

982,960.

A perspective view of the apparatus. It shows a rectangular frame A. Inside the frame, there are two horizontal tubes, 1 and 2. Tube 1 is at the top, and tube 2 is below it. On the left side, there are two vertical tubes, 3 and 4. Tube 3 is connected to tube 1, and tube 4 is connected to tube 2. There are various valves and fittings labeled 5 through 12. A horizontal tube 5 is at the bottom of the frame. A vertical tube 6 is on the left side. A horizontal tube 7 is in the center. A vertical tube 8 is on the right side. A horizontal tube 9 is at the top right. A vertical tube 10 is on the right side. A horizontal tube 11 is at the top left. A vertical tube 12 is on the left side. The frame A is supported by a base X.

Fig. 1.

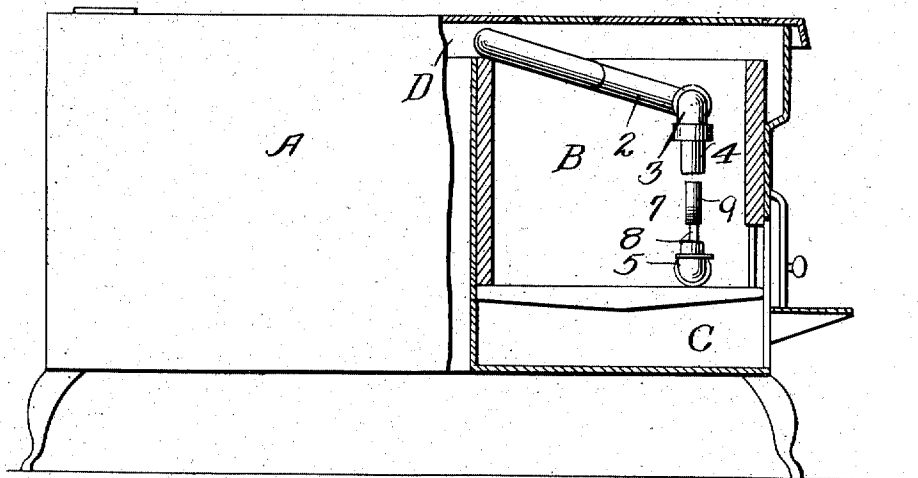
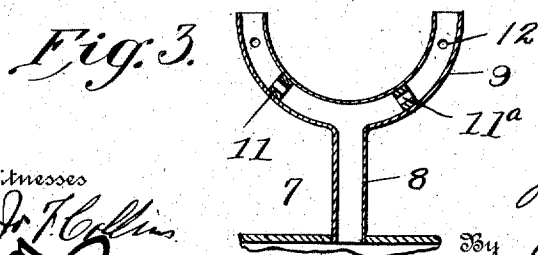


Fig. 2.



Witnesses

Jr. F. Collins

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UNITED STATES PATENT OFFICE.

JEFFERSON B. HAYDEN, OF SAN ANGELO, TEXAS.

LIQUID-FUEL BURNER.

982,960.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed February 9, 1910. Serial No. 542,834.

To all whom it may concern:

Be it known that I, JEFFERSON B. HAYDEN, a citizen of the United States, residing at San Angelo, in the county of Tom Green and State of Texas, have invented certain new and useful Improvements in Liquid-Fuel Burners, of which the following is a specification.

My invention relates to devices for burning liquid fuel and has for its object the provision of a burner that will consume heavy semi-refined petroleum, or the naphtha that is the resultant of the treatment of petroleum after the asphaltum, lamp black and paraffin have been extracted, and that will economically burn said oil with the maximum of heat proportioned to the amount of oil consumed.

My invention will be described in detail hereinafter and illustrated in the accompanying drawings in which—

Figure 1 is a view of the front of an ordinary kitchen stove or range partly broken away to show my improved burner in position therein and in side elevation. Fig. 2, a cross-section of the stove on the line X—X of Fig. 1, the pipe 4 being broken away, and Fig. 3, an enlarged view in cross section of one of the burner nozzles.

In the drawings similar reference characters indicate corresponding parts in the several views.

A indicates a kitchen stove or range having the fire box B, the air chamber C and duct D for the exit of the products of combustion.

My improved burner consists of a tube 1 made preferably of copper and connected with any suitable source of supply of liquid fuel (not shown) said tube being led into the fire box B in any suitable manner and formed with folds 2, the several folds being in the same plane and inclined downwardly from the uppermost tube at an angle of 20 degrees to a horizontal plane and away from the duct D.

3 indicates a right angle or elbow coupling mounted on the end of pipe 1, 4 a short length of tubing revolubly secured therein and extending vertically downwardly, 5 an-

other right angle coupling secured to the free end of tube 4 and 6 a length of horizontal tubing secured to the free end of coupling 5.

In the drawings I have shown three burner nozzles 7 secured to tube 6, said nozzles being identical in construction and consisting of a vertical portion 8, laterally extending curved portions 9 that form a substantial semicircle, one of said burners being secured to the end of tube 6, by means of right angle joint 10, and the other nozzles being tapped into the tube intermediate of its ends. Each of said curved portions 9 is provided with a plug or partition 11 remote from its mouth and provided with a small central orifice 11^a for the emission of the gas or vapor, and holes 12 in its sides intermediate of the plug and the mouth of the tube.

In operation the vapor pouring from the orifice 11^a is mixed with the air that is drawn through holes 12 and the ignited mixture heats the folds 2 of the pipe 1 to vaporize the fuel before reaching the nozzles.

By arranging the folds 2 on a plane 20 degrees from the horizontal and downwardly from duct D, as described, I provide for utilizing the full effect of the heat from the flames as the draft of air from air chamber C toward the duct D causes the heat from the flames to reach the folds most effectually. This arrangement of the folds also provides for the most economical disposition of the burner in the cooking stove or range as ordinarily constructed.

The construction of the support for the tube 6 by which it is revolubly mounted in the coupling 3 provides for adjusting the tube 6 and the nozzles 7, by swinging the tube, so as to secure the most effectual operation of the burner.

Having thus described my invention what I claim is—

1. A liquid fuel burner comprising a vaporizer formed in folds, said folds being on an inclined plane, a pipe mounted to swing on the end of said vaporizer, and burner nozzles secured to said swinging pipe.

2. A liquid fuel burner comprising a vaporizer formed in folds, said folds being

on an inclined plane, an elbow coupling on the end of said vaporizer, a tube revolubly mounted in said coupling, an elbow coupling secured to the lower end of said tube, a horizontal pipe secured in the last mentioned coupling, and burners secured to said horizontal pipe.

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

JEFFERSON B. HAYDEN.

Witnesses:

J. W. SEWELL,

J. F. WHITE.