

G. J. McPHERSON.
HYDROCARBON BURNER.
APPLICATION FILED DEC. 10, 1909.

972,014.

Patented Oct. 4, 1910.

FIG. 1.

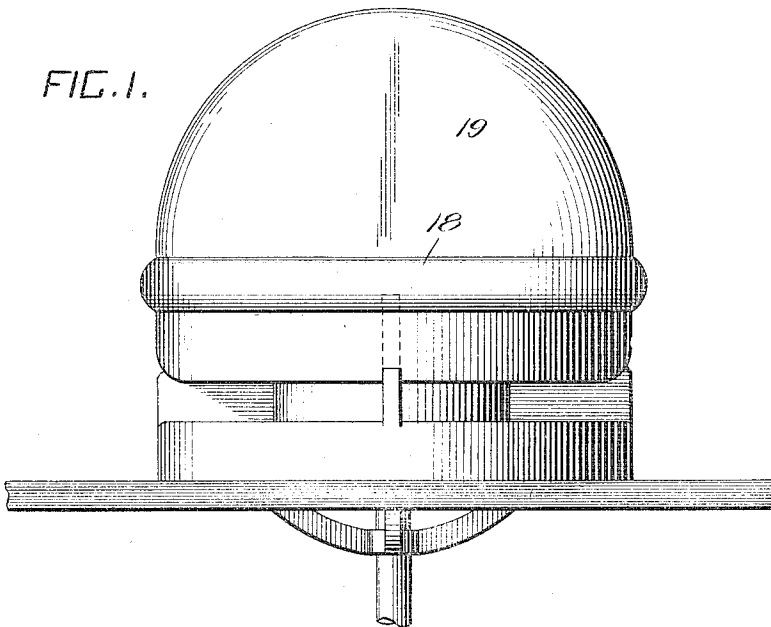
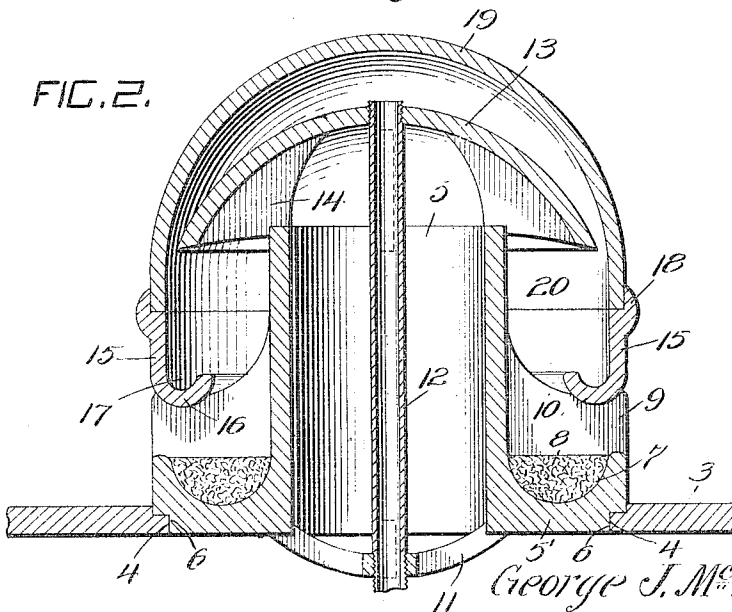


FIG. 2.



Inventor

George J. McPherson

Witnesses

Edw. Gibson.

Wm. Bagger

By

Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

GEORGE J. McPHERSON, OF SALT LAKE CITY, UTAH, ASSIGNOR TO INTERNATIONAL OIL GAS PRODUCER COMPANY, A CORPORATION OF UTAH.

HYDROCARBON-BURNER.

972,014.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed December 10, 1909. Serial No. 532,433.

To all whom it may concern:

Be it known that I, GEORGE J. McPHERSON, a citizen of the United States of America, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented new and useful Improvements in Hydrocarbon-Burners, of which the following is a specification.

This invention relates to that class of hydro-carbon burners which are adapted to burn any of the liquid hydro-carbons, whether light or heavy, such as gasoline, kerosene, crude oil or the like, and which are adapted to be used in connection with stoves or furnaces of ordinary construction without requiring a special furnace construction.

The present invention has among its objects to provide a simple and efficient device of this class wherein the vaporization of the fuel will be thoroughly effected prior to its consumption.

