

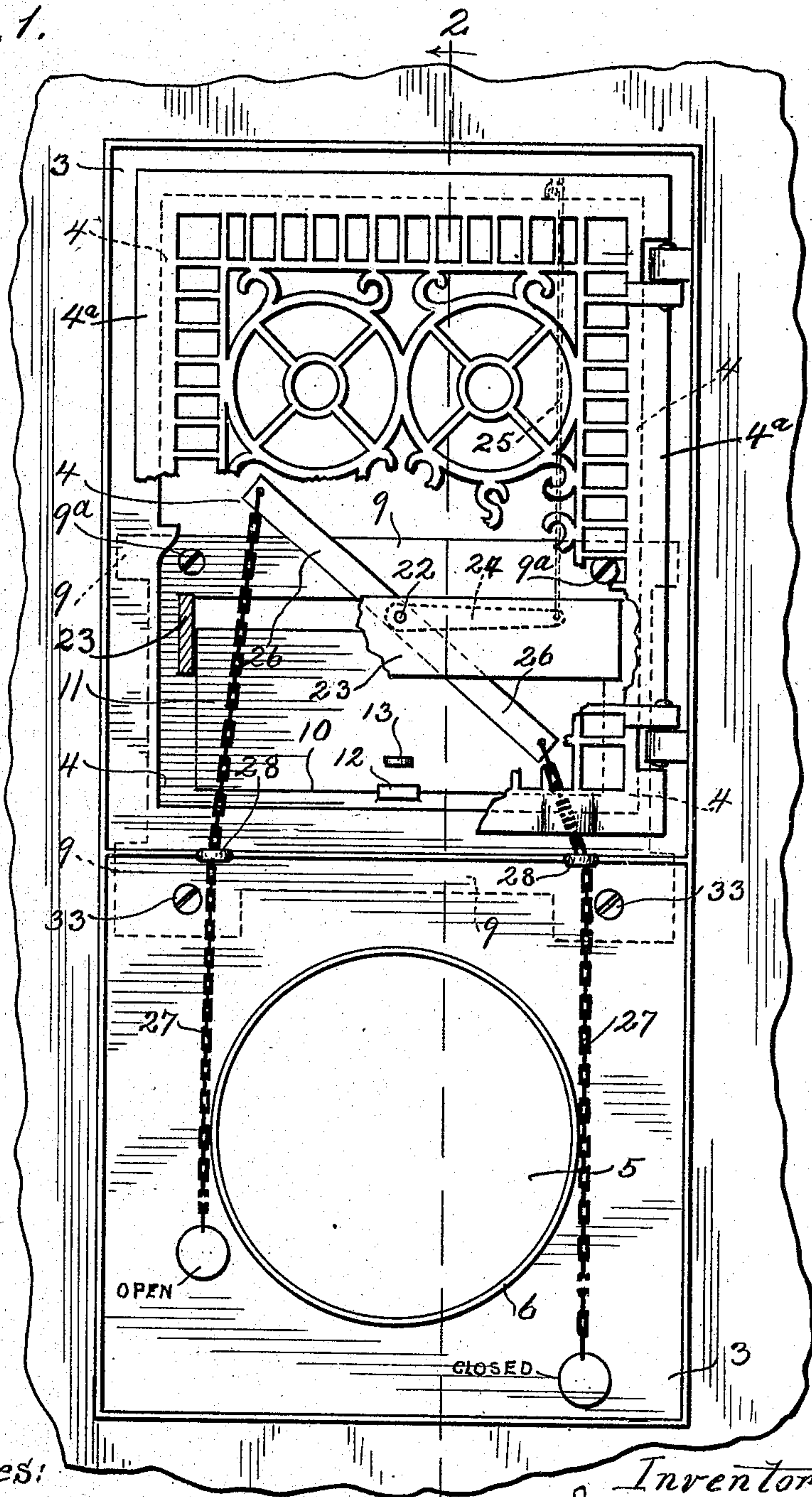
J. P. EKSTROM,
VENTILATOR.
APPLICATION FILED OCT. 29, 1908.

911,648.

