

No. 847,378.

PATENTED MAR. 19, 1907.

J. A. SLOAN.
DRAFT AND VENT REGULATOR.
APPLICATION FILED DEC. 26, 1905.

FIG. 1.

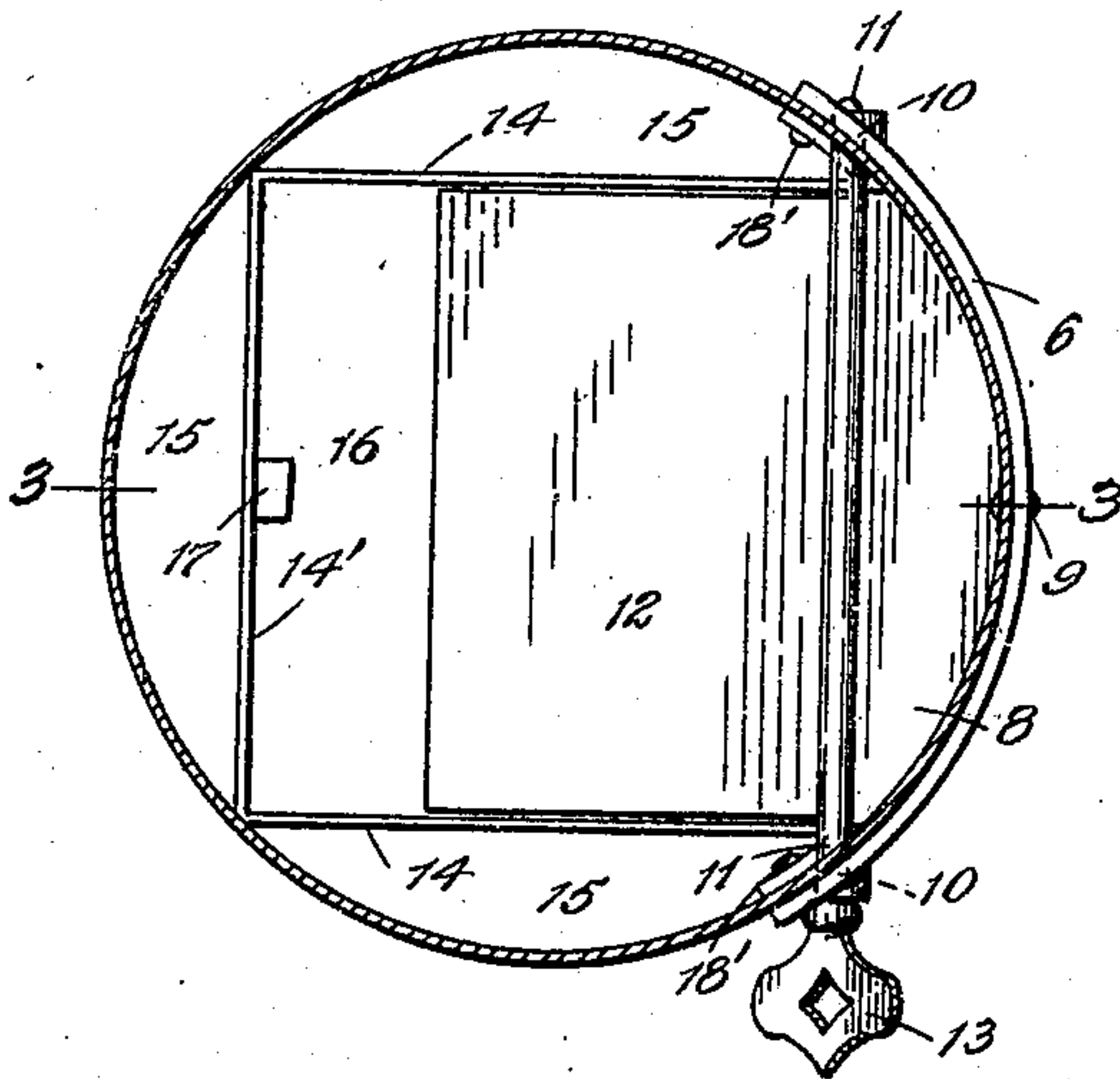


FIG. 2.

