

J. HARPER.
LIQUID FUEL BURNER.
APPLICATION FILED MAY 8, 1912.

1,036,615.

Patented Aug. 27, 1912.

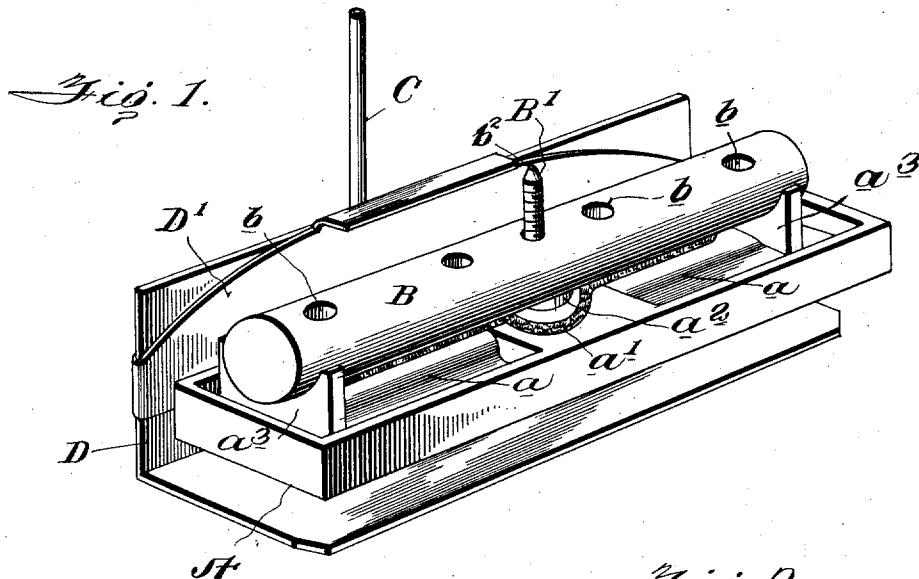


Fig. 2.

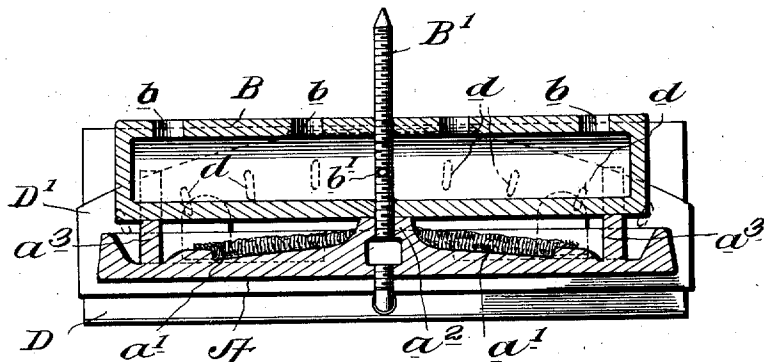


Fig. 3.

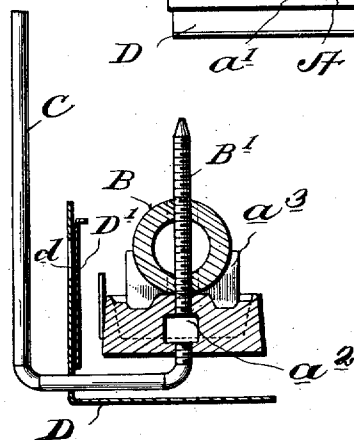
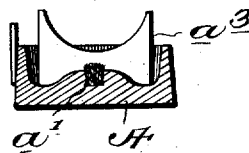


Fig. 4.



Witnesses

H. H. Murray
James F. Fitzgibbon

Inventor

John Harper

By

J. F. Beale.

Attorney

UNITED STATES PATENT OFFICE.

JOHN HARPER, OF FAIRFIELD, IOWA.

LIQUID-FUEL BURNER.

1,036,615.

Specification of Letters Patent.

Patented Aug. 27, 1912.

Application filed May 8, 1912. Serial No. 695,898.

To all whom it may concern:

Be it known that I, JOHN HARPER, citizen of the United States, residing at Fairfield, in the county of Jefferson and State of Iowa, have invented certain new and useful Improvements in Liquid-Fuel Burners, of which the following is a specification.

My invention relates to liquid fuel burners for stoves and cooking ranges, and it is my object to provide an improved type of burner adapted for fluid fuels generally and particularly crude oil and petroleum.

