

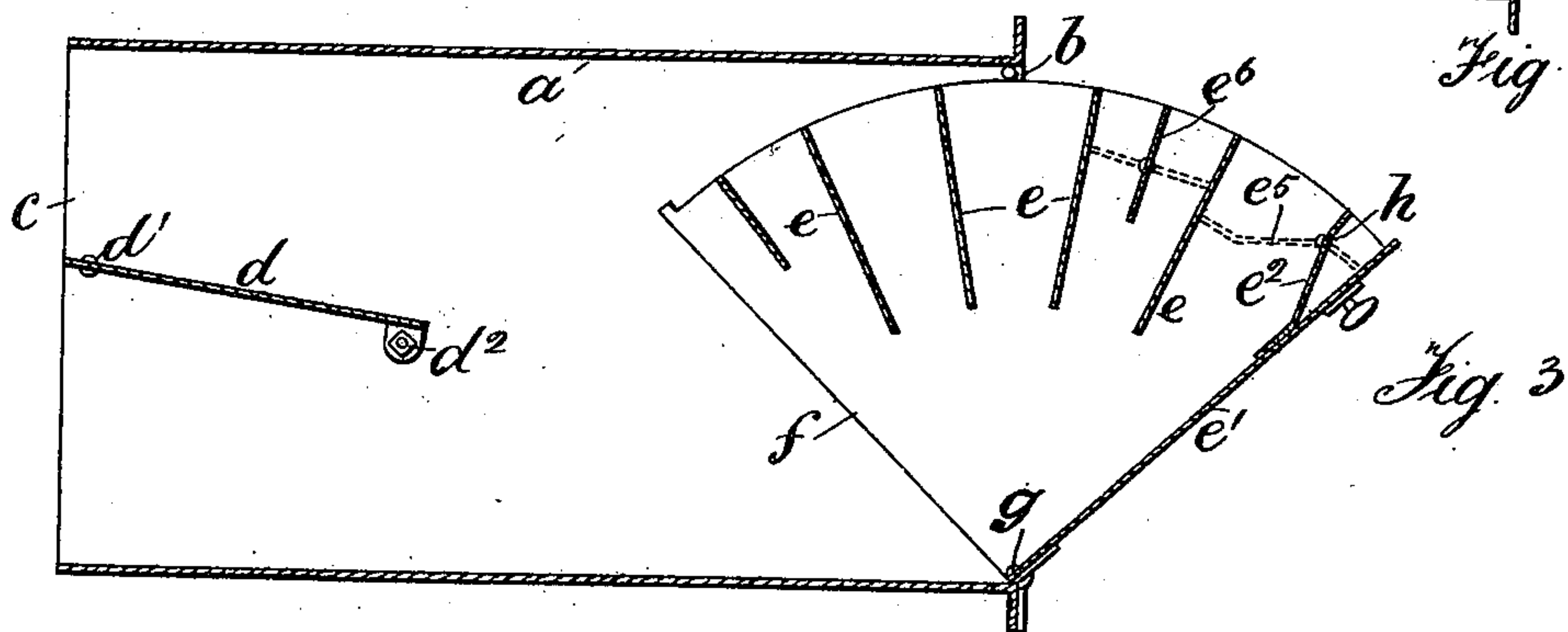
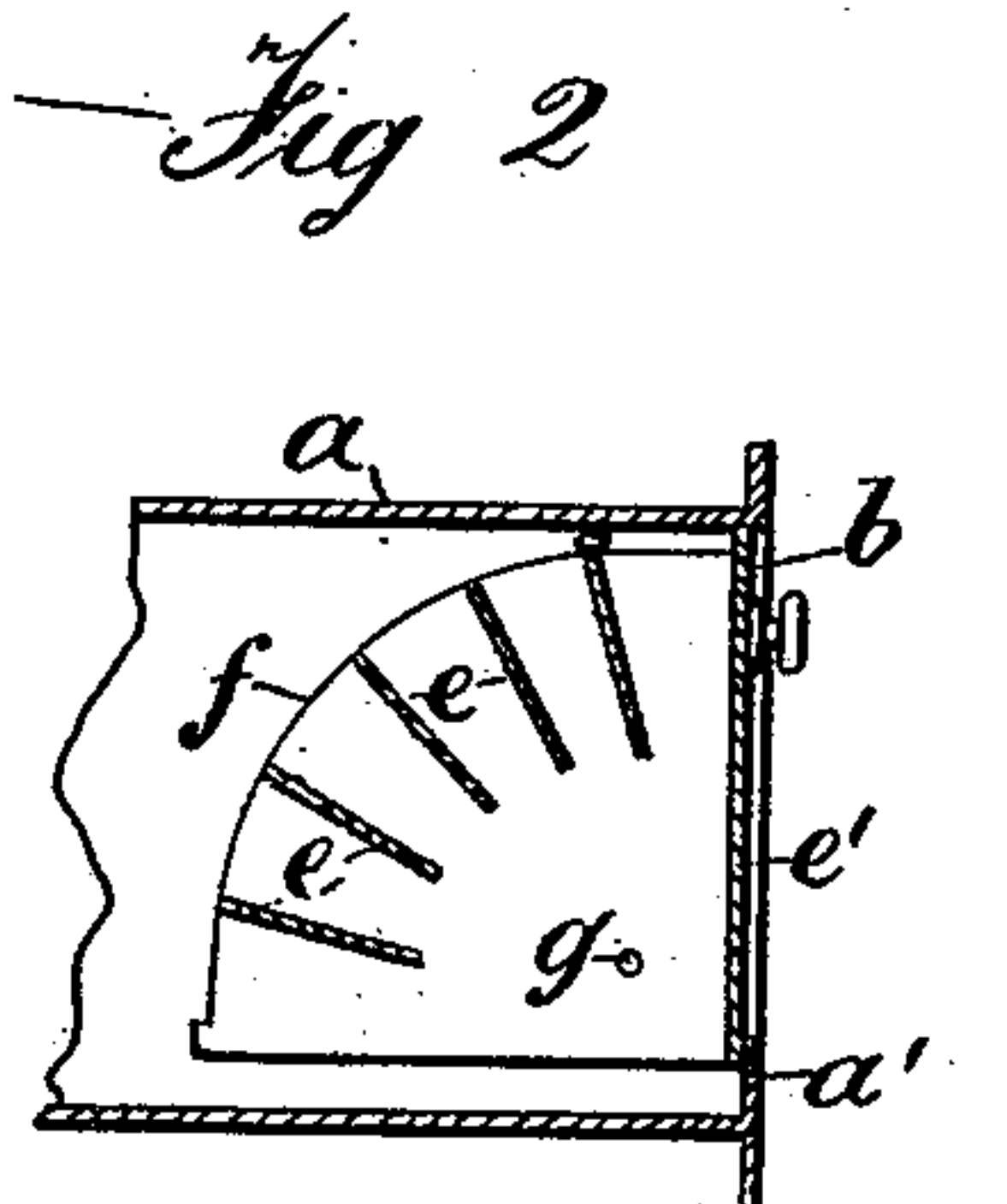
