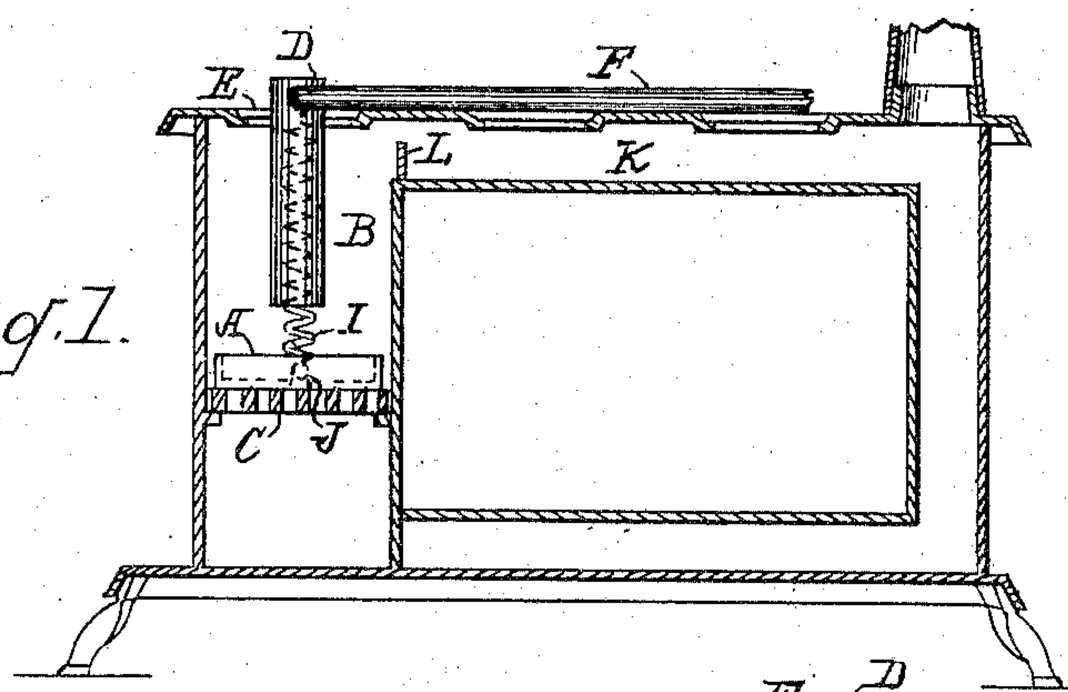
J. B. BRENNAN.

CRUDE OIL BURNER.

APPLICATION FILED APR. 19, 1909.

947,293. Patented Jan. 25, 1910.

Fig. 1.



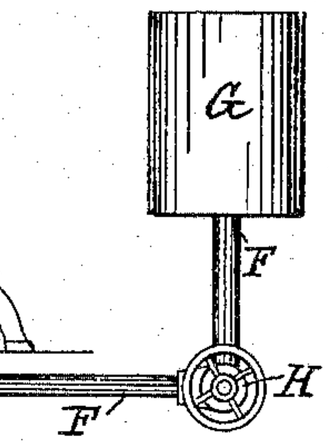
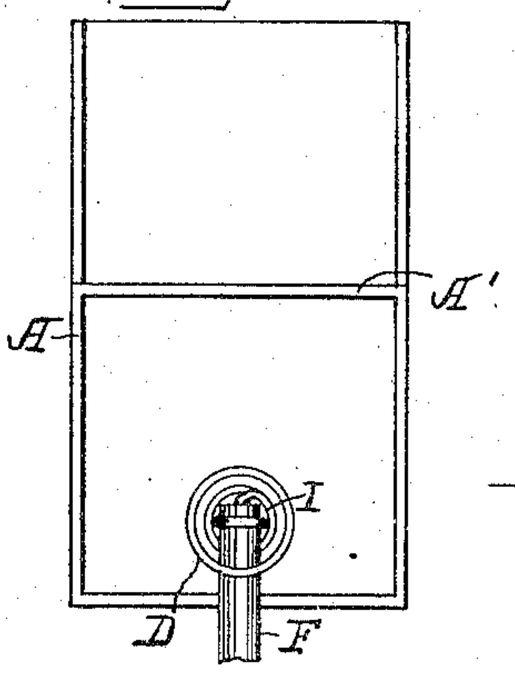


Fig. 3.



