

No. 833,871.

PATENTED OCT. 23, 1906.

W. L. CARTER.
REGISTER.

APPLICATION FILED NOV. 7, 1904.

Fig. 1.

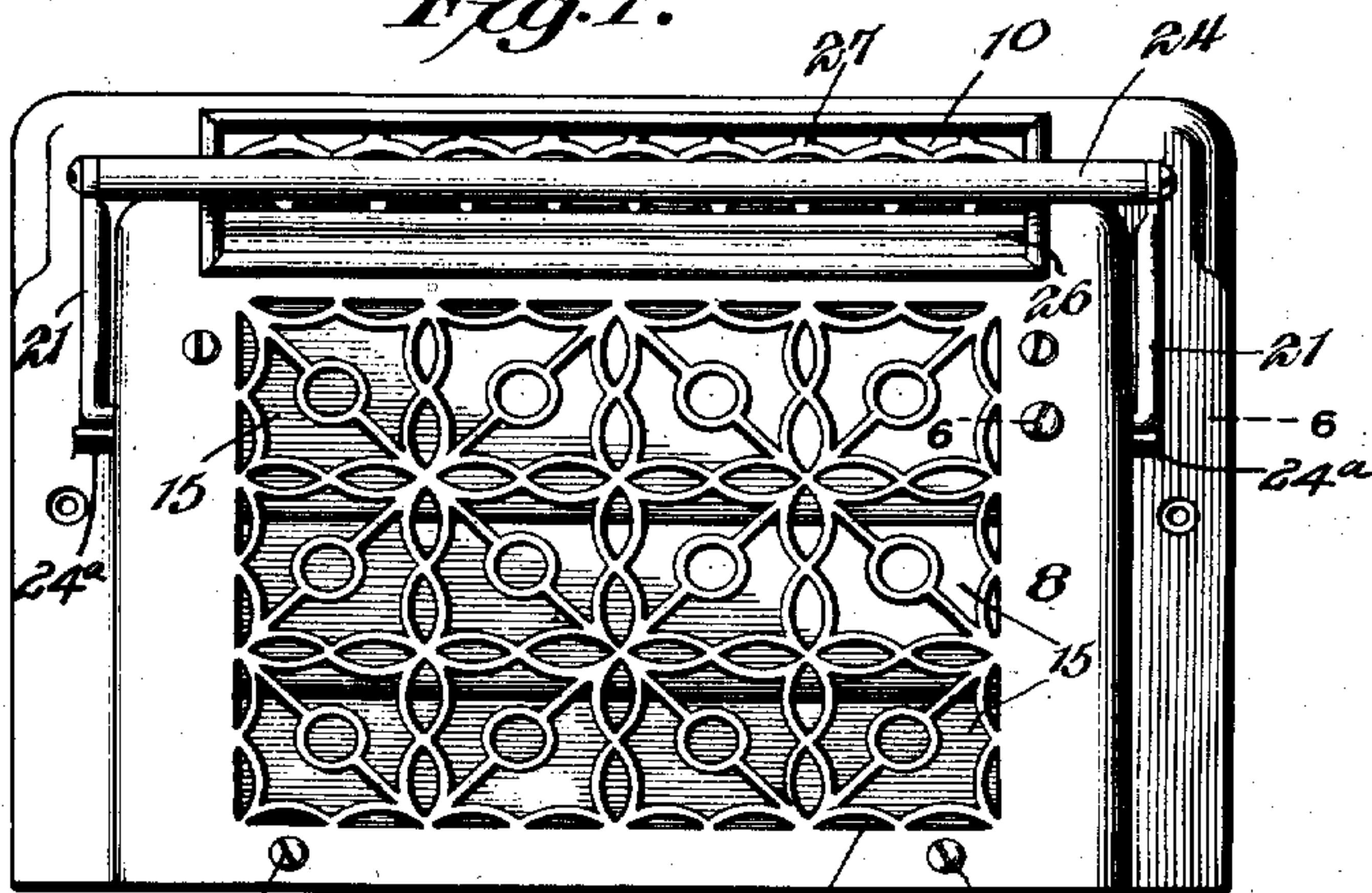


Fig. 2.

