

(No Model.)

Z. DAVIS.
Vapor Stove.

No. 235,624.

Patented Dec. 21, 1880.

Fig. 1.

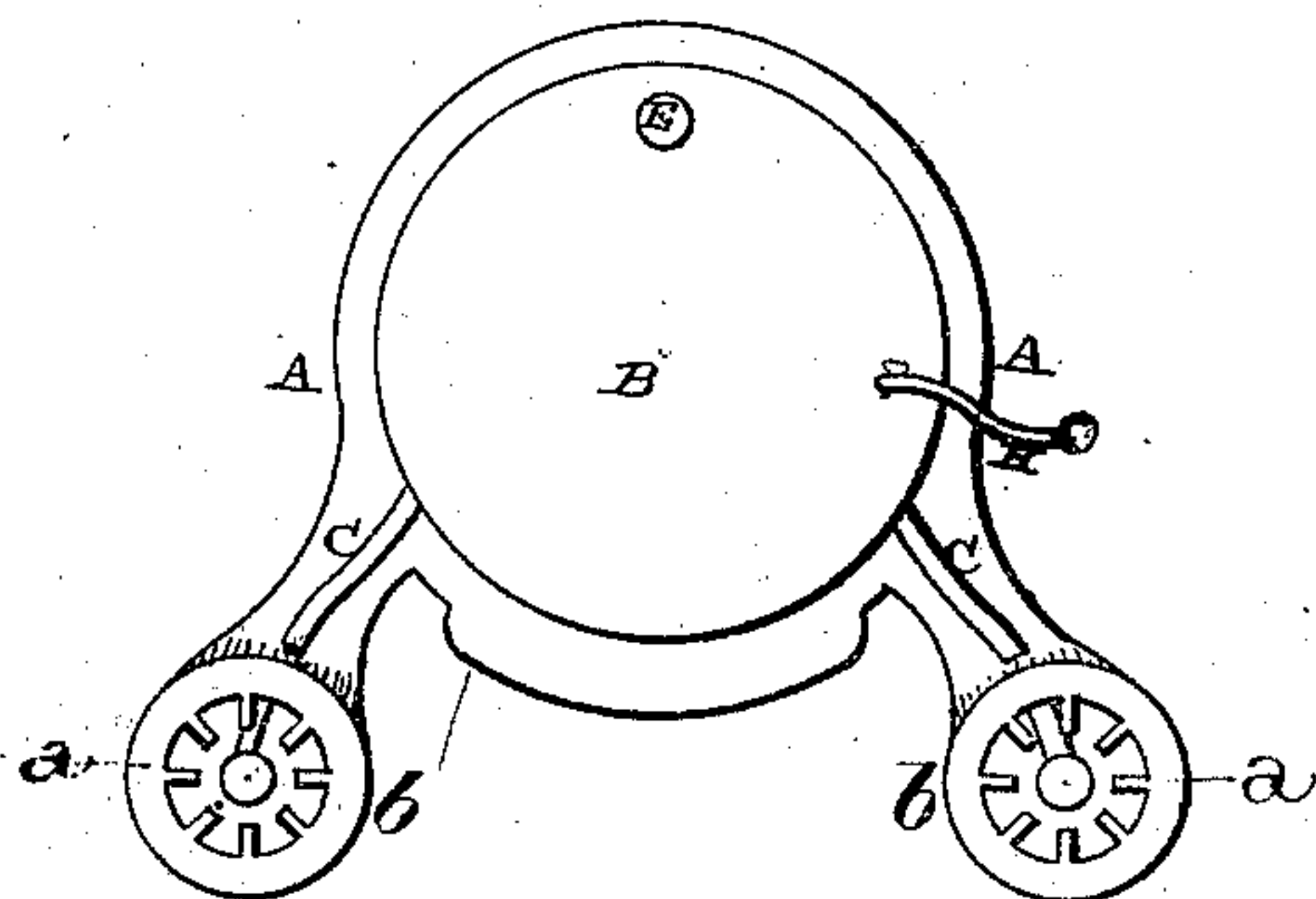


Fig. 2.

