

(No Model.)

2 Sheets—Sheet 1.

J. L. GOBEILLE & W. WICKE.
BALANCE BLOWER FOR STOVES AND GRATES.

No. 349,217.

Patented Sept. 14, 1886.

Fig. 1.

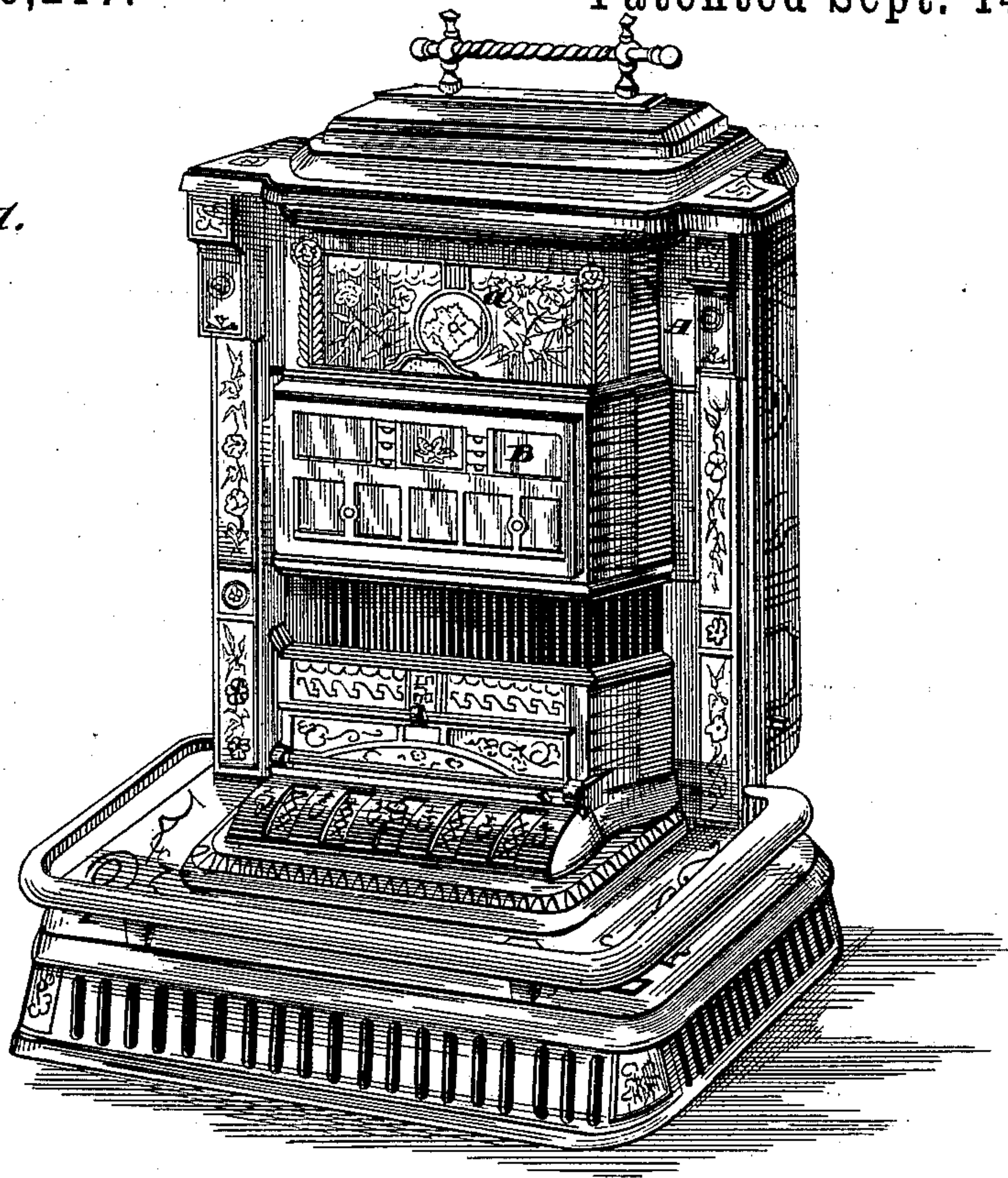
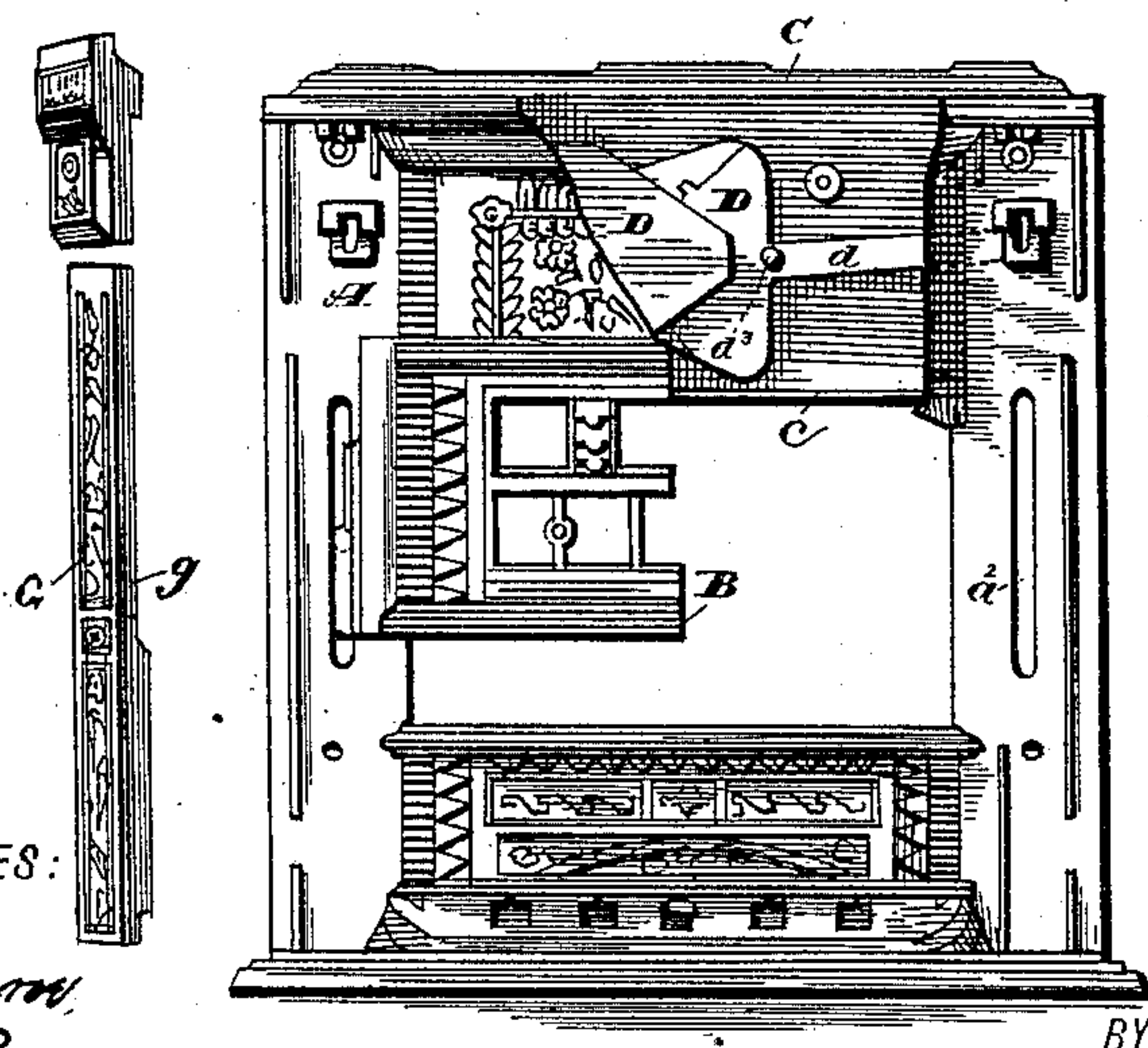