Patented Feb. 9, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

R. J. Jacker

Milton Lenox

Inventor:

John P. Ekstrom

By Jno. H. Whipple
his attorney

J. P. EKSTROM.

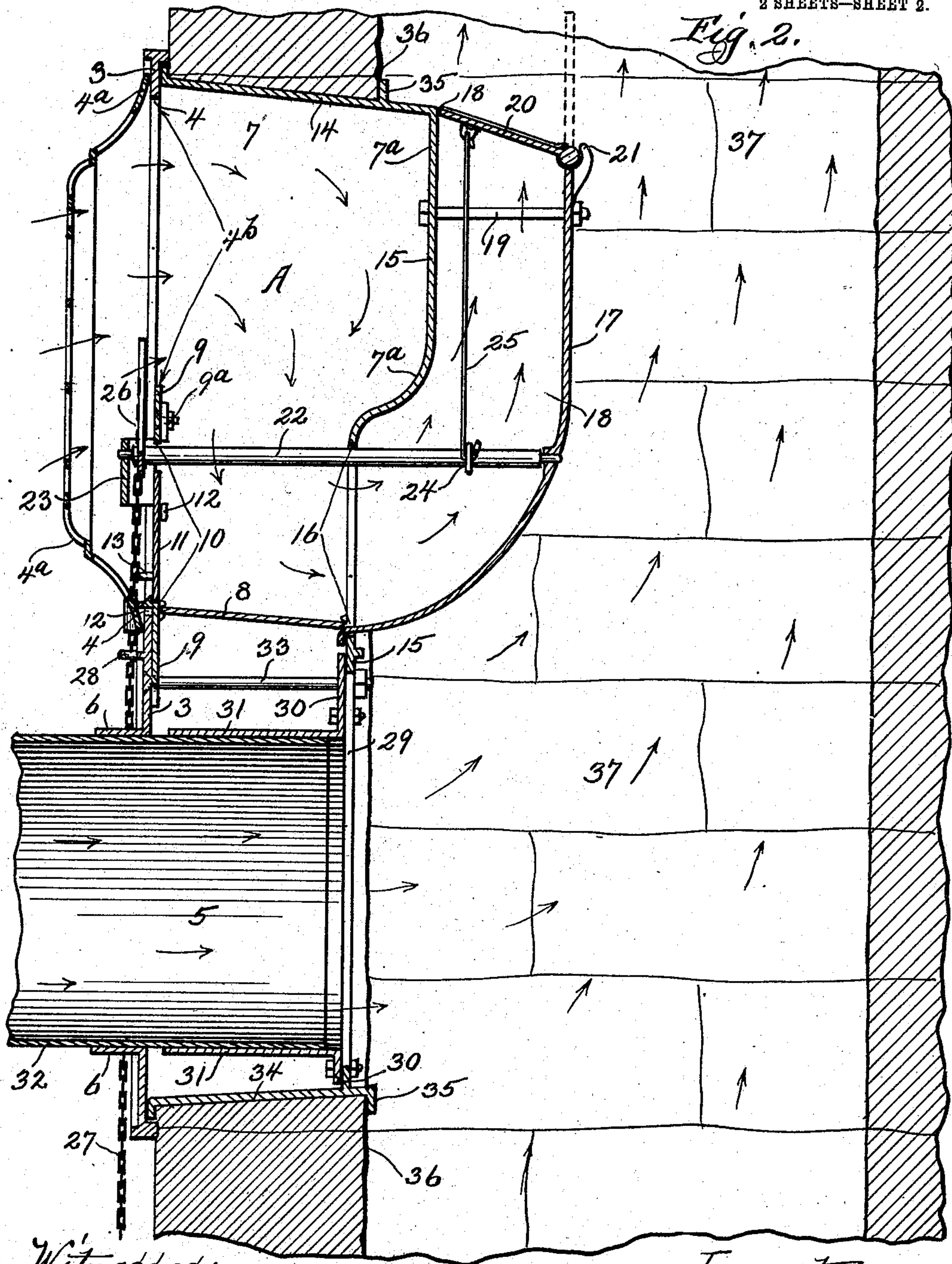
VENTILATOR.

APPLICATION FILED OCT. 29, 1908.

911,648.

Patented Feb. 9, 1909.

