

(No Model.)

J. H. IRWIN.

OIL STOVE.

No. 253,607.

Patented Feb. 14, 1882.

Fig. 1.

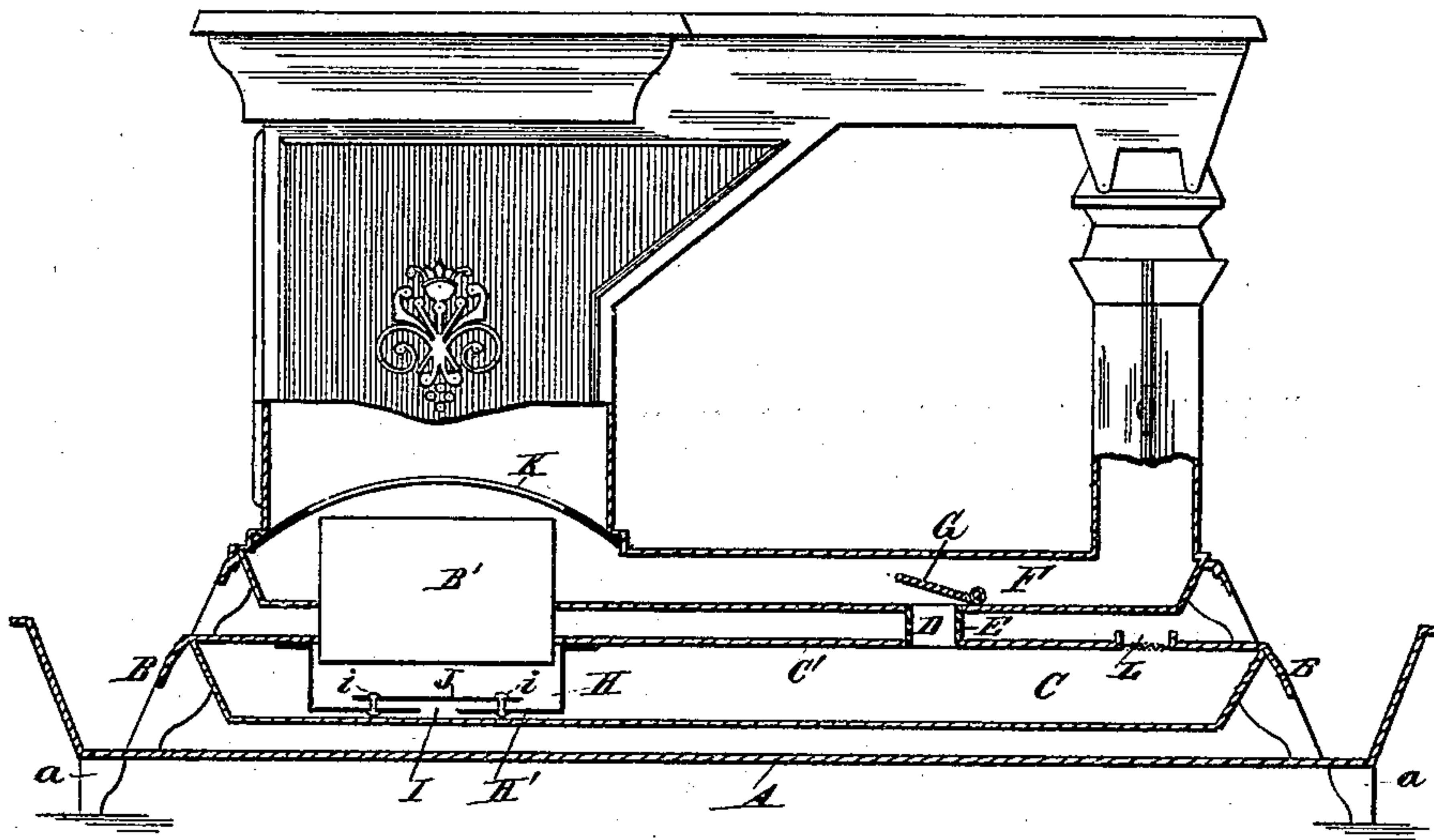
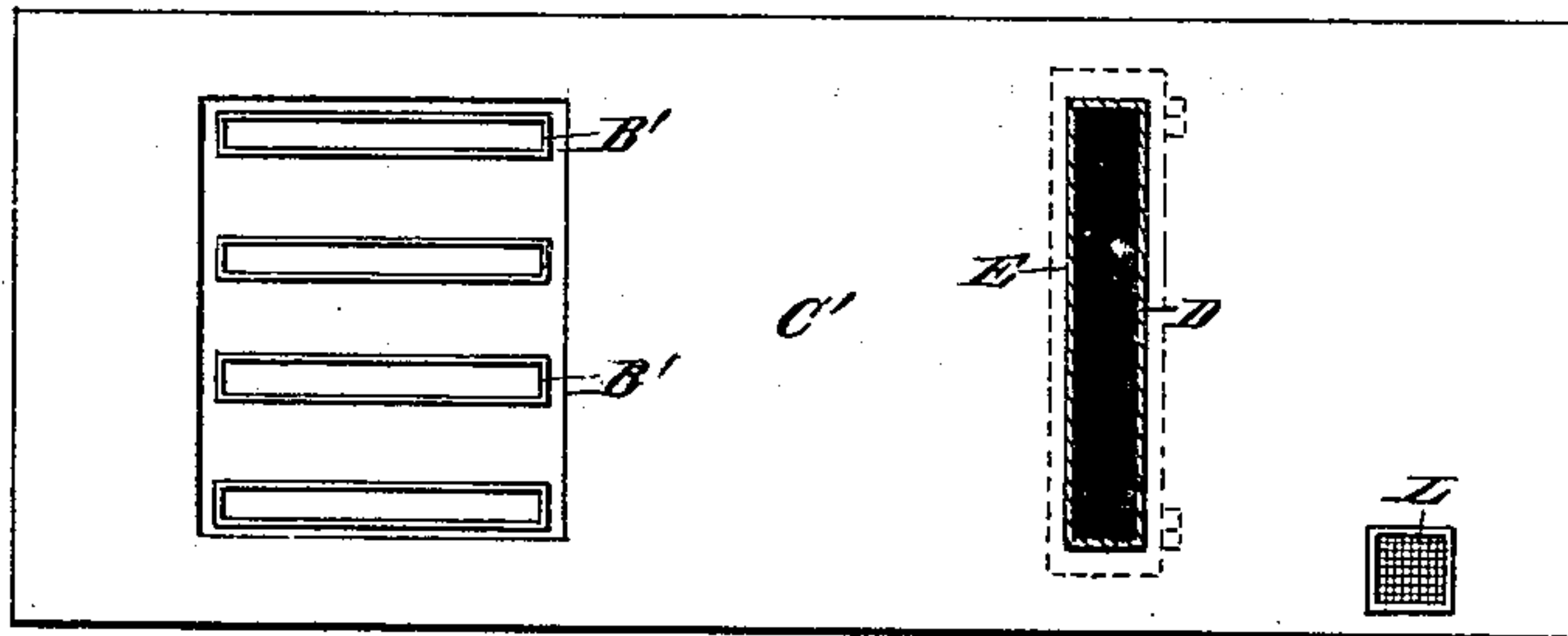


