

(No Model.)

D. E. BANGS.
Vapor Burner for Stoves.

No. 229,355.

Patented June 29, 1880.

Fig. 1.

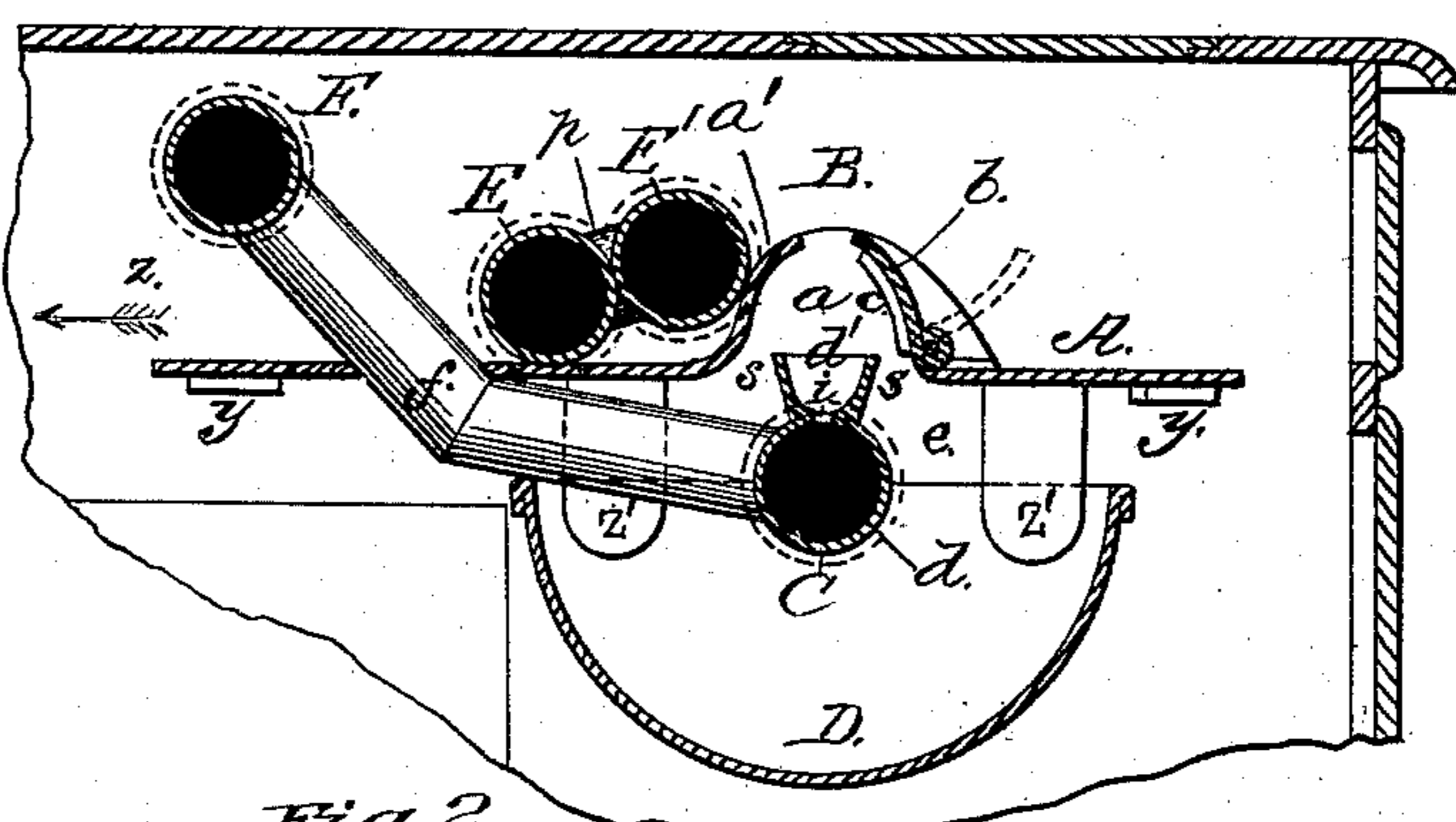
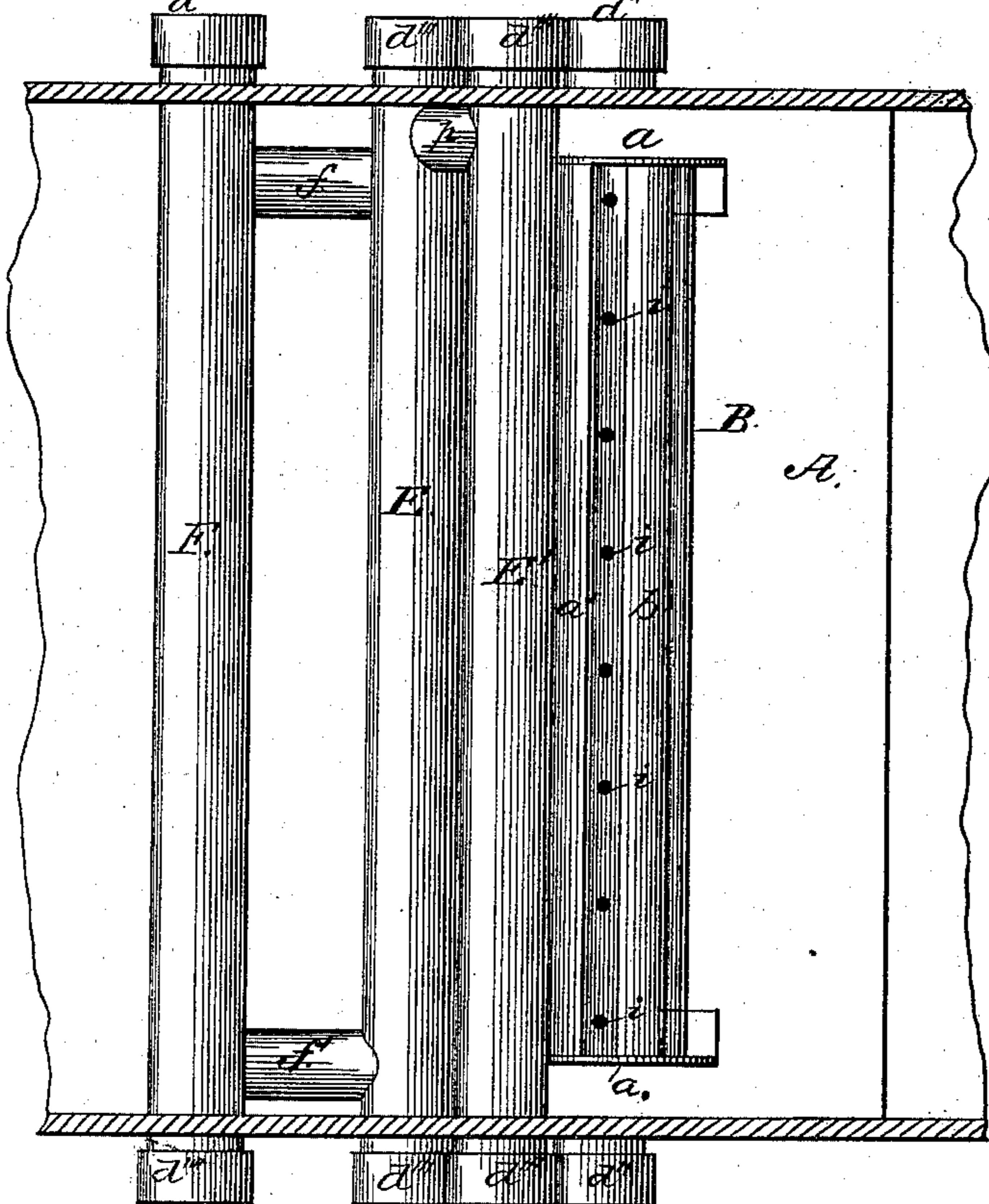


