

(No Model.)

J. P. DORR.
VENTILATING DAMPER.

No. 294,773.

Patented Mar. 11, 1884.

Fig. 1.

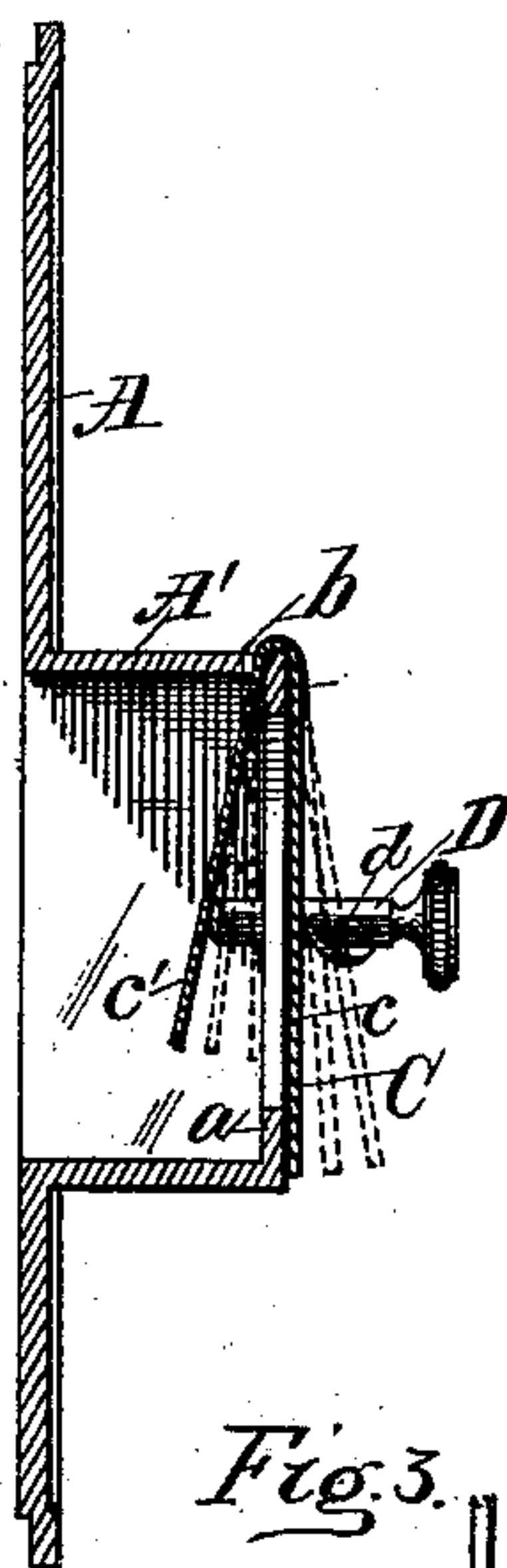


Fig. 2.