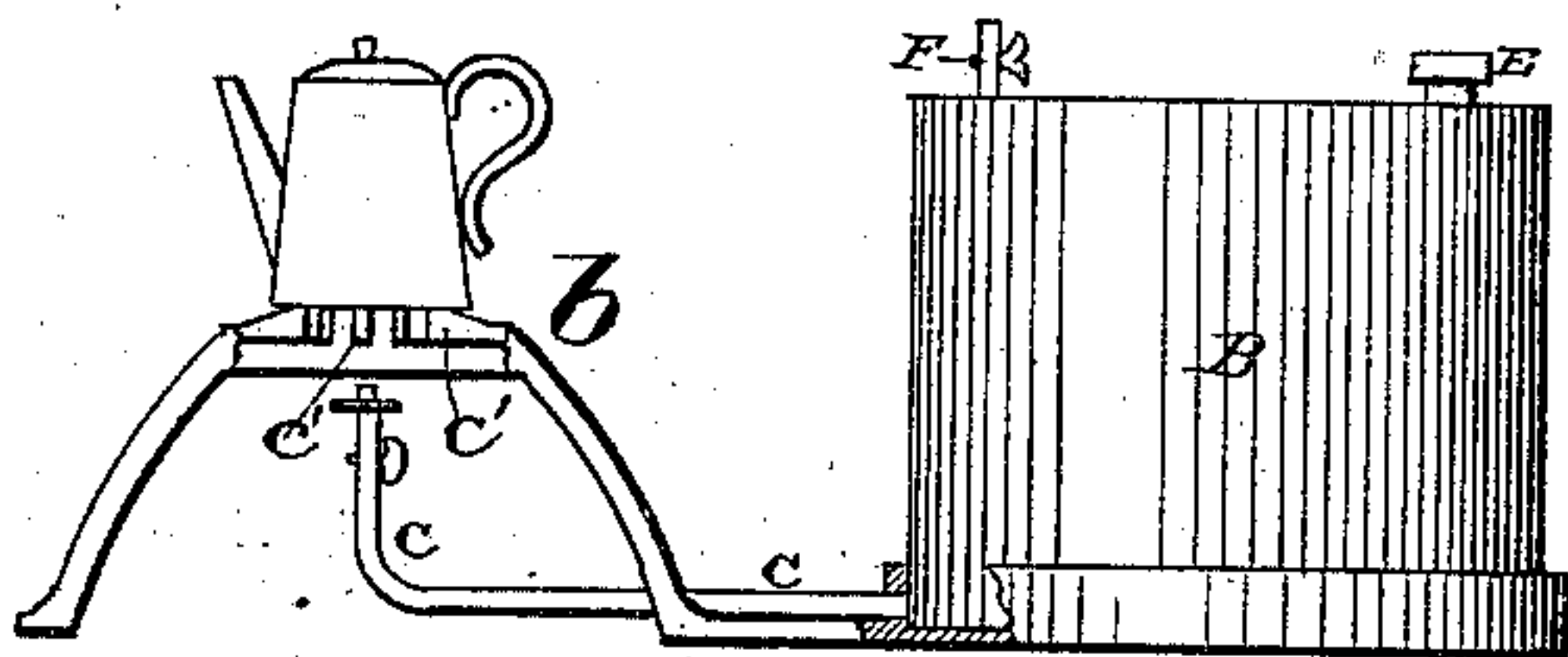


Fig. 3.

