(No Model.) 6 Sheets—Sheet 1.

M. PECKHAM.

HEATING STOVE.

No. 383,144. Patented May 22, 1888.

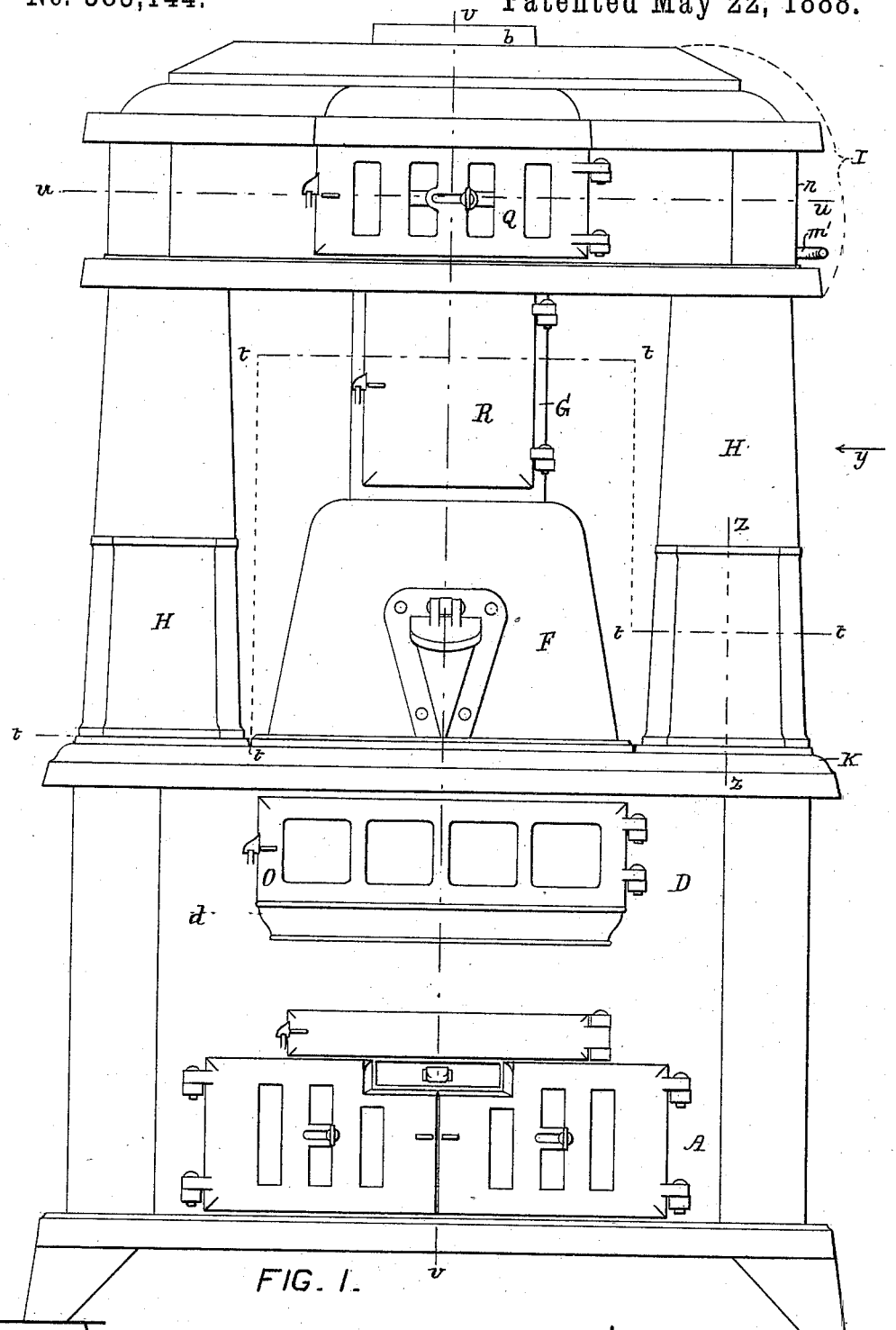

FIG. 1.

WITNESSES:
Thos. J. Brial
Fred E. Derrick.

INVENTOR:
Merritt Peckham
by Austin F. Park, attorney.

(No Model.) 6 Sheets—Sheet 2.

M. PECKHAM.

HEATING STOVE.

No. 383,144. Patented May 22, 1888.

