

B. DUERSTOCK.
Stoves.

No. 141,771.

Patented August 12, 1873.

Fig. 1.

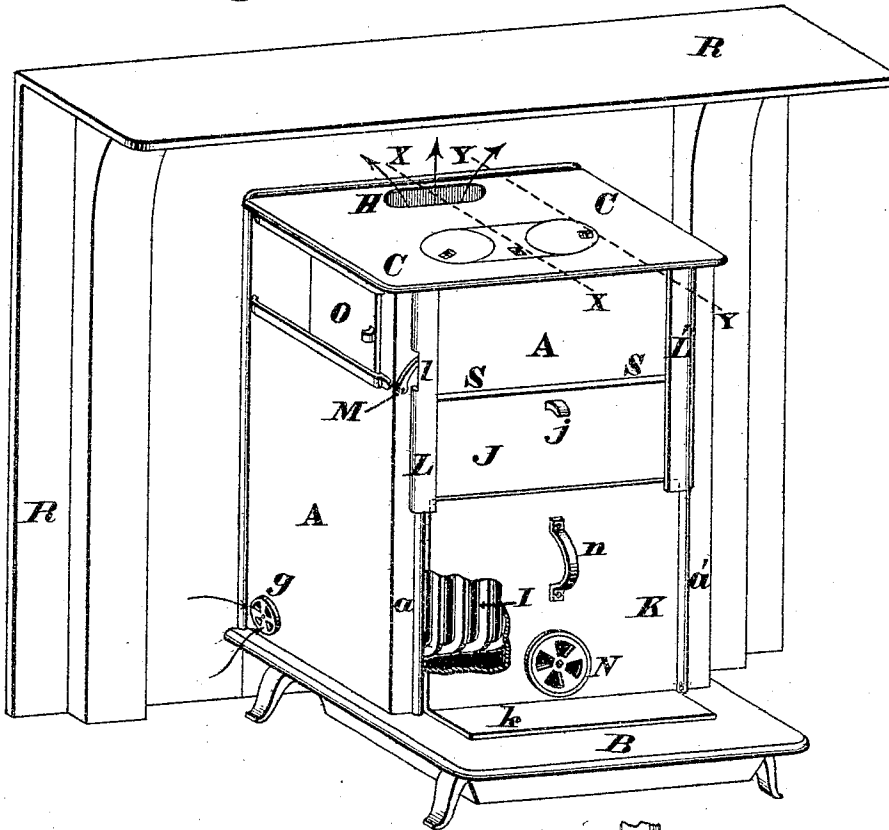


Fig. 2.

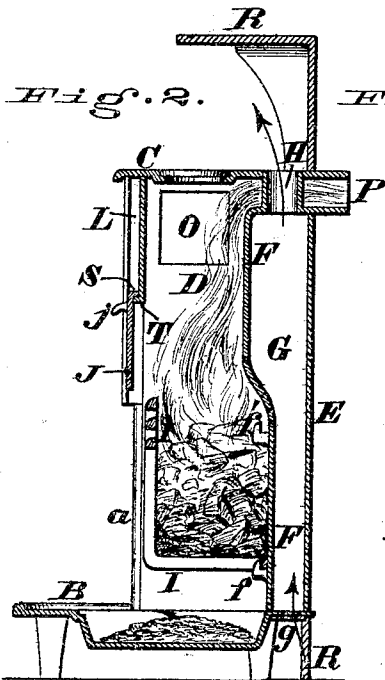


Fig. 3.

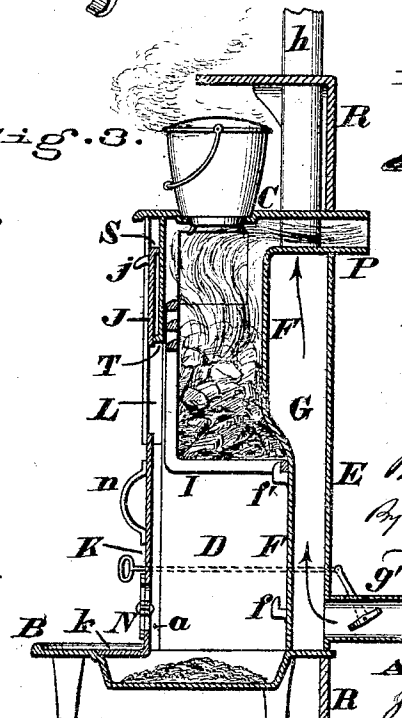
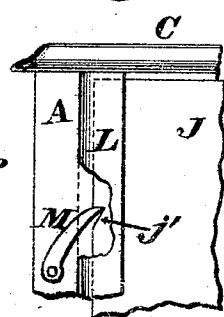


Fig. 4.



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UNITED STATES PATENT OFFICE.

BERNARD DÜERSTOCK, OF CINCINNATI, OHIO.

IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. 141,771, dated August 12, 1873; application filed June 7, 1873.