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN H. IRWIN, OF MORTON, PENNSYLVANIA.

OIL-STOVE.

SPECIFICATION forming part of Letters Patent No. 253,607, dated February 14, 1882.

Application filed September 12, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. IRWIN, of Morton, in the county of Delaware and State of Pennsylvania, have invented certain new and
5 useful Improvements in Oil-Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings and the letters marked thereon.

My invention relates especially to that class
10 of stoves, both for cooking and heating purposes, wherein hydrocarbon oils are used as fuel; and has for its object the production of a device which will be safe in use, and in which, in case of ignition of the contents of the oil-pot,
15 the flame of the burners will be instantly extinguished, my present invention embodying the same principle as heretofore set forth in an application for patent for improvement in lamp-burners filed by me August 27, 1881.

To accomplish the desired results my invention involves certain novel and useful combinations or arrangements of parts and peculiarities of construction and operation, all of which
20 will be hereinafter first fully described, and then pointed out in the claims.

In the drawings, Figure 1 is an elevation and partial section of a stove, showing the arrangement of the various parts embraced in my invention; and Fig. 2 is a plan view of the
30 top of the oil-pot.

Like letters of reference, wherever they occur, indicate corresponding parts in both the figures.

A is a metal basin, supported by suitable
35 legs, *a*, the same elevating the basin but slightly from the floor, table, or other object upon which it is placed. Said basin is of such size and shape as to permit a stove to stand therein, leaving a narrow space between the basin and
40 the oil-pot. The object of this device is to catch and retain any oil that by accident drips from the stove or that is spilled in filling the same; and in case the contents of the oil-pot takes fire and flows over, it will be caught by
45 the basin, and communication of fire to the support of the stove and running of the burning fluid upon surrounding objects will be prevented.

B is the base of the stove, in which is located
50 the oil-pot C, formed of any suitable material.

C' is the top of the oil-pot, provided at D

with an elongated perforation extending across the oil-pot from side to side. In the stove represented in the drawings perforation D is shown as provided with a collar, E, therearound, extending up into the air chamber or conduit F. Fitting over perforation D, upon the top of collar E, is a trap, G, hinged at one side, as shown.

B' are the burners, the same being of any approved pattern. Upon the interior of the
60 oil-pot, attached to the top thereof and surrounding the wick-tubes, is a chamber, H, having its bottom H' raised but a slight distance from the bottom of the oil-pot. The center of bottom H' is perforated with one or more openings, I, of sufficient capacity to supply the requisite quantity of oil to the burners. Over perforation I is a plate, J, extending beyond the perforation in each direction. This plate is held in position above said perforation by
70 means of rivets *i*, or in any other suitable manner, the plate being so placed as to leave just sufficient opening between plate I and bottom H' to permit the passage of oil to the burners, but in case of accident to substantially prevent
75 the passage of fire.

L is a suitable filler for supplying oil to the oil-pot, and K are the burner-cones, through which the flame passes.

The construction of the upper portion of the
80 stove may be of any style, that shown in the drawings being my approved tubular form.

It will be seen that by the method employed by me for supplying oil to the wicks but a very
85 small quantity of fluid will come in actual contact therewith at one time, the greater portion of that contained in the oil-pot being separated from the burners by means of the tight walls of chamber H and flowing to the wicks through a contracted tortuous channel. In case the
90 burners become heated or the flame is communicated to the oil or vapor around the wick-tubes, the passage through which they receive their supply is so constructed and arranged as in a great measure to prevent the flame reaching
95 the main body of the oil, and thus the principal danger from explosion is overcome; but when the oil is nearly exhausted and the oil-pot and its contents become heated, sometimes highly-explosive gases mixed with atmospheric air will accumulate therein. When
100 thus charged, if, by accident, this mixture be-

comes ignited by a reversal of the flame, and the stove is of the ordinary construction, an explosion, attended with the usually serious results, must follow, as there is no provision made for relieving the pressure generated in the oil-pot by such ignition. To obviate any serious results from such explosion is the object of my invention.

In my improved stove, if, by accident, flame passes to the mixture in the oil-pot, igniting it and causing explosion, the hinged trap G will be raised, allowing free escape of the products of combustion into the air-conduit to the burners, and as the trap is hinged upon the side of opening D toward the fresh-air supply, this will be substantially cut off, and the products must find vent toward the burners and through the slot in the burner-cones, doing no further damage than to instantly extinguish the flame. Should any oil remain in the oil-pot and take fire, it will be deprived of air to support combustion by the falling of the trap to its place after relieving the oil-pot of pressure, extinguishing the flame at that point.

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

1. In a hydrocarbon-oil-burning stove of the character herein specified, an opening in the oil-pot having communication with the feed air-conduit to the burners, said opening being

provided with a trap, hinged at one side, and adapted and arranged to substantially close the feed air-conduit and direct products of combustion escaping from the oil-pot toward the burners in case of explosion, substantially as shown and described.

2. In a hydrocarbon-oil-burning stove of the character herein specified, the combination, with the oil-pot, of outlet D, trap G, and air-conduit F, substantially as shown and described.

3. In a hydrocarbon-oil-burning stove, an oil-pot having a chamber surrounding the wick-tubes, and extending nearly to the bottom of the oil-pot, an opening for the passage of the fluid to the wicks being located in the bottom of said chamber, with a plate placed thereabove and secured to the bottom of said chamber, substantially as shown and described.

4. In a hydrocarbon-oil-burning stove, the combination, with the oil-pot, of jacket H, the same being perforated at bottom, and having a plate, I, located therein, substantially as and for the uses and purposes shown and described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

JOHN H. IRWIN.

Witnesses:

F. W. HANAFORD,
A. M. PIERCE.