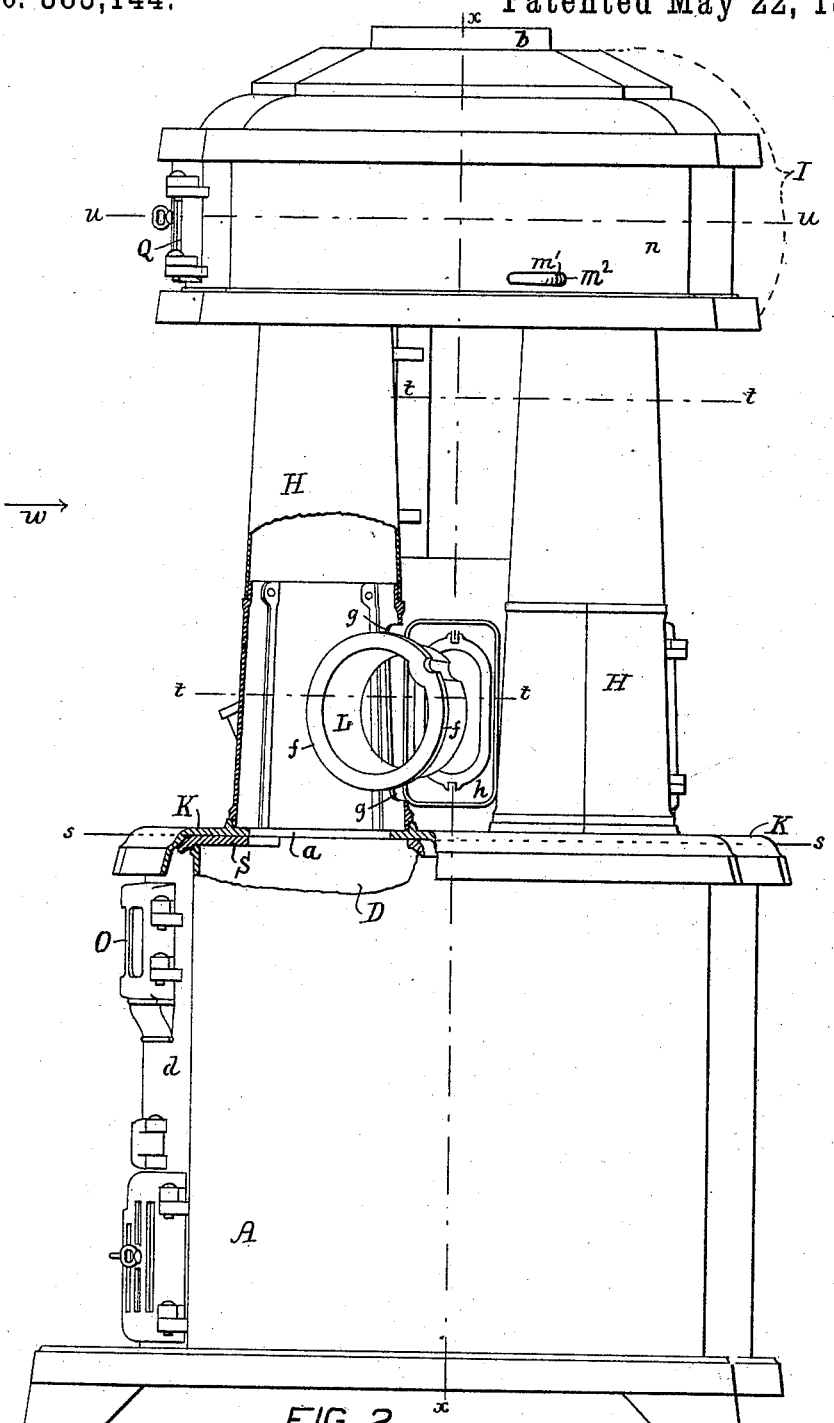

FIG. 2.

WITNESSES:
Thos. S. Brisbin
Fred'k. Derrick.

INVENTOR:
Merritt Peckham,
by Austin F. Park, attorney.

(No Model.)

6 Sheets—Sheet 3.

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HEATING STOVE.