2 SHEETS—SHEET 2.



Witnesses:
R. J. Jaeger
Hilton Lenoir

Inventor:
John P. Ekstrom
By John H. Whitte
his attorney

UNITED STATES PATENT OFFICE.

JOHN P. EKSTROM, OF BOYNE, MICHIGAN.

VENTILATOR.

No. 911,648.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed October 29, 1908. Serial No. 459,980.

To all whom it may concern:

Be it known that I, JOHN P. EKSTROM, of Boyne, in the county of Charlevoix, in the State of Michigan, have invented certain new and useful Improvements in Ventilators, of which the following is a specification.

This invention relates to ventilators of the class shown in Letters Patent of the United States No. 380,027 of March 27, 1888, issued to me, and is for improvements upon the construction set forth in said prior patent, wherein the valved flue leading from the chamber into which the fumes from the room pass to the chimney, is joined to the top of said chamber and extends upwardly therefrom, and the fumes entering said chamber pass directly upward therein to said flue.

The objects of my improvements are, first, to provide means for producing a reversion of the current of fumes downward in the chamber on their passage to the valved flue and thence upward through the same; second, to provide a form of ventilator which is better adapted to be set in the chimney wall, and third, to provide, in the lower portion of the chamber and flue, an accessible pocket for catching the soot falling therein, from which the accumulation can be conveniently removed as occasion requires. I attain these objects by the mechanism illustrated in the accompanying drawing in which:

Figure 1 is a front elevation, with portions broken away, of a ventilator, containing my invention shown as set in a chimney wall. Fig. 2 is a vertical section on line 2 2 of Fig. 1, the section being extended through the chimney shown in fragment and parts of the valve working mechanism being in elevation.

Similar signs marked on the drawing refer to similar parts throughout both views.

The numeral 3 designates a front plate which is provided with a large opening at 4 covered by a door 4^a ornamented with open work to allow a circulation of air through it. Below this opening is a circular opening 5 having an annular flange 6 for the stove pipe to fit in. The chamber 7 into which the fumes pass from the room lies directly behind the door 4^a and preferably has a slight rearward extension at 7^a (Fig. 2) of the upper portion. A plate 8 forms the bottom plate of said chamber. The front of the chamber at the lower portion is

covered by a plate 9 which has lugs or projecting portions, shown by dotted lines (Fig. 1) extending behind the front plate 3 and secured to the side plates A of the chamber by screw bolts as shown at 9^a (Fig. 2) passing through flanges of said side plates. The plate 9 is provided with an opening 10 nearly closed by a door 11 which is held by lugs 12 operating as stops against its front and rear and permitting it to be set in place or lifted out by means of a handle 13. The top plate 14 and rear plate 15 of the chamber are cast with the side plates A and said rear plate is provided with an exit opening 16 opposite to and somewhat below the level of the upper edge of plate 9.

The valved flue comprises a curved plate 17 cast with side pieces 18 whose front edges are curved so as to fit close against the outer margin of the rear plate 15 and just outside the opening 16. It is held in place upon rear plate 15 by means of a screw bolt 19 near the top so that a passage for the fumes is provided at the rear of the chamber. The lower edge of plate 17 is provided with an extension made narrow to pass through opening 16 and meet the rear edge of the plate 8 which it passes under. It is curved back to engage the lower edge of said opening for holding it to plate 15 below the bolt. The valve 20 is pivoted to the upper edge of plate 17 and adapted to turn down between the side plates 18 and rest against the rear edge of plate 14 or back of plate 15 to close the passage, and to turn up in line with the plate 17 as shown by dotted lines (Fig. 2). When so turned up it operates as an upward extension of the plate 17 which contributes to promote the upward draft of the fumes above the upper end of said flue. Stops 21 are provided to prevent the valve from turning too far back. A rock-shaft 22 journaled in the plate 17 and in a front cross bar 23, having an arm 24 connected by a link 25 with the valve, and two arms 26 provided with depending chains 27 constitutes the means for operating the valve. The chains pass through screw eyes 28 set in the front plate.