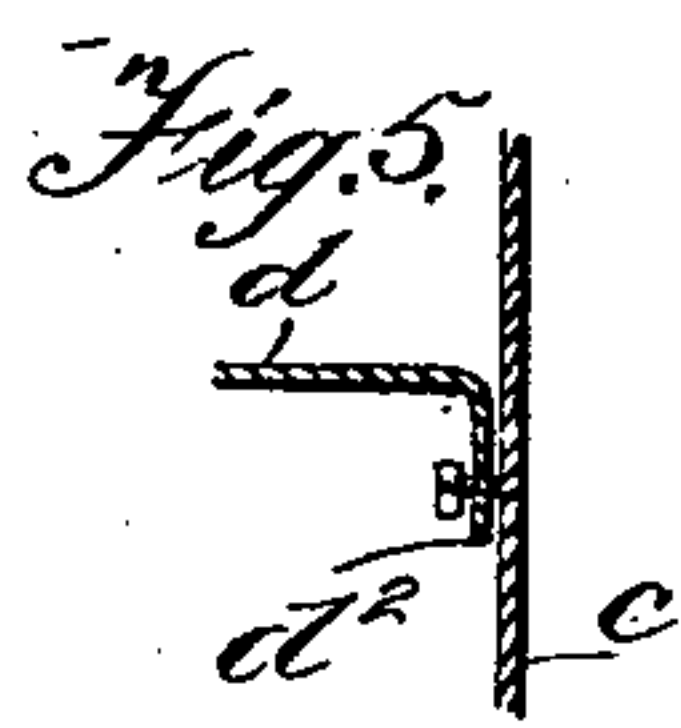
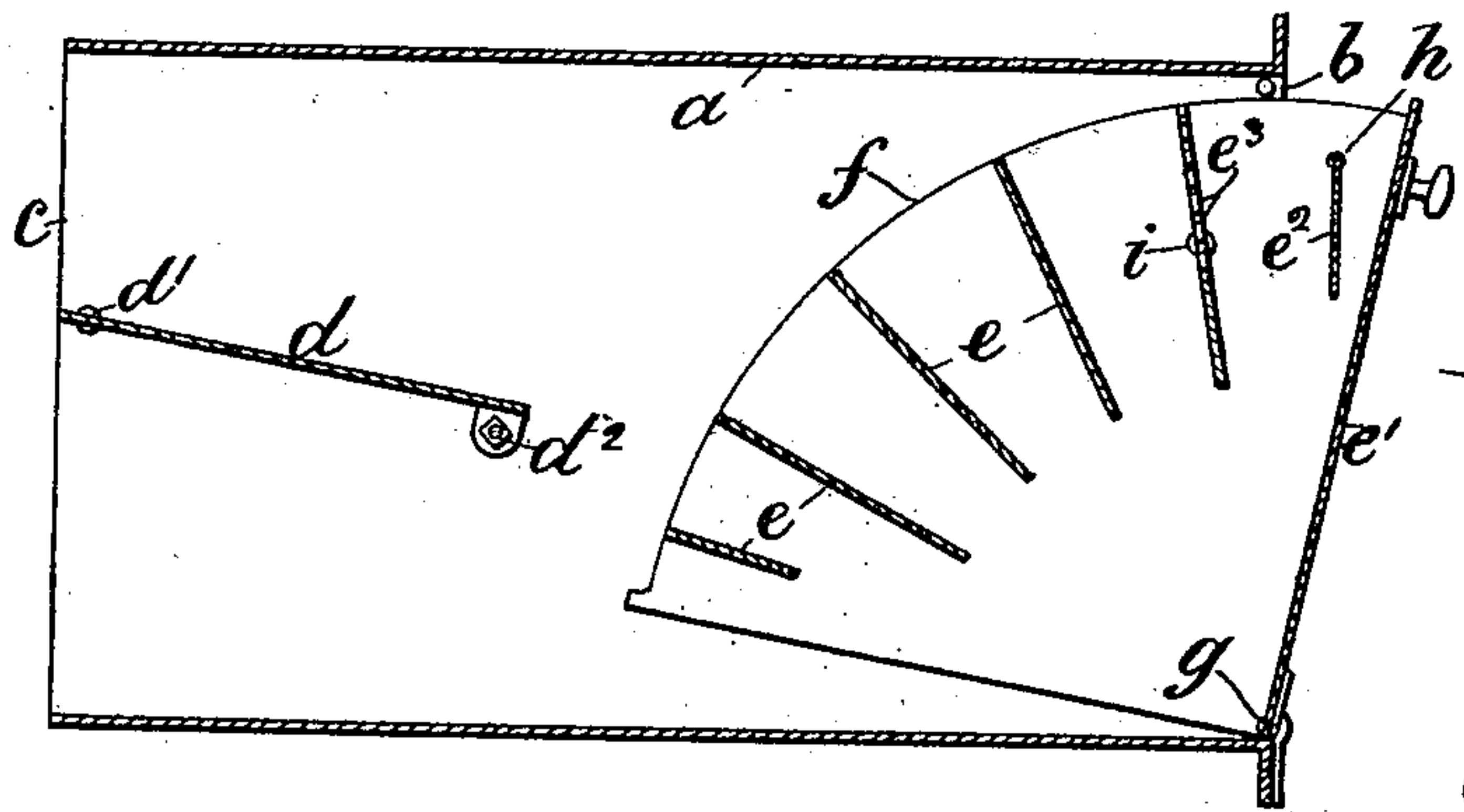