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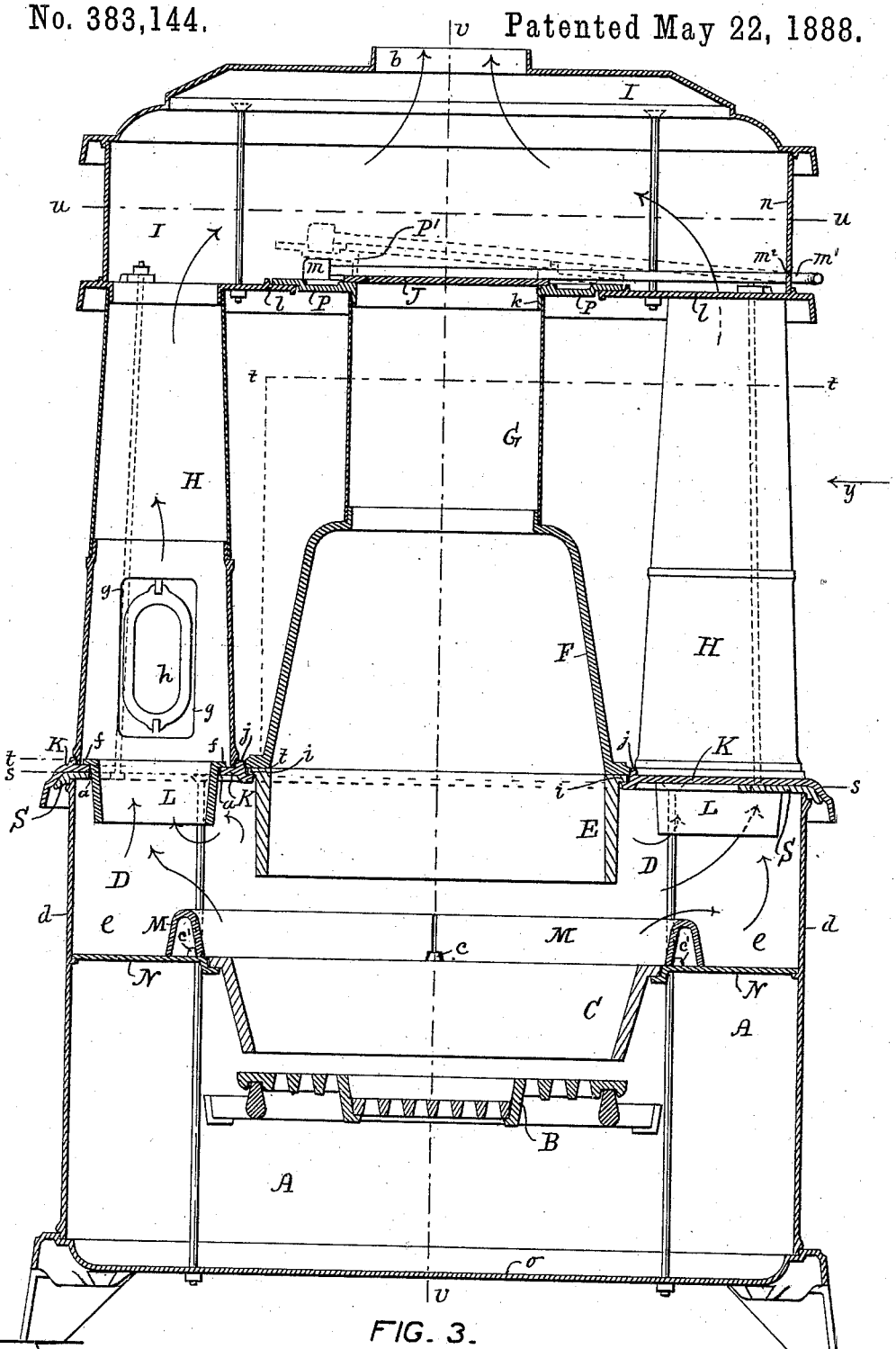

FIG. 3.

WITNESSES:
Thos. S. Breslin
Fred'k G. Derrick

INVENTOR:
Merritt Peckham,
by Austin F. Park, attorney.

(No Model.) 6 Sheets—Sheet 4.

M. PECKHAM.

HEATING STOVE.

