

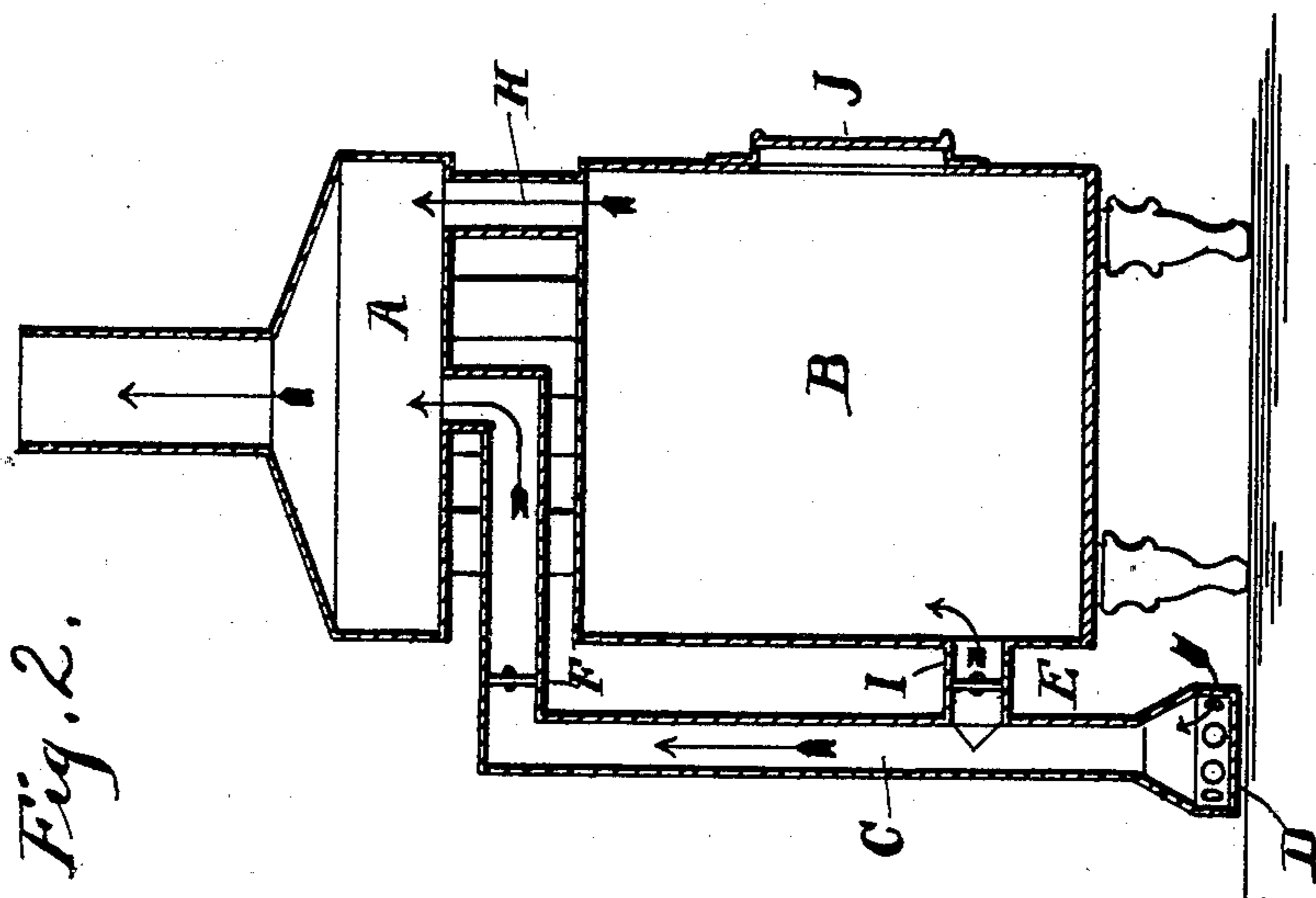
