2 Sheets—Sheet 1.

J. B. OLDERSHAW.
Fire-Place Heater.

No. 213,445. **Patented Mar. 18, 1879**

Fig. 1.

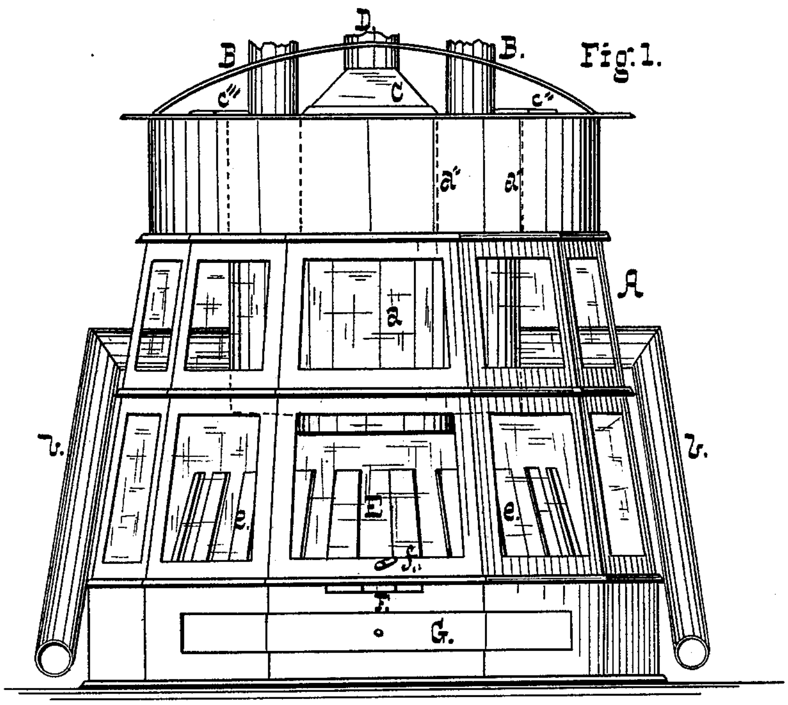

Fig. 2

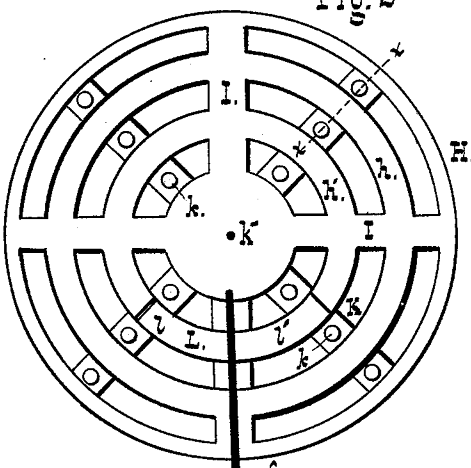

Fig. 3.

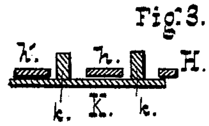

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Fig. 4.

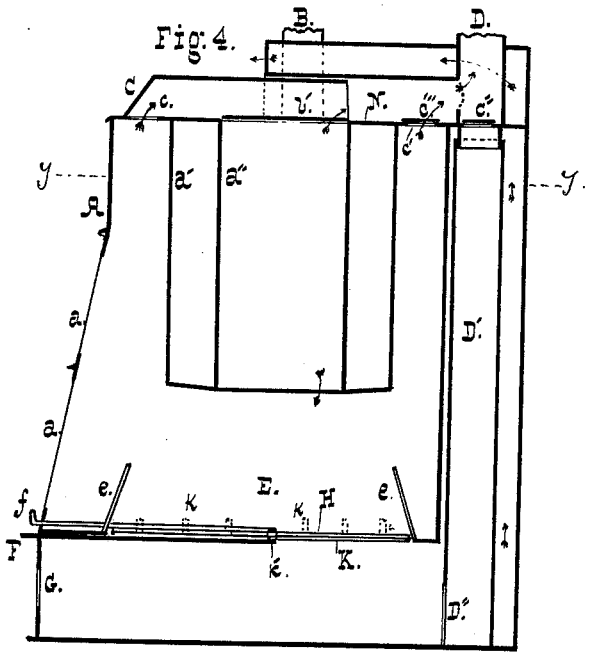
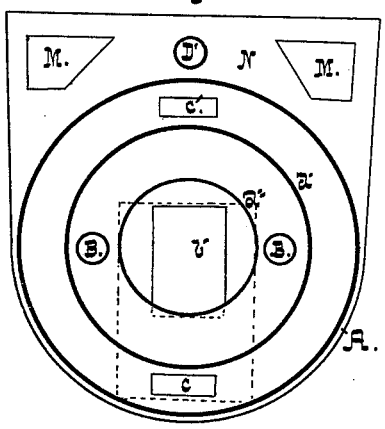


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN B. OLDERSHAW, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN FIRE-PLACE HEATERS.

Specification forming part of Letters Patent No. **213,445**, dated March 18, 1879; application filed January 28, 1879.