Fig. 2.



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2 Sheets—Sheet 2.

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Fig. 3.

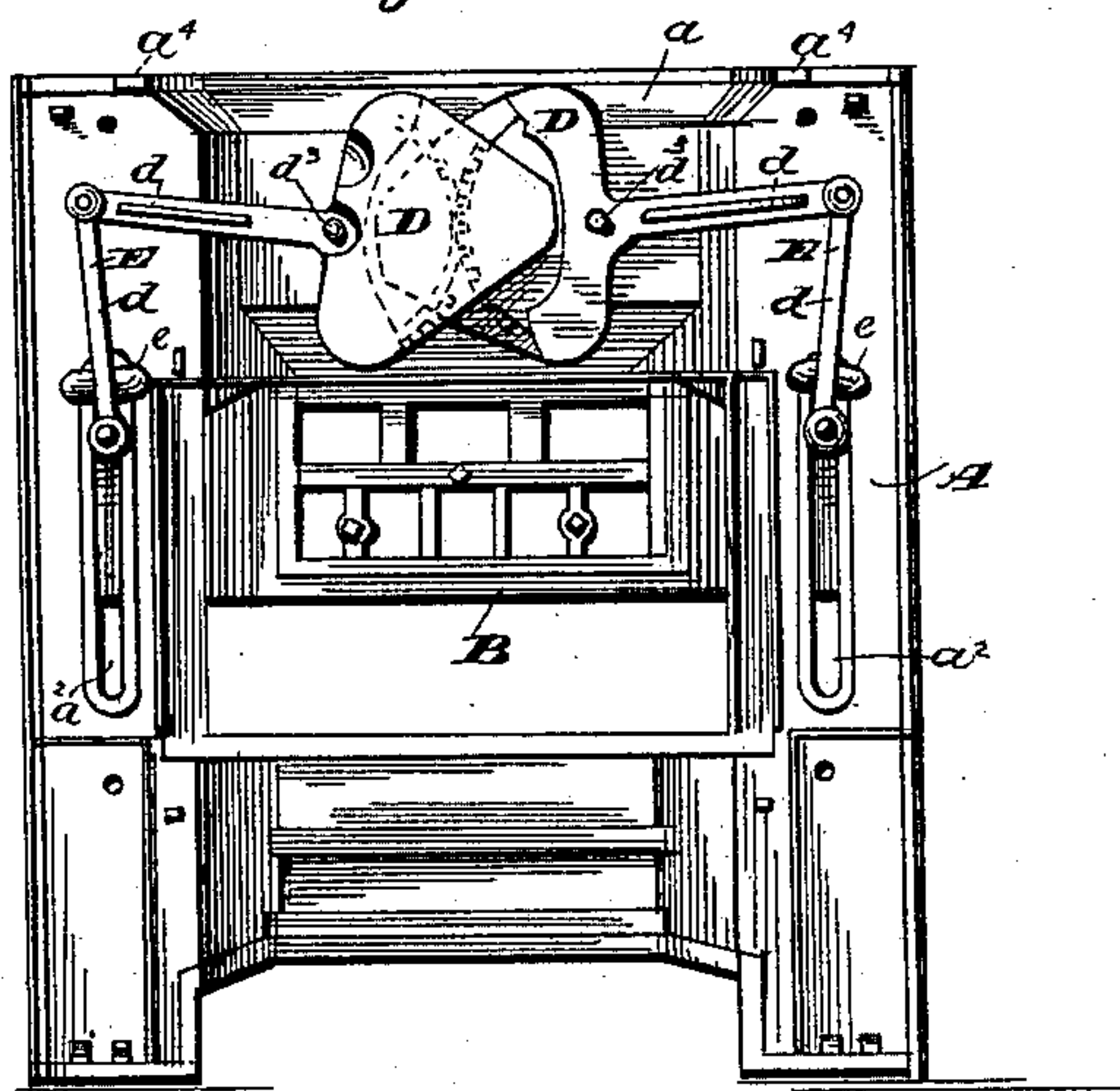


Fig. 4.

