

No. 615,599.

Patented Dec. 6, 1898.

W. WEWERS.
COMBINED DRAFT REGULATOR AND ASH-PIT DOOR.

(Application filed Mar. 1, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

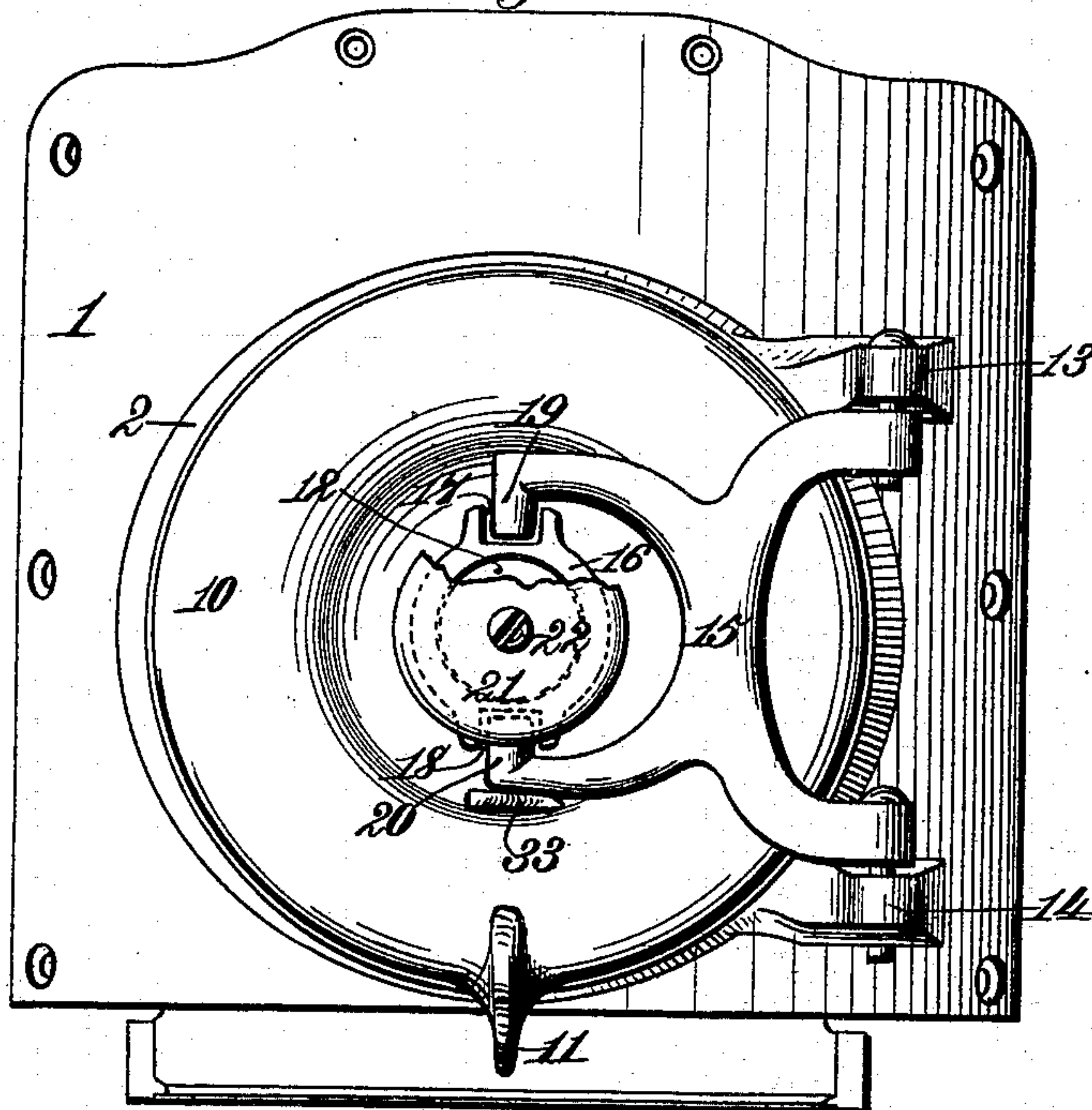
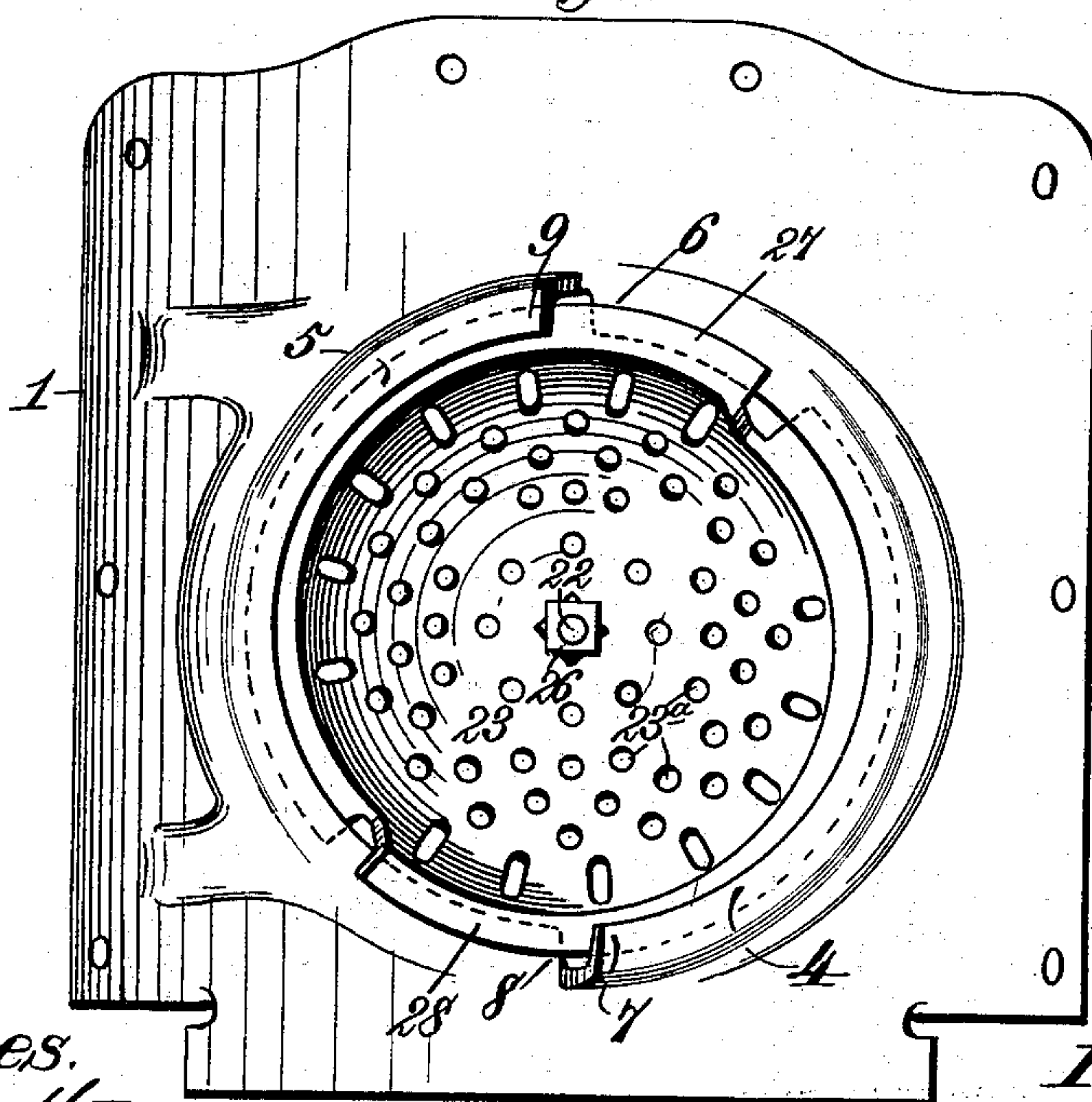


