No. 783,161. PATENTED FEB. 21, 1905.

L. B. & H. B. WEBSTER.

BURNER.

APPLICATION FILED MAY 22, 1902.

Fig. 1.

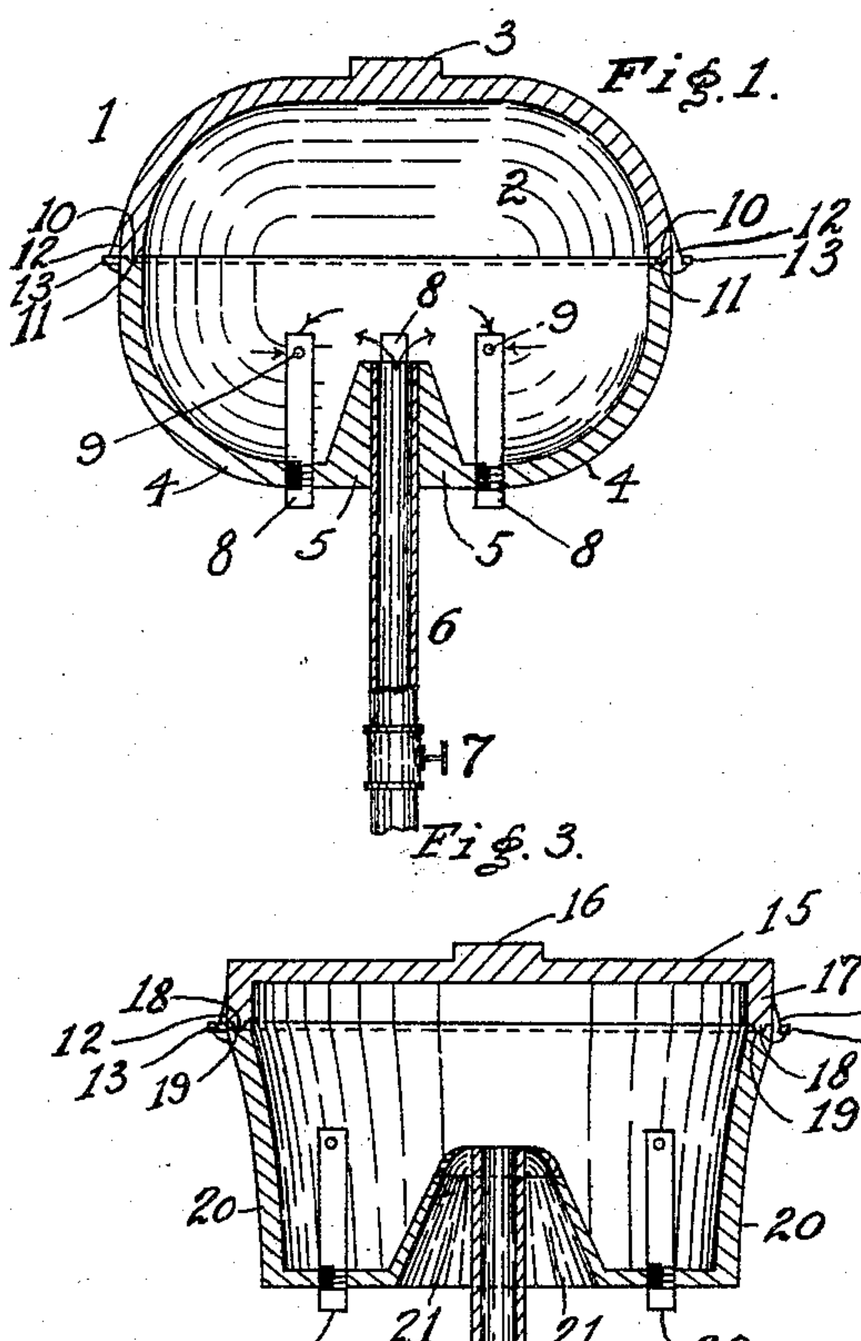


Fig. 2.