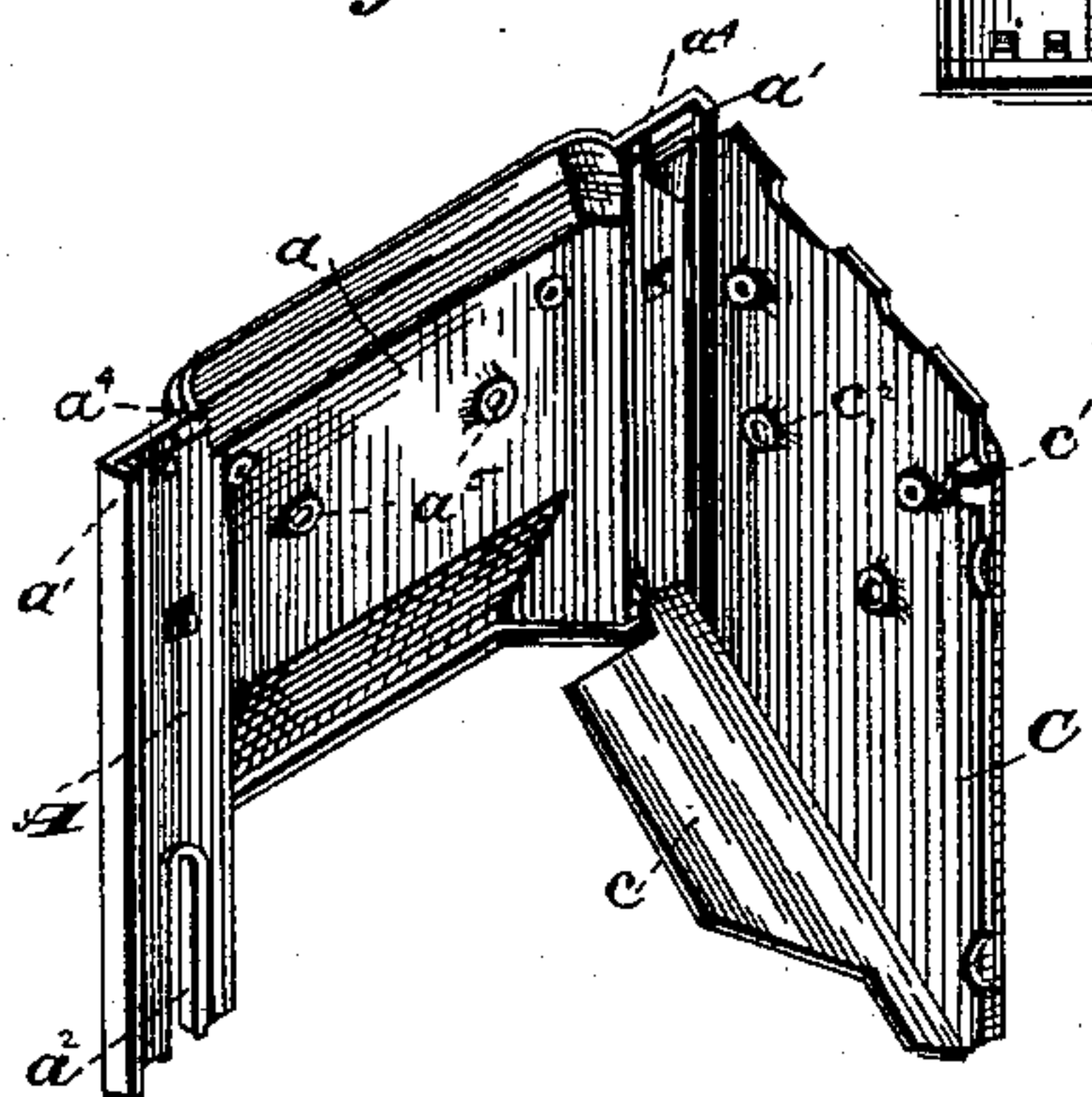


Fig. 5.

