W. MILLER.

Door for Stoves, &c.

No. 212,618. Patented Feb. 25, 1879.

FIG. 1.

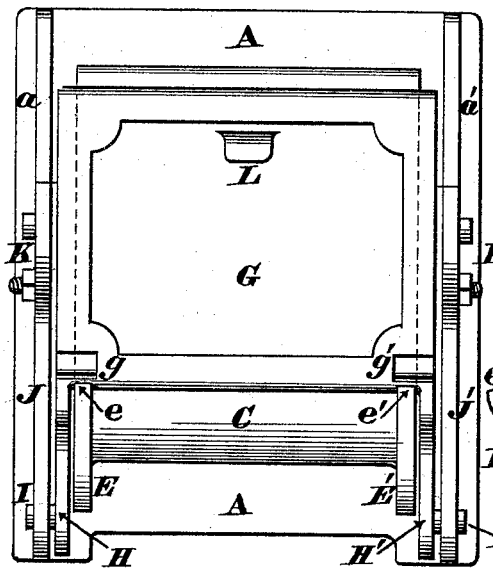


FIG. 2.

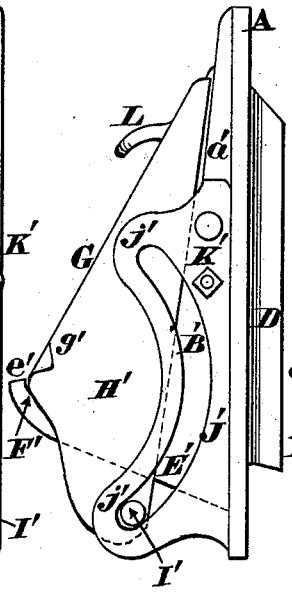


FIG. 3.

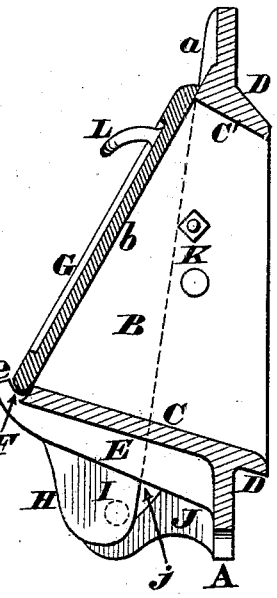


FIG. 6.

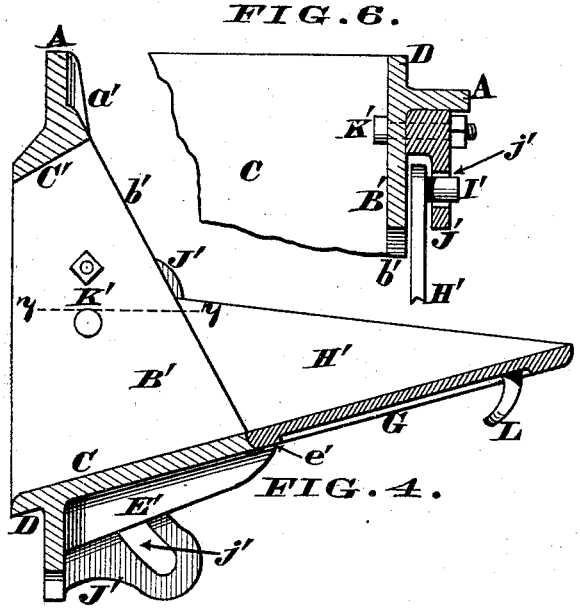
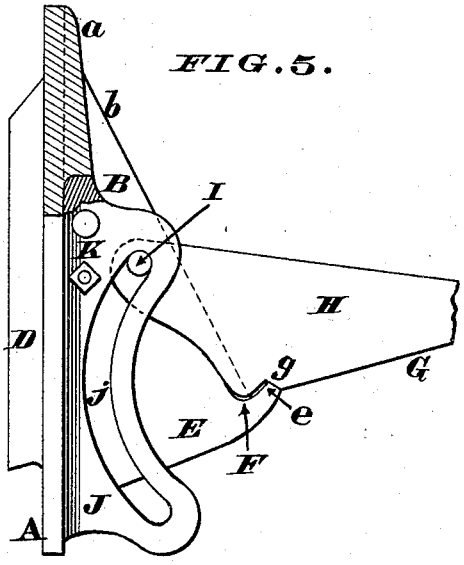


FIG. 4.

FIG. 5.



Attest.

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UNITED STATES PATENT OFFICE.

WILLIAM MILLER, OF CINCINNATI, OHIO.

IMPROVEMENT IN DOORS FOR STOVES, &c.

Specification forming part of Letters Patent No. **212,618**, dated February 25, 1879; application filed January 27, 1879.

To all whom it may concern:

Be it known that I, WILLIAM MILLER, of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Doors for Stoves, Ranges, Furnaces, &c., of which the following is a specification:

The object of my invention is to provide for stoves, ranges, furnaces, &c., a peculiarly-constructed fire-door, that cannot be accidentally opened by any accumulation of fuel against the same, and which, when intentionally opened, serves as a chute or leader for conducting the fuel into the fire-box of the stove or other cooking or heating apparatus. To attain these results my invention comprises a novel combination of supporting-frame, drop-door, and slotted or grooved cheek-plates, the details of which devices are hereinafter fully described and pointed out in the claims.