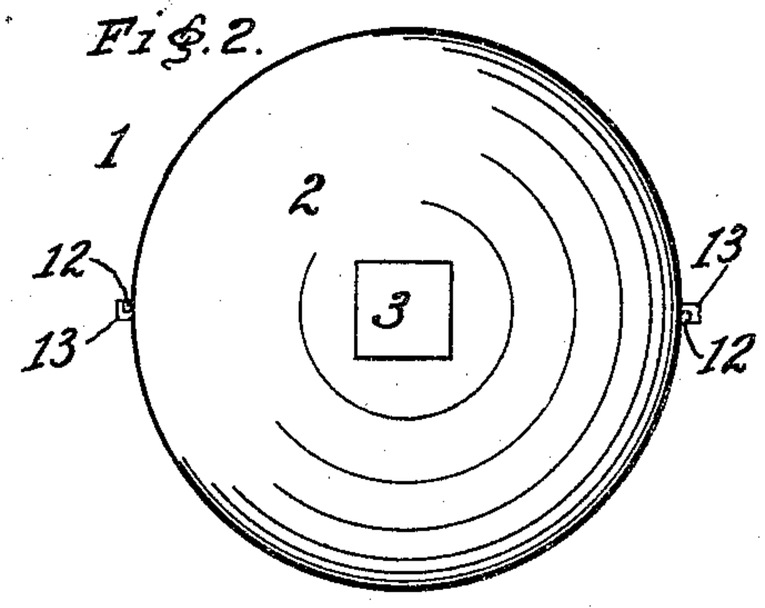


Fig. 3.

Fig. 4.

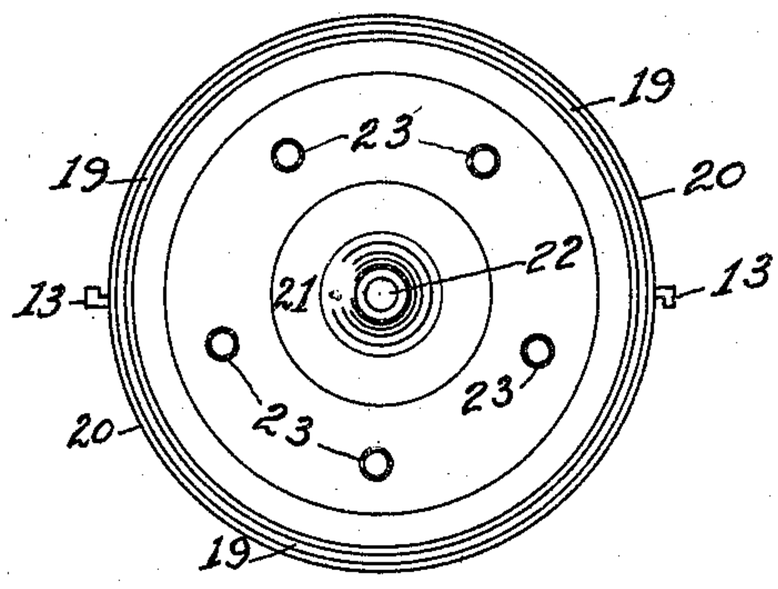


Fig. 5.