To all whom it may concern:

Be it known that I, JOHN B. OLDERSHAW, of Baltimore city, State of Maryland, have invented certain new and useful Improvements in Fire-Place Heaters; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of the stove; Fig. 2, a plan view of the grate; Fig. 3, a sectional view on line *x x* of Fig. 2; Fig. 4, a vertical sectional view of the stove; Fig. 5, a horizontal sectional view of the same on line *y y*, Fig. 4.

While I have illustrated my invention as applied to a fire-place heater, it will be obvious from the following description that it is equally applicable, in certain of its details, to other forms of stoves.

My invention consists in certain features and details of construction which are made the subject of the claims.

The stove A, illustrated in the accompanying drawings, is externally of the ordinary fire-place-heater pattern, having the usual mica doors *a*. Within the stove is the magazine *a''*, of appropriate size and shape, surrounded by an air-heating drum, *a'*, which extends to the bottom of the magazine, as shown, and into which lead pipes *b b*, that open near the floor. Exit-pipes B B lead from the air-chamber and communicate with suitable flues leading to the upper rooms.

C is the magazine-cover, which slides back in the usual way, to afford access to the magazine for supplying it with fuel, and is provided with a bottom plate, *b'*, that fits closely over the magazine when the cover is drawn forward, and prevents the loss of the coal-gas, which is driven downward and consumed.

At the rear of the magazine is the direct-draft hole *c'*, provided with a damper, *c'''*, operated, as usual, from the front of the stove, and an indirect-draft hole, *c*, unprovided with a damper, is formed in the stove-cover in front of the magazine.

D is the smoke-flue, which communicates directly and in a right line with the dust-flue D', that opens into the ash-pit, as shown; and G is the ash-drawer.

The arrows at the rear of the dust-flue indicate the direction of the air-current from the cellar, which enters through suitable openings in the stove-base, and which, as it passes the stove, becomes highly heated and sweeps over its top into the room. A damper, *c''*, is provided for the dust-flue top, to prevent a blast of dust into the room in case of a downward draft.

In Fig. 5 is shown the construction of the parts attached to the stove-top N, M M representing the holes for the draft from below.

E is the fire-pot, which consists of a number of bars, *e e*, somewhat inclined inward, as shown in Fig. 1, which construction subserves an important function. The mass of coals in the fire-pot is thereby rendered incandescent throughout, securing a greater amount of radiated heat, as well as presenting a cheerful appearance, by reason of the ignition of the coals lying next the fire-pot. Moreover, by the described construction, the ashes are all caused to fall through the grate instead of upon the flange surrounding the fire-pot.

The grate H is represented in Fig. 2, and consists of a series of concentric circular bars, *h h'*, and radial arms I I, cast in one piece. One or more of the bars L being cut out, as shown, a dumping-space is formed (the bar L being eccentrically pivoted) about a bar or rod, *f*, cranked in front of the stove. Upon turning the crank the grate-section is tilted. The parts *l l'* are of unequal length, the longer one, *l'*, resting upon the continuation-bar *h'*, whereby the weight of the superincumbent fuel preponderating thereon prevents any tendency to tilt.

Beneath the grate is concentrically pivoted at *k'* a second grate, K, whose radial arms carry a series of pins, *k k*, which project between the bars of the grate proper. This second grate is provided with a socket or bar, F, for a shaker. The pins serve to effectually loosen the ashes without materially agitating the mass of incandescent fuel. I am fully aware, however, that this feature is not new, as pins projecting between the grate-bars have long been in use.

In its normal position, one of the radial arms of the lower grate rests beneath the lowering side of the tilting-grate section, and furnishes additional security against its being accident-

ally displaced. When it is desired to tilt the grate-section the radial arm is moved from under it.

Such is, in general terms, a description of the construction of the several parts going to make up the entire stove. In operation, the air sweeps up from below between the stove proper and the rear casing, and passes over the top of the stove into the room. Another current enters the pipes *b b* and passes into the annular chamber surrounding the magazine. Becoming highly heated therein, it finds its exit through the pipes B B into the upper apartments.

It may be observed just here that the object in making the air-chamber coextensive with the magazine is twofold—a more highly heated current of air is secured, and the coal in the magazine is prevented from coking (*i. e.*, evolving gases) by reason the abstraction of heat by the incoming current of air.

The operation of the fire-pot and grate, and the objects in and advantages of their peculiarities of construction, will have been hereinbefore made evident. These parts are not here claimed, as they are made the subject of a separate application.

A dust-flue communicating with the smoke-flue is shown in my patent of October 11, 1875, but differs from the construction hereinbefore described, in that the latter subserves alone the functions of a dust-flue, and under no circumstances as a duct for products of combustion.

I am, finally, aware that the indirect draft has heretofore been led over the magazine-lid; but I am not aware, and do not believe, that the duct for the draft has been formed as a part of the sliding magazine-lid, or attached thereto.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a stove, a dust-flue constituting a right-line continuation of the smoke-flue, provided with a damper, and opening into the ash-pit, as set forth.

2. In a magazine-stove, a sliding magazine-cover surmounted by and connected with a second cover, which, when drawn forward, extends over the indirect-draft orifice and serves as a duct for the products of combustion, as set forth.

3. The stove herein described, having its direct and indirect draft holes located, respectively, behind and in front of the magazine, the latter hole having a duct for the products of combustion formed by a cover, C, integral with or attached to the magazine-lid, and adapted to extend over the indirect-draft hole when the cover is drawn forward, as set forth.

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