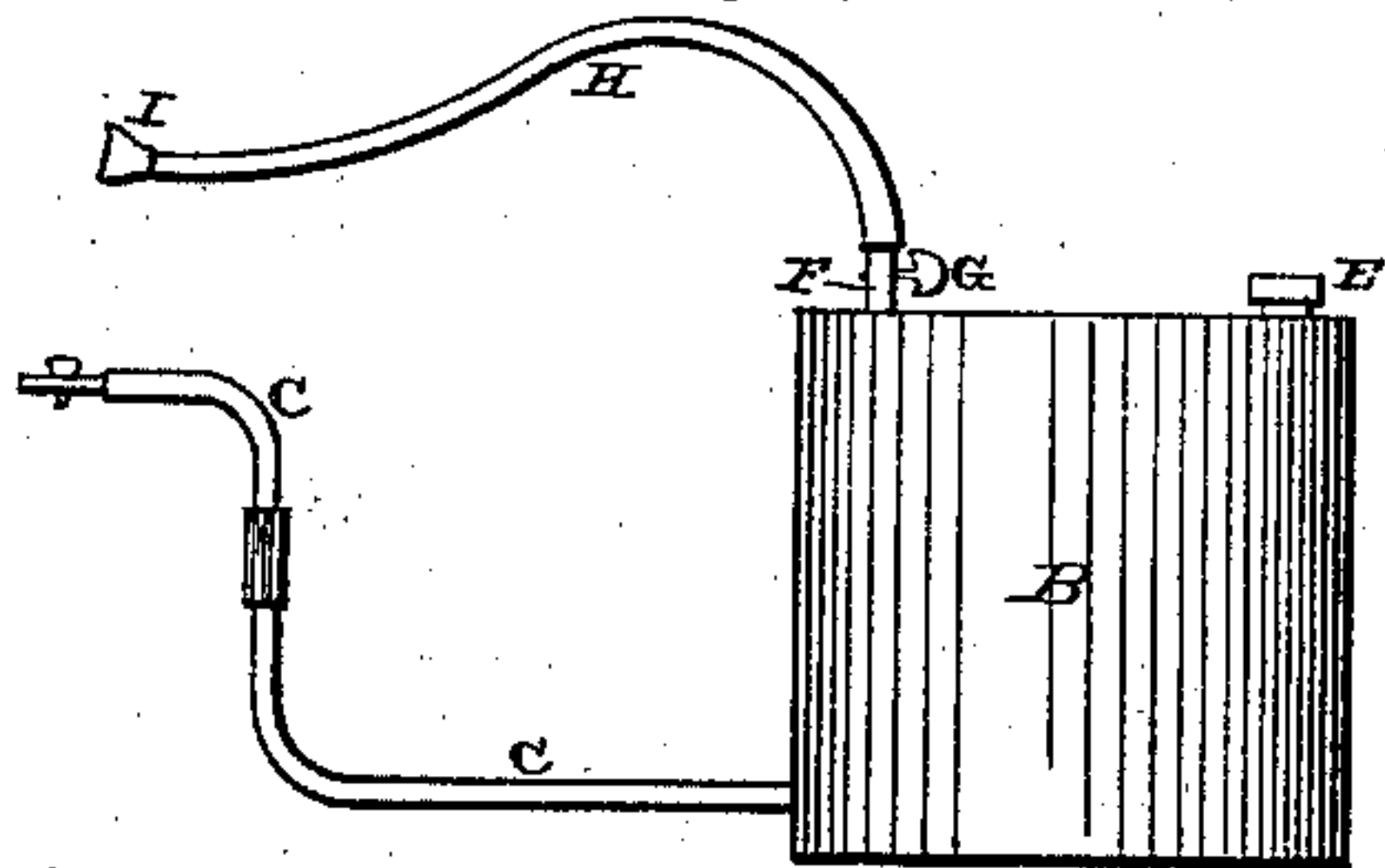


Fig. 4.

