

E. SMITH.

Base-Burning Stove.

No. 127,653.

Patented June 4, 1872.

Fig. 1.

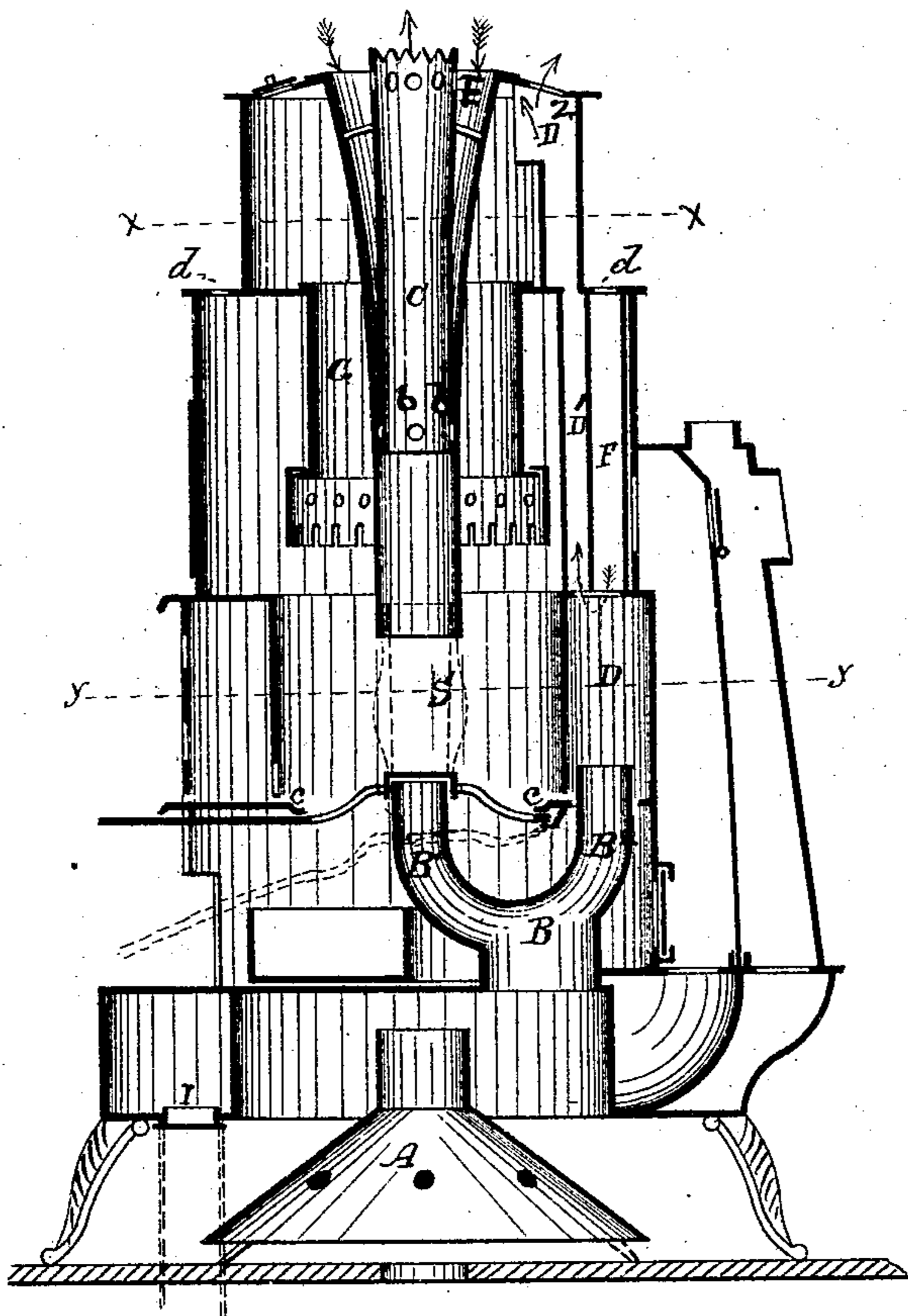


Fig. 2.