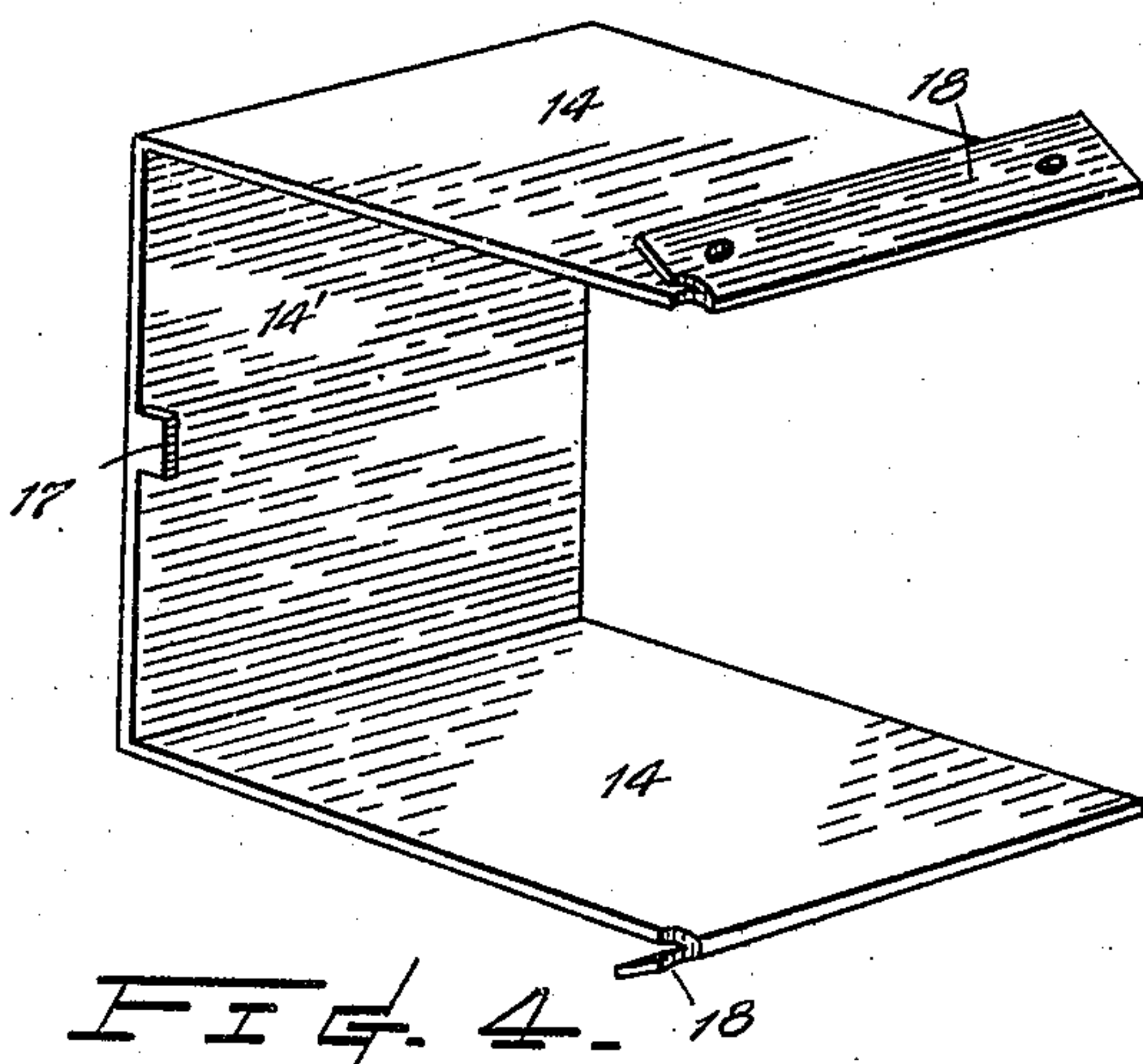