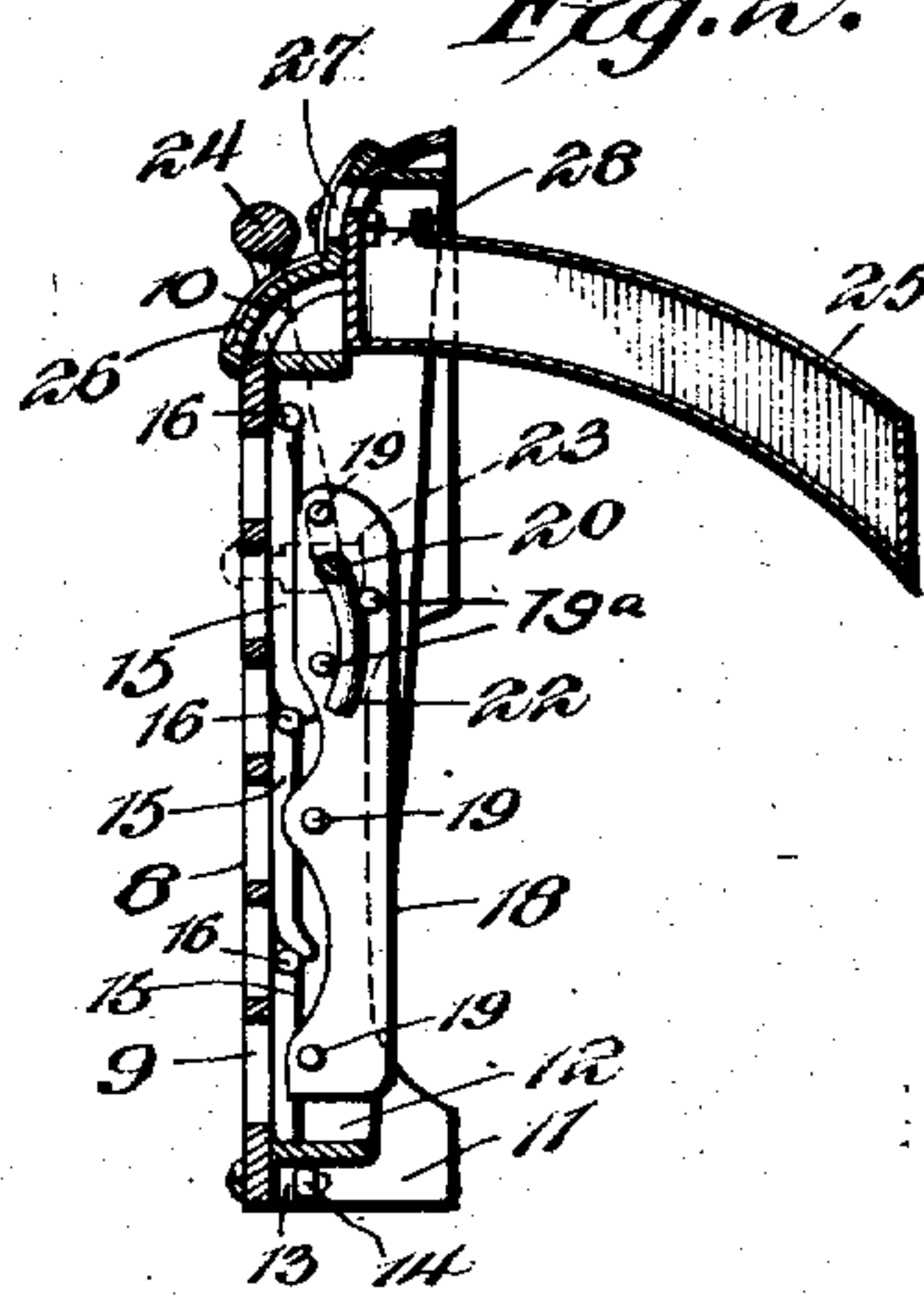


Fig. 3.