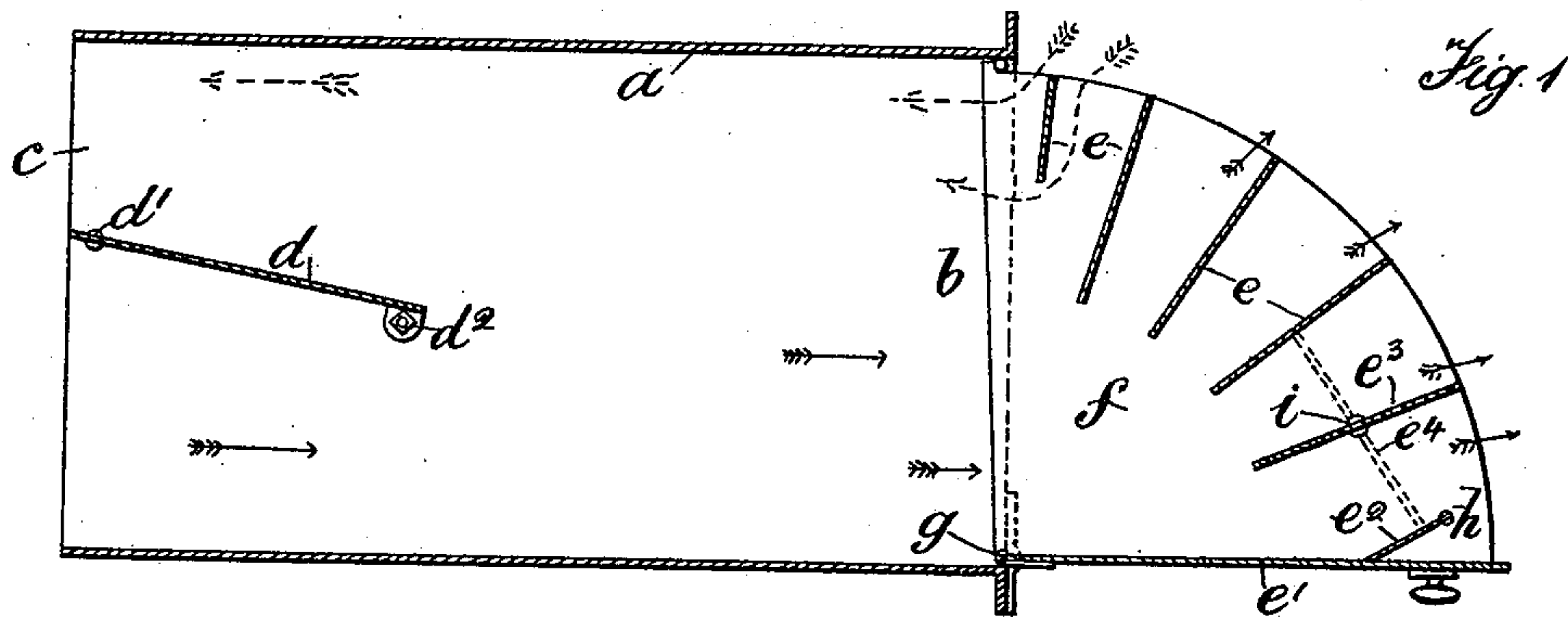
No. 622,375.