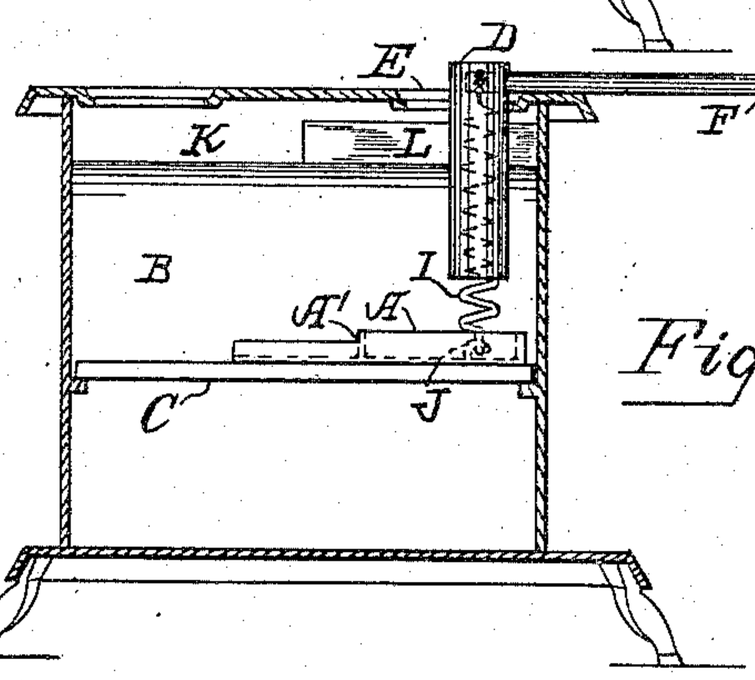


Fig. 2.

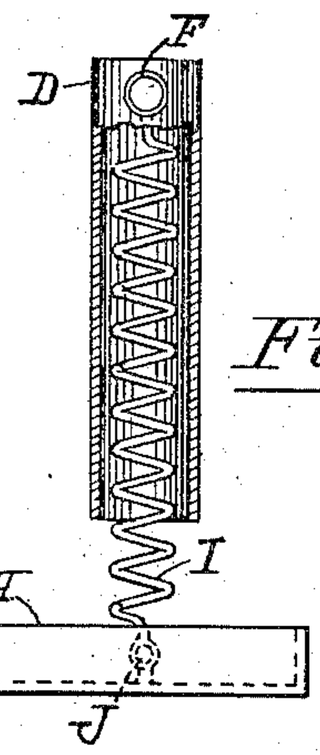


Fig. 4.