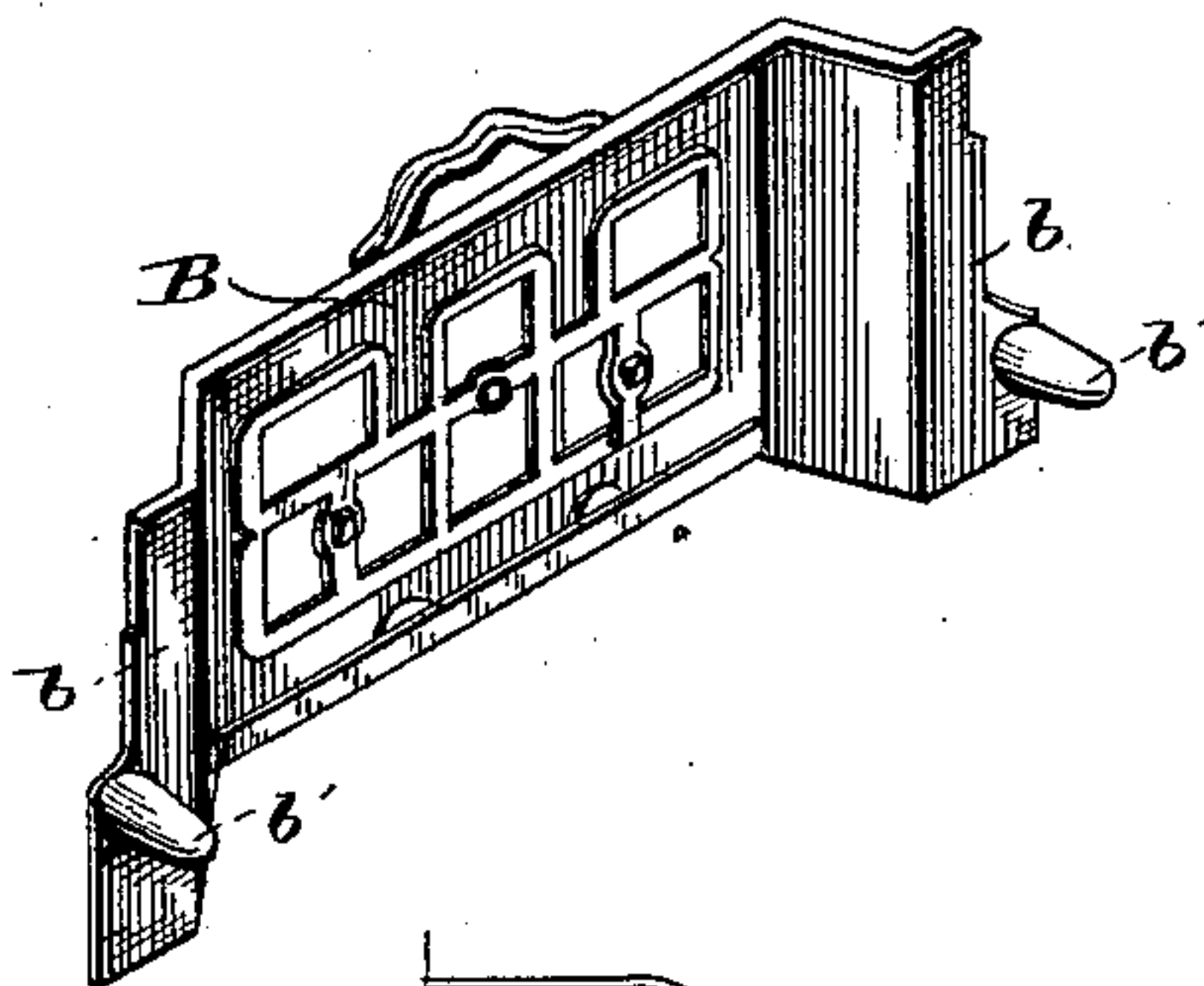


Fig. 6.