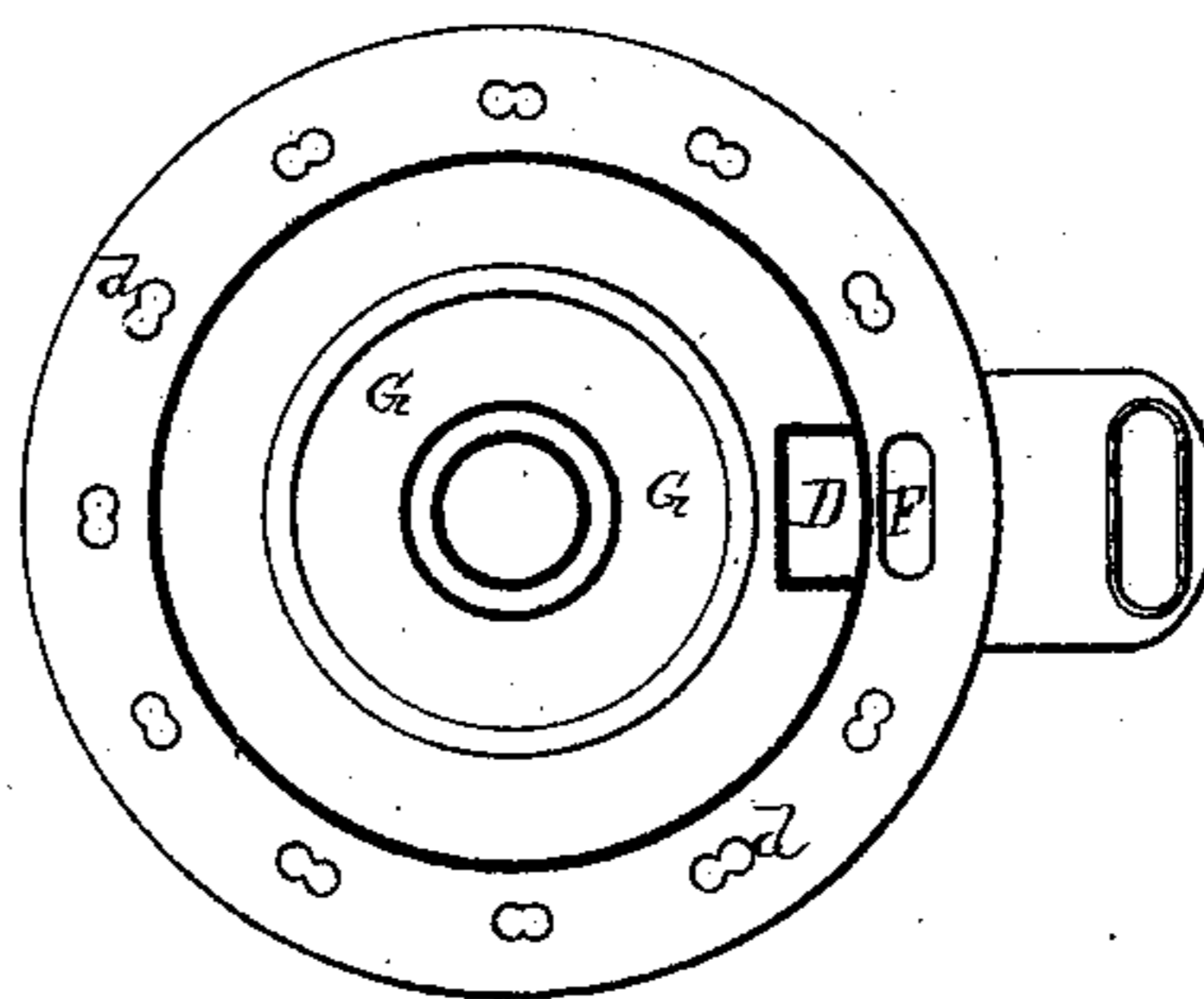
