M. McNAMARA.
Fire-Place Stove.

No. 208,028. Patented Sept. 17, 1878.

Figure 1

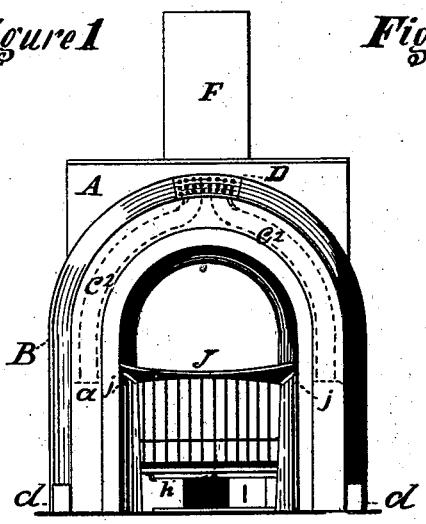



Figure 2

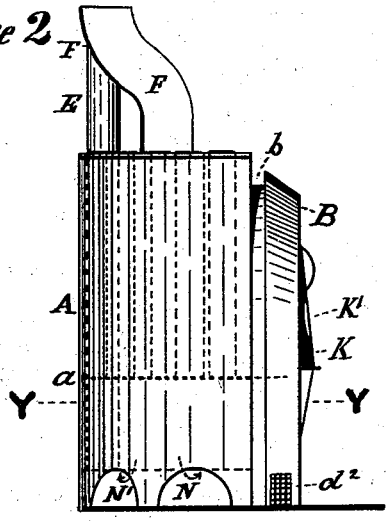



Figure 3.

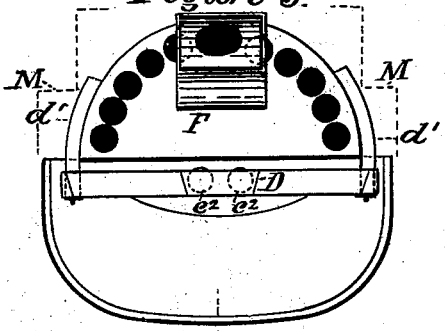



Figure 4.

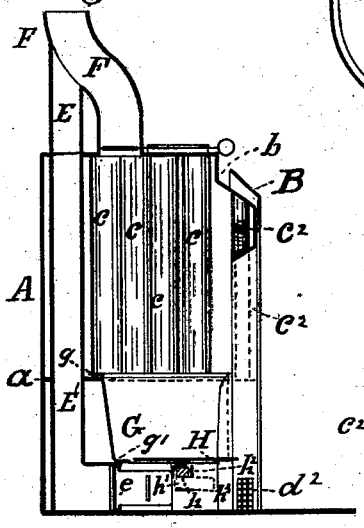



Figure 5

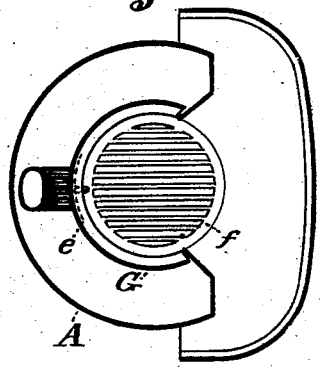
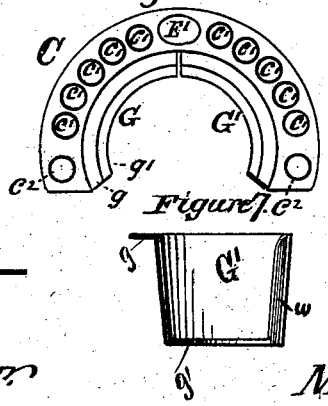



Figure 6




Witnesses.
Wm. S. Grosvenor
H. P. Stuart

Inventor.
Michael McNamara,
By Jamy Langster
Atty

# UNITED STATES PATENT OFFICE.

MICHAEL McNAMARA, OF BUFFALO, NEW YORK.

## IMPROVEMENT IN FIRE-PLACE STOVES.

Specification forming part of Letters Patent No. **208,028**, dated September 17, 1878; application filed December 14, 1877.

*To all whom it may concern:*

Be it known that I, MICHAEL McNAMARA, of the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Fire-Place Stoves, which improvements are fully set forth in the following specification and accompanying drawing, in which—

Figure 1 is a front elevation; Fig. 2, a side elevation; Fig. 3, a plan or top view; Fig. 4, a vertical longitudinal section through line X X, Fig. 3. Fig. 5 represents a cross-section through line Y Y, Fig. 2; and Fig. 6 is a plan of the plate for supporting the bottom of the short tubes, and a top view of the fire-box without the bottom grate; and Fig. 7, a detached view of one of the fire-pot sections.

My invention relates to what are known as "fire-place stoves;" and consists in certain details of construction, fully described hereinafter, and illustrated in the drawing, whereby to increase the heating capacity and insure durability of parts exposed to the fire.