Fig. 2.



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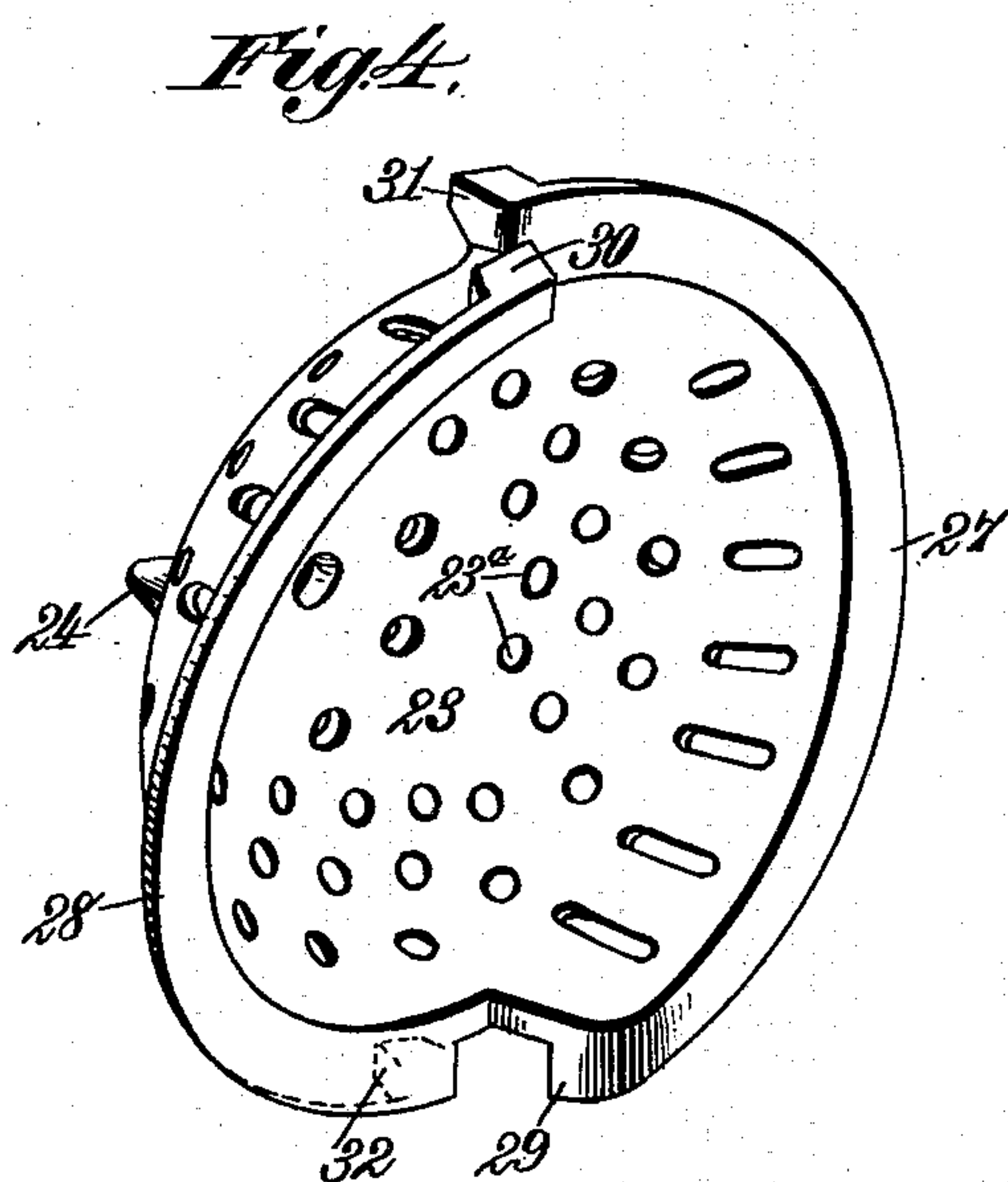
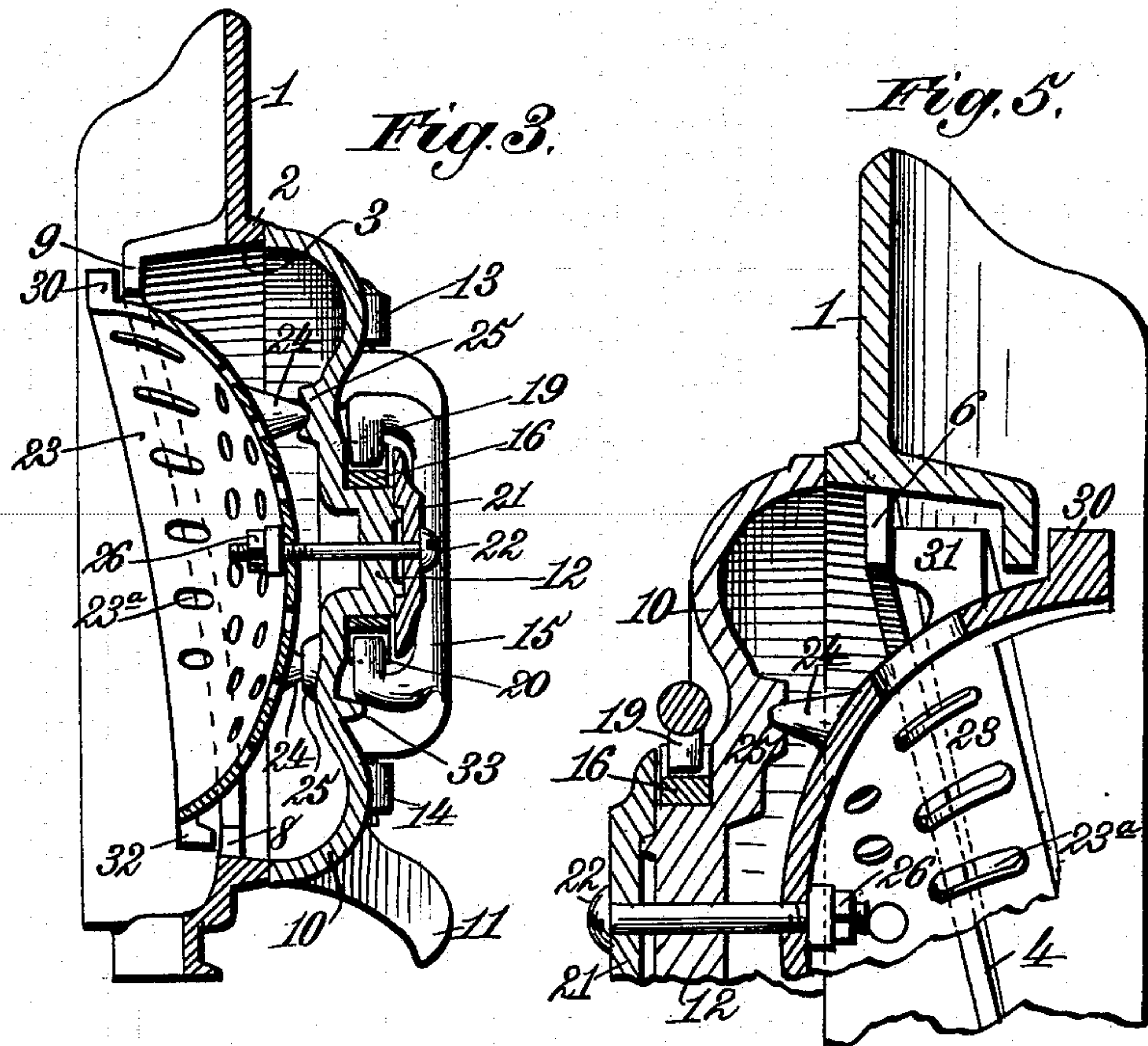
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29