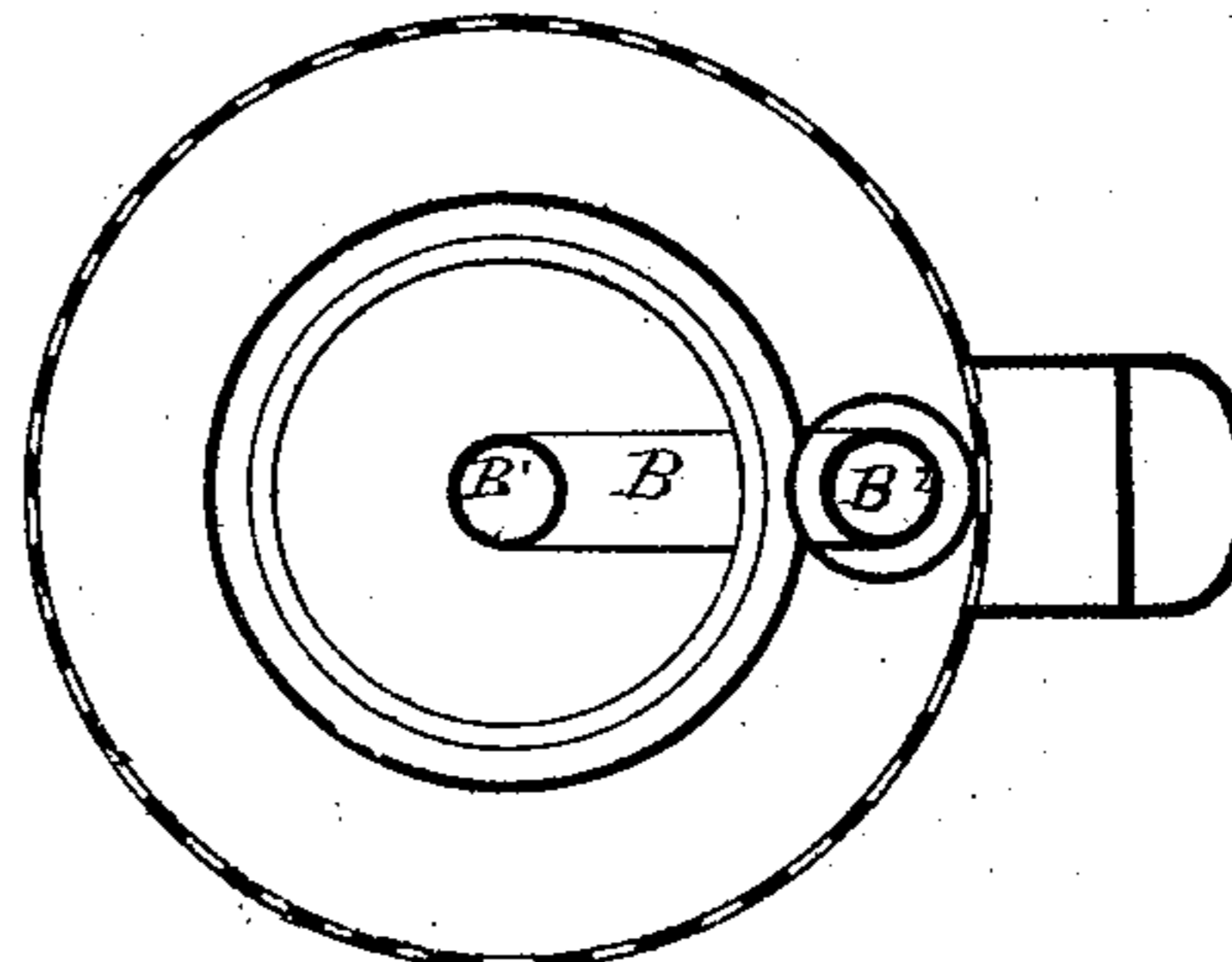