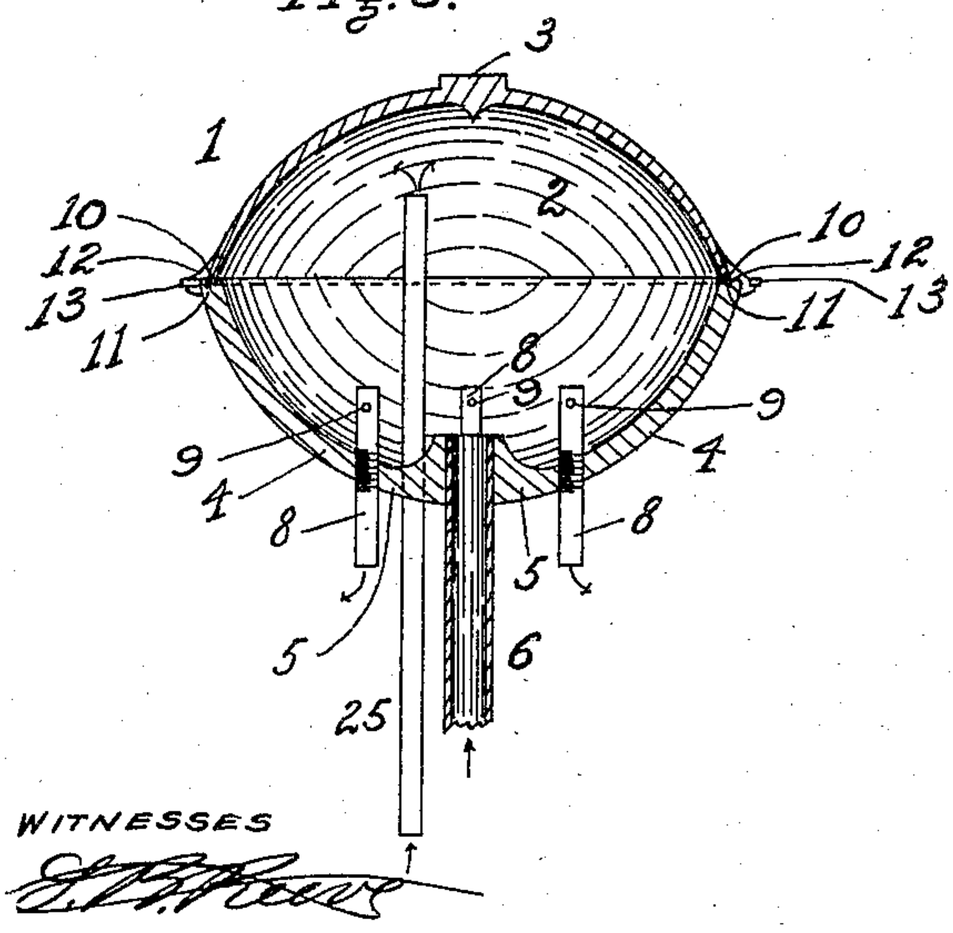
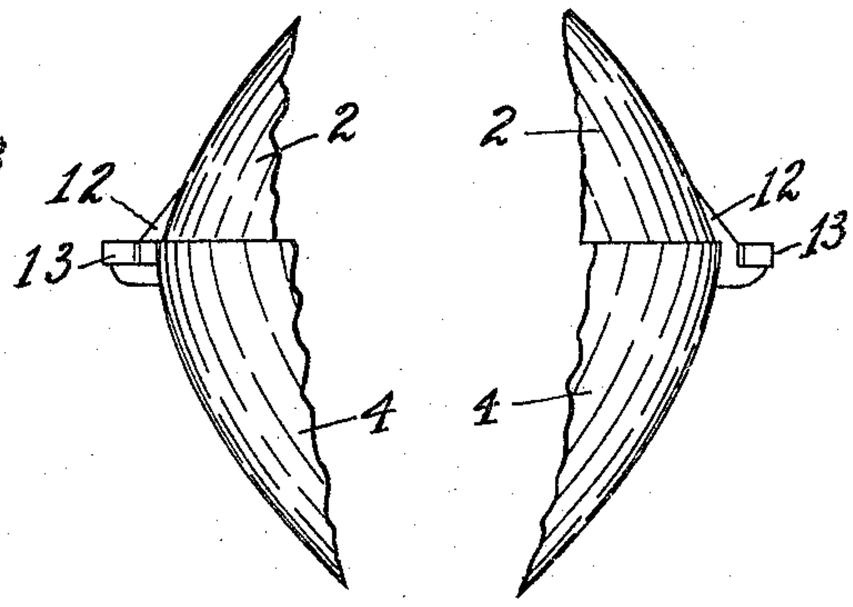


Fig. 6.