My invention consists of an oblong double burner comprising a base burner and a superposed over-flow reservoir burner vertically adjustable relative to the base burner whereby vaporization of the fuel may be increased or diminished as required for greater or less heat.

My invention further consists of a fire-shield to protect the wall of a fire-box not lined by brick.

My invention further consists of the parts and combination of parts as hereinafter described and pointed out in the claims.

In the accompanying drawings forming a part of this specification Figure 1 is a perspective view of my burner. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a cross sectional view, and Fig. 4 is a detailed sectional view showing the wick in place.

Referring more particularly to the drawings A denotes the base-burner which is of an oblong rectangular shape provided with longitudinal channels a running lengthwise, extending from end to end of the burner where they join, forming an endless trough for the liquid fuel. Midway between said said channels is a groove in which is secured a wick a' running longitudinally of the base and coextensive with said channels a . Midway of its length, said wick following said groove, forms a circle around a threaded connection a^2 . This connection serves at its lower end as a union for the feed pipe, while its upper end being elongated and threaded serves for union of an adjustable nozzle hereinafter described. a^3 , a^3 , denote detachable standards at each end of said base. B denotes the reservoir burner superposed above the base burner by said standards a^3 . The burner B consists of a cylinder closed at each end, slightly shorter than the base-

burner and of less width, and provided on top with a series of openings b .

B' denotes the burner nozzle screwthreaded its entire length, and passes centrally through the reservoir burner in threaded holes therein, its lower end engaging the threads in the connection a^2 ; whereby it is adjustable vertically and being rigidly attached to the reservoir burner serves to regulate the vertical adjustment of this burner relative to the base burner. Said nozzle is provided with two openings for supplying the liquid fuel, one at its upper end b^2 and another opening b' leading to the hollow interior of the reservoir burner.

C denotes the feed pipe, its upper end connects with the fuel supply tank, not shown, and its lower end is joined to the connection a^2 . At this point under the base burner the feed pipe turns at right angles passes through the center of a shield herein-after described whence it again turns at right angles and is projected vertically above the vertical wall of said shield.

D denotes a shield which passes under the base burner, turns at right angles thereto and projects upwardly at one side thereof, where it is provided with draft openings d . D' denotes a slide damper for said openings having its side edges flanged to form ways for slidably mounting said slide on the upper right portion or wall of said shield.

In operation the burner can be readily lowered into the fire-box of the stove and rest upon the grate; the upper or reservoir burner is then overflowed, the liquid fuel escaping through the openings in the top of this burner and running over the sides falls into the base-burner. The fluid also escapes through the upper end of the nozzle and this admits of igniting the burner at this point whence the burning liquid is carried by gravity to and around the upper burner and thence to the base-burner. To adjust the burner for a hot fire the reservoir burner is raised higher above the base-burner thereby giving a greater vertical spread to the flame. This vertical adjustment of the upper burner relative to the lower is effected by turning the nozzle in the required direction to engage the threaded connection a^2 .

The feed pipe can be passed through an opening drilled in the stove at any suitable point depending upon the size and structure

thereof. The shield is designed to protect that portion of the fire-box adjacent to the draft openings therein. Two pairs of detachable standards *a*³ designed to support the ends of the reservoir burner are furnished; one pair for supporting the burner at its lowest vertical adjustment, and a higher pair for the maximum adjustment. It is evident however that I may dispense with said standards and depend entirely upon the nozzle support at the center of said burner.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

15 1. An oblong liquid fuel double burner comprising an oblong base-burner, an oblong reservoir burner superposed upon and held in parallel relation to and adapted to supply fuel to said base burner, a nozzle connecting said burners midway of their length provided with a fuel escape opening into the reservoir burner and a like opening above said reservoir burner, means for vertically adjusting the reservoir burner rela-

tive to the base-burner, and a fuel supply pipe communicating with said nozzle.

2. An oblong liquid fuel double burner comprising an oblong rectangular base-burner, an oblong reservoir burner superposed upon and held in parallel relation to and adapted to supply fuel to the base-burner, a nozzle connecting said burners provided with a fuel escape opening above and an opening into the reservoir burner and adapted to vertically adjust the reservoir burner relative to the base-burner, means for supplying fuel to the nozzle, a shield having a vertical wall adjacent to one side of said oblong burner provided with draft openings therein, and means for regulating the draft through said openings.

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

JOHN HARPER.

Witnesses:

AMOS FOOTE,
D. E. CECEIL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."