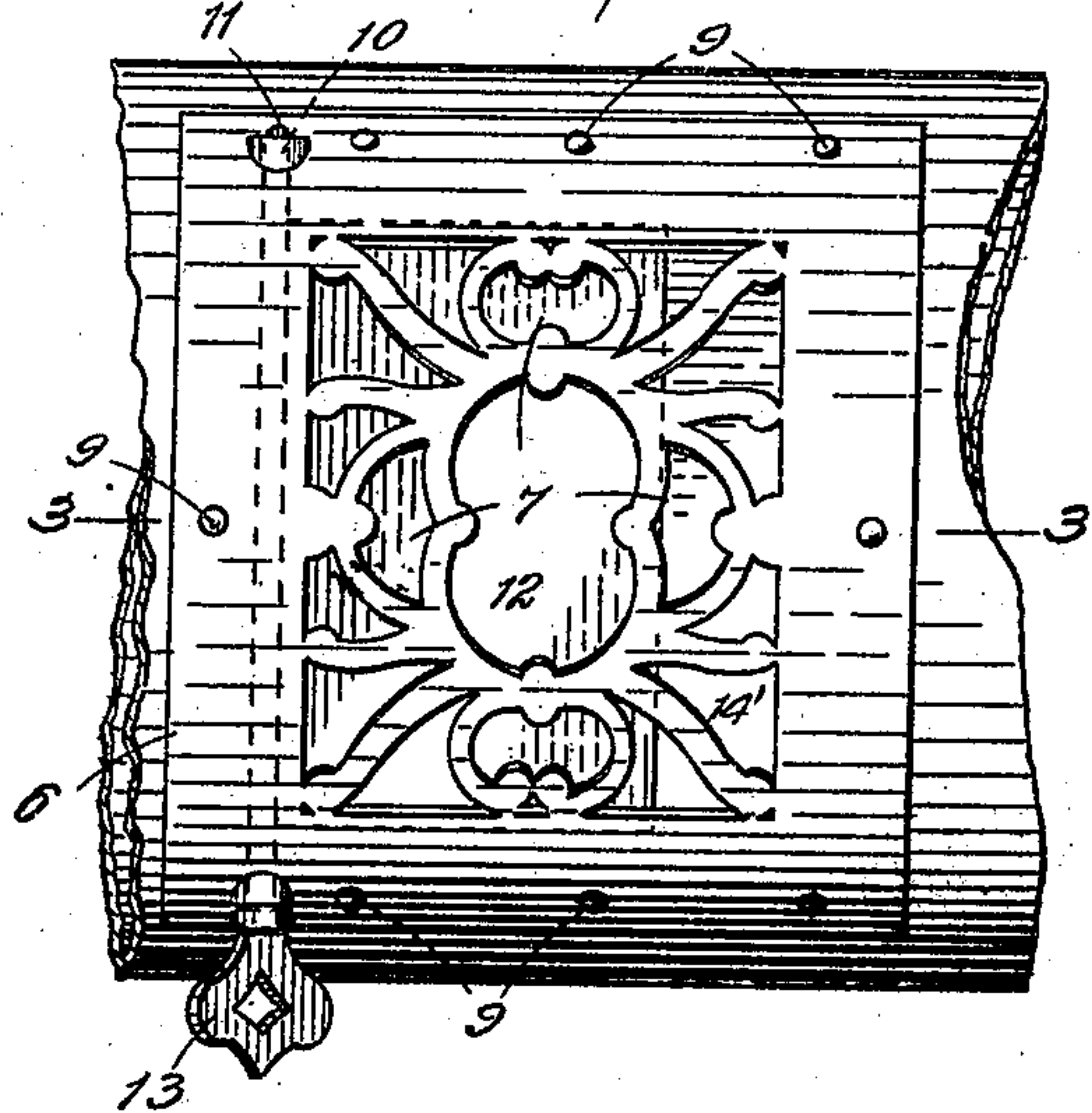