WITNESSES

L. B. Alderete

INVENTORS

Louis B. Webster

Harry B. Webster

BY Charles S. Rogers

their ATTORNEY

No. 783,161. Patented February 21, 1905.

UNITED STATES PATENT OFFICE.

LOUIS B. WEBSTER AND HARRY B. WEBSTER, OF LOS ANGELES, CALIFORNIA.

BURNER.

SPECIFICATION forming part of Letters Patent No. 783,161, dated February 21, 1905.

Application filed May 22, 1902. Serial No. 108,561.

To all whom it may concern:

Be it known that we, LOUIS B. WEBSTER and HARRY B. WEBSTER, citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Burner, of which the following is a specification.

This invention relates to heating apparatus, and particularly to burners constructed to consume liquid fuel; and some of the objects of the invention are to provide a burner of this character which will be simple and cheap in construction and effective for the purpose designed.

Another object of the invention is to provide a burner constructed to be regulated by one valve, which controls the supply of fuel, and to provide a burner so constructed that access may be gained to the interior thereof by a partial rotation and subsequent removal of the top or dome of the burner.

Furthermore, an object of this invention is to provide a retort or vaporizer wherein no overflow of oil is required to ignite or start the burner, whereby the burner and adjacent parts are always clean.

With these and other objects in view the invention consists, essentially, in the construction, combination, and arrangement of parts, substantially as more fully described in the following specification and as illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is a central sectional view of a burner embodying some of the improvements. Fig. 2 is a top plan view of the same. Fig. 3 is a sectional view of a burner of slightly-different contour and constructed with an increased heating-surface for the fuel employed. Fig. 4 is a top plan view of the same with the cover or dome removed. Fig. 5 is a central sectional view of still another form of burner wherein an air-inlet is employed; and Fig. 6 is a side elevational view, partly broken away, illustrating the locking means employed.

Similar characters of reference designate corresponding parts throughout the several views.

Referring to the drawings and particularly to Figs. 1 and 2 thereof, the reference character 1 designates a retort or vaporizer, preferably circular in form and desirably embodying an upper portion or dome 2, which may be provided with an angular extension 3 to receive a wrench or other device for the purpose of turning or rotating the dome when it is desired to disconnect the same from the lower portion 4 of the retort or vaporizer, as hereinafter more fully explained.

The lower or bottom portion of the retort or vaporizer is preferably constructed with an interior tubular extension 5, constructed to receive a fuel-pipe 6, having connection with the source of fuel-supply, (not shown,) and the fuel-pipe 6 is preferably provided with a valve 7, of any suitable formation, by means of which the supply of fuel can be regulated and the heat of the retort or vaporizer controlled.

Adjustably or otherwise secured in the bottom portion 4, preferably around the fuel-pipe 6, Fig. 4 of the drawings, are burner-tubes or outlet devices 8, desirably terminating in a plane above the orifice of the fuel-pipe 6 and constructed with lateral ports or openings 9 to facilitate the passage of the gas generated within the retort or vaporizer into, through, and out of said burner-tubes, substantially as hereinafter set forth.

The upper and lower portions of the retort or vaporizer are preferably provided, respectively, with an annular tongue or rib 10 and an annular recess or groove 11, constructed to receive said tongue so as to form a tight joint or connection between the parts of the retort or vaporizer, and, if desired, packing may be employed between the parts, and the upper portion 2 is preferably constructed with lateral projections or lugs 12, any number whereof may be employed to engage the inclined face or edge of recessed lugs or sockets 13 upon the lower portion 4. (See particularly Fig. 6 of the drawings.) By means of this construction the upper and lower portions of the burner are removably connected and may be readily disconnected by a slight rotation of the upper portion 2 by means of a wrench or other tool engaging the angular

extension 3 upon the upper portion or dome 2 of the retort or vaporizer without the use of bolts, screws, and similar devices, which are injured by the intense heat to which the parts are subjected.