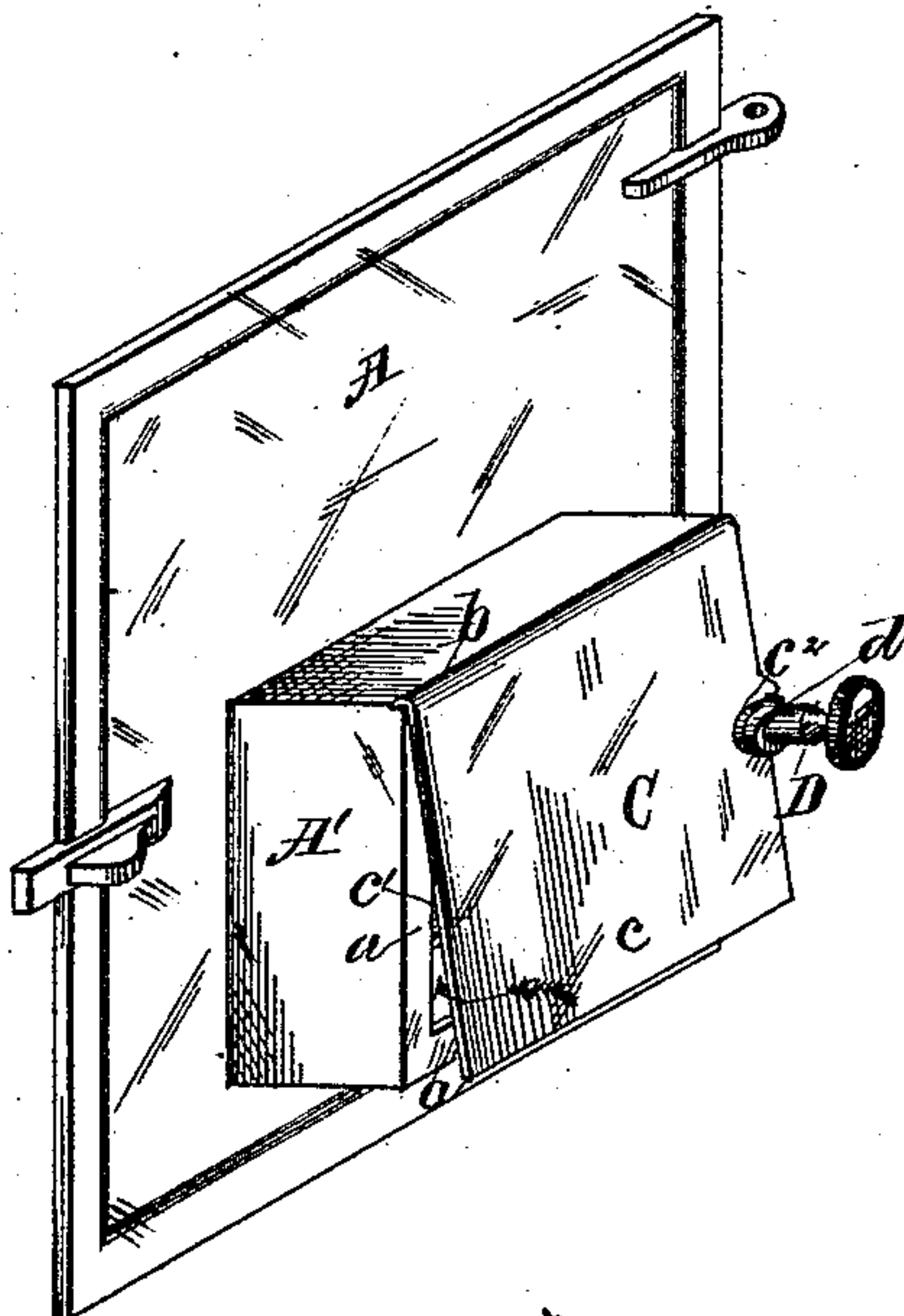


Fig. 3.