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UNITED STATES PATENT OFFICE.

WILLIAM WEWERS, OF QUINCY, ILLINOIS, ASSIGNOR TO THE GEM CITY
STOVE MANUFACTURING COMPANY, OF SAME PLACE.

COMBINED DRAFT-REGULATOR AND ASH-PIT DOOR.

SPECIFICATION forming part of Letters Patent No. 615,599, dated December 6, 1898.

Application filed March 1, 1898. Serial No. 672,209. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WEWERS, a citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented new and useful Improvements in a Combined Draft-Regulator and Ash-Pit Door, of which the following is a specification.

My invention relates to draft-regulators. It is the object of my invention to provide new and improved means for supporting and combining a closure with reference to an opening in the casing of a stove whereby said closure may be turned or rotated to various adjusted positions, either to increase or diminish the amount of draft to the stove, to permit of the closure being swung away from the casing, or to lock or hold the closure securely against the casing.

Other objects of the invention relate to details of construction, more fully hereinafter described, whereby the general object above indicated is accomplished.

In the accompanying drawings, illustrating the invention, Figure 1 is a front elevation showing a section of the stove-casing provided with my invention. Fig. 2 is a rear elevation of the same. Fig. 3 is a vertical sectional view on the line 3 3 of Fig. 1, and Fig. 4 is a view of a detail. Fig. 5 is a sectional view of the upper part of the device, showing the relative location of parts when the door is in a closed position.

To illustrate one application of my invention, I have herein shown my improvements as combined with a stove-door; but, as fully stated at the end of the specification, I do not intend thereby to limit myself to such use or application.