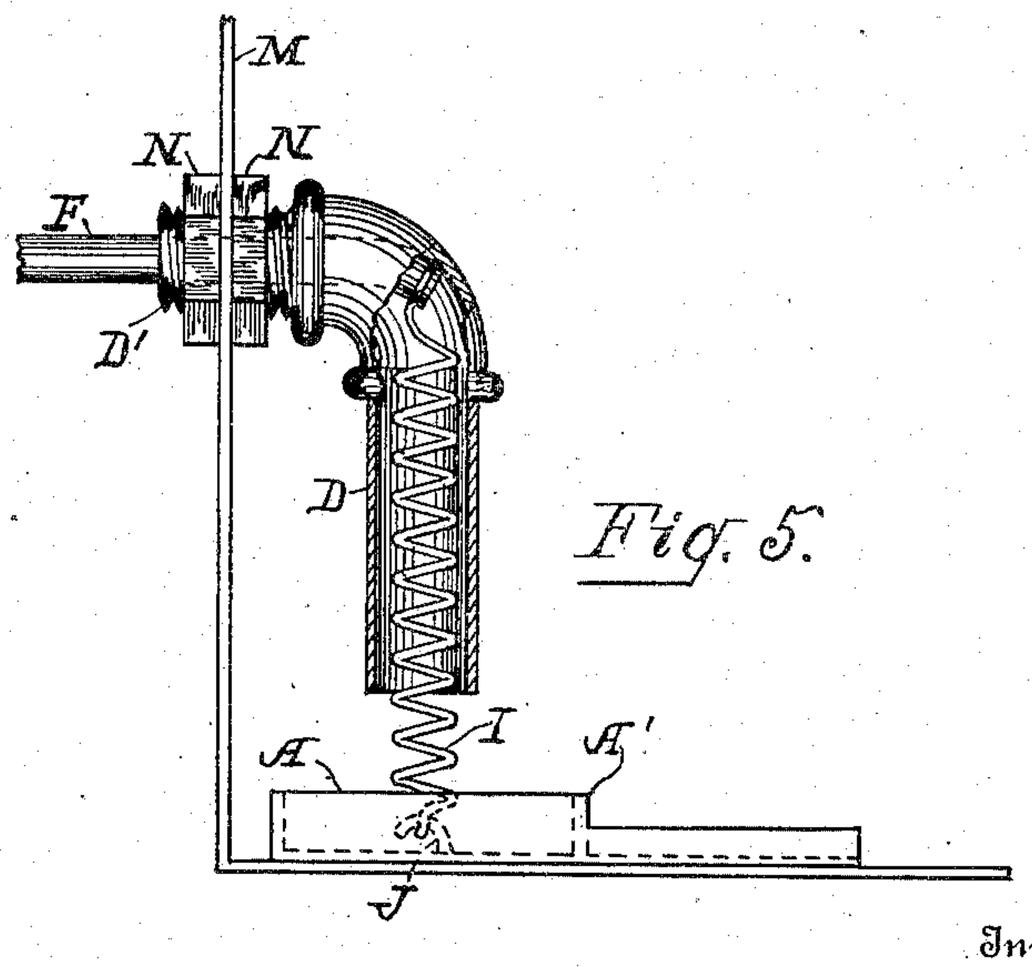


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

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CRUDE-OIL BURNER.

947,293. Specification of Letters Patent. Patented Jan. 25, 1910.

Application filed April 19, 1909. Serial No. 490,983.

To all whom it may concern:

Be it known that I, JOHN B. BRENNAN, a citizen of the United States, residing at Sherman, in the county of Grayson and State of Texas, have invented certain new and useful Improvements in Crude-Oil Burners, of which the following is a specification.

This invention relates to a new and novel structure of crude-oil burners adapted for application to ordinary cooking and heating stoves, kitchen-ranges &c. the oil being fed in a gradual manner to a spirally wound wire extending through a vertical draft tube that passes downward within the fire chamber of a stove or the like, to be consumed therein; and the present improvement has for its object to provide a simple and efficient construction of parts, and means by which the combustion of the oil is attained in a safe and effective manner.

In a former application filed by me on the 6th day of March, 1909, Serial No. 481,868, a crude-oil burner is described and shown for igniting the oil within a tube located in the fire box of a stove, but does not include a spirally wound wire conductor within the tube for retarding the passage of the oil through the same.

It is the object, therefore, of the present application to include this feature; also a deflector for spreading the flame uniformly beneath the top of a stove.

The invention further relates to other details of construction, as will be pointed out in the specification and claims appended.

In the accompanying drawings, Figure 1 is a longitudinal section of a cooking stove, showing the invention applied. Fig. 2 is a transverse section. Fig. 3 is an enlarged top plan view of the burner removed from the stove. Fig. 4 is a sectional elevation of the same; and Fig. 5 is a modified form adapted for occasional use in cooking stoves, but especially suited for use in heating stoves.