FIG. 4.

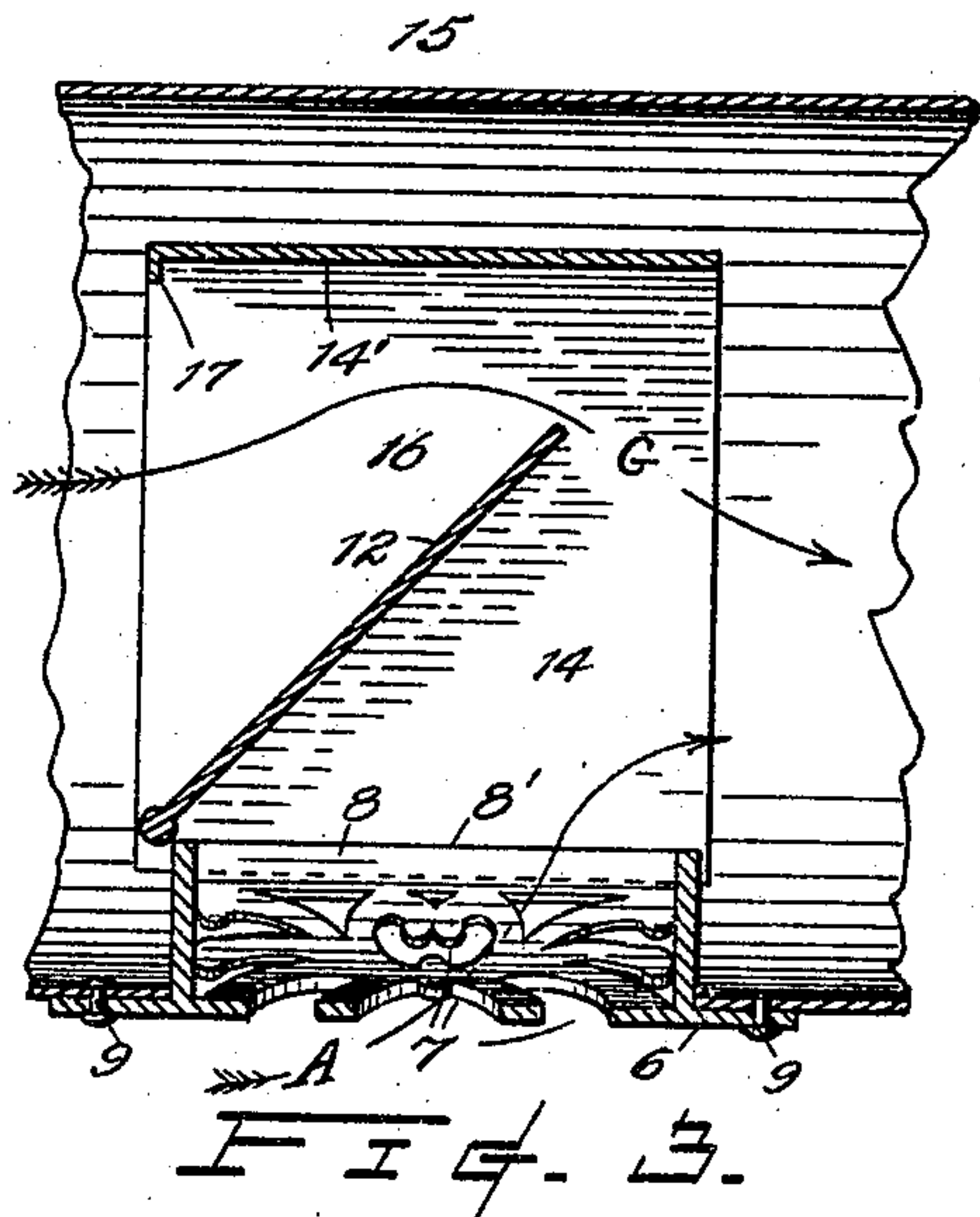


FIG. 3.

WITNESSES:

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DRAFT AND VENT REGULATOR.

No. 847,318.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed December 26, 1905. Serial No. 293,183.

To all whom it may concern:

Be it known that I, JOSEPH A. SLOAN, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Draft and Vent Regulators, of which the following is a specification, reference being had therein to the accompanying drawing, in which—

Figure 1 is an end view of a ventilator constructed in accordance with my invention and shown attached to a pipe-section. Fig. 2 is a front elevation of the same. Fig. 3 is a horizontal section taken on line 3 3 of Figs. 1 and 2; and Fig. 4 is a perspective view of the valve-box shown detached.

My invention relates to an improvement in that class of devices employed for removing the vitiated air from the apartments of a dwelling or the like.

