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J. V. VROOMAN & J. H. CLUTE.

Flue for Reservoir Stoves.

No. 122,084.

Patented Dec. 19, 1871.

Fig. 1.

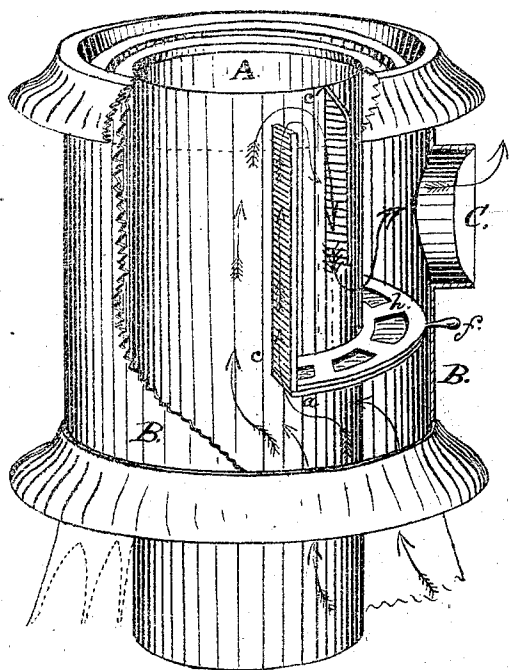


Fig. 2.

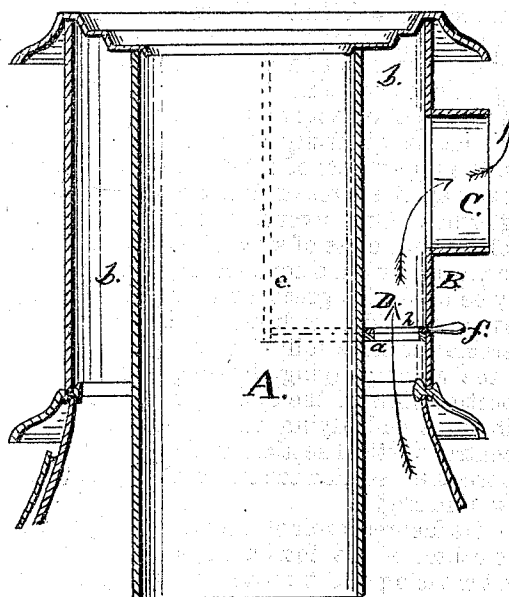
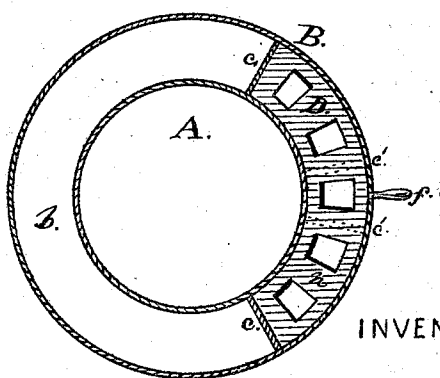


Fig. 3.



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JACOB V. VROOMAN AND JONAS H. CLUTE, OF SCHENECTADY, NEW YORK.

IMPROVEMENT IN RESERVOIR-STOVES.

Specification forming part of Letters Patent No. 122,084, dated December 19, 1871.

To all whom it may concern:

Be it known that we, JACOB V. VROOMAN and JONAS H. CLUTE, of Schenectady, in the county of Schenectady and State of New York, have invented certain Improvements in Flues for Fuel-Reservoir Stoves and Furnaces, of which the following is a specification:

The principal object of our invention is to provide a means of easily changing a revertible flue in the upper part of the combustion or heating-chamber of stoves or furnaces into a direct-draught flue. Our invention is particularly applicable to that class of stoves having a fuel-reservoir placed within a combustion-chamber; but it may be used with great advantage in heating-stoves not provided with fuel-reservoirs, as will be hereinafter more fully shown.

In the accompanying drawing, Figure 1 is a perspective view of the upper part of a fuel-reservoir stove embodying our invention. Fig. 2 is a central vertical section of the same. Fig. 3 is a horizontal section taken on the plane of a line, *y y*, in Fig. 2.

A is the fuel-reservoir of a stove, usually placed in the center of the combustion-chamber. B is the outer casing of the upper section of the stove, at the back part of which is the exit-collar C. D is a register, occupying about one-third or more of the annular space between the fuel-reservoir A and the outer casing B, as shown in Fig. 3. Said register D consists of two plates, both of which are perforated in the usual manner with corresponding apertures. The lower plate *a* of register D is fixed permanently in the annular space *b*, between reservoir A and outer casing B of the stove, at the distance of four or five inches below the exit-collar C, or near the bottom of upper section B and at the back of the stove, as shown in Figs. 1 and 2. At each end of plate *a*, and on opposite sides of reservoir A, we secure perpendicular flue-strips *c c*, extending upward from said annular plate *a* nearly to the top of the combustion-chamber or annular space *b*, as shown in Figs. 1, 2, and 3. Parallel to and between flue-strips *c c* are two other flue-strips, *c' c'*, extending from the top of the stove about two-thirds the distance therefrom to register D downward, leaving an uninterrupted space between the bottom of said flue-strips *c' c'* and register D, as shown in Fig. 1.

It will be seen from the above that, when reg-

ister D is closed, the products of combustion must rise to the front part of the stove, and thence to the top of said flue-strips *c c* before passing into the exit-collar C, as shown by arrows in Fig. 1. Also, that, when register D is open, the products of combustion will pass directly up to and through said register D, and thence out of collar C, as shown by arrows in Fig. 2, making the draught of the stove in this case direct; and in the former case revertible or indirect.

It will thus be seen that that portion of the combustion-chamber which is cut off by and inclosed between flue-strips *c c* and register D becomes a revertible or a direct flue, at pleasure, by the closing or opening of said register D, which is effected by moving a knob, *f*, which is fastened to the upper or movable plate *n* of register D, and which projects through a slot near the bottom of the outer casing B, as shown in Fig. 2.

It will also be seen that intermediate flue-strips *c' c'* will retain the heated products of combustion longer within the upper part of the stove, causing a greater radiation of heat from the stove into the room.

By means of register D all the soot which will collect in flues constructed as above described is easily shaken down, thus making register D a self-cleaning device.

In stoves without a fuel-reservoir it will be necessary to have a front plate to take the place of that portion of the back part of reservoir A, which is inclosed between flue-strips *c c* and bottom plate *a*; and in such stoves the said front plate may be cast with flue-strips *c c* and bottom plate *a* altogether so as to form one casting, and then be bolted to its place within the stove in the well-known and usual manner.

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

Within the combustion-chamber of a fuel-magazine stove or furnace, the combination of two vertical flue strips, *c c*, and a register or sliding damper, D, with or without intermediate vertical flue-strips *c' c'*, substantially as herein shown and set forth.

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