Patented Apr. 4, 1899.

J. LEATHER.
VENTILATOR.

(Application filed Mar. 23, 1898.)

(No Model.)



Witnesses

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Inventor

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UNITED STATES PATENT OFFICE.

JOSEPH LEATHER, OF LIVERPOOL, ENGLAND.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 622,375, dated April 4, 1899.

Application filed March 23, 1898. Serial No. 674,868. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH LEATHER, a subject of the Queen of Great Britain, residing at Liverpool, in the county of Lancaster, England, have invented new and useful Improvements in Ventilators, (for which I have applied for a patent in Great Britain, No. 19,969, bearing date August 31, 1897,) of which the following is a specification.

10 The object of the invention is to provide appliances whereby the entrance of air into or the entrance and exit of air into and from, respectively, a room or other space shall be easily controlled and the direction and force of
15 the air-currents varied as may be found desirable. For these purposes I arrange at or near one end of an opening into the room or space to be ventilated one or more adjustable division or directing plates, and at or near the
20 other end of the opening I arrange a series of movable and adjustable directing-plates preferably disposed radially, or nearly so, to a center on which the series moves. Some of these deflecting-plates may be perforated or
25 partly perforated and partly solid and adjustable, so as to partly cover or close the passage between two of such directing-plates. In combination with the movable series of plates I may use one or more baffle-plates operated
30 conjointly with the said series of plates.