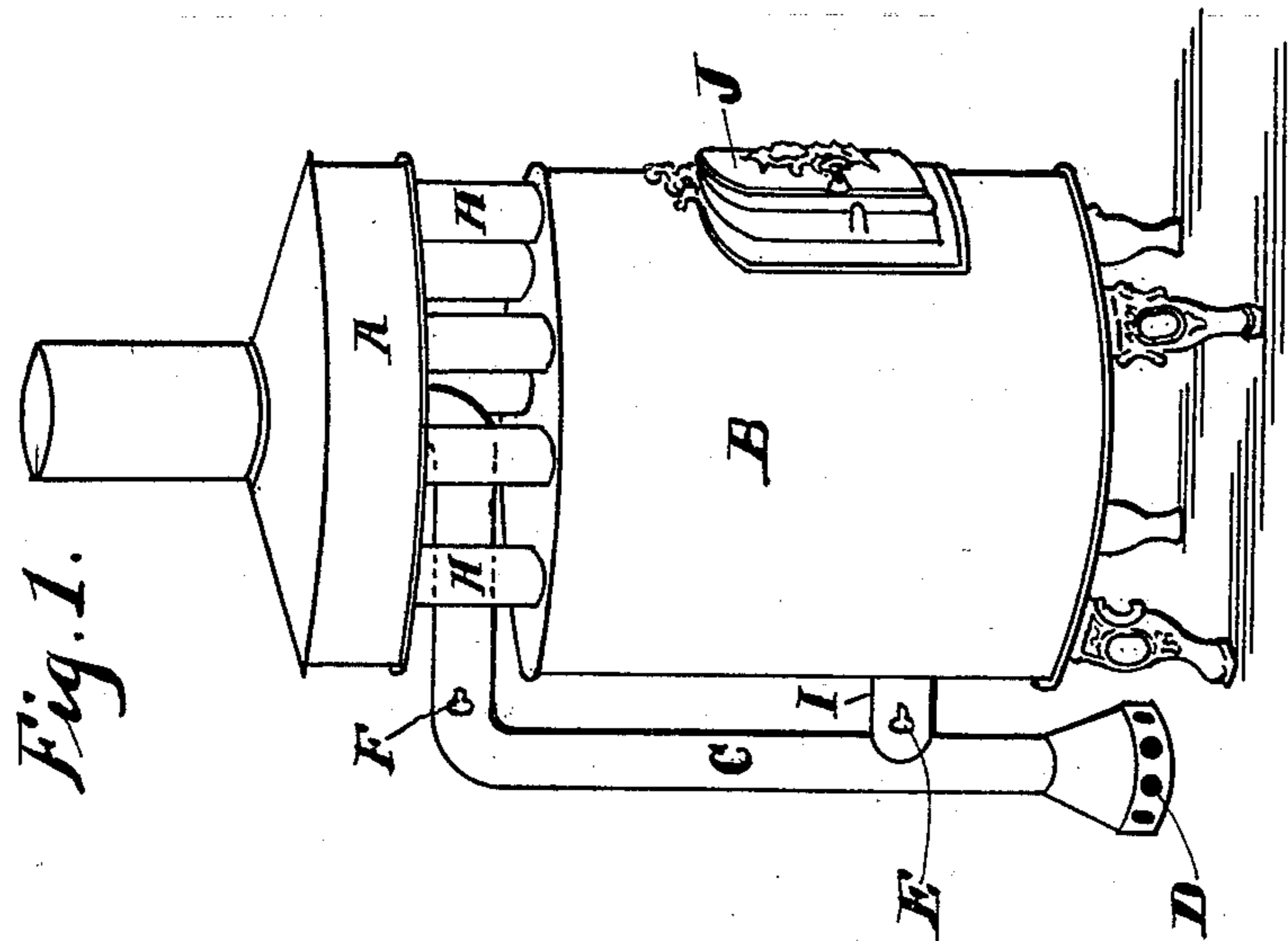
No. 622,951.