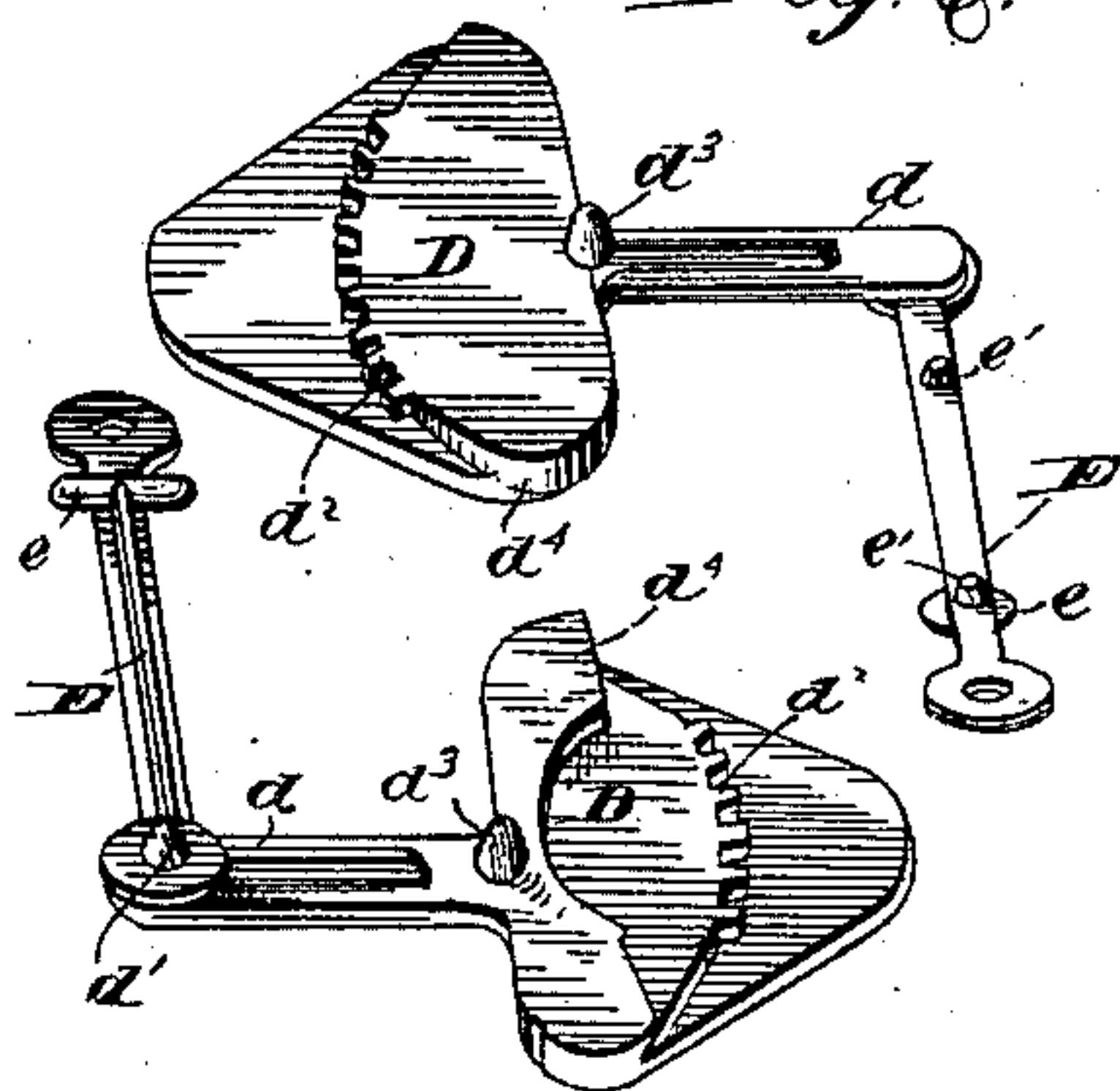
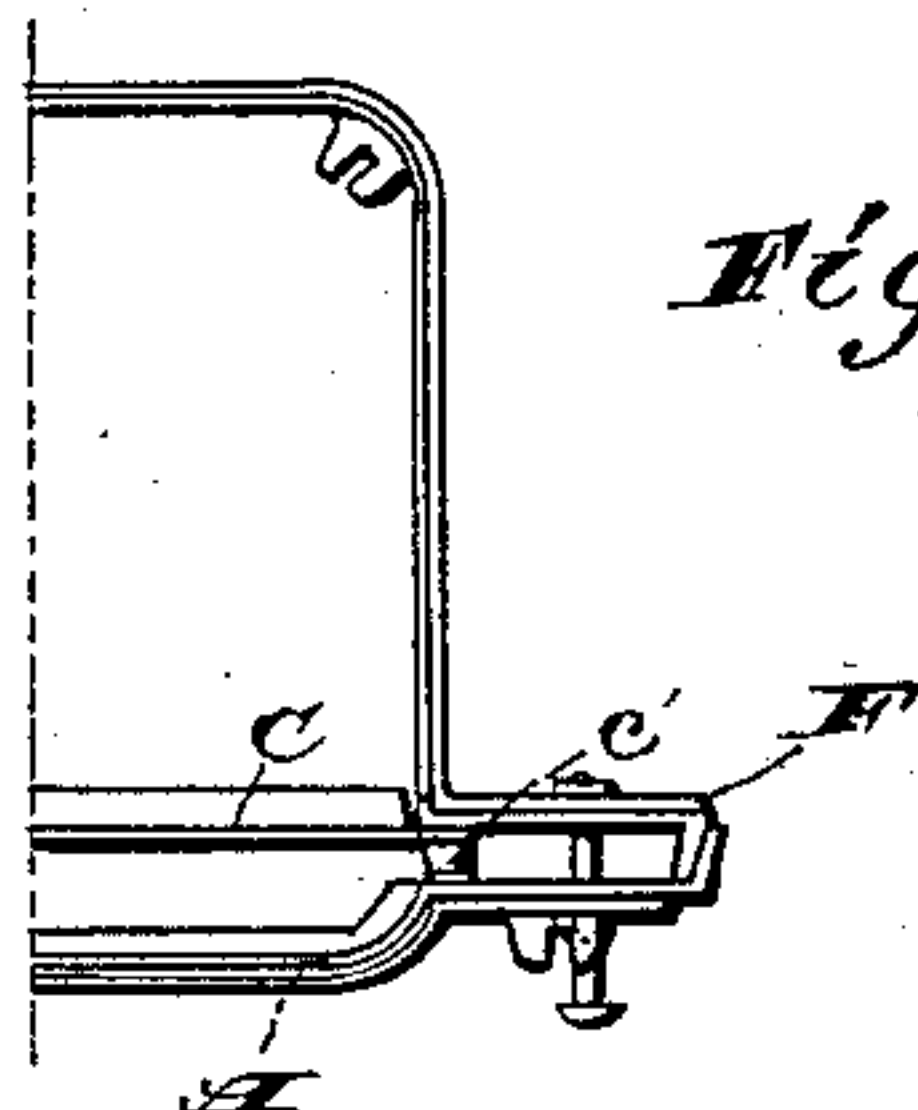