The object of the invention is to produce a combined draft-regulator and ventilator which will be positive in its action and which is capable of performing these functions either separately or in conjunction; and a further object of the invention is to afford means to permit the smoke or other gases of combustion from a stove and the contaminated air from a room to pass through a single outlet-pipe subject to the action of a regulating-valve.

To these ends the invention consists in the general construction and specific details thereof, as will be hereinafter set forth.

The numeral 15 represents a portion of a smoke-pipe leading from a stove or furnace and may be disposed vertically, horizontally, or otherwise.

6 is a plate having a curvature corresponding to the outer peripheral surface of the pipe to which attached and has one or more apertures 7, which communicate by way of a frame 8 with the interior of the pipe and into which the frame projects, as shown in Figs. 1 and 3.

The plate and frame are desirably of a single casting and is secured to the pipe in any convenient or suitable manner, as by rivets 9 passing through the latter and the plate in proximity of its edges. Provided in the plate and to that side of said apertures adjacent to the stove are alined holes 10 to furnish journal-bearings for the pivots or gudgeons 11 of a hinged valve 12, which is adapted to be swung by a suitable handle, as 13, against the inner face 8' of said frame

when it is desired to close the passage-way therein.

Positioned in the pipe opposite the frame is a valve-box comprised of walls 14 14', disposed in such a relation to each other and to the said frame as to provide wing-passages intermediate the box and the inclosing pipe and also capable of having its interior passage 16 closed by the valve which swings thereon when the latter is turned transversely of the pipe and in contact with a stop-lug 17, formed or provided upon the box. While this box may be made integral with the aforesaid plate and frame, it is for convenience of assembling preferably made of a separate casting or sheet metal when it is provided with flanges 18 to afford means for securing the box to the pipe, as by rivets 18' or their equivalent.

From the foregoing description it will be apparent that communication between the external atmosphere and the interior of the pipe is had when the valve is swung away from the face 8' of the frame; that when the valve is swung from this face toward a position at right angles to the axis of the pipe the opening of the frame is increased and the passage through the valve-box is correspondingly diminished, or vice versa, and that the wing-passages exteriorly of the three walls of the box are always open, and the draft or flow of smoke or gases from the furnace is thus never entirely shut off.

The operation of the ventilator embodying the aforesaid characteristics is as follows: The relatively hot gases and smoke emanating from the fire passes through the wing-passages to the chimney or through them and also through the central box-passage when the valve is wholly or partially open as regards the box-passage. When the valve is thus entirely open, the communication between the outer atmosphere and the inside of the pipe is entirely closed and no inflow occurs. When, however, the valve is partially open, the current of hot gases passing by the valve incites a suction to draw the surrounding air into the pipe and thence accompanies the combustion-gases in their escape to the chimney. In the drawings the valve is shown part way open and the respective courses taken by the combustion-gases and the air indicated by arrows G and A.

The advantages, among others, of the invention are, first, that the device can be ap-

plied to stovepipes in present use and act either as a draft or vent regulator, or both together; second, it is exceedingly efficient in removing the foul air, and is particularly valuable for use in living-rooms, in kitchens, and, in fact, wherever it is desired to quickly remove contaminated or offensive air and odors.

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

1. In a device of the character described, an apertured curved plate connected to a frame, said frame, a valve-box having open ends and in communication with the frame-opening, and a valve positioned within said valve-box and pivotally connected to said plate.

2. In combination with a pipe, and a valve-box located therein and providing passages extending longitudinally of the pipe both exteriorly and interiorly of the valve-box, said valve-box being also in communication with the atmosphere exteriorly of the pipe, a valve pivotally mounted within said box so as to swing upon an axis extending through one of

its edges, said valve being adapted to be swung so as to entirely or partially close the passage extending through the valve-box or the communication between the latter and the external atmosphere, and means extending exteriorly of the pipe whereby the action of the valve is regulated.

3. In combination with a smoke-pipe, a frame fitted in the side of the pipe and having a curved perforated plate, secured to said pipe and securing the frame in position, a valve-box fitted within the pipe and having an open end in communication with the frame-opening, and a valve carried by the plate, and so positioned as to close the openings in said plate when in one of its positions and the opening through the valve-box when in another position.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH A. SLOAN.

Witnesses:

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