Figure 1 is a longitudinal section of a ventilator under my invention. Fig. 2 is a longitudinal section of the same ventilator partially closed. Fig. 3 is a longitudinal section of a ventilator with modified directing-plates. Fig. 4 is a sectional view showing a different arrangement of pivot, and Fig. 5 is a detail view of a thumb-screw and its attachment.

40 a is a box or casing built or fitted into the wall of the room or space to be ventilated and having an opening b at one end into the room and an opening c at the other end to the exterior.

45 d is an adjustable division or directing plate pivoted at d' , near the exterior opening, for directing the entering air somewhat downward toward the lower part of the box. This plate d may be held in any adjusted position by a set-screw d^2 , engaging a screw-threaded
50 hole in a lug projecting laterally from the edge of the plate and having a square head,

the end of this set-screw impinging against the inner face of the side of the box, so as to jam the plate in position. This adjustment may be made before the casing is secured in
55 place. More than one plate may be used, if desired.

e are a series of directing-plates attached to sectors f . The sectors f are pivoted at g to the box a , so that the whole or some of the
60 plates e can be moved into the box a , as shown in Fig. 2, thus allowing of the opening b being entirely closed by the outside plate e' or being partially closed by one of the other
65 plates e . These plates e are arranged radially, or nearly so, to the pivot g , so that any air passing inward in the direction of the arrows is spread out fanwise and reduced in velocity, thus insuring efficient ventilation
70 without any drafts to cause discomfort to persons in the room. One of the plates e^2 is movable on pivots h , so that when the sectors are pulled out one edge of the plate e^2 rests on the plate e' , so as to baffle or deflect the air
75 passing over such plate e^2 from a direct horizontal course into the room. When the sectors are pushed in, as in Fig. 2, the plate e^2 hangs vertically and allows of air passing upward on each side of it. One or more of
80 the plates e may be perforated over the whole or part of its surface, as at e^3 , and is pivoted at i , so that it may be turned transversely, as shown by the dotted lines e^4 in Fig. 1, thus baffling or, if the plate is not perforated at
85 all, completely closing the passage between the plates on each side of said pivoted plate.

By moving the sectors and plates e into or out of the opening b and adjusting the movable plate e^3 the force and direction of the
90 currents of air passing into the room can be regulated at will. When the atmosphere is calm, there is an inward current at the lower part of the box and an outward current at the upper part of the box, as shown in Fig. 1 by the solid and dotted arrows, so that vitiated
95 air is removed at the same time that fresh air is admitted.

In Fig. 3 the hanging plate e^2 is perforated and bent, so that part of the air passing along is deflected and part passes through such
100 plate, thus modifying the current. The plate can also be set transversely, as shown by the

dotted lines e^5 , so as to baffle and to diminish the current of air. Instead of the radial plates, as at e^3 , Fig. 1, being perforated auxiliary pivoted perforated plates e^6 may be
5 used, as shown in Fig. 3.

In Fig. 4 the pivot g is placed a little distance within the box, so that when the sectors f are drawn out they do not project so far into the room. a' is a projection to prevent
10 air passing under the bottom of the plate e' when the ventilator is closed, as shown.

The sectors and movable plates may be operated and retained in the desired positions by any usual or convenient means, such as by
15 cords and pulleys, hooks, friction-pieces, &c.

I claim—

1. In a ventilator, a flue or air-passage having pivoted sectors and radial or nearly radial directing-plates attached to the sectors and
20 arranged to control the current through the flue; substantially as described.

2. A ventilator having pivoted sectors and radial or nearly radial directing-plates attached to such sectors, at least one of such

plates being adjustable on pivots substantially as described. 25

3. A ventilator having pivoted sectors, radial or nearly radial directing-plates attached to such sectors and auxiliary movable perforated baffle-plates as described. 30

4. A ventilator having pivoted sectors and radial or nearly radial directing-plates attached to such sectors one of such plates being perforated and loosely hung on pivots substantially as described. 35

5. In combination with a passage or opening through a wall or structure directing-plate near one end of such passage or opening and pivoted sectors near the other end, said sectors having radial or nearly radial directing-plates attached thereto. 40

In testimony whereof I have hereunto set my hand.

JOSEPH LEATHIER.

Witnesses:

W. B. JOHNSON,
R. BRIL.