Referring to the drawings, A represents a rectangular pan extending longitudinally a portion of the length of the fire box B of a cooking stove or range, of any usual construction; the same being supported when convenient, by the grate C. This pan is divided centrally into two compartments by a partition A′ and one of them may be of greater depth than the other. In one compartment, preferably the deepest, should be placed a layer of ashes; and this compartment placed beneath the vertical draft tube D at a suitable distance from the lower extremity thereof. The draft tube extends upward through a perforation preferably in one of the stove lids E.

F is the oil-supply or inlet pipe leading from an oil reservoir G located at a safe distance from the stove; and a needle-valve H, of common form is utilized to regulate the amount of oil passing to the burner. The opposite end of the oil pipe F extends from the valve and passes through one side of, and is rigidly secured near the upper end of the vertical draft tube D, extending some distance within the same. The spirally wound wire oil conductor I is of less outer diameter than the inner diameter of the tube D through which it passes and is provided at both ends with an eye, one of which is passed over the end of the oil supply pipe that extends within the draft tube D, and the other eye engages the hook J in the ash compartment of the pan A, thus securing the said conductor vertically within the aforesaid tube.

In the usual opening K of ordinary cooking stoves and ranges is placed a deflector L which serves to more thoroughly distribute the flame. It extends from the end of the stove in which the burner is placed, to about half the length of the fire-box; and from the rear wall of the fire box upon which it rests, upward to near the under side of the stove top, leaving space sufficient however for enough flame to pass over the deflector to properly heat that end of the stove; the balance of the flame passing around the end of the deflector heating other portions, the advantages of which are apparent.

In Fig. 5 the method of attaching the burner to a heating stove is shown, and when preferred cooking stoves and ranges can be equipped in the same manner. It is essentially the same as heretofore described for a cooking stove except the draft tube D has a bend outward D′ at the top end that passes through the side M of the heater, and is secured by two jam nuts N.

When oil is turned on at the valve H it passes immediately to the draft tube D and is ignited while passing down the series of spirally wound coils of wire within the same; the consequent heating of the tube causes a circulation of air through the same carrying the flame to the pan A which serves

to deflect and distribute it at that end of the fire chamber, and all drippings from the said tube when first starting the burner are caught and consumed in the pan A. With such construction the natural draft of the range &c. will cause an inward or downward flow of air through the tube D and the air passing as an annular jet around the oil saturated wire spiral to the fire box is adapted to produce a perfect combustion in the well known manner.

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

1. A range or stove comprising a combustion-chamber, a usual coal-supporting grate, a lid adapted to fit a pot-opening of the range or stove, a draft tube passing downward through said lid, an oil supply pipe entering at the top of said tube and connected to the same, a pan containing ashes beneath said draft tube and resting upon the coal supporting grate, and a spirally wound wire coil passing loosely through said tube, one end being connected to the end of the oil supply pipe and the other end to a hook formed on the bottom of the pan, substantially as herein set forth.

2. In combination with a stove having a series of openings formed in the top thereof, a lid for one of the openings, said lid having an aperture formed therein, a draft tube secured in the aperture and projecting from the lid on both sides thereof, a fuel supply pipe resting on the stove and having its end extending into the tube, a pan located beneath the tube, and a coil having one end secured to the supply pipe and the other to the pan, said coil being adapted to receive the fuel exteriorly and conduct the same downward toward the pan.

3. In a device of the character described, the combination with a fuel supply pipe, of a vertically disposed draft tube depending therefrom, a pan located beneath the tube, there being a suitable non-combustible absorbent lining in the pan, a lug formed integral with and projecting upward from the bottom of the pan, and a spirally wound wire member having one end secured to the end of the supply pipe and the other to the lug, said member being so disposed that the fuel will impinge thereon and flow downward on the exterior thereof toward the pan.

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

JOHN B. BRENNAN.

Witnesses:

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JOS. L. COBB.