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOSEPH LEON GOBEILLÉ AND WILHELM WICKE, OF CLEVELAND, OHIO, AS-
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BALANCE-BLOWER FOR STOVES AND GRATES.

SPECIFICATION forming part of Letters Patent No. 349,217, dated September 14, 1886.

Application filed February 1, 1886. Serial No. 190,406. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH LEON GOBEILLÉ and WILHELM WICKE, citizens of the United States, residing in Cleveland in the
5 county of Cuyahoga, State of Ohio, have invented new and useful Improvements in Balance-Blowers for Stoves and Grates; and we do hereby declare the following to be a full, clear, and exact description of the invention,
10 reference being had to the accompanying drawings, which form a part of the specification.

This invention relates to improvements in balance-blowers for stoves and grates, and is generally adaptable to stoves, grates, and fire-
15 places in which adjustable blowers are employed, although more especially designed for use in the type of stove known as the "Franklin" stove, and is so shown in the drawings.

The object of the invention is, first, to provide mechanism for balancing and operating
20 a vertically-movable blower, which combines the fewest possible number of parts consistent with the result to be attained, and to so construct the same that no bolts, screws, pins, or
25 nuts are required to keep the parts together, thus practically making a "knockdown" device; secondly, to so arrange and balance the adjusting mechanism that it will respond promptly and easily to the slightest pressure
30 on the blower, and balance it evenly at all points within the limits of its movement, and, finally, to produce a blower which is simple in construction, cheap, and serviceable.

Having these objects in view, our invention
35 consists in the construction, arrangement, and combination of parts, as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of a stove constructed
40 in accordance with our invention, the blower being about half-way open, and disclosing the fire-chamber in heavy lines. Fig. 2 is a front elevation of the front proper of the stove with the pilasters removed to show the slots in its
45 sides, and a part of the face-plate broken away to show the position of the balance-weights in relation to one another and to the blower when raised, as in Fig. 1. Fig. 3 is a rear ele-
vation of the parts illustrated in Fig. 2, with

the back plate detached, and showing the link- 50
connections between the weights and the blower. Fig. 4 is a perspective of the upper portion of the front or face plate and of the rear plate, the parts being separated at one side to reveal their internal formation, and 55
disclosing the offset in the front plate and the bosses on both plates to support the weights, as well as minor features of construction. Fig. 5 is a rear perspective view of the blower. Fig. 6 is a perspective of the balance-weights 60
and their links in detached views, and Fig. 7 is a section of the body of the stove and its flanged facing.

A represents the front or face plate of the stove, and has an outwardly-projecting offset, 65
 a , above its main opening, and flanges a' along its edges, for purposes hereinafter explained. The lower part of the offset flares outwardly, to correspond to the offset on the plate below the main opening, but to a slightly less extent, 70
so that the blower, which is in the same vertical plane as the lower offset, may pass over it when adjusted, the purpose of this enlargement being to give suitable dimensions to the fire-chamber. It should, however, be under- 75
stood that this forms no part of our invention, and is shown here merely to better illustrate the novel features of our improvement. The sides of the front or face plate are straight throughout their length, and are provided 80
with oblong slots a'' near their middle, which have slightly-raised borders on their inner side, and serve as guides for the blower. Other openings are shown on the sides of said plate, which are designed for bolts, to secure the 85
pilasters and the front plate in position on the stove.

B is the blower or door, shaped to conform to the offsets in the face-plate and having its extremities b , which partly overlap the sides 90
of said plate, provided with lugs b' , of sufficient length to project through the guide-slots a'' and in proximity to the flanged face on the body of the stove behind said slot, so that the connecting-links will be held on said lugs 95
without danger of detachment while in use.

