

(No Model.)

W. B. FOWLER.
DRAFT REGULATOR FOR CHIMNEYS.

No. 560,264.

Patented May 19, 1896.

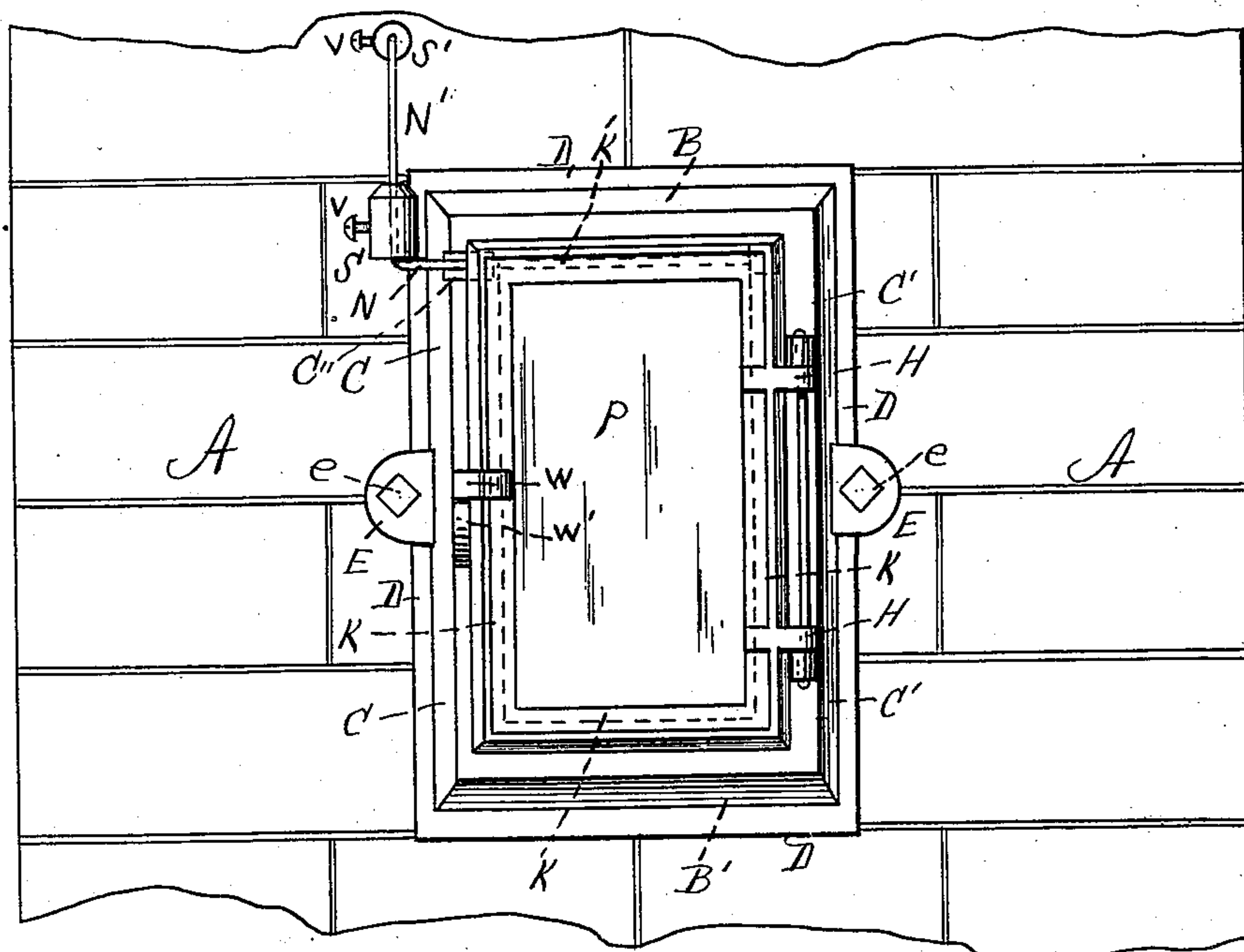


FIG. 1.