The reference-numeral 1 indicates a section of the stove-casing, which I will term the "face-plate," and which is made of cast-iron, suitably shaped and ornamented and provided with screw-holes for permitting the attachment of the same to the front of the stove. Said face-plate is provided with an annular projecting portion, forming the confining-rim 2 of the door-opening 3. Around the interior of the rim 2 are provided two oppositely and spirally arranged guide-flanges 4 5, which are respectively on opposite sides

of a vertical line drawn through the center of the face-plate. These guide-flanges are arranged as follows:

The end 6 of guide-flange 4 is located relatively near to the front of rim 2. From this point it gradually recedes from the front of the rim and at its opposite end 7 is farthest removed therefrom. The depth of the rim 2 varies, therefore, as will be seen, with the inclination of the guide-flange. In similar manner the end 8 of guide-flange 5 is nearest to the front edge of the rim 2 and its opposite end 9 is farthest removed therefrom. The ends 6 and 9 and the ends 7 and 8 of the guide-flanges are not in vertical alinement with each other, respectively—that is, if said ends 6 and 9 and said ends 7 and 8 were in the same horizontal plane there would be a space between them. The rim is cut out on an incline from the end 6 to the end 9 and from the end 8 to the end 7. The purpose of having the ends out of vertical alinement is to permit the disengagement of the parts, as will presently appear.

The reference-numeral 10 indicates a circular stove-door, which has formed integral therewith, at its edge, a lug or handle 11. In its central part the door is provided with an annular apertured projection 12.

The numerals 13 14 indicate two bearing-lugs, on which are journaled the ends of a bracket-hinge 15. Encircling the annular projection 12 is a ring 16, having at opposite sides bosses provided with recesses 17 18, in which recesses are seated the opposite bearing ends 19 20 of the bracket-hinge 15. The annular projection 12 of the door moves freely within the ring 16.

The parts just described are held in position by means of a cap-plate 21, secured by a screw-bolt 22. On the outer face of the door is a wedge-shaped projection 23, which is adapted to engage the under side of the bearing end 19 to stop the turning of the door at the point where it may be swung away from the opening 3.

The reference-numeral 23 indicates a dome-shaped perforated casting, which I will term the "regulator," the perforations being indicated by the numeral 23^a. Said perforations are for the purpose of permitting the air to

pass to the interior of the stove when the door is turned away from the casing, as hereinafter described. This regulator has on its convex side three or more pointed lugs 24, which fit into corresponding recessed lugs 25 on the inner side of the door 10, and is held firmly in place to turn with said door by means of nuts 26, screwed on the bolt 22. The bottom edges of this dome-shaped regulator are oppositely and spirally inclined to correspond with the incline of the guide-flanges 4 and 5. Each of these spiral inclines is provided with a radially-extending flange, these flanges being designated, respectively, by the numerals 27 28. The flange 27 rides on the guide-flange 5, and the flange 28 rides on the guide-flange 4. On what I will term the "lower" end of the flange 27 is an upturned lug 29, which is designed to take under the guide-flange 4, and on the corresponding end of the flange 28 is a similar lug 30, which is designed to take under the guide-flange 5. On what I will term the "upper" end of the flange 27 is a lug 31, which when the door is turned to a closed position is designed to engage beneath the end 6 of guide-flange 4 to press and hold the door against the outer edge of rim 2, and on the corresponding end of flange 28 is a similar lug 32, which is designed to take under or engage the end 8 of guide-flange 5 for a similar purpose. The two lugs 31 and 32 operate simultaneously to engage the under side of the respective ends 6 and 8 of the guide-flanges.

The operation of the device is as follows: The parts being in the position shown in Fig. 1, the door 10 is held firmly against the edge of rim 2, and no air passes through the opening 3. It being desired to give the fire a draft, the lug or handle 11 is raised and the door revolved toward the right, the annular projection 12 turning in the ring 16. In this movement the engagement of flange 27 with guide-flange 5 and the engagement of flange 28 with guide-flange 4 will operate to move the door away from the edge of rim 2, the manner of pivotally supporting the door on the bracket-hinge 15 permitting this latter movement. The distance to which the door is removed from the opening will of course depend upon the distance the lug 11 is moved. Should it be desired to swing the door bodily away from the opening 3, the door is revolved until the projection 33 engages the under side of the bearing end 19 of the bracket-hinge 15. At this point the lug 29 on the lower end of flange 27 will have passed off of the guide-flange 4, and the lug 30 on the lower end of flange 28 will have passed off of the guide-flange 5, and by reason of the space between the ends 6 and 9 and 7 and 8, respectively, as described, the door may now be swung outward on the bracket-hinge 15 to allow access to the interior of the stove. On the lug 11 being turned in the reverse direction to that just described the door will gradually be moved toward the opening 3 until the lugs