A further object of the invention is to provide for the admission of atmospheric air in large quantities and for the heating of such air to a high temperature prior to its admixture with the hydro-carbon vapors, thus producing a highly combustible and smoke-free gas.

Still further objects of the invention are to simplify and improve the general construction and operation of a device of the character outlined above.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claim.

In the accompanying drawing has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawing,—Figure 1 is a side elevation of a hydro-carbon burner constructed in accordance with the invention. Fig. 2 is a vertical sectional view of the same.

Corresponding parts in both figures are denoted by like characters of reference.

A base plate 3 adapted to rest upon or to

replace an ordinary stove or furnace grate 55 is provided with an aperture 4 for the reception of the body of the improved burner which consists of a tubular cylinder 5 provided adjacent to its lower edge with a circumferential flange 5' shouldered, as shown at 6, to fit the aperture 4 and having in its upper side an annular groove 7 in which absorbent refractory material, such as asbestos, broken fire brick or the like may be placed, as indicated at 8. The cylindrical body 4 is also provided with laterally extending vertically disposed webs or flanges 9 having shallow grooves 10 in the upper edges thereof. The tubular body is provided adjacent to its lower end with a spider 11 having a centrally disposed threaded aperture wherein an inlet pipe 12 for liquid fuel may be supported, said inlet pipe being extended above the tubular cylindrical body 4 and provided adjacent to its upper end with an approximately concave-convex spreader 13, the convex face of which is presented upwardly, as shown; the concave side or face of the spreader is provided with webs 14 designed to abut upon the upper edge of the tubular body 5, for the purpose of limiting its downward movement and enabling the parts to be firmly and securely assembled. The spider 11 may be integral with or separate from the cylindrical tubular body; in the latter event it will abut upon the underside of the flange 5' when the parts are assembled, as will be readily understood.

An annular burner ring 15 is provided adjacent to its lower edge with an inturned flange 16 forming an annular groove or gutter 17 adapted to receive the drippings from the spreader 13; the grooved or guttered annular flange 16 is adapted to be seated in the notches or recesses 10 in the upper edges of the webs 9 extending from the tubular cylindrical body 5.

The ring 15 is provided adjacent to its upper edge with an annular flange 18 forming a seat for the burner cap or dome 19 which completely incloses the spreader and extends suitably above the latter. This dome forms a smooth unobstructed exterior finish to the improved burner.

The improved burner may be mounted for operation upon or in the place of the grate of an ordinary stove or furnace, and the

lower end of the inlet pipe 12 is to be connected with a suitable source of supply from which liquid hydro-carbon may be fed by gravity or in any other suitable and convenient manner, the flow being likewise controlled in any suitable and well known manner. The fuel entering through the pipe 12 is distributed in a thin sheet over the spreader 13 from which it passes to the groove or gutter 17, the overflow from the latter passing to the absorbent material in the groove 7 where it may be readily ignited. As heat is deflected the contents of the groove 17 are vaporized, and said groove, as well as the cylindrical body 5, the spreader 13 and the cap 19 soon become intensely heated with the result that the air entering through the tubular cylinder 5 will become intensely heated before commingling with the hydro-carbon vapors, the mixing taking place in the annular space surrounding the tubular cylinder 5 below the spreader and which may be regarded as constituting a mixing chamber 20. The resulting gases become ignited in passing over the incandescent contents of the groove 7, and the flames will issue through the spaces between the flange 5' and the burner ring 15, producing an intense heat and burning with a clear blue flame.

The device of this invention, as will be seen from the foregoing, is very simple in

construction and may be produced at a moderate expense.

An important advantage of the device resides in the fact that its construction and arrangement is so entirely free from complication that any house wife may quickly learn the use and management thereof.

Having thus described the invention, what is claimed as new, is:—

In a device of the character described, a cylindrical tubular body having a grooved flange adjacent to its lower end and provided with laterally extending webs having notches in their upper edges, a burner ring seated upon the notched webs and having an inverted annular flange forming an annular receiving groove or gutter, a feed tube extending through the tubular cylinder, a spider threaded upon the feed tube and engaging the lower end of the cylinder, a spreader threaded upon the feed tube and having webs engaging the upper end of the cylinder, and a dome seated upon the burner ring and inclosing the spreader and the upper end of the tubular cylinder.

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

GEORGE J. McPHERSON.

Witnesses:

JOHN W. BURTON,
JAMES H. NEWTON.