

D. C. LITTLEFIELD,
 and C. H. JOHNSON,
Improvement in Stoves.

101476

PATENTED APR 5 1870

Fig. 3.

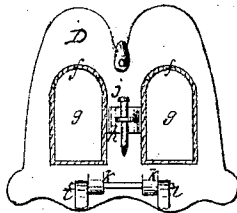


Fig. 2.

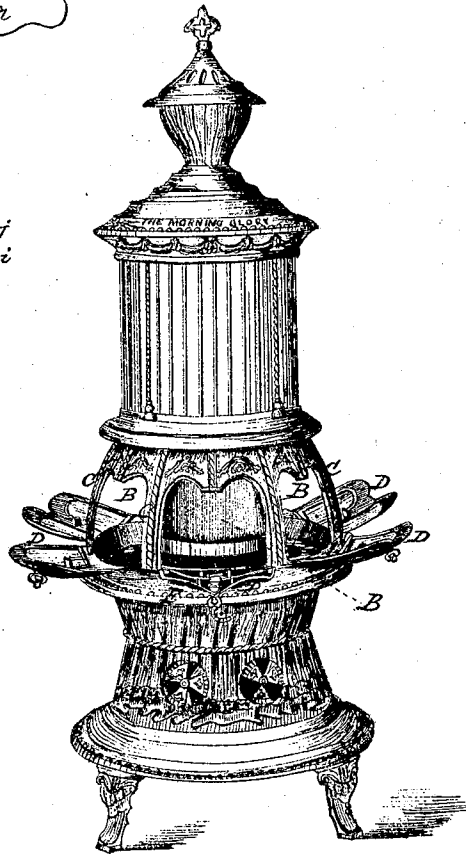


Fig. 1.

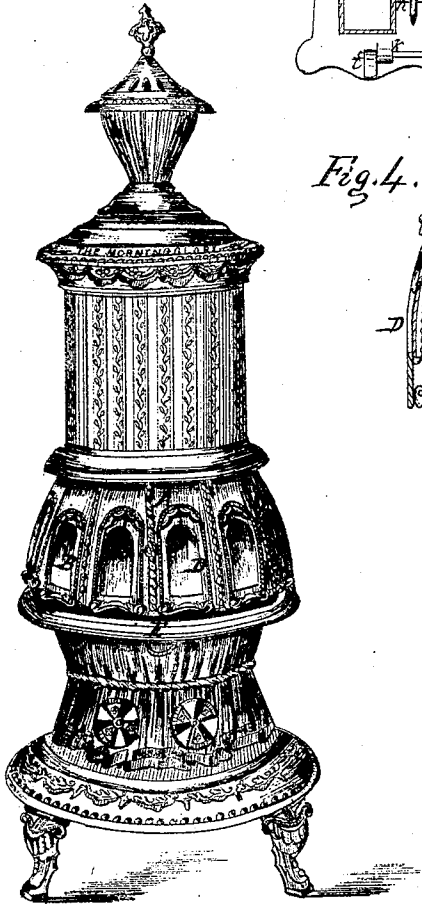
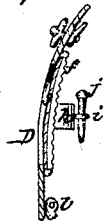


Fig. 4.



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UNITED STATES PATENT OFFICE.

DENNIS G. LITTLEFIELD, OF ALBANY, NEW YORK, AND GROVE H. JOHNSON,
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IMPROVEMENT IN BASE-BURNING STOVES.

Specification forming part of Letters Patent No. 101,476, dated April 5, 1870.

To all whom it may concern:

Be it known that we, DENNIS G. LITTLEFIELD, of the city and county of Albany, State of New York, and GROVE H. JOHNSON, of the city and county of Erie, in the State of Pennsylvania, have invented Improvements in the Construction of the Illuminating-Case of Base-Burning Stoves, of which the following is a specification:

Our invention consists in constructing such illuminating-cases with the doors or windows by which they are rendered illuminating so applied as to swing vertically downward, and occupy a horizontal or inclined position when open, to enable the apertures of the case to be used to receive cooking utensils of any kind, and to render the fuel more accessible at that part of the stove, and to facilitate the cleaning and insertion or removal of the mica, and to secure other advantages hereinafter enumerated; and it also consists in the manner of attaching the mica to the doors.

As represented in the drawings, Figure 1 is a stove of the Morning Glory pattern with this improvement applied, the illuminating-doors being shown closed; and Fig. 2, the same with the doors open; Fig. 3, an inside view of one of the doors removed, showing the hinge and manner of holding the mica; and Fig. 4, a vertical section of one of the doors.

We construct the illuminating portion of the case of an annular section or casting, A, having any number of openings, B, to receive the mica doors. These openings are preferably of as large size as is consistent with the strength of the metal which remains between them in the separating-bars C C, in order to render the illumination more complete and the apertures more serviceable for other purposes. The lower rim of this section we attach by means of hinges—ordinarily two for each door—to the doors D D, which receive the mica.

The hinges, as shown in Figs. 3 and 4, are preferably so situated as to be concealed by the lower edge of the door when closed, the latter being fastened by an ordinary turn-catch at the top, or by other suitable device. These doors, on being opened, turn down, and may be allowed to hang at any inclination, but are preferably confined to a level or hori-

zontal position, as shown in Fig. 2, where they rest, being supported by the projecting ring E of the case, or by special rests, if the form of the stove to which they apply does not supply such a needed support.

The apertures in the case which are thus opened correspond in position with the top of the combustion-chamber, exposing the fuel, and are adapted to the following uses: First, the reception of cooking utensils, as tea-kettles, water-boilers, spiders, and ovens, such being made of suitable form to adapt them to the openings, as in the utensils termed Morning Glory furniture, ingeniously adapted to this purpose, and patented by S. Spoor, January 19, 1869; second, facilitating the removal of slate, clinkers, or other substances from the fire while burning, enabling the mica to be conveniently cleaned upon the inside when it becomes fouled, and facilitating the removal or insertion of the same when necessary; third, the doors, when open and sustained in a horizontal position, forming a useful table or support for light objects which need to be placed near the fire, as a cup, dish, or other vessel; fourth, the advantage that, when the doors are laid open, they remain in that position, instead of swinging to by gravity, owing to the inclined position of the case when hinged at the side in the usual manner; fifth, that the space surrounding and on a level with the apertures of the case is unoccupied, adapting it to many useful domestic purposes for which the stove is unfitted by doors which swing sidewise.

The forming of the illuminating-section with vertically-swinging doors constitutes a case of novel form and construction, and develops new and useful functions.

Our method of holding the mica to the doors is as follows: The rims *ff*, which cover the edges of the mica plates *gg*, are connected by a cross-bar, *h*, slotted to pass over the lug or staple *i*. This bar is swelled outwardly, so as to present a convex surface to the fastening pin or key *j*, which clamps it fast to the door.

The shape is such that whatever degree of elasticity there may be in the metal of the bar *h* acts to maintain a continued pressure of the frames *ff* against the mica, insuring its reten-

tion, unaffected by the expansion and contraction caused by the heat.

The parts of the concealed hinges are shown at *k l* in Figs. 3 and 4.

We claim as our invention—

1. Constructing the illuminating-case of stoves with doors or windows which swing vertically downward, substantially as and for the purposes set forth.

2. Holding the mica-frames to the doors by means of the curved connecting-bar *h*, lug *i*, and key *j*, or their equivalents, substantially as set forth.

3. Combining with a vertically-swinging illuminating-door the arrangement of the concealed hinges *k l*, substantially as and for the purpose set forth.

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