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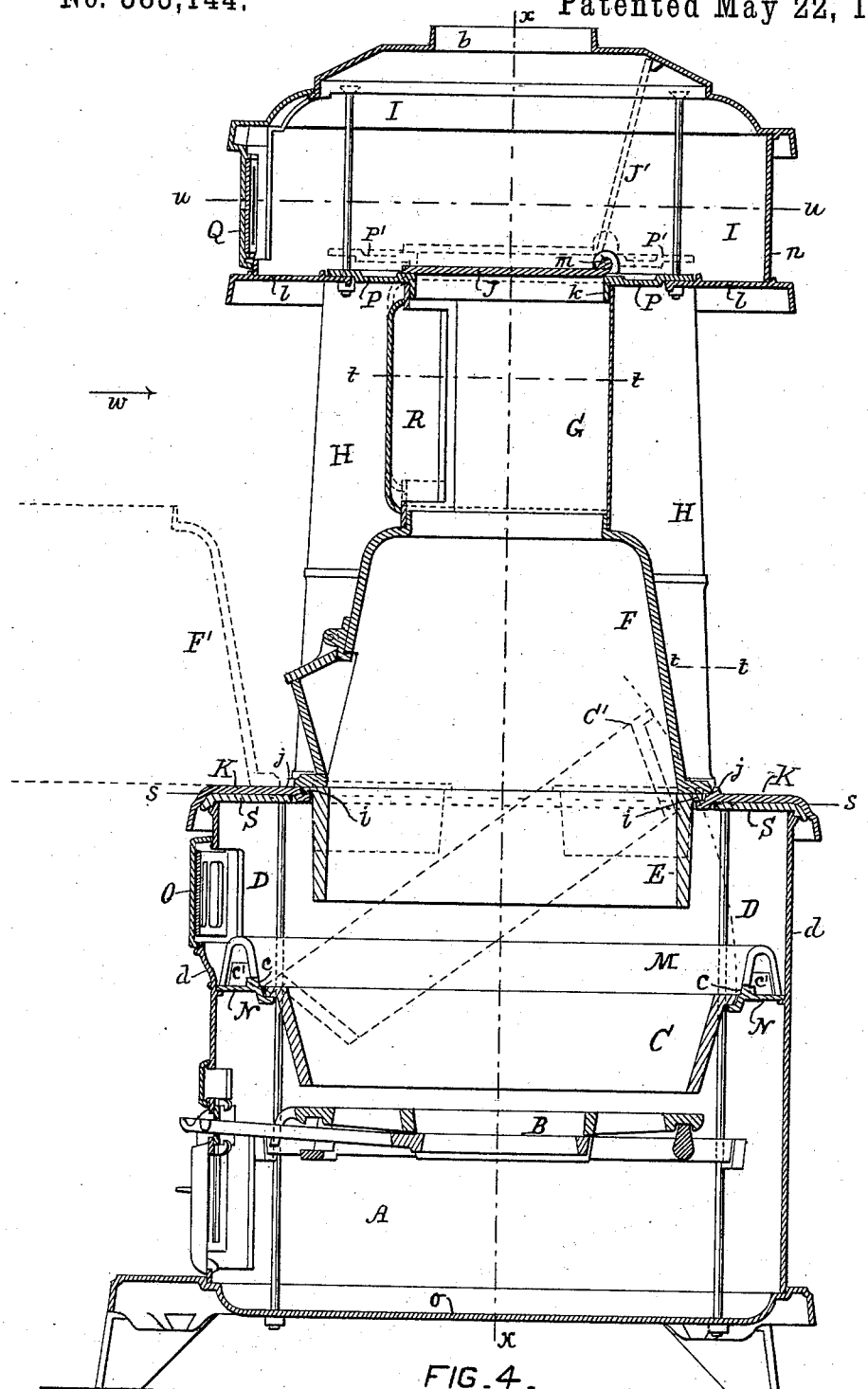

FIG. 4.

WITNESSES:
Thos. S. Brooks
Fred'k E. Derrick.

INVENTOR:
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(No Model.) 6 Sheets—Sheet 5.

M. PECKHAM.

HEATING STOVE.

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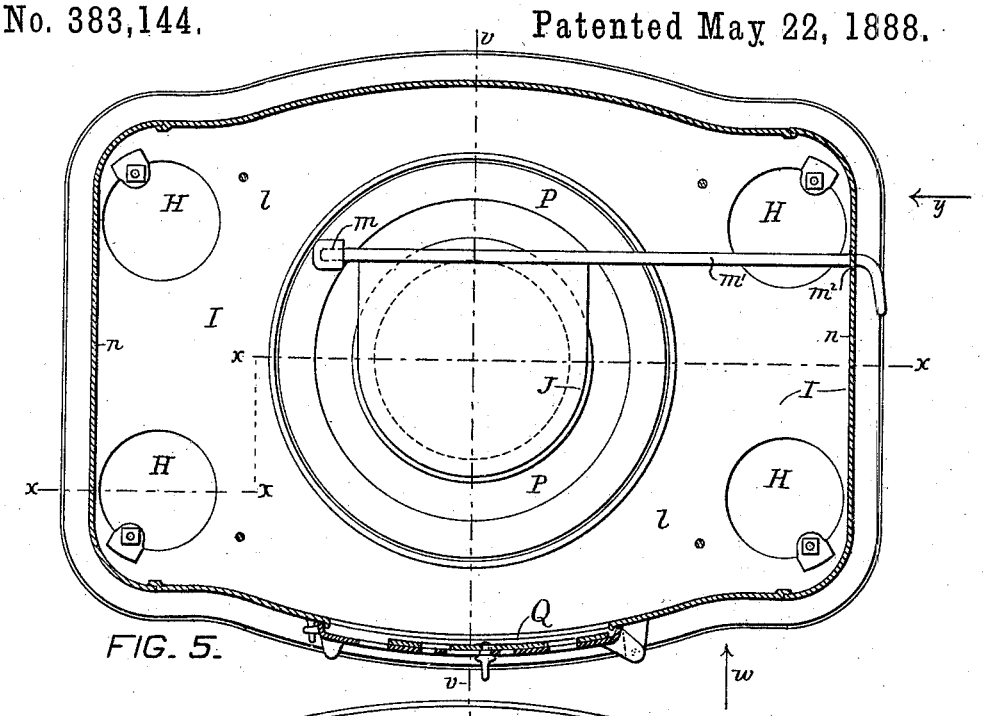

FIG. 5.