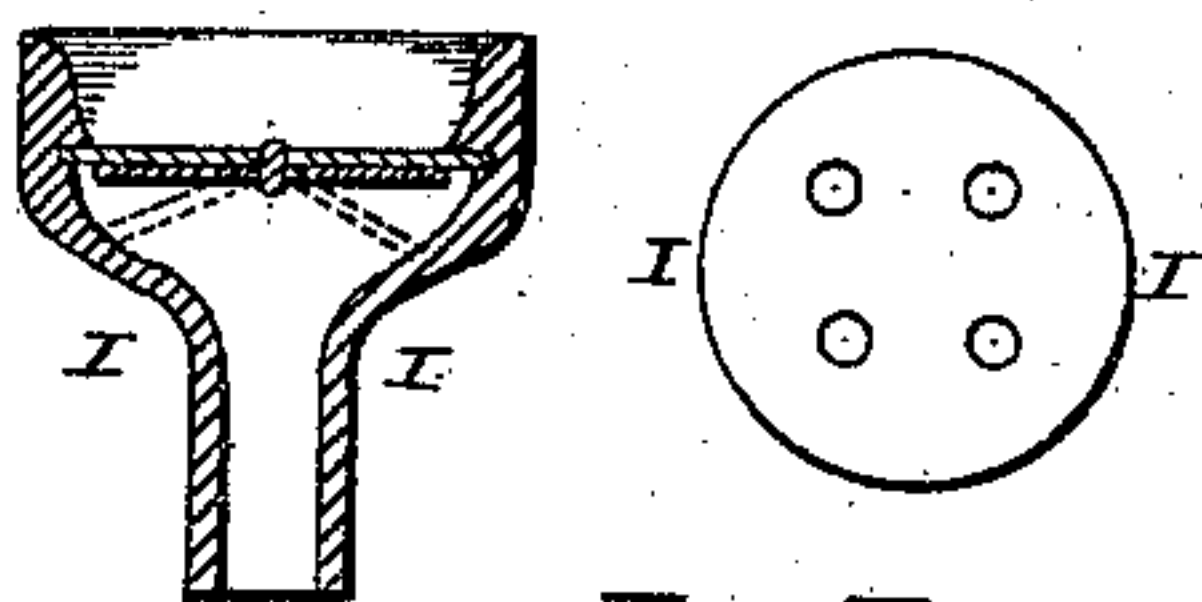
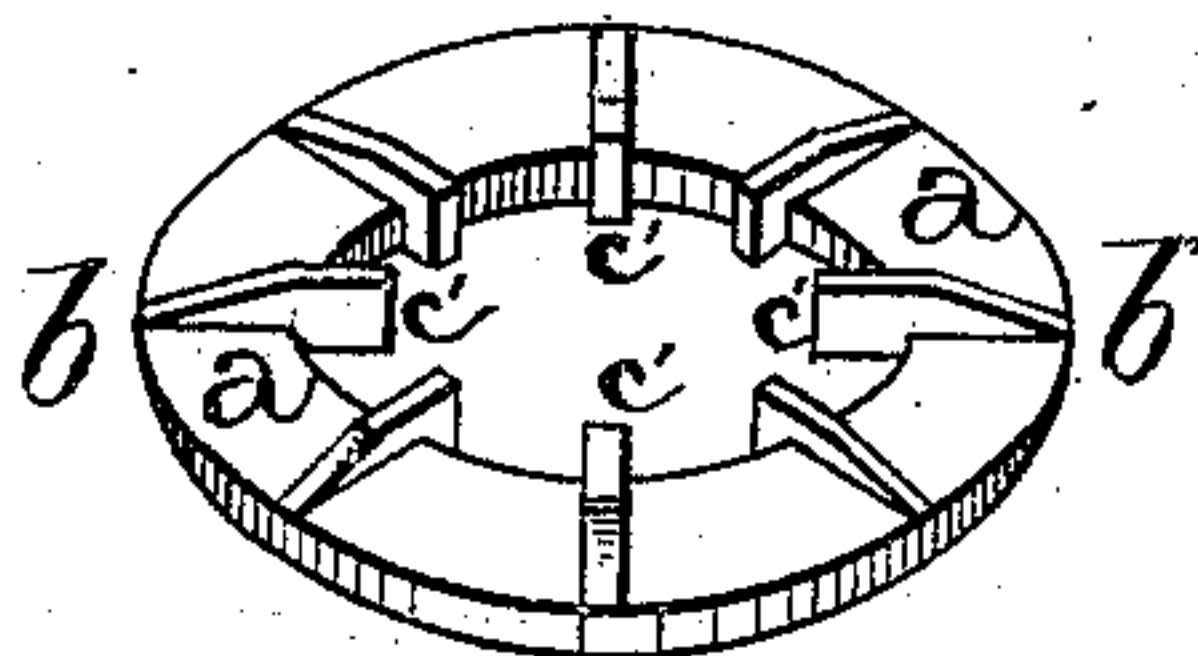


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

ZEBULON DAVIS, OF CANTON, OHIO, ASSIGNOR TO WILLIAM B. BLAKE, OF
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VAPOR-STOVE.

SPECIFICATION forming part of Letters Patent No. 235,624, dated December 21, 1880.

Application filed August 27, 1880. (No model.)

To all whom it may concern :

Be it known that I, ZEBULON DAVIS, of Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Vapor-Stoves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in vapor-stoves; and it consists in providing the mouth-piece with an automatically-acting check-valve, which will allow the air to be freely forced into the reservoir, but will prevent it from escaping again, as will be more fully described hereinafter.