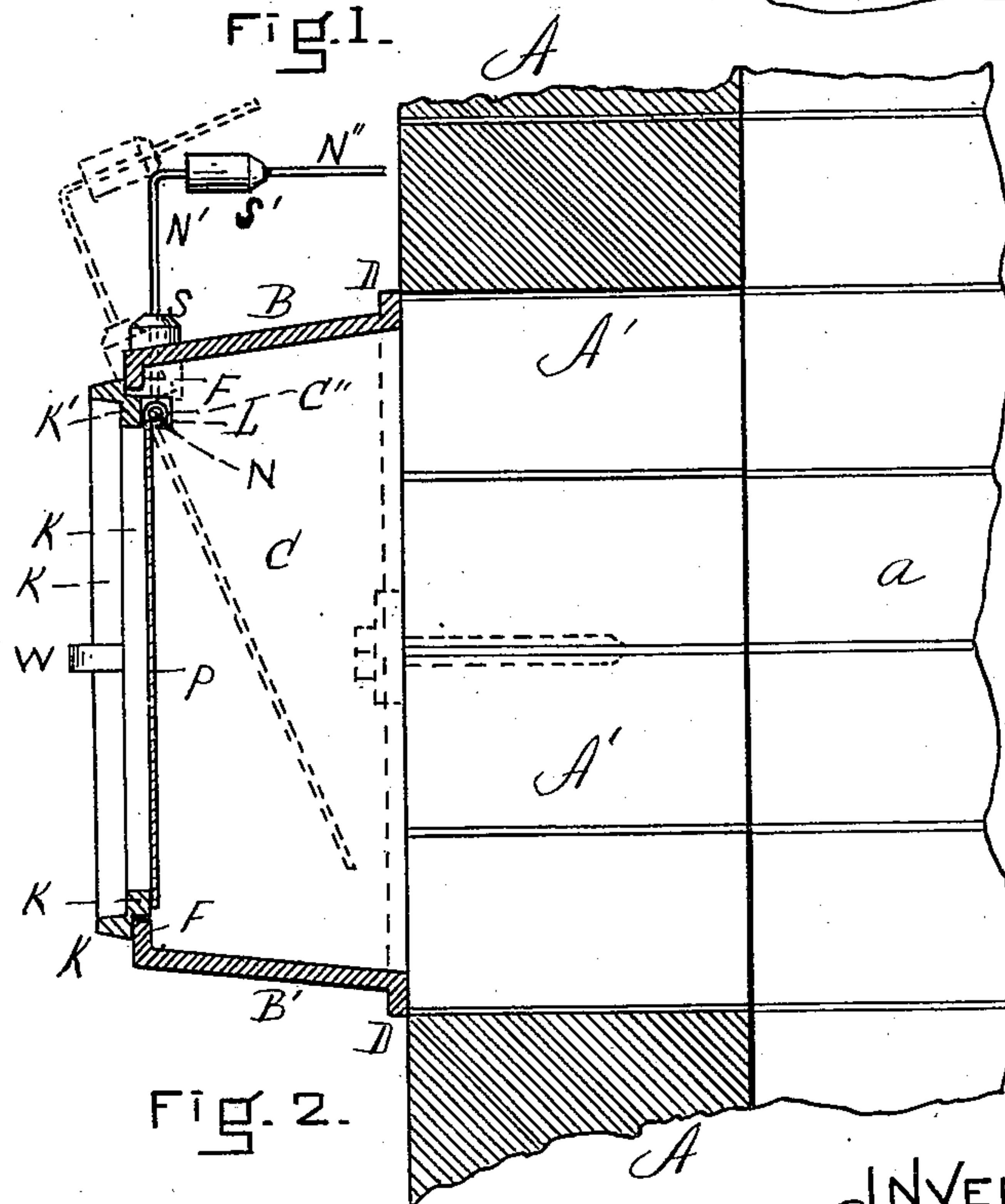


FIG. 2.

WITNESSES.

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DRAFT-REGULATOR FOR CHIMNEYS.

SPECIFICATION forming part of Letters Patent No. 560,264, dated May 19, 1896.

Application filed January 28, 1896. Serial No. 577,110. (No model.)

To all whom it may concern:

Be it known that I, WALTER B. FOWLER, a citizen of the United States, residing in Lawrence, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Draft-Regulators for Chimneys, of which the following is a specification.

This is an improved draft-regulator constructed to be applied directly to the chimney of a building and to open into the chimney-flue with which the pipe from the stove or other heating apparatus connects.

The object of the device is to regulate the draft in the house-chimney itself directly, instead of applying a draft-regulator (as is frequently done) to the furnace or other heating apparatus.

The nature of the invention is fully described below and illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my improved draft-regulator in position upon a chimney. Fig. 2 is a central vertical transverse section of the same.

Similar letters of reference indicate corresponding parts.