Patented Apr. 11, 1899.

H. H. HERRENDEEN.
STOVE.

(Application filed Jan. 3, 1898.)

(No Model.)



WITNESSES.

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UNITED STATES PATENT OFFICE.

HENRY H. HERRENDEEN, OF BIG RAPIDS, MICHIGAN.

STOVE.

SPECIFICATION forming part of Letters Patent No. 622,951, dated April 11, 1899.

Application filed January 3, 1898. Serial No. 665,263. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. HERRENDEEN, a citizen of the United States, residing at the city of Big Rapids, in the county of Mecosta and State of Michigan, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

This invention relates to certain new and useful improvements in stoves, and is peculiarly adapted to that class of stoves known as "air-tight" stoves, the stove being adapted for use of either coal or wood; and the invention consists in combining a drum with a stove-body, said drum being provided with a ventilating-pipe adapted to take the air from a point near the floor and conduct the same directly into the drum.

It also relates to the combination of the drum, the ventilating-pipe, the stove, and a draft-pipe connecting the ventilating-pipe with the stove and adapted to be used as a direct draft.

The objects of the invention are, first, to produce a superior heating-stove, thereby saving fuel; second, to produce a perfect ventilating-stove adapted to carry off all the gases when the direct draft is closed and the door of the stove closed; third, to prevent the collection of creosote, which is peculiarly liable to collect in what are known as "air-tight" stoves; fourth, to prevent the collection of gases, and thereby prevent the explosion of the same, which frequently occurs, and, fifth, to provide ventilating-flues adapted to carry off the smoke and gases when the stove is opened. These objects I accomplish by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of my improved stove, together with the drum, ventilating-pipe, and draft-pipe; and Fig. 2 shows a vertical sectional view through the center of the drum, the draft and ventilating pipe, and the stove.

Similar letters refer to similar parts throughout both views.

A represents the drum, which is mounted upon the stove, and in the example of my invention shown in the drawings directly above it. This drum is connected to the stove by means of the flues H H, &c. In the drawings I have shown six of these connecting-flues;

but the number may be increased or decreased without departing from the spirit of my invention.

B represents the body of the stove, which is constructed of sheet-iron, boiler-iron, or any suitable material.

C represents what I term the "ventilating-pipe," having openings or an opening near the floor (shown by D) extending upward and opening into the drum preferably at a point near the center thereof, as shown in Figs. 1 and 2. Instead of the openings D any other form of openings may be used, or the head or lower end of the ventilating-pipe C may be raised a short distance above the floor for the purpose of receiving the air at its bottom and conveying the same directly into the drum A.

I represents the draft-pipe, which is preferably placed on the body of the stove B at a point opposite the door J.

E represents a damper which I call the "draft-damper," placed in the pipe I and adapted to either entirely or partially close the opening through the pipe I to the pipe C.

F represents a damper which I denominate the "ventilating-damper," placed in the pipe C, preferably at a point near the upper part of the body of the stove. The particular location of the damper F, however, is not material, only that it be placed in the pipe C above the entrance of the pipe I.

The door J is intended to shut, so as to make the body of the stove substantially air-tight. It is supported on hinges in the ordinary manner and provided with a catch to hold it when closed.

The arrows in the ventilating-pipe C show the movement of the air when it is taken from the point near the floor and conveyed directly into the drum. The arrow in the pipe I shows the direction of the air-current when the ventilating-damper F is closed. When the ventilating-damper F is closed and the ventilating-damper E is opened, the draft is taken through the openings D, conveyed in the ventilating-pipe C, and from thence through the draft-pipe I into the stove. Thus it will be noticed that the air or oxygen which is taken into the stove for the purpose of supporting combustion is not taken in on the side of the stove where the door is situated, but on the

opposite side thereof, or at least at a point some distance from that at which the door is situated.

In air-tight stoves when the door is closed and the draft is shut off by the damper in the pipe, as is ordinarily done, the gases bearing creosote gather in the upper part of the stove or in the drum in case a drum is used; but in the construction shown in the drawings and described in this specification the openings through the flues H into the drum and from the drum through the stovepipe will always carry off the gases, and thereby prevent the gathering of combustible gases in the stove, and also prevent the deposit of creosote either in the stove, drum, or pipe. The arrangement of the flues, as above described, will cause a strong draft when the door is opened, so that the smoke and gases will immediately be carried through the drum into the stovepipe, and from thence into the open air, there being no back pressure and no tendency for smoke to escape through the door.

The arrangement of the draft through the pipes C and I, which furnishes a sufficient amount of oxygen for combustion, permits the stove to be closed, so as to be practically air-tight, the dampers being so constructed as to close, when turned into a perpendicular position or a position at right angles to the pipe I, the entire opening through the pipe I.

Having thus described my invention, what I claim to have invented, and desire to secure by Letters Patent, is—

1. The combination with a portable stove, of a heating-drum arranged above the stove

and connected to the latter by a plurality of flues and having a stovepipe, and a ventilating-pipe having its inlet end arranged near the floor and connected at its upper end directly with the heating-drum, substantially as described.

2. The combination with a portable stove, of a heating-drum arranged above the stove and connected to the latter by a plurality of flues and having a stovepipe, a ventilating-pipe having its inlet end arranged near the floor and connected at its upper end directly with the heating-drum, and a draft-pipe connecting the lower portion of the ventilating-pipe to the lower portion of the combustion-chamber of the stove, substantially as described.

3. The combination with a portable stove, of a heating-drum arranged above the stove and connected to the latter by a plurality of flues and having a stovepipe, a ventilating-pipe having its inlet end arranged near the floor and connected at its upper end directly with the heating-drum, a draft-pipe connecting the lower portion of the ventilating-pipe to the lower portion of the combustion-chamber of the stove, a damper arranged in the draft-pipe, and a damper arranged in the ventilating-pipe above the draft-pipe, substantially as described.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

HENRY H. HERRENDEEN. [L. S.]

Witnesses:

EDWARD TAGGART,
CHRISTOPHER HONDELINK.