Fig. 2.



WITNESSES

John A. Lewis
A. J. Masi

INVENTOR

D. E. Bangs,
by C. W. Anderson
his ATTORNEY

UNITED STATES PATENT OFFICE.

DAVID E. BANGS, OF MEDFORD, MASSACHUSETTS.

VAPOR-BURNER FOR STOVES.

SPECIFICATION forming part of Letters Patent No. 229,355, dated June 29, 1880.

Application filed May 1, 1880. (No model.)

To all whom it may concern:

Be it known that I, DAVID E. BANGS, of Medford, in the county of Middlesex and State of Massachusetts, have invented a new and valuable Improvement in Vapor-Burners for Stoves; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a cross-sectional view of a stove containing my improved burner, and Fig. 2 is a top view of the same.

This invention has relation to improvements in vapor-burners for stoves for consuming the vapors of petroleum; and it consists in a burner constructed and operating substantially as hereinafter shown and described.

In the annexed drawings, the letter A designates a metallic plate of suitable length and breadth, having formed therein a longitudinal slot, *s*, over which is erected the burner-cone B. This is composed of two semicircular end pieces, *a*, erected at the ends of the slot; of a fixed side plate, *a'*, of curved form, fixed to said end pieces; and of a movable side piece, *b*, hinged to plate A in any suitable manner, so that it may be thrown back and easy access had to the burner C. The hinged side *b* of the cone in position rests upon the curved ledges *c*, secured to the end pieces, *a*.

The burner C is composed of a tube, *d*, supported from the under side of the plate, as indicated at *e*, and of a trough, *d'*, erected on the upper side of the said tube, as indicated in Fig. 1, perforations *i* being made inside of the said trough for the passage of the hydrocarbon vapors.

The burner is shut in from below by means of a concave metallic reflector, D, which also catches the overflow, if any, from trough *d'*, removably secured to the under side of plate A by means of lugs *z'*.

The tube *d* is open-ended, and closed by means of removable screw-caps *d''*.

E E' indicate metallic retorts or tubes, open at each end, and likewise closed by removable caps *d'''*, which tubes lie upon the plate A, close up against the cone B, and are connected to-

gether by means of a short pipe, *p*, at one end only; and F is a similar pipe, having similar removable caps *d'''*, and arranged slightly above the level of pipes E E'. This pipe is connected at one end by means of a pipe, *f*, to the tube *d* of the burner, and at the other to the tube E, by means of a pipe, *f'*. There is thus established between tubes E', E, F, and *d* a zigzag communication.

The three pipes E, E', and F are arranged in the passage through which the smoke and products of combustion pass into the chimney or stove-pipe.

The petroleum is fed into pipe E' at the top, near one end, through an ordinary filling-orifice provided with a removable screw-cap, and passes thence into the opposite end of pipe E, and, being volatilized therein, the resultant gases enter the pipe F, whence they pass into the tube *d*, and are consumed at the holes *i*. The pipe F, which may be called, properly, the "gas-receiver," being above pipes E E', is rarely entered by the hydrocarbon fluid. When the burner is first lit the reflector repels the heat and concentrates it upon the tube *d*, thus speedily vaporizing the contents thereof.

This burner is placed within the stove or furnace with the pipes E' E F extending through its sides and the plate A resting on an inside ledge or projection, *y*, on the inner walls of said stove or furnace. By unscrewing the caps from the ends of the pipes they may be readily cleaned out with a mop or swab.

As shown in Fig. 1, the retorts E' E and gas-receiver F are within the passage *z*, through which the products of combustion pass from the cone of the burner to the pipe or flue.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a vapor-burning stove or furnace, of the plate A and cone B, erected thereon, the burner-pipe *d*, having trough *d'* on its upper side and perforations *i* in the bottom thereof, the pipes E E' upon the outside of the cone and communicating with each other, and the gas-receiver F, communicating at one end with pipe *d* and at the other with pipe E, the pipes E, E', and F being in the smoke-passage of the stove or furnace and the pipe F arranged above the pipes E E', substantially as specified.

2. The combination, in a vapor-burner for

stoves or furnaces, of the cone-plate A, the burner-tube *d*, below the same, and the oil-tube E', above said cone-plate and in contact with the outside of the cone-wall *a'*, substantially
5 as specified.

3. A vapor-burner for stoves or furnaces, consisting of a base-plate, A, a tube, *d*, under said plate and attached thereto, and provided with a trough, *d'*, and perforations *i* in the bot-
10 tom of said trough, and the cone B, formed on

the plate A and having a swinging side piece, *b*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

DAVID E. BANGS.

Witnesses:

WM. F. GRUBB,

CHAS. W. BURNETT.