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

ELIHU SMITH, OF ALBANY, NEW YORK.

IMPROVEMENT IN BASE-BURNING STOVES.

Specification forming part of Letters Patent No. 127,653, dated June 4, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, ELIHU SMITH, of Albany, in the county of Albany and in the State of New York, have invented a new and useful Improvement in Heating-Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification.

My invention relates principally to means for conducting the air to be heated into and through the stove in such a manner as to bring it as near as possible in contact with the fire; and it consists in certain improvements upon stoves previously patented to me, which improvements will be understood on reference to the following specification and claims.

Figure 1 is a central vertical section of my improved stove. Fig. 2 is a section on line *x x* of Fig. 1. Fig. 3 is a section on line *y y* of Fig. 1, showing the grate removed.

A represents an inverted funnel-shaped air-conductor and deflector placed beneath the recessed base of the stove, similar to the one shown in my application allowed April 6, 1872. Air from the room in which the stove is placed, or from the opening in the floor beneath the deflector, passes through said deflector and is conducted, through an opening in the base-plate, into the curved or semicircular tube or flue B, which has two vertical branches, B¹ B². The branch B¹ extends into an opening in the center of the grate, and is provided with a detachable cap, *a*, which may be removed and connection made with the central pipe C by means of a joint of pipe shown in dotted lines at S, whereby the air may be conducted through the center of the stove and out at the top, as shown in the application referred to. This branch is so curved as to permit the dumping of the grate by which it is encircled. The branch B² enters and opens into flue D in the rear of the fire-pot, which is continued up through the combustion-chamber in front of the opening for the exit or smoke-pipe, and opens at the top of the stove. The flame and gases from the fire encircle this pipe as it passes through the fire-chamber, and the air which is conducted through it becomes highly heated and rises in a rapid current, producing a thor-

ough circulation of the air in the room. If desired, the air which passes through the pipe D may be further conducted through the stove by being made to enter the flaring pipe E through an opening near the top of flue D, and, passing down around the center flue C, will enter said flue through holes *b*, whence it will rise and find exit at the top. Both the center and side flues may be in operation at the same time, if found desirable. An additional air-flue is shown at F, opening on a recess or shoulder formed around the top of the combustion-chamber, and, passing down at the side or back of the stove, directly behind or near the flue D, opens into said flue a little beyond the exit-opening of the fire-chamber. The air is drawn down this flue from without the stove, becomes heated in its passage, and re-enters the room through pipe D. G is the fuel-magazine, which may be shaken or jarred by means of the poker or other instrument from the outside, to feed the fuel to the fire-pot should it become clogged or choked. The grate may rest either above or below the ledge *c*. In the drawing it is shown as placed below, in which case it may be dumped. A vertical and a longitudinal slot is formed in the front of the stove, in which the handle of said grate moves when the same is dumped or shaken. A flanged collar is provided, resting upon a shoulder formed around the inner circumference of the fire-pot, just above the grate, to prevent the coals from becoming wedged between the grate and fire-pot so as to interfere with the movement of the former. The ash-drawer is recessed at the back so as to pass beyond the semicircular flue. A damper is provided in the base or annular flue, whereby the hot air from the ash-drawer chamber may be carried off through said flue. In the recess formed around the top of the combustion-chamber mica lights *d* are inserted, through which light is thrown out to the top of the room. By means of these lights the condition of the fire can be readily examined.

My stove may be employed as a drum, for utilizing heat generated elsewhere, by removing the cap from the opening *l* in the annular flue and making connection with a stove, furnace, or other heating apparatus in a room below.

In respect to the parts not herein referred

to, this stove is similar to the one for which a patent was allowed to me on the 6th day of April, as aforesaid.

I claim as my invention—

1. A heating-stove provided with a back or side flue and flues B B¹ B², for conducting air from the side of or from beneath the stove, through the combustion-chamber, and out into the room, substantially as and for the purpose set forth.

2. In combination with the parts named in the preceding clause, the flue F, as and for the purpose set forth.

3. The combination of the curved tube B B¹

B² and central and side flues C and D, substantially as described.

4. The curved branch B¹ of the flue B, to permit the dumping of the grate.

5. The combination of the deflector A, tube B, B¹, and B², and flues C and D, substantially as described.

6. The flue B with its branches B¹ B², in combination with the combustion-chamber and an opening through the side or bottom of the stove for the admission of fresh air.

Witnesses:

ELIHU SMITH.

RICHARD RUSSELL,

ELIHU R. SMITH.