Adverting to Figs. 3 and 4 of the drawings, there is illustrated a slightly-modified form of the construction hereinbefore described and shown, wherein the contour or exterior configuration of the retort or vaporizer is somewhat changed, as may be done in practice without departing from the invention.

In Figs. 3 and 4 the burner therein illustrated embodies a flat circular top or cover 15, having an angular extension or turning portion 16, and the annular depending rim 17 of the top portion is preferably provided with an annular rib or tongue 18 to enter an annular recess or groove 19 in the edge of the bottom portion 20, which is preferably constructed with a receding central portion 21, wherein is mounted a supply or fuel pipe 22, and burner-tubes or outlet-pipes 23 may be adjustably or rigidly mounted in the bottom portion 20, around the receding center thereof, substantially as shown in Fig. 4 of the drawings.

By constructing the bottom portion 20 with a receding center the heating surface or area thereof is increased and the greater amount of fuel is subjected to heat and is thereby more rapidly volatilized, as will be readily understood.

The operation of the invention as far as the same has been described will be readily understood from the foregoing description, when taken in connection with the accompanying drawings and the following explanation thereof:

The liquid fuel, preferably oil, is introduced through the valved fuel-pipe into the retort or vaporizer until a sufficient amount of fuel shall have entered the retort or vaporizer, whereupon heat is applied to the bottom portion of the retort or vaporizer around the fuel-pipe, by means of a torch or otherwise, until the oil within the retort or vaporizer shall have become volatilized and the gas therefrom escapes through the outlet-pipe and ignites from the flame of the torch, whereupon the valve in the fuel-pipe is again turned on and the fuel is allowed to flow into the retort or vaporizer, where it is converted into gas by the heat from the gas burning at the lower extremities of the burner-tubes or outlet-pipes, as before stated, and the accumulating gas in the upper portion of the retort or vaporizer is forced down through the outlet-pipes, thus creating a supply to maintain combustion at the lower extremity or orifice of the outlet-pipes, as will be readily understood. By means of this construction the heat from the burning gas volatilizes the fuel in the retort or vaporizer and produces more gas within the retort or vaporizer, which is forced outwardly to be burned at the orifice of the burner-tubes.

In Fig. 5 of the drawings there is illustrated a modified form of the constructions hereinbefore described and shown, wherein a retort or vaporizer substantially similar to that illustrated in Figs. 1 and 2 of the drawings is shown; but in this construction the retort or vaporizer is provided with an air-inlet or draft tube 25, located in the bottom portion of the retort or vaporizer, and it preferably extends below the free end of the outlet-pipes upon the outside of the retort or vaporizer and above said pipes upon the inside of the retort or vaporizer in order that the air or draft may be taken into said pipe 25 below the flame from the orifice of the outlet-pipes and liberated within the retort or vaporizer above the gas therein, the air being drawn into the burner or retort by the action of the gas escaping through the burner-tubes, aided by the atmospheric pressure, so as to burn commingled gas and air instead of gas alone.

It is not desired to confine this invention to the specific construction, combination, and arrangement of parts herein shown and described, and the right is reserved to make all such changes in and modifications of the same as come within the spirit and scope of the invention.

We claim—

1. A retort provided with an upper and lower portion having engaging lugs, said lower portion having a central interior extension, a fuel-pipe mounted in said extension so that the fuel will flow down the sides thereof, and burner-tubes surrounding said extension and fuel-pipe.

2. A retort having a bottom constructed with a central frusto-conical depressed portion, whereby increased surface is provided for the action of the heat, a fuel-pipe in said depressed portion and depending burner-tubes mounted around said depressed portion.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

LOUIS B. WEBSTER.
HARRY B. WEBSTER.

Witnesses:
J. W. KEMP,
L. B. ALDERETE.