C is the back plate of the front proper of the stove, and has a flange, c , constructed to

fit closely along the lower edge of the offset a on the front plate, and rests on a flange, a^3 , on said plate. The reduced or cut-away ends of said flange c and studs c' at the top of plate C, which bear against corresponding studs, a' , on the rear of the face-plate, serve to separate the face and back plates at the sides sufficiently to give free passage to the arms of the balance-weights which operate between said plates. By this arrangement of the plate C a chamber is formed between it and the plate A equal in depth to the offset in said plate and the distance by which the two plates are separated, thus forming sufficient space to contain and operate the balance-weights. This chamber is completely inclosed and the mechanism therein protected from the action of the flames in the fire-box by means of the back plate, C.

D D represent balance-weights substantially similar in design, and having arms d , which, when in position in the stove, project laterally through the open space between the front and back plates, as above described, and by means of the lugs d' on the ends of said arms are connected by links to the blower. The corresponding faces of the weights D D are provided with segmental teeth d^2 , that interlock with each other and serve to equally distribute the weight and to give uniform action to both sides of the blower at the same time.

The faces of the said weights are further provided with lugs d^3 , which enter bosses a^2 and c^2 in plates A and C, respectively, on which the weights are supported and pivoted, and with shoulders d^4 so arranged in relation to each other and to the segments that they serve to limit the action of the weights when the blower reaches the extremities of its movement in either direction.

E E are links having perforated ears at their ends adapted to engage with the lugs on the arms of the balance-weights and on the sides of the blower, respectively, and are provided with transverse bearing-ribs e near one end, and projections e' on the opposite side, to reduce the friction which may result from contact with the sides of the adjacent plates to the minimum.

The body of the stove is provided with flanged facings F, extending laterally at right angles to its sides and parallel to the sides of the plate A. The narrow flanges formed on the corresponding edges of these plates and overlapping each other serve to separate them a sufficient distance to form chambers in which to locate and operate the connecting-links E E, as well as to make room for the projecting ends of the arms of the balance-weights.

Pilasters G, made in two parts and having their edges cut away, as at g , are arranged on the sides of the face-plate, and while serving the purpose of ornamentation answer also to keep the blower in position. If desired, the pilasters may be made in a single piece.

From the foregoing description the opera-

tion of the blower and its associated mechanism will be clearly apparent, and need not be more fully explained.

It will be observed that we employ only three separate elements in this connection—viz., the weights, the blower, and the connecting-links—and these parts are so formed and united that no bolts, screws, pins, nuts, or other small pieces are required, thus producing a structure in which liability of displacement and loosening or losing of the parts is wholly obviated, while at the same time the device is exceedingly simple, and can be set up by any one of ordinary intelligence.

It will of course be understood that we do not confine ourselves strictly to the exact details of construction shown and described, as numerous obvious changes might be made in these by persons skilled in the art without departing from the spirit and scope of our invention. For example, the connecting-links E might be formed with lugs and the blower and the arms of the weights with perforations to engage the same. The lugs at the top of the back plate may be dispensed with and said plate extend up against the top of the stove and be supported in suitable bearings thereon. Nor is it essential that said plate should project over upon the sides of the face-plate, as it may be otherwise arranged in reference to said plate to serve the same purpose.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a stove-front, an offset provided with bosses on its inner side and a back plate having corresponding bosses, in combination with balance-weights having interlocking geared segments, lugs to pivot them in the aforesaid bosses, and arms extending to the sides of the stove-front, the blower, and the connecting-links, substantially as set forth.

2. A stove provided with a front plate having an outwardly-projecting offset at its top and a back plate provided with projections to bear against the front plate, thus forming a chamber between the faces of said plates and openings between them at the sides, in combination with balance-weights pivoted in said chamber on the respective plates and having arms extending through the openings between said plates, a vertically-movable blower, and links connecting the weights and blower, substantially as set forth.

3. A stove having a chamber formed in its top portion by an offset face-plate and a back plate provided with a flange at its lower edge projecting along the base of said offset to inclose the chamber at the bottom and exclude the fire, said back plate having side projections bearing against the face-plate, in combination with balance-weights pivoted on bosses in the sides of said chamber, a blower, and links attached to lugs on the blower and weights, substantially as set forth.

4. In a stove, a front plate having oblong

slots on its sides and an offset in its top portion, a blower provided with lugs extending through said slots, and a back plate behind the offset in the front plate and having projections bearing against the same, in combination with armed balance-weights pivoted between the front and back plates and a

single link on each side connecting the blower and balance-weights, substantially as set forth.

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