A represents the masonry forming a part of the chimney, and A' is a rectangular opening leading from the outside through the masonry into the flue a, such opening being of the size and shape of the draft-regulator. The draft-regulator comprises a rectangular frame, of which B and B' are the upper and lower walls, and C and C' the side walls. These walls constituting the frame are provided with an integral flange D, which sets against the masonry, as shown, and which is secured thereto by means of ears E, through holes in which bolts e are driven into the seams or spaces between the bricks.

All the above is preferably made of iron casting.

The front edges of the top, bottom, and sides B B' C C' are formed with integral inwardly-projecting flanges F. Hinged at H to the front edge of the side C' or to the flange F, extending inwardly therefrom, is the door-frame K. This is a rectangular frame of substantially the shape shown, and from the inner side of the upper portion K' thereof extend two integral ears L, which are

horizontally perforated to receive loosely the rod N. This rod has rigidly secured to its under side the thin metallic plate P, hanging down vertically behind the door-frame K and of size and shape to close and extend across both vertically and horizontally the opening therein. The rod N extends through an opening C'' in the side wall C and then bends up vertically into the portion N', and thence horizontally and rearwardly into the portion N''. Upon the portions N' and N'' respectively are placed sliding weights S and S', which are capable of being adjusted and held at any desired position by suitable set-screws V.

W is an ordinary handle for opening and closing the door and is adapted to rest upon the bracket or ear W', extending from the front edge of the wall C.

The ordinary position of the door-frame K K' is closed, as shown in the drawings, and the normal position of the plate or valve P is that shown in full lines in the drawings—viz., vertical and closed—being held in such position by the weights S S'. While the parts are in this position the draft in the chimney-flue is unaffected, and no external air reaches it save through the furnace; but should the draft in the chimney become so great as to produce a partial vacuum next the rear side of the plate or valve P the pressure of the external air upon the surface of the swinging valve P would swing it inward, somewhat as indicated by broken lines in Fig. 2, against the power of the weights S S'. It will readily be seen that by adjusting the weights upon the portions N' N'' of the bent rod the amount of force required to swing the valve P inward may be greater or less, as desired.

Thus the locations of the weights may be varied to accommodate different atmospheric conditions and different drafts. Thus if the draft of the chimney is driving the fire in the furnace too much air is let into the locality of the source of the draft, which is not the furnace, but the chimney, and the draft is regulated by the valve lifting whenever the increased pressure—as by a rising wind, for example—is sufficient to overcome the power of the weights in the positions set.

The employment of the two weights S and S', one sliding on a line at right angles with the line of movement of the other, enables

the adjustment of the plate or blind P to be rendered very exact. In practice the weight S' is first moved (a day when the atmosphere is quiet or nearly so being selected) until the plate or blind P is in a vertical position, but so nearly counterbalanced by the weight that the slightest force will be sufficient to swing it in or open it. The weight S is then moved upward to a greater or less extent, according to the power of the draft at the time of such movement, until the plate or blind is in the above-described position—that is to say, susceptible of being swung in at the slightest increase of draft. In other words, the original or more permanent adjustment is made by moving the weight S' and the adjustment to the exact conditions at a particular time made by the weight S. Thus the weights balance each other, and the two weights combined balance the plate P.

The swinging-door frame is important, inasmuch as in the summer-time it may be swung open entirely, thus causing the device to act as a ventilator. Moreover, as the plate or blind P must be made of exceeding thin material and should fit closely on its seat in the door-frame, such frame at that point must be made exceedingly smooth in order to produce a close and tight fit. As both the door-frame and the frame B B' C C' are cast it is found in practice much easier to reach and grind the inner surface of the door-frame

than it would be to reach and grind the rear surface of the flanges F, against which the plate must necessarily swing in case a swinging door were not employed.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

In combination with a building-chimney provided with a suitable opening in its side leading from the outside thereof to the flue; a frame or case secured to the outside of said chimney coincident with said opening and consisting of top, bottom and sides with an open front; a plate or valve P hung vertically within the opening in said frame; the horizontal rod N rigidly secured to the upper portion of said plate or valve and extending outward therefrom, said rod being thence bent up into the vertical portion N' and thence rearward into the horizontal portion N''; the weight S adjustably secured to said vertical portion N'; and the weight S' adjustably secured to said horizontal portion N'', whereby the external pressure of air may swing said plate or valve inward against the power of the weights and allow the admission of air directly into the chimney, substantially as described.

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Witnesses:

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