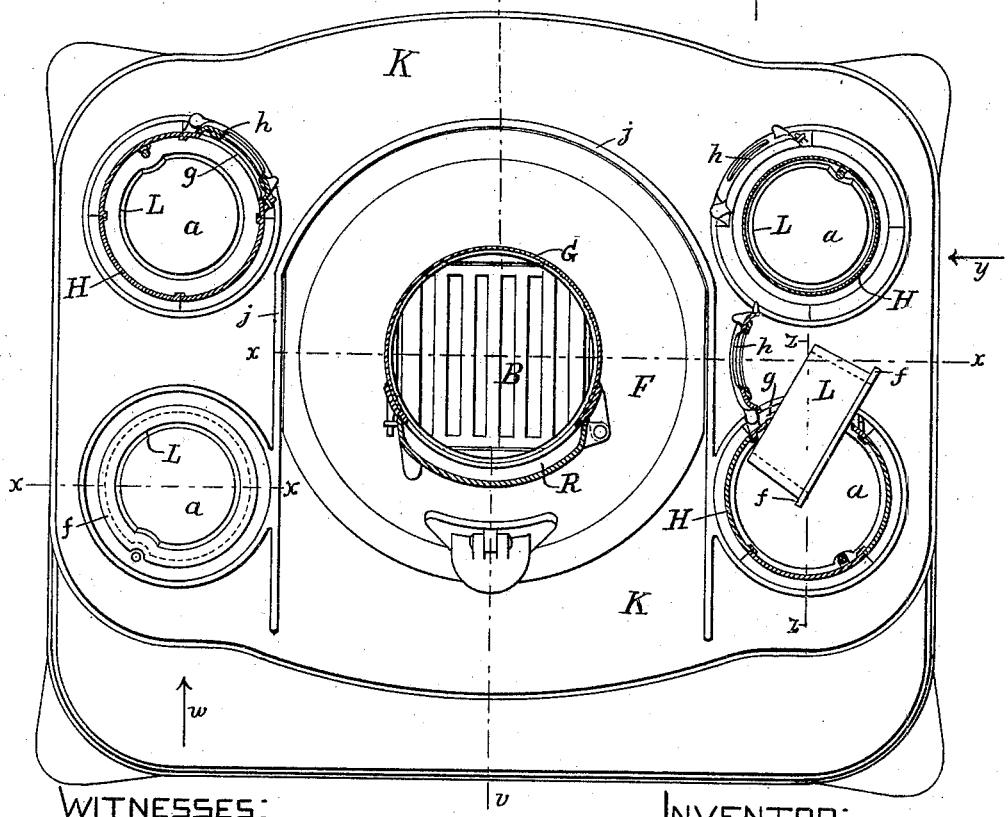

FIG. 6.

WITNESSES:
Thos. S. Breslin
Fred'k E. Derrick.

INVENTOR:
Merritt Peckham,
by Austin F. Park
attorney.

(No Model.) 6 Sheets—Sheet 6.

M. PECKHAM.

HEATING STOVE.

No. 383,144. Patented May 22, 1888.