31 and 32 engage the under sides of the respective ends 6 and 8 to draw and hold the door firmly against the edge of rim 2. It will thus be seen that by simply turning or revolving door 10 I can lock the same firmly against the casing or open the same to any desired adjusted position to regulate the amount of draft to be admitted to the fire.

While I have shown and described my improvements as applied to a stove-door, I wish it to be understood that I may use my device independently as a draft-regulator only, and in such application I may locate the device in any part of the stove-casing found desirable. Also I may combine my improvements with the upper or fuel door or with the lower or ash-pit door, or with both. I therefore desire to be understood as claiming, broadly, the means herein described for operating a closure with reference to an opening in the stove, whether such closure constitute a door of the stove or merely a means of closing a draft-opening, as well as the specific application of my improvements to a stove-door.

Having thus fully described my invention, what I claim is—

1. In a stove, a casing having a circular opening provided around its interior edge with two opposite and spirally-arranged guide-flanges having their extremities located out of vertical alinement, in combination with a closure having on its inner side a casting constructed with two oppositely-inclined and spirally-arranged flanged edges for engaging said guide-flanges, substantially as described.

2. In a stove, a casing having a circular opening provided around its interior edge with two opposite and spirally-arranged guide-flanges, in combination with a stove-door having on its inner side a casting provided with oppositely-inclined and spirally-arranged flanges for engaging said guide-flanges, and a hinged bracket by which the door may be swung away from and toward said casing, substantially as described.

3. In a stove, a casing having a circular opening and opposite spirally-arranged guide-flanges around its inner edge, in combination with a closure having secured on its inner side a dome-shaped, perforated casting provided with oppositely-inclined and spirally-arranged flanged edges adapted to engage with said guide-flanges, substantially as described.

4. In a stove, a casing having a circular door-opening provided around its interior edge with oppositely and spirally arranged guide-flanges, a bracket-hinge pivotally supported at one end on the casing, a door pivotally and revolvably supported in the opposite end of said bracket-hinge, and a casting on the inner side of said door having oppositely-inclined and spirally-arranged flanged edges adapted to engage with said guide-flanges, substantially as described.

5. In a stove, a casing having a circular

door-opening provided around its interior edge with oppositely and spirally arranged guide-flanges, a bracket-hinge pivotally supported at one end on the casing, a door pivotally and revolubly supported in the opposite end of said bracket-hinge, and a dome-shaped perforated casing secured on the inner side of said door and having oppositely-inclined and spirally-arranged flanged edges adapted to engage with said guide-flanges, substantially as described.

6. In a stove, a casing having a circular opening provided around its interior edge with oppositely and spirally arranged guide-flanges, a closure having on its inner side a casting provided with oppositely-inclined and spirally-arranged flanged edges adapted to engage with said guide-flanges, each of said flanges having at one end a lug adapted to engage beneath the end of a corresponding guide-flange whereby to draw and securely hold the closure against the edge of the opening, substantially as described.

7. In a stove, a casing having a circular door-opening provided around its interior edge with oppositely and spirally arranged guide-flanges, a door having on its outer side an annular apertured projection, a ring encircling said projection and having on oppo-

site sides recessed bosses, a bracket-hinge pivotally supported at one end on the casing and having at its opposite end bearings seated in said recesses, a cap-plate for holding said ring and bearings in position, a dome-shaped, perforated casting on the inner side of said door having oppositely-inclined and spirally-arranged flanged edges adapted to engage with said guide-flanges, a screw-bolt extending through said cap-plate, door and casting and a nut for said bolt, the combination operating substantially as described.

8. In a stove, a casing having a circular door-opening provided around its interior edge with oppositely and spirally arranged guide-flanges, a door pivotally and revolubly supported in operative relation with said opening, and a dome-shaped, perforated casting secured on the inner side of said door and having oppositely-inclined and spirally-arranged flanged edges adapted to engage with said guide-flanges, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM WEWERS.

Witnesses:

HERMAN HOENER,
WM. H. HEIDBREDER.