D. F. BAKER.

ALCOHOL BURNER.

APPLICATION FILED MAY 13, 1908.

925,979. Patented June 22, 1909.

Fig. 1.

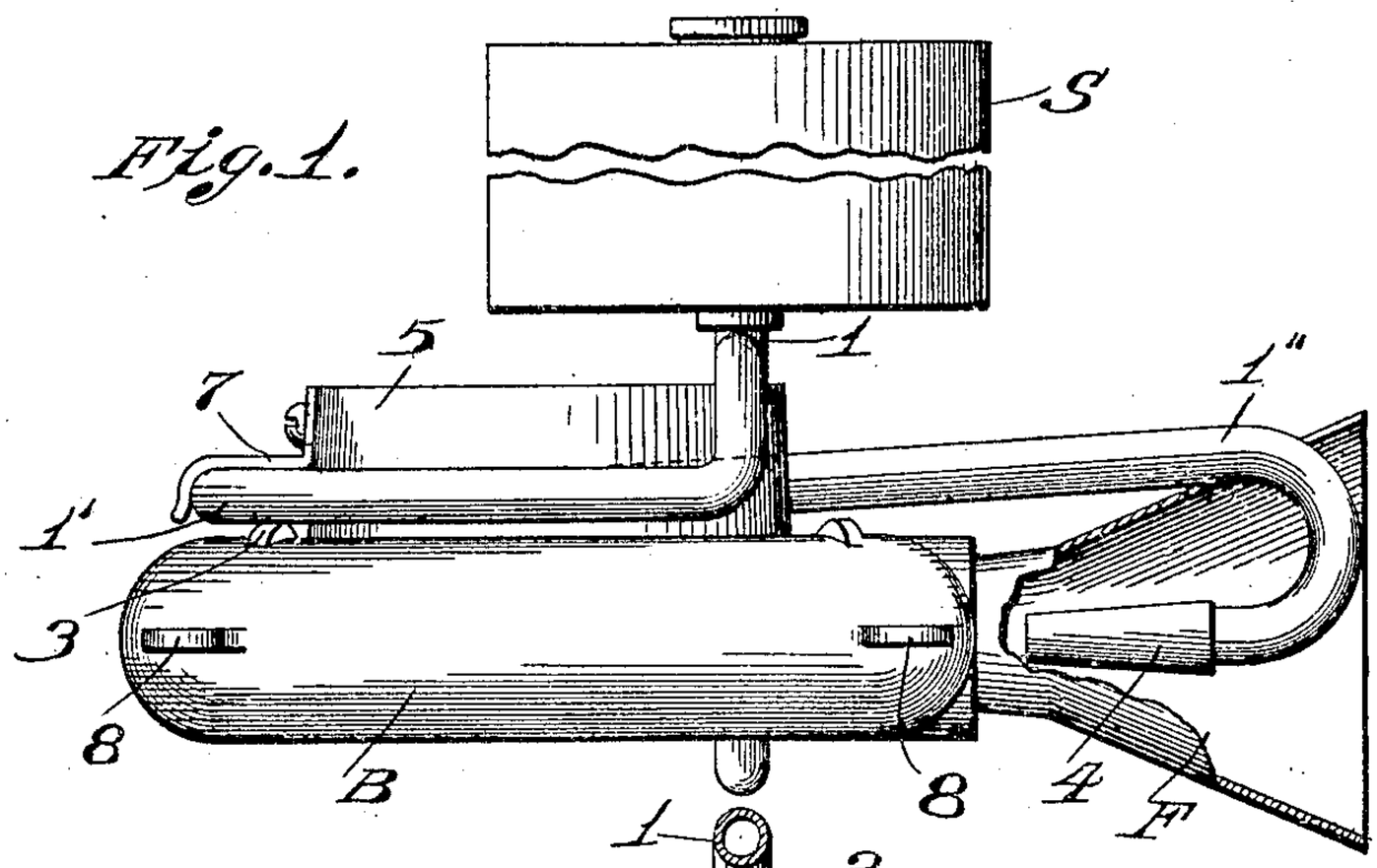
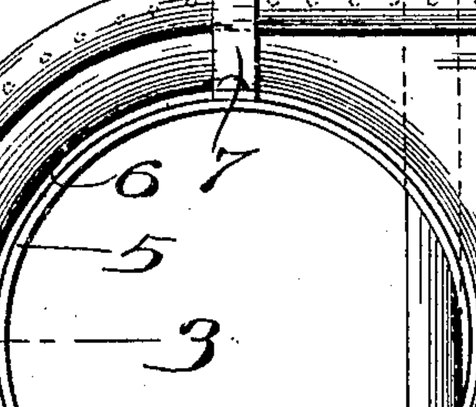


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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ALCOHOL-BURNER.

