and is connected thereto by arms 10, there being openings 11 between the arms. The base and parts connected thereto as above described, may be alluded to generally as a main member.

The numeral 12 marks an inverted cup-shaped cap of conical outline, the cap resting on the arms 6 within the fingers 7, and restrained by the fingers against lateral movement. At its upper end, the cap 12 has a mouth 14. Disposed within the cap 12 is a hollow conical core 15 having an outstanding marginal flange 16 located in the mouth 14

of the cap 12, the flange 16 and the upper portion of the cap 12 forming an annular outlet.

A support 17 is threaded in the hub 9 and is held therein by a lock nut 18 engaging the hub. The support 17 is provided at its upper end with a reduced tip 19 forming a shoulder 20 whereon the core 15 is mounted, the tip 19 passing upwardly into the reduced lower end of the core,

An outer casing 21 of cylindrical form is supported on the rib 2 and is held against lateral movement by the rib 2 and its lugs 4. An inner cylindrical casing 22 is disposed within the outer casing 21 in concentric relation therewith, and is supported on the rib 3, the inner casing being held against lateral movement by the rib and its lugs 5. The casings 21 and 22 have perforations 23. The space between the casings 21 and 22 is aligned with the outlet existing between the upper end of the cap 12 and the flange 16 of the core 15.

The base 1 is provided with a nipple 24 communicating with the base, one end of a fuel supply conduit 25 being mounted in the nipple, the cap 12 having a notch 26 receiving the conduit 25.

In practical operation, the fuel, preferably in liquid form, is delivered into the trough-shaped base 1, through the conduit 25 and the nipple 24. When the fuel is heated, during the operation of the device, the fuel is converted into gas and passes upwardly between the casings 21 and 22. Air enters between the cap 12 and the outer casing 21, through the openings 8, air entering the space between the inner casing 22 and the core 15, through the openings 11. The air between the core 15 and the inner casing 22, and the air between the cap 12 and the outer casing 21, passes through the perforations 23 of the casings, into the space between the casings, the mixture burning in a plurality of jets, at the perforations 23, and ascending, between the casings, through the outlet which exists between the flange 16 of the core 15 and the upper end of the cap 12. It is to be observed that the cap 12, being inclined inwardly, co-operating with the core 15, which is inclined outwardly, causes the air as it ascends to move toward the casings 21 and 22, there being no tendency for the flame to be driven downwardly.

The device is so constructed that a maxi-

minimum amount of heat will be produced with a minimum expenditure of fuel.

Having thus described the invention, what is claimed is:

- 5 1. A burner comprising a main member, perforated tubular inner and outer casings having their lower ends resting directly on the main member, the main member being provided with an annular fuel trough located between the casings, means for dis-
 10 charging fuel into the trough, a cap supported on the main member and located outwardly of the outer casing, the cap slanting inwardly from its lower end to its upper
 15 end, the main member having an air inlet opening discharging between the cap and the outer casing; a core located within the inner casing and slanting outwardly from its lower end to its upper end, the main
 20 member having an air inlet opening dis-

posed between the core and the inner casing; and means for supporting the core from the main member, independently of the casings.

2. A burner comprising a main member; a support vertically adjustable in the main member; means for holding the support in
 25 adjusted positions; an inverted conical core carried by the upper end of the support, a conical cap mounted on the main member, spaced perforated annular casings mounted
 30 on the main member and located between the core and the cap, and means for discharging fuel between the casings.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature
 35 in the presence of two witnesses.

BENJOHN F. CRISENBERRY.

Witnesses:

FRANK M. ANDRES,
 EDMOND JEFFRIES.