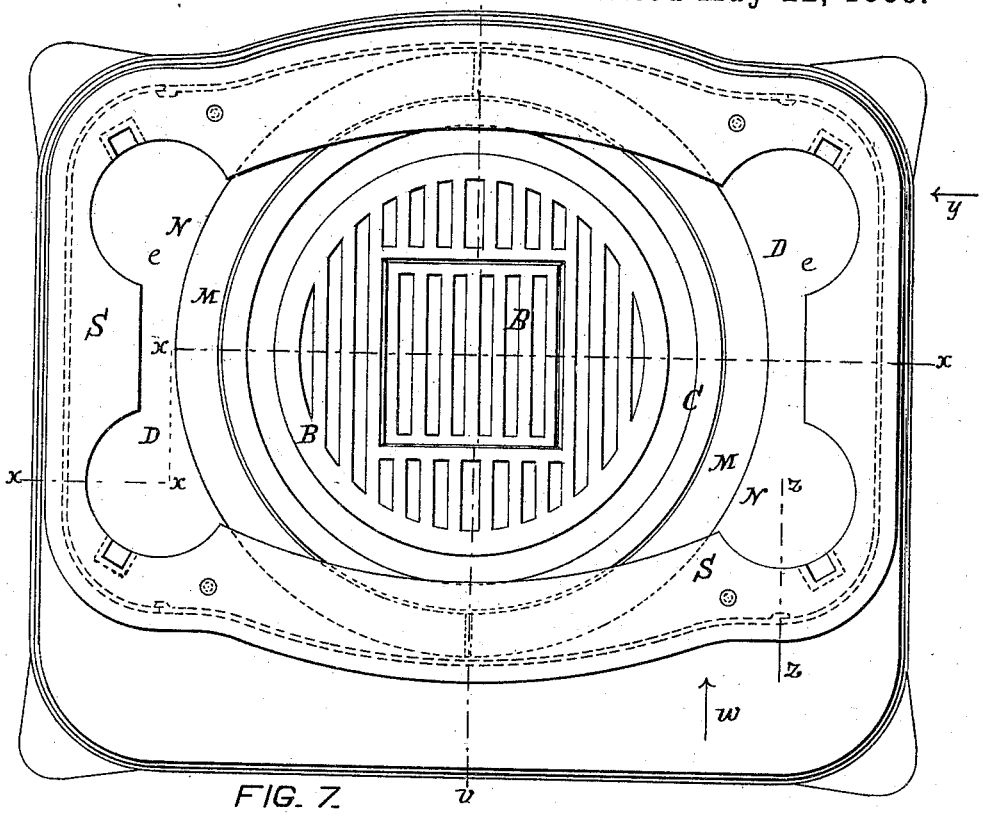

FIG. 7.

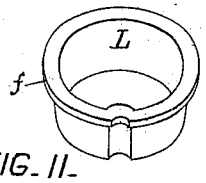

FIG. 11.

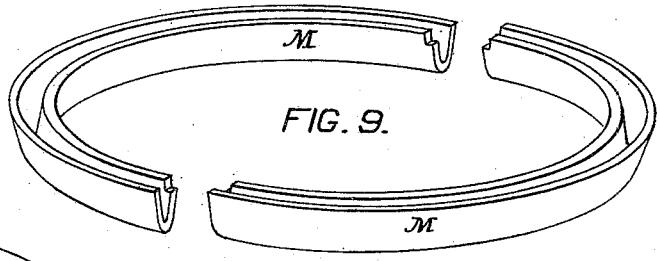

FIG. 9.

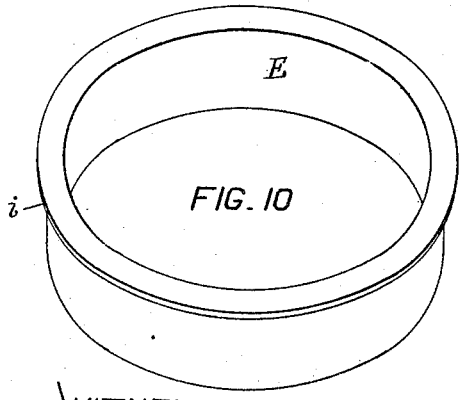

FIG. 10

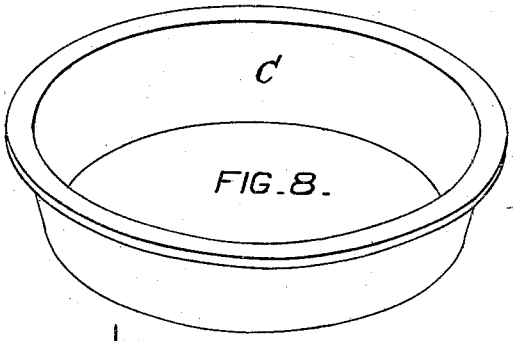

FIG. 8.

WITNESSES:
Thos. S. Brislin
Fred E. Derrick.

INVENTOR:
Merritt Peckham,
by Austin F. Park, attorney.

UNITED STATES PATENT OFFICE.

MERRITT PECKHAM, OF UTICA, NEW YORK.

HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 383,144, dated May 22, 1888.

Application filed December 24, 1887. Serial No. 258,893. (No model.)

To all whom it may concern:

Be it known that I, MERRITT PECKHAM, a citizen of the United States, residing in the city of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Magazine Heating-Stoves, of which the following is a specification, reference being had to the accompanying six sheets of drawings.

My improvements relate to stoves for burning bituminous and other coals and for radiating heat, and mainly to such heating-stoves as have a fire-pot suspended in a radiating draft-chamber, a radiating coal-magazine over the fire-pot, a radiating flame-chamber over the draft-chamber, radiating column-flues extending upward from the top of the flame-chamber, and a radiating flue-chamber at the top of the column-flues.

The general objects of my improvements are to secure the proper heating of the radiating parts without much liability of injuring them by overheating, and to provide means which shall permit such internal parts as are liable to become burned out to be readily removed and replaced by others without separating the adjacent parts of the stove.