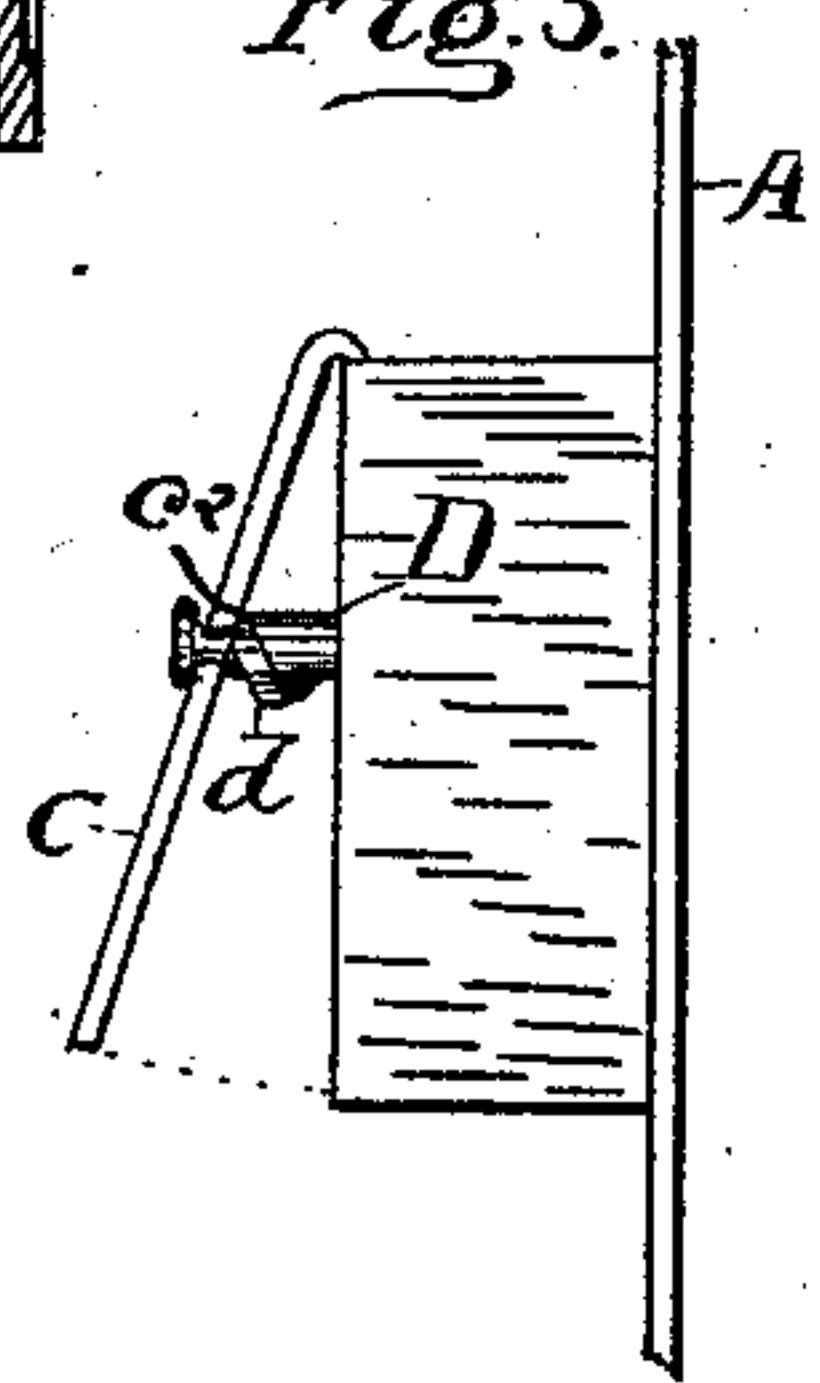
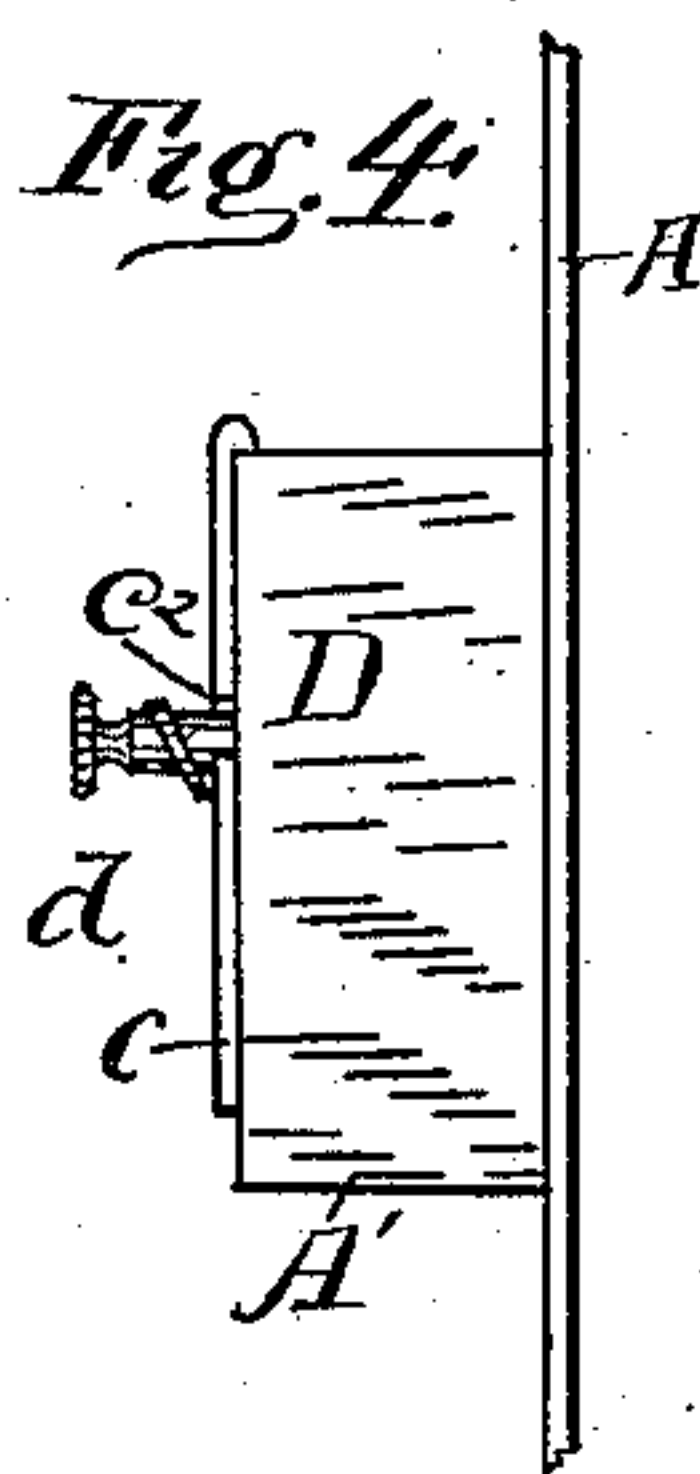


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN P. DORR, OF NEENAH, WISCONSIN.

VENTILATING-DAMPER.

SPECIFICATION forming part of Letters Patent No. 294,773, dated March 11, 1884.