No. 925,979. Specification of Letters Patent. Patented June 22, 1909.

Application filed May 13, 1908. Serial No. 432,602.

To all whom it may concern:

Be it known that I, DAVID F. BAKER, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Alcohol-Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in alcohol-burners; and it consists in the novel construction and arrangement of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of the burner with walls partly broken away; Fig. 2 is a top plan thereof; and Fig. 3 is a sectional detail on the line 3—3 of Fig. 2.

The object of my invention is to construct an alcohol-burner for various domestic and similar purposes which can be ignited in a minimum waste of time, the burner being provided with a "primer" or basin holding an initial supply of the hydrocarbon in proper position to preheat the walls of the vaporizing coil through which the alcohol is compelled to pass on its way to the burner proper.

A further object is to make special provision for securing the coil above the priming basin and at the same time in the path of the flame issuing from the burner.

The advantages of the invention will be better apparent from a detailed description thereof which is as follows:—

Referring to the drawings, B, represents an annular burner provided with burner openings *a*, the chamber of the burner being in communication with a funnel extension F.

Leading from a suitable supply-tank S is a feed-pipe 1 provided at a convenient point with a valve 2, the pipe passing beneath the burner and subsequently upwardly through the central opening thereof, thence being disposed in the form of a coil 1′ immediately over the openings *a*. It is spaced a suitable distance from said openings by teats 3, and continues in the form of an extension 1″ over the funnel F and thence into the same where it terminates in a nozzle 4 which delivers the vapor into the burner. The funnel acts as a mixing chamber, the flaring form thereof drawing the air into it at a considerable velocity.

Cast with the inner wall of the ring or burner B is a flange 5 which extends a suitable distance above the burner, there being formed with the burner at the base of the flange a basin 6 for holding an initial supply of alcohol. The coil is held in place over the burner by clips or straps 7 which are respectively riveted or screwed to the walls of the flange 5 and folded over the coil as seen in Fig. 3. The burner is provided with lugs 8 to secure to a stove top or to any other fixture as well understood.

In starting the burner, a little alcohol is poured into the basin 6 and ignited. This will preheat the coil 1′, after which the valve 2 is opened and the alcohol passing into the coil is vaporized, the vapor commingling with the air entering the mixing funnel F, the mixed fluids thence entering the chamber of the burner and igniting at the openings *a*. The burner thus once started will thenceforth heat the walls of the vaporizing coil 1′ and the flame will issue from the burner until the supply of alcohol is cut off by the valve 2.

Having described my invention, what I claim is:—

1. An alcohol burner comprising an annular burner-chamber having openings for the flame-jets, a flange formed adjacent to the inner wall of the chamber, and forming a basin therewith, an air-mixing chamber forming a tangential extension of the burner-chamber and open to the atmosphere, a feed-pipe having a coil mounted over the burner openings and adjacent to the basin aforesaid, and an extension leading from the coil into the mixing chamber and discharging tangentially into the burner-chamber, substantially as set forth.

2. An alcohol-burner comprising an annular burner-chamber having top openings for the flame-jets, a flange formed adjacent to the inner wall of the chamber and rising above the top of the same, and forming a basin with the chamber walls, an outwardly flaring air-mixing chamber forming a tangential extension of the burner chamber and open to the atmosphere, a feed-pipe hav-

ing a vaporizing coil mounted over the burner openings and spaced from the walls of the burner-chamber, and located adjacent to the basin aforesaid, an extension leading from the coil into the mixing chamber and discharging tangentially into the burner-chamber, and clips or plates carried by the flange and engaging the coil, whereby the latter is properly secured over the burner, substantially as set forth.

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

DAVID F. BAKER.

Witnesses:
W. C. KILLEEN,
F. W. MOEHLE.