To all whom it may concern:

Be it known that I, BERNARD DÜERSTOCK, of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Stoves, of which the following is a specification:

This invention relates to a stove which is provided with a shiftable grate that can be located down near the hearth or ash-pit, or elevated a considerable height above the same, according as it is desired to use the apparatus for a heating or for a cooking stove. In conjunction with this movable grate I also employ a vertically-adjustable door and a detachable blower, for the purpose of regulating the draft, as hereinafter fully described.

The rear of the stove is furnished with a chamber for heating air that can be discharged directly into the room in which the apparatus is located, or said heated air can be conducted through suitable pipes to any apartment in the house, as will presently appear.

Figure 1 is a perspective view of a stove embodying my improvements, the vertically-sliding door being lowered and the blower applied in front of the grate. Fig. 2 is a vertical section through the stove at the line X X, the blower being removed. Fig. 3 is another vertical section of the same at the line Y Y; and Fig. 4 is an enlarged view, showing the devices for maintaining the vertically-adjustable door in its elevated position.

The shell A, hearth B, top plate C, and fire-chamber D may be of the represented or other approved form. Located at a suitable distance from the back plate E of the stove is a plate, F, which constitutes the fire-back, and the space G between these two plates E and F serves as a chamber within which to heat air. Fresh air may enter this chamber through the registers *g*, placed either at one side or beneath the stove, or it may be conducted into said chamber through a pipe, *g'*, communicating directly with the external atmosphere. The above-described methods of supplying the heating-chamber with fresh air are shown, respectively, in Figs. 1, 2, and 3. The upper end of the heating-chamber is furnished with a neck, H, which allows the warm air to be discharged directly into the room in which the stove is located, or said neck may

have a pipe, *h*, applied to it. This pipe *h* can be employed for conducting heated air to any desired locality. The fire-back F is provided with two distinct sets of hook-shaped lugs, *ff'*, for supporting the rear of the grate or fire-basket I at different elevations. When the stove is intended for heating purposes this basket rests upon the lower lugs *f*; but when it is to be converted into a cooking-stove, said grate is elevated and then supported upon the upper lugs *f'*. By this arrangement the fire is brought to bear in the most effective manner against the culinary vessels on the top of the stove.

In order that the draft may be regulated so as to suit either condition of the shiftable grate, I provide the stove with a vertically-sliding door, J, and a detachable blower, K. The door J is confined to a vertical path by guides L L', which are cast upon the front plate of the stove, and said door has a projecting lug or handle, *j*, wherewith it is shifted. When elevated the door is maintained securely in position by a catch or pawl, M, whose free end engages with a notch, *j'*, in the side of said door, as clearly shown in Fig. 4. This pawl is pivoted to the front plate of the stove, and operates through a slot, *l*, in one of the guides. If preferred, the door may be provided with a number of notches, so as to be maintained at different heights. When lowered, the flange S on the upper part of the door J rests upon a rib, T, of the stove-front, and thus prevents said door descending beyond a certain point. The blower K has a foot, *k*, which rests upon the hearth B, and it is also provided with a register, N, and handle *n*. When applied to the stove the upper corners of this blower are inserted within the guides L L', and its edges confined between the vertical ribs or flanges *a a'* of the stove-front. O represents the door for supplying fuel to the fire-chamber. P is the pipe through which the products of combustion escape into the chimney-flue, or else into an ordinary stove-pipe. R represents a cast-iron mantel that may be constructed so as to be used in connection with my improved form of stove.

When intended for use as a heating-stove the grate I is lowered and supported upon the lugs *f*, and when thus arranged the appa-

ratus can be employed either as open-front or closed stove. For a closed stove the door J is let entirely down and the grate I concealed by the blower K, as shown in Fig. 1, thereby preventing any direct radiation of heat from the incandescent fuel into the room. In this closed condition of the stove all the air necessary to support combustion enters the fire-chamber D through the register N. By simply removing the blower the fire-basket I is exposed, and the heat from the fuel in the same is radiated directly into the room, as shown in Fig. 2; and if it should be desired to have a yet larger exposed fire-front, the door J can be completely elevated, as seen in Fig. 2.

To convert the apparatus from a heating-stove into a cook-stove it is only necessary to disengage the grate I from the lowermost set of lugs *f*, and then elevate it and support it upon the uppermost lugs *f'*. When the shiftable grate is thus elevated the fire acts in the most direct manner against the culinary vessels, and the result is that all of the cooking operations are carried on in the most expeditious manner and with the least consumption of fuel.

The blower K may be applied to the front of the stove, as seen in Fig. 3, so as to prevent ashes, cinders, &c., falling out from the elevated grate upon the floor of the room.

It will be observed that the air-heating apparatus of the stove is not affected materially by any change of the grate, and that it is continually discharging a supply of warm air through the neck H or pipe *h*.

I claim as my invention—

In the stove A, B, C, D, and F, the combination of the lugs *f f'*, vertically-shiftable grate I, sliding door J, detachable blower K, guides L L' *l*, and retaining device M *j'*, whereby the apparatus is rendered capable of being used either as an open-front or closed stove, or as a cook-stove, substantially as herein described and set forth.

In testimony of which invention I hereunto set my hand.

BERNARD DÜERSTOCK.

Attest:

GEO. H. KNIGHT,
JAMES H. LAYMAN.