Application filed June 25, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. DORR, of Neenah, in the county of Winnebago, and in the State of Wisconsin, have invented certain
5 new and useful Improvements in Ventilating and other Dampers; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to dampers for ventilating rooms and regulating the draft of
10 stoves, and will be fully described hereinafter.

In the drawings, Figure 1 is a vertical section of a stove-door embodying my invention, and Fig. 2 is a perspective view of the same.
15 Fig. 3 is a side view of my device with the bolt turned about to hold the damper open, and Fig. 4 is a like view with the damper closed.

A is the stove-door, which in this instance
20 I provide with a housing, A', having front flanges, *a*, the upper edge of this housing being slotted at *b* to receive one leaf of a plate, C, which is folded or bent into something like an inverted V, forming a sheet with two
25 leaves, *c c'*, the leaf *c* being longer than the leaf *c'*, so that it may entirely close the opening in housing A'. One edge of leaf *c* is notched at *c'*, and through this notch I pass a bolt, D, into the housing, where I secure it by
30 riveting or otherwise. This bolt D is formed with a spiral flange, *d*, on its side, and is not so tightly secured in the housing but that it may be turned, its head being milled to give a secure hold for the fingers. The flange *d* extends along only a portion of the length of
35 the bolt, there being room left for the lowest point of the flange to pass over the leaf *c'*, to hold it down upon the flanges of the housing when the damper is to remain closed. The spiral flange *d* makes only one turn about the
40 bolt, so that when it is in engagement with the leaf *c'*, either to hold it open or closed, a turn of the bolt will carry the flange out of the way of the leaf.

45 In Figs. 1 and 4 the damper is shown as closed, and with the inner end of the flange *d* of bolt D resting upon its edge to keep it so. In Fig. 2 the damper is shown as partly open, the bolt having been turned until half of
50 its flange *d* has cleared the notch *c'*. With the bolt in this position the damper is free to

close entirely, but can open only as far as that portion of flange *d* that is in sight will permit it to. Now, when the bolt D is turned to the left, the flange *d*, by riding over the edge of
55 notch *c'*, will force the damper down to its seat. The leaf *c* of the plate C is in practice to be thrust down through a slot in the upper part of the housing, so that the plate will straddle its upper flange, and then, other
60 things being equal, the two leaves will balance each other, and the damper will be held partly open by gravity; but if the air in the interior of the stove should be warmer than that in the room, the vacuum created would
65 permit the outer air to close the damper; but should the outer air be of equal temperature with that in the stove, then the tendency of the two leaves to counterbalance each other would cause the leaf *c'* to drop away from the
70 housing and admit air to the stove. The degree of change in temperature required to affect the plate is regulated by spreading the leaves apart or crowding them together.

The utility of my device will be appreciated
75 when is considered the fact that if ordinary dampers are left open the draft increases with the heat of the fire, and therefore, unless the fire is watched closely, the fuel will be consumed with increasing rapidity as long as any
80 remains, while if the damper is closed the fire will go out. Now, with my device this cannot occur, for it is first adjusted by spreading or closing the leaves *c c'* in such a manner that it will remain closed as long as a predeter-
85 mined temperature obtains in the stove; but as soon as the heat falls below that temperature the outer pressure of air will be insufficient to keep it closed, and it will open to admit air to increase the temperature by increas-
90 ing combustion, and just as soon as the proper temperature is again reached the outer air-pressure will close it again.

While I have described my device in connection with a stove, it will be equally useful
95 in regulating the admission of air to rooms for ventilating them. The plates have only to be hung over the ventilating-openings in the walls or flues and their leaves spread apart to suit the degree of temperature required.
100 The inner leaf, *c*, serves in stoves, furnaces, &c., to prevent injury to the outer leaf, which

is really the damper; but beyond this it only acts as a weighted rod would to counterbalance the outer leaf; and therefore, in ventilating rooms, I may dispense with this leaf and
5 counterbalance the leaf *c'* by drops, or by hanging it out of a vertical line, or in any other suitable manner.

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

1. As a damper for stoves, ventilators, &c., a counterbalanced plate adapted to be hung in or over the ventilating or draft opening, in combination with means, substantially as described, for regulating and gaging its action,
15 as set forth.

2. The damper consisting of a plate formed with two leaves bent to form an inverted V, and to be hung in or over the ventilating-opening, as set forth. 20

3. The combination, with plate C, having a slot in one side, of the spirally-flanged bolt D, adapted to act upon the edges of said slot, as set forth.

In testimony that I claim the foregoing I
25 have hereunto set my hand, on this 14th day of June, 1883, in the presence of two witnesses.

JOHN P. DORR.

Witnesses:

S. S. STOUT,
M. KAMMHENNER.