A. B. BRUNER.

HYDROCARBON BURNER.

APPLICATION FILED DEC. 14, 1908.

949,214. Patented Feb. 15, 1910.

Fig. 1.

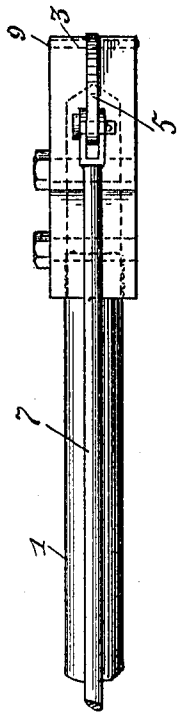
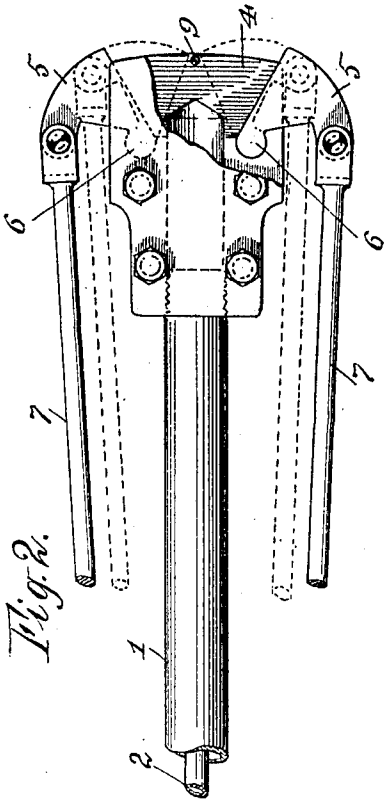
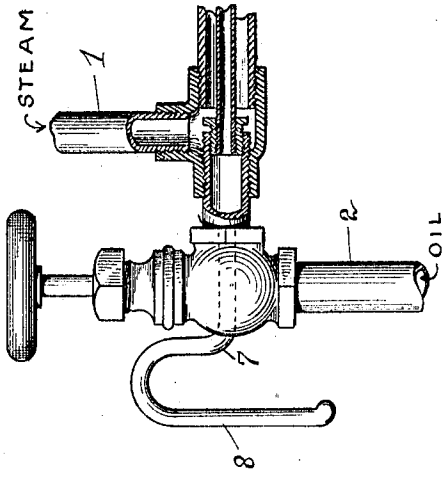


Fig. 2.





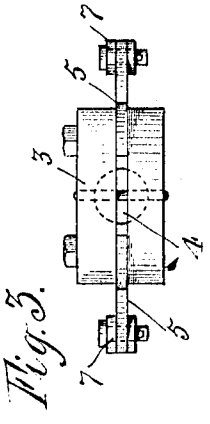
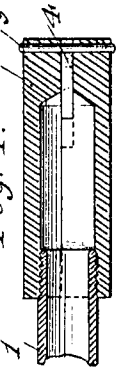


Fig. 3.

Fig. 4.



Witnesses,

H. Hollanteverde.

M. A. Palmer.

Inventor,

Adam B. Bruner,

by Hazard & Thauer,

Attorneys.

NORRIS PETERS, INC. LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ADAM B. BRUNER, OF LOS ANGELES, CALIFORNIA.

HYDROCARBON-BURNER.

949,214. Specification of Letters Patent. Patented Feb. 15, 1910.

Application filed December 14, 1908. Serial No. 467,457.

To all whom it may concern:

Be it known that I, ADAM B. BRUNER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Hydrocarbon-Burners, of which the following is a specification.

The object of my invention is to provide simple and reliable means to control the discharge orifice or mouth of the burner and to that end I provide means whereby the flame can be expanded or contracted at will and thereby eject into the furnace a broad flame or a narrow one or limit the width of the same as desired. I accomplish this object by means of the device described herein and shown in the accompanying drawings, in which:—

Figure 1— is a side elevation of my improved burner partly broken away and partly in section. Fig. 2— is a plan view of the burner tip with my nozzle regulating means in place thereon, the burner tip being partly broken away. Fig. 3— is an end view of the burner tip with my regulating means shown in its open position. Fig. 4— is a transverse central section of the burner tip.

The steam and oil are fed to the burner tip in the usual well known manner, that is to say the steam is fed to the burner through pipe 1 and the oil through pipe 2 and after being vaporized and mingled together pass out through the burner tip 3 in the usual manner. The burner tip is provided with an adjustable flaring discharge port 4. This port is adapted to be opened and closed as desired by means of the swing jaws 5. These jaws are pivoted at 6 and are opened and closed by the regulating stems or rods 7 which project backwardly out of the furnace and terminate in a handle 8 easily accessible to the fireman.

In Figs. 1 and 2 I have shown the orifice in the burner tip in its broad open position in full lines, in which position it is adapted to eject into the combustion chamber of the furnace the atomized hydrocarbon which is converted into a broader fan-shaped flame. In Fig. 2 I have shown in dotted lines these movable jaws in their closed position. Projecting downwardly across the discharge opening I have provided the bolt 9 which is adapted to divide the flame into two parts and at the same time to provide an abutment against which the swinging jaws will contact when the burner is closed. This bolt 9 also provides means whereby the flame may be divided so as to not impinge against the "belly" of the boiler where mud and sediment usually accumulate in horizontal boilers, thus protecting the boiler from excessive heat at that particular point.

It will be manifest by the construction shown in the accompanying drawings and described herein that the flame discharged from the burner tip can be thrown to the right or left or in a fan-shaped sheet of flame as desired or it can be thrown into a central sheet into the center of the combustion chamber giving the attendant ample control over the same. It will also be observed that by the operation of the jaws 5 that the burner outlet will be free of all accumulations, thus readily enabling the operator to cleanse the burner tip without the necessity of removing the burner from the fire box.

Having described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a hydrocarbon burner, a burner tip provided with a fuel discharge slot, a plurality of closures pivotally mounted in said slot, said closures being movable in a horizontal plane with respect to the burner discharge slot, and a separate control means for each closure.

2. In a hydrocarbon burner, a burner tip provided with a fuel discharge slot, a plurality of closures pivotally mounted within said slot, flame dividing means secured to said tip in said discharge slot, and means to control the movement of said closures.

3. In a hydrocarbon burner, a burner tip provided with a horizontally disposed fuel discharge slot, a pair of closures pivotally mounted within said slot near the ends thereof, said closures being movable in a horizontal plane with respect to the burner discharge slot, and rods to control the movement of said closures.

4. In a hydrocarbon burner, a burner tip provided with a horizontally disposed fuel discharge slot, a pair of fan-shaped closures pivotally mounted within said slot near the ends thereof, and a controlling rod pivotally secured to each closure.

5. In a hydrocarbon burner, a burner tip provided with a fuel discharge slot, said burner tip adapted to project within a combustion chamber, a pair of closures pivotally mounted within said slot, and rods to control the movement of said closures, said rods extending without the combustion chamber.

In witness that I claim the foregoing I have hereunto subscribed my name this 5th day of December, 1908.

ADAM B. BRUNER.

Witnesses:
M. A. PALMER,
EDMUND A. STRAUSE.