The object of my invention is to place the reservoir below or on a level with the burners, so that the reservoirs will not take up so much room, and so that should a hole be made in the reservoir the air will at once escape therefrom, and the oil being no longer forced up to the burners, the light will be instantly extinguished, and thus all danger of an explosion or fire is done away with.

Figure 1 is a plan view of my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation of the reservoir and its attachments alone. Fig. 4 is a detail view of the check-valve. Fig. 5 is a perspective of the support *b*.

A represents a suitable cast-iron base or frame, upon which the reservoir B is placed, and which frame has any desired number of burner-supports, *b*, cast with it. These burner-supports are made to extend any suitable distance outward from or directly over the reservoir, and are raised to any desired height above the bottom of it, as shown in Fig. 2. The top of each one of these supports consists of a ring, *a*, which has a large opening formed through its center, and upon its top are formed a number of radial projections, *c'*, which are raised a suitable distance above the top of the ring. As these projections hold the bottom of the vessel a suitable distance above the top of the ring, the heat and flame act upon the whole bottom of the vessel at once. Where the ves-

sel is allowed to rest solidly upon the ring the free passage of the heat and flame is greatly obstructed, and hence the heat cannot act fully upon the bottom and sides, as is here shown. Even when the flame is turned down low the whole of its heat acts upon all parts of the bottom of the vessel and rises up around its sides. From the bottom of the reservoir there extend oil-pipes C out to the burner-supports, in the usual manner, and these pipes are provided with suitable stop-cocks and burners of any desired kind.

The reservoir in which the oil or gasoline is placed may be of any desired shape, size, or construction, and is provided with an opening, E, in its top, through which it is filled, and a small tube, F, provided with a stop-cock, G. The opening E is covered by means of an airtight cap or cover of any suitable kind, and to the upper end of the pipe F is attached either a rubber tube, H, having a mouth-piece, I, at its upper end, or the mouth-piece may be attached directly to the upper end of the pipe, if so preferred. This mouth-piece has a check-valve, *i*, placed inside of it, which valve consists of a flat flexible disk, which allows the air to pass freely into the tube, but instantly closes as soon as the air attempts to escape. After a person has blown through this mouth-piece, so as to cause any desired degree of atmospheric pressure upon the top of the oil, the stop-cock G will be closed, so as to prevent the possibility of any leakage through the valve.

The pressure upon the top of the oil forces the oil through the feed-pipes to the burners, and will continue to feed the oil until the expansive pressure of the air has become too weak to raise the oil to the burner. When this is the case it will only be necessary to again blow through the mouth-piece, when a sufficient pressure is again produced to feed the oil for a number of hours.

The great advantage of this construction consists in enabling the reservoir to be placed on a level with or below the burners, instead of high above them, as has usually been the case. Where the reservoir is elevated above the burners the stove takes up too much room, and especially where it has to be used upon the top of a counter or other similar place. Another advantage

gained is, that should the reservoir be punctured at any time the compressed air at once escapes, and the oil no longer being forced up to the burners, the lights are instantly extinguished and all danger of a fire or explosion averted. Should the reservoir be punctured while elevated above the burners, the escaping oil or gasoline is almost sure to be ignited by the flames of the lamps, and hence an explosion or fire is almost sure to ensue.

I am aware that it is not new to force oil by means of atmospheric pressure up to the burners of street-lamps and furnaces, and this I broadly disclaim; but never before has oil been forced up in this manner to the burners of a stove which is adapted to be set on a counter and used in the manner shown and described.

Having thus described my invention, I claim—

1. The combination of an oil-reservoir for vapor-stoves, a pipe, F, a mouth-piece, and a check-valve attached to the mouth-piece, whereby pneumatic pressure can be produced upon the top of the oil and the air be prevented from escaping, substantially as set forth.

2. The combination of the base A, provided with the burner-supports, a reservoir provided with feed-tubes for supplying the oil to the burners, tube F, having the stop-cock G, and a tube provided at its outer end with a mouth-piece and check-valve, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of August, 1880.

Witnesses: ZEBULON DAVIS.

CHAS. H. ISHAM,
F. A. LEHMANN.