It is noted that the door 11 does not entirely close the opening 10 in plate 9 at the top, and that the cross bar 23 is placed over the space so left open. Said cross bar stands out from said plate far enough to allow the arms 26 to play up and down for

working the valve. Said arms and their chain connections are so adapted as to cover the open space in said plate above the door when the valve 20 is wide open because it is preferred to close the open space over said door when the valve is open. This practically closes the lower portion of the chamber in front from the bottom plate 8 up to the top edge of plate 9 and leaves an entrance opening 4^b for the fumes from the room to pass into the chamber at its upper portion.

The side plates of the chamber are shown as extended below the bottom plate 8 and provided with flanges 29 at the rear and to these an annular flange 30 of a thimble 31 for a stove pipe 32 is bolted to support the thimble in line with the opening 6 of the front plate. Screw bolts 33 passing through the front plate and plate 9, are also secured in the flanges 29 which are sufficiently apart not to obstruct the stove pipe flue.

To facilitate the setting of the ventilator into an opening made in the front wall of a brick chimney the side plates A top plate 14 and bottom plate 34 are preferably made slightly convergent toward the interior and provided with lugs 35 for engaging the wall 36 for holding the same in place.

Obviously the front, side and rear plates of the chamber might be cut off just below the bolt 33 so that the remaining upper portion might be set in a chimney, above the stove pipe opening as ordinarily provided, for producing the like ventilating results.

The arrows in the chimney flue 37 are designed to show the course of the smoke from the stove pipe and up the chimney and the arrows in the chamber 7 and valved flue show the course of the fumes, etc., which pass from the room through the open work of the door 4^a thence through the chamber entrance opening above plate 9 and down through the exit opening 16 and thence up, when the valve 20 is open.

The chamber provided with the entrance opening located at the front upper part for the admission of the fumes into the upper part and the exit opening located at the rear lower part and the valved flue connected to the chamber at said exit opening and being thence extended up to the top of the chamber and having the valve hinged at the top and provided with means for turning it up to form a straight-up extension of the plate 17 for promoting the draft, constitute the means for the attainment of the first of the above named objects. The relative arrangement of the valved flue and chamber whereby the former is lowered and connected with the bottom of the chamber secure a more compact construction and improved form which is better adapted to be set in a chimney wall.

It is noted that the bottom plate 8, pref-

erably inclined downward slightly from the front near the bottom of door 11 to the rear, and the opening 16, greater in vertical extent than the distance between the plates 15 and 17 near the top of the valved flue form a pocket or depression of considerable depth, bottomed partly by plate 8 and partly by the lower curved portion of the plate 17, which pocket is adapted to catch and hold the falling soot to a considerable extent without contracting the passage way through exit opening 16 to a less area than the passage way at the top of said flue. Also that such pocket is conveniently accessible through the door 11. This construction constitutes the means for the attainment of the third object above named.

Having thus described my improvement, what I claim and desire to secure by Letters Patent is:

1. In a ventilator of the class described, a chamber provided with an entrance opening in the front upper portion and an exit opening in the rear lower portion, in combination with a flue communicating with said exit opening and extending upwardly therefrom to about the level of the top of said chamber, a valve hinged to the top at the rear of said flue, and a rock-shaft and mechanism for working said valve, as specified.

2. In a ventilator of the class described, a chamber provided with an entrance opening in its front near the top and an exit opening in its rear at the bottom, said exit opening being below the level of the entrance opening, in combination with a flue communicating with said exit opening and extending upward therefrom, a valve in said flue and means for working the valve, as specified.

3. In a ventilator of the class described, a chamber provided with an entrance opening in its front upper portion, an opening in its front lower portion with a door for closing the same, and an exit opening in its rear lower portion, in combination with a flue connected with the chamber at said exit opening and extended upwardly therefrom, a valve hinged to the top of the flue and means for working the same, as specified.

4. A ventilator of the class described, comprising a chamber provided with an entrance opening in its front upper portion, an opening in its front lower portion having a closing door, an exit opening in its rear lower portion and a valved flue connected with the chamber at said exit opening, the parts being adapted to form a pocket at the bottom of the chamber, accessible through the door, as specified.

JOHN P. EKSTROM.

Witnesses:

E. A. RUEGSEGER,
J. L. EKSTROM.