In the annexed drawings, Figure 1 is a front elevation, showing my improved door in its closed condition. Figs. 2 and 3 are, respectively, a side elevation and vertical section of the same. Fig. 4 is a vertical secton of the door in its open position. Fig. 5 is a side elevation of the same, and Fig. 6 is a horizontal section through one side of the door, taken at the line 7 7 of Fig. 4.

The supporting-frame of the door consists of a heavy rectangular casting, A, which frame may be secured to the stove or range or other apparatus or structure in any approved manner. Casting A is provided with a suitable opening formed by two cheeks, B B′, a sloping floor, C, and a roof, C′, which members project a sufficient distance in the rear of said frame to form a flange, D, that assists in securing the door to the stove. The outer edges, *b b′*, of these cheeks are inclined, as shown in Figs. 3, 4, and 5, to form bearings for the door to shut against. Furthermore, these cheeks are prolonged below the floor C, as at E E′, and the outer ends of said prolongations terminate with spurs *e e′*, whose duty will presently appear. Immediately in rear of these spurs are sockets F F′, which serve as the journals for the drop-door G, said door being provided with wings H H′, that are adapted to fit snugly around the cheeks B B′ when said door is shut. *g g′* are sockets in this door to receive the spurs *e e′* when said door is completely open, as seen in Figs. 4 and 5. Projecting laterally from these door-wings are lugs or studs I I′, capable of traversing the curved slots or grooves *j j′* of the plates J J′, which slotted plates are attached to the cheeks B B′ by screws, bolts, or rivets K K′. These slots or grooves are about concentric with the hinge or journal bearings of the door G.

In order to relieve the fastenings K K′ of the strain that would be brought to bear against them when the door is thrown open, the upper ends of plates J J′ abut on ribs or flanges *a a′*, cast with main frame A, as seen in Figs. 2 and 5. L is the door-handle.

When closed, the door proper G rests against the bearings *b b′* of cheeks B B′, the wings H H′ fitting snugly around said cheeks, as seen in Figs. 2 and 3, thereby concealing the opening in frame A. The sockets F F′ now sustain the entire weight of the door and its attached wings, the studs I I′ of said wings being located at the lower ends of the respective slots *j j′*, as seen in Figs. 2 and 3.

By referring more particularly to Fig. 3 it will be seen that the door G has considerable of a pitch or inclination toward frame A; and, consequently, said door has a tendency to remain shut, and, owing to its weight and inclined position, it cannot be accidentally opened by the fuel in the fire-box banking up behind the same. The door, however, is readily opened by grasping handle L and drawing forward the free end of said door, and as soon as it is out of line with journals F F′ its weight causes it to assume the position seen in Figs. 4 and 5. As the door opens, lugs I I′ traverse slots *j j′*, and as soon as spurs *e e′* enter sockets F F′ said lugs come in contact with the upper ends of said slots, and thus maintain the door in position.

By referring to Fig. 4 it will be seen that door G is now in line with floor C, and this door and floor, in conjunction with cheeks B B′ and wings H H′, form a chute or leader for conducting fuel, &c., into the fire-box of the stove or range.

The door will instantly close itself as soon as it has been swung back far enough to pass beyond a perpendicular line drawn through the journals F F′. When thus closed, it is evident the wings H H′ are wholly external

with reference to the cheeks B B′, and therefore said wings cannot be burned or injured by the intense heat of the fire-box.

If preferred, rollers may be journaled on the studs I I′, and said studs may be adapted to strike against springs or cushions near the upper ends of slots *j j′*, so as to diminish the concussion when door G is suddenly dropped.

Another modification of my invention may have the studs I I′ projecting inwardly, so as to traverse grooves or slots in cheeks B B′, in which case the slotted plates J *j* J′ *j′* would be omitted.

Finally, floor C may be horizontal instead of sloping.

I claim as my invention—

1. The drop or hinged door G, having side wings H H′, and combined with inclined cheeks B *b* B′ *b′*, and floor C, to serve as a chute for fuel when said door is open, as herein described.

2. The combination of inclined cheeks B *b* B′ *b′*, floor C, drop-door G H H′, lugs I I′, and grooved or slotted plates J *j* J′ *j′*, as herein described.

3. The combination of cheeks B *b* B′ *b′*, floor C, drop-door G H H′, studs I I′, spurs *e e′*, sockets *g g′*, and slotted plates J *j* J′ *j′*, as herein described.

4. The combination, in the frame of a drop-door for stoves, ranges, &c., of the flanges *a a′*, when adapted to serve as abutments at the upper ends of slotted plates J *j* J′ *j′*, as herein described.

In testimony of which invention I hereunto set my hand.

WILLIAM MILLER.

Witnesses:
JAMES H. LAYMAN,
RANKIN D. JONES.