In said drawings, A represents the outer casing of the heater or stove, inclosing the upper fire-chamber and lower air-chamber, divided by a plate, as described hereinafter. B, the front plate or casing, which is made removable, and arranged so as to be readily fastened in place or disconnected when required, and so as to leave a space, *b*, for the mantel-piece.

The body of the furnace is divided by a semicircular plate, C, Fig. 6, at or about the point *a*. (Shown by dotted lines in Figs. 1, 2, and 4.) The short pipes or flues *c*, are connected at the bottom, in any well-known way, to this plate at the opening $c^1$, Fig. 6, the upper ends of the pipes being fastened to the top of the stove in a similar manner. $c^2$ represents the curved or bent pipes, arranged at the front of the heater, back of the plate B. They are fastened at the bottom to the plate C in the same way, and are formed, as shown by the dotted lines $c^2$ in Fig. 1, so as to come nearly together at the top and lead into the register D, Fig. 1. The pipes thus arranged are exposed throughout their whole extent, so that the air will be more thoroughly and quickly heated than when the flues are formed in the front plate or frame, while, to a degree, they screen the frame and prevent it from becoming too hot. *d d* are openings at the lower part of the stove to receive the water-pans $d^1$. (Shown in Fig. 3.)

The letters $d^2$ represent openings or registers through the sides of the case or plate B, to allow the cold air to pass in and up through the pipes $c^2$, where it becomes heated and passes out through the register D into the room.

E is the dust or ash pipe. It is connected to the main or smoke pipe F at F′, and passes down through the plate C at E′, Fig. 6, and to or near the bottom of the stove, where it terminates in an elbow, provided with a damper, *e*.

In Fig. 5, *f* shows a supplementary grate, which is placed in an opening in the base-plate below the fire-grate, in a position where it may be conveniently reached by an ordinary poker to sift the ashes, the damper in the dust-pipe being opened during the operation, so as to prevent the dust of the ashes from coming out into the room. By placing the damper *e* at the bottom of the pipe E, instead of at the top, as usual, the return of dust to the room after the damper is closed is prevented.

G represents the fire-box. It is formed of two pieces, as shown at G G′, Figs. 6 and 7, so that it can be easily put in place or taken out. *g* is an outwardly-projecting flange at the top, and *g′* an inwardly-projecting flange near the bottom, and *w* a side flange, which flanges support the fire-brick and impart rigidity to the pot, the flanges *w* also bearing against the frame to hold the pot in place.

Ordinary suspended fire-pots, having no backing and exposed at one side to intense heat and at the other to cold air, are apt to warp and crack, become twisted and difficult to remove, and will not permit the fire-bricks to fit closely. By dividing the fire-pot, as described, each section is permitted to expand and contract without imparting strain to the other, so that the general shape is preserved and cracking prevented.

I am aware that metal linings have been applied within the ordinary fire-pots; but the latter when once warped are open to all the objections stated.

The fire-grate H is held in position by means of a cross-bar, *h*, which is put in by inserting one end into a recess in one side of the fire-box, and then moving the opposite end hori-

zontally into an opening, $h^1$, then up between the projections $h^2$, Fig. 4, after which a wedge, $h^3$, (shown by dotted lines,) is inserted, as shown, thereby holding it firmly in place, from which it may be readily released when required.

I do not here claim these features, as they will form the subject of a separate application for a patent.

J represents the front fire-grate. It is held in place by the projecting pieces *j j*, and is easily removable.

K is the ordinary removable fire-grate front or cover. If desired, it may be provided with one or more openings, K′, into which mica or its equivalent may be put, so as to render it transparent; and, if desired, an additional removable cover or front, provided with a damper, may be used to cover the lower part.

The main pipe F and the upper portion of the pipe E are of cast-iron, and are cast in one piece, thereby insuring greater strength and durability and rendering it gas-tight.

When the heater is used to warm an upper room besides the one in which it is placed, it should be set in a fire-place having flues similar to those shown by dotted lines M M, Fig. 3, leading down from the upper room, so as to communicate with the openings N at the bottom of the heater. This arrangement allows the cold air from the upper room to descend, and then return after it has passed through the furnace and become heated, a flue provided with a register and adapted to conduct the heated air from the furnace to the room being combined with it.

This invention is also adapted for use in a room where there are no fire-places, like an ordinary stove or furnace.

The space below the plate C forms a flue, which partly surrounds the heater and communicates with the openings N. The furnace is either elevated, or an opening is provided below it, so that when the ashes are sifted through the grate *f*, as before mentioned, they will have a receptacle to fall into.

I am aware that sifters have been arranged below the grates in fire-places, and above the drawers and receptacles of stoves. I am also aware that hot-air pipes have been arranged within stoves so as to be exposed on all sides to the action of the hot gases, and that air-channels have been formed in the frames.

I claim—

1. The suspended fire-pot consisting of sections having inwardly and outwardly projecting flanges *g g′* and vertical flanges *w*, as and for the purpose set forth.

2. The bent tubes $c^2$, extending from above the fire-pot at the rear of but apart from the frame and communicating with the register D, as set forth.

MICHAEL McNAMARA.

Witnesses:
JAMES SANGSTER,
C. L. POND.