In the aforesaid drawings, Figure 1 is a front elevation of a stove which embodies one form of my invention. Fig. 2 is an end elevation of the same, a part being in vertical section at about the line *z z* in Figs. 1, 6, and 7 and viewed in the direction of the arrow *y*. Fig. 3 is an elevation of the same in vertical section at about the lines *x x* in Figs. 2, 4, 5, 6, and 7 and seen in the direction pointed by the arrow *w*. Fig. 4 is an elevation of the same in vertical section at about the lines *v v* in Figs. 1, 3, 5, 6, and 7 and viewed in the direction of the arrow *y*. Fig. 5 is a plan of the upper portion of the stove in horizontal section about at the lines *u u* in Figs. 1, 2, 3, and 4. Fig. 6 is a plan of the stove in horizontal section at about the lines *t t* in Figs. 1, 2, 3, and 4. Fig. 7 is plan of the lower section of the stove below the plane of the line *s s* in Figs. 2, 3, and 4, the upper section of the stove being removed. Figs. 8, 9, 10, and 11 represent detached parts of the same stove.

Like parts are marked by like letters in the several figures, and the courses of the gases of combustion through the stove are indicated by the arrows therein.

A represents the draft-chamber; B, the fire-grate; C, the fire-pot, and D the flame-chamber over the draft-chamber.

E F G is the fuel-magazine over the fire-pot and extending upward from and downward below the top of the flame-chamber. The radiating column-flues H extend upward from the top of the radiating flame-chamber, and the radiating flue-chamber I is mounted on the tops of the column-flues and has internal communication therewith at all times, and also with the upper part of the radiating fuel-magazine when the latter is not closed by a valve.

The column-flues H are mounted on a radiating-plate, K, which covers the top of the flame-chamber, and has apertures at *a*, Figs. 2, 3, and 6, coinciding with the lower ends of the column-flues. The ordinary course of the gases of combustion from the fire-pot C is first upward and laterally through the flame-chamber D, thence upward through the column-flues into and through the flue-chamber I to any suitable exit-passage, as *b*.

To prevent the radiating-cover K of the flame-chamber and the lower end parts of the radiating column-flues H from being too highly heated, I furnish each column-flue, or its coinciding opening through the cover K, with a tubular flue-guard, L, Figs. 3, 6, 11, which is a separate piece from the column-flue and from the cover of the flame-chamber, and extends from that cover downward into the flame-chamber, about as shown in Fig. 3, and causes the rising currents of flame from the fire-pot to turn downward away from the cover K and to pass under and out through the guard L in passing from the flame chamber into the column-flue.

The ring M, Figs. 3, 4, and 9, is ∩-shaped in cross-section, is in two separable halves, rests between guides *c c'*, Fig. 4, on the diaphragm-plate N around the rim of the fire-pot C, and can be removed and inserted at will, as through a doorway at O in the lateral casing *d* of the flame-chamber. The ring M serves as an upward extension of the fire-pot and constitutes the inner wall of the laterally and downwardly extending flame-reverting recesses *e* under the tubular guards L of the column-flues.

To provide excellent means which will permit the tubular guard L to be easily withdrawn from its place in the stove and reinserted therein, I make the upper rim of the flue-guard with a lateral projection or flange, *f*, and smaller than the interior of the lower portion of the column-flue, and suspended within the circuit of the column-flue and through the coinciding aperture in the cover of the flame-chamber, about as illustrated in Figs. 3 and 6, and have in the column-flue a lateral aperture, *g*, Figs. 2,3, and 6, larger than the flue-guard L and furnished with a door or cover, *h*, so that upon moving that door or cover away from the lateral aperture *g*, as indicated in Figs. 2 and 6, the tubular guard L can be readily withdrawn and inserted through that aperture.

To permit the ready removal and insertion of the fuel-magazine or its lower section which extends through and below the cover of the flame-chamber, I make the magazine in three separable sections, E F G, and have on the lower section a rim or flange, *i*, Figs. 3, 4, and 10, which rests on the plate K around the aperture in that plate, and I have the middle section, F, fit closely and securely upon the lower section or plate, K, as within a guard, *j*, Figs. 3, 4, and 6, on that plate. I also have the lower end part of the upper section, G, fit securely or telescopically upon or in and to the upper part of the section F, and have the upper part of the upper section fit closely or telescopically upon or in and to a rim or collar, *k*, of a rim-plate, P, which covers an aperture through and rests upon the bottom plate, *l*, of the flue-chamber I, but can be raised up, as indicated by dotted lines at P′ in Figs. 3 and 4, by and with or separately from the section G, which can be then raised off from the section F, so as to permit the latter to be moved away from over the section E, as indicated by dotted lines at F′ in Fig. 4, and thus permit the lower section to be lifted out of the aperture through the flame-chamber cover, and thus withdrawn from the stove.

A valve, J, is shown pivoted at *m*, Figs. 3, 4, and 5, to and upon the rim-plate P, and having a handle-shaft, *m′*, extending outward through and beyond a socket-aperture at m^2 in the lateral casing *n* of the chamber I, so that by turning the handle-shaft from outside the stove the valve can be turned upward and away from over the aperture through the rim-plate, as indicated by dotted lines at J′ in Fig. 4, to open direct communication between the chamber I and the fuel-magazine, and can be turned down upon the rim-plate, as shown in full lines, to cut off such communication. When the valve J is turned up, as indicated by dotted lines at J′ in Fig. 4, it may serve as a guard to facilitate the introduction of coal into the magazine through a doorway at Q in the casing of the top flue-chamber. Fuel may also be introduced into the magazine through a doorway at R in its upper section.

To permit the fire-pot C to be readily removed from and replaced in the stove, and also measurably protect the cover K of the flame-chamber from injury by heat, I mount the column-flues, fuel-magazine, and top flue-chamber all together upon the cover K in one removable section, and mount the inclosing and dividing plates *d o* N of the draft-chamber and flame-chamber all together to the rim-plate S, in a separate lower section upon which the upper section normally rests with its supporting-plate K fitting upon and around the plate S, essentially as indicated in Figs. 3 and 4. I also have the fire-pot C suspended by its rim resting on the plate N, and have the opening through the plate S large enough to permit the fire-pot to be removed and inserted through that opening, as indicated by dotted lines at *c′* in Fig. 4, when the upper section of the stove is removed from the lower section.

In carrying out this invention the stove may have one, two, or more column-flues over and in communication with each lateral extension of the flame-chamber, and the cover K and rim S may each consist of two or more plates secured together in any suitable known manner, to lessen their liability of breaking by unequal expansion in using the stove.

I claim as my invention—

1. In a heating-stove, the combination, with its fire-pot, fuel-magazine, flame-chamber extending laterally around the lower portion of the magazine, flame-chamber cover having flue-apertures, and column-flues on said cover and coinciding with its flue-apertures, of the tubular flue-guards coinciding with said flue-apertures and extending downward into the flame-chamber from its cover, as set forth.

2. In a heating-stove, the combination, with its fire-pot, ring M around and extending above the rim of the fire-pot, flame-chamber extending laterally outside of said ring, flame-chamber cover having flue-apertures over the lateral extensions of the flame-chamber, and column-flues on said cover and coinciding with said apertures, of the tubular flue-guards coinciding with said flue-apertures and extending therefrom downward into the lateral extensions of the flame-chamber, as set forth.

3. In a heating-stove, the combination, with its flame-chamber, its cover having the flue-apertures, and column-flues on the cover and coinciding with said apertures, of the tubular flue-guards within the circuits of the column-flues and extending downward through and below said flue-apertures, and in the casings of the column-flues lateral openings larger than said flue-guards and furnished with doors or covers, as described.

4. In a heating-stove, the combination, with its laterally-extending flame-chamber, its cover, column-flues upon the lateral parts of said cover, and the flue-chamber upon the column-flues, of the fuel-magazine consisting of its lower section suspended by its rim through a central aperture in said cover, middle section supported by said cover, and upper section connected telescopically with the middle

section, and the ring-plate P in said flue-chamber, upon its bottom, covering an opening therein, secured to the upper section of the magazine, and movable upward, substantially as shown and described.

5. In a heating-stove, the combination, with its fuel-magazine, column-flues, flue-chamber on the column-flues and having the lateral doorway Q, and the upwardly-movable ring-plate P, connecting the magazine and said flue-chamber, of the valve J, pivoted to said ring-plate and having a handle-shaft extending outward through a socket-aperture in the casing of the flue-chamber, as set forth.

6. A heating-stove having an upper section embracing the supporting-plate K, fuel-magazine, column-flues, flue-guards, and flue-chamber on the column-flues, all mounted together on said supporting-plate, in combination with and removable bodily from a lower section embracing the rim-plate S, upon which the plate K normally rests and fits closely, the draft-chamber, flame-chamber, diaphragm-plate N, and their bottom and lateral inclosing-plates, all mounted together to and with said rim-plate, and the fire-pot C, suspended through the opening in said diaphragm-plate and smaller than the opening through the rim-plate S, and removable therethrough when the upper section of the stove is removed from the lower one, as set forth.

7. In a heating-stove, the combination, with its flame-chamber cover K, having the aperture *a*, of the detachable tubular flue-guard L, extending downward through and below said aperture, and having the flange *f* resting upon said cover, and the column-flue H upon said cover and surrounding said flange, as shown and described.

In testimony whereof I hereunto set my hand, in the presence of two subscribing witnesses, this 20th day of December, 1887.

MERRITT PECKHAM.

Witnesses:

WM. H. CURRY,

A. D. CROCKER.