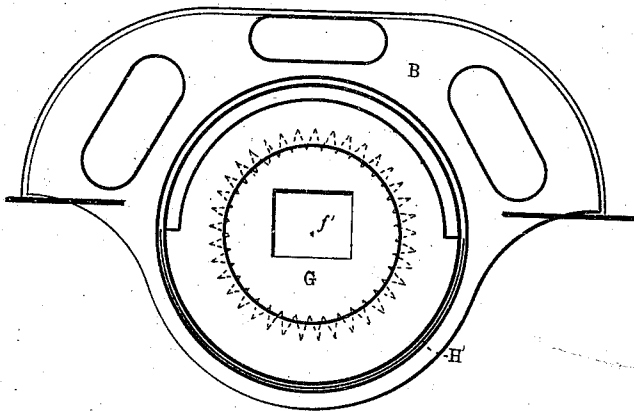
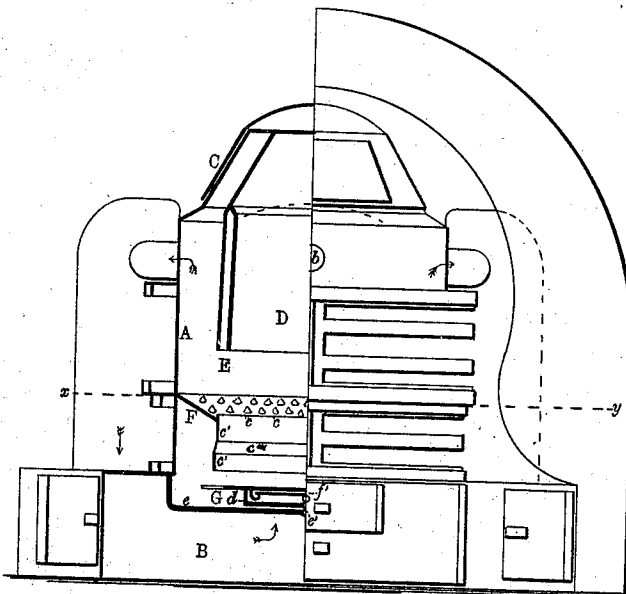


H. L. McAVOY.
 FIRE-POT AND GRATE FOR FIRE-PLACE STOVES.
 No. 173,317.
 Patented Feb. 8, 1876.

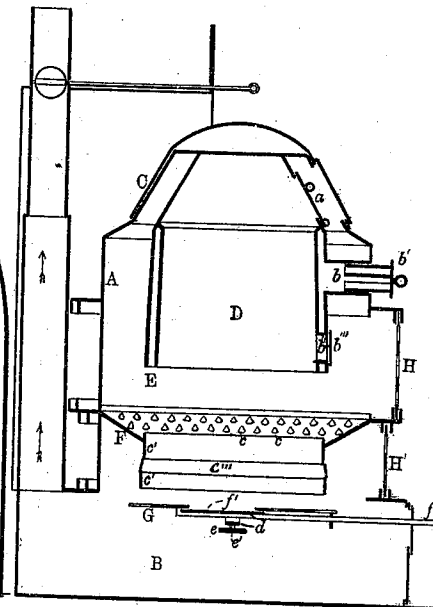
— FIG. — III —



— FIG. — I —



— FIG. — II —



— WITNESSES —

Edmund Howard
W. W. Wharton

— INVENTOR —

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attys.

UNITED STATES PATENT OFFICE

HUGH L. McAVOY, OF BALTIMORE, MARYLAND, ASSIGNOR TO DAVID L. BARTLETT AND HORACE W. ROBBINS, OF SAME PLACE.

IMPROVEMENT IN FIRE-POTS AND GRATES FOR FIRE-PLACE STOVES.

Specification forming part of Letters Patent No. **173,317**, dated February 8, 1876; application filed January 22, 1876.

To all whom it may concern:

Be it known that I, HUGH L. McAVOY, of the city of Baltimore and State of Maryland, have invented certain Improvements in Fire-Place Stoves, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention relates, first, to improvements in the bed for the fire-clay, consisting in providing for the reception of the clay, when in a plastic state, a series of spines or projections upon the annular plate, ordinarily laid with fire-brick, the said spines or projections embedding in the clay, and holding it, when in a baked condition, firmly in position.

My invention relates, second, to certain improvements in the grate of the stove, consisting principally in the use of a plate and connecting devices as substitutes for the ordinary grate and its attachments.

By the use of the said plate instead of the ordinary grate less clinkers will be formed, as the current of air passes to the fire around the periphery of the grate-area, instead of being intensified in its action at the center thereof by reason of the contracted aperture ordinarily left thereat, for with the usual grate the ashes, when formed, are thrown to the edges in the endeavor to dislodge them, necessarily leaving the central area of the grate to be the only part sufficiently exposed to furnish draft-room. While the liability of the formation of clinkers is thus diminished, provision is, however, made for the removal of such as may be produced in an opening through which a poker may be introduced.

In the further description of my invention which follows, due reference must be had to the accompanying drawing, in which—

Figure 1 is a front elevation of the stove, partly in section. Fig. 2 is a vertical side section; and Fig. 3 a sectional plan upon the line *x y*.

Similar letters of reference indicate similar parts of the invention in all the views.

A designates the cylinder or stove proper, fastened to the hollow base B. The upper end of the cylinder is conical in form, and provided with a closely-fitting revoluble cover, C, having mica-covered slots and a door.

D indicates the magazine, secured to the inner parts of the cylinder. The lower portion of the magazine is nearly cylindrical in shape, being slightly tapered, the lower diameter being the larger.

This construction of the magazine facilitates the loosening of the fuel accumulated at its lower end upon the insertion and use of the poker.

The upper end of the magazine is inclosed within the conically-formed part of the stove proper, and is made to conform nearly to its shape. The magazine is provided with a door, *a*, for feeding purposes.

E is an annular space or air-chamber formed in the wall of the magazine, to conduct heated air to the burning fuel through the pipe *b*, reaching to the front of the stove, and provided with a damper or register, *b'*.

The hole for the insertion of the poker is represented by *b''*, and when not in use is covered by the adjustable door *b'''*.

F is an annular plate extending inward from the interior of the cylinder A, adapted to hold fire-clay, for which purpose it is provided with the spines or projections *c*, which embed themselves in the clay when placed upon the plate F in a plastic state.

A series of rings, *c'*, are suspended from the plate F, extending nearly to the fire-plate G, which occupies the place usually filled by the grate. The plate G is designed to sustain the fire, and is formed with a toothed or fringed circumference, the spaces between the teeth serving, in connection with the adjacent apertures *c'''* between the rings *c'*, as means by which ashes can escape and air be admitted to the fire from below.

The special use of the rings *c'* is in connection with the serrated plate G, they being thus constructed, and having their edges up and down, to give, while affording great lateral draft-room—which is necessary in view of

the small draft-space provided in the serrated plate G—the greatest possible diameter and area to the receptacle for fuel over the movable grate formed by the plate G and its appendages. The supporting-pieces between the rings also serve, while offering little obstruction to the draft, to preserve the shape of the fire not intended to be disturbed, when, by the shaking of the plate G, the dead fire is thrown out under the lower ring and through the serrations of said plate.

The plate G is pivoted centrally to the cross-bar *d* by means of the yoke *e* and pin *e'*, and may be moved or shaken circumferentially by means of the bar *f* to expel the accumulated ashes, and is provided with a sliding door, *f'*, fastened to the said bar *f*, by the use of which door the fire is cleared and relieved from clinkers.

H H' are sliding doors, composed of horizontally-arranged bars, between which mica or other illuminating substance is inserted, designed to produce an agreeable illuminative effect.

These doors are not claimed as a part of my present invention, but form the subject of another application for Letters Patent filed by me herewith.

The course of the products of combustion is indicated by the arrows.

I make no claim to the double magazine, although, for purposes of illustration and better understanding of my invention, it is herein described, and shown in the annexed drawing.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. The inclined annular plate or fire pot F, provided with spines or projections *c*, in combination with the rings *c'* and their connecting-pieces, the rings having spaces *c''* between them, the whole being arranged over the movable grate, as specified.

2. The fire-plate G, having the toothed or fringed circumference, and provided with the sliding door *f'* and its bar *f*, the said plate being adapted to be revolved, or partially revolved, in or upon a suitable support, in combination with a fire-pot, having the horizontal separated rings *c'*, the whole forming a combined stationary and movable grate, and operating substantially as set forth.

In testimony whereof I have subscribed my name hereto, at the city of Baltimore, this 18th day of April, A. D. 1874.

HUGH L. McAVOY.

Witnesses:

WM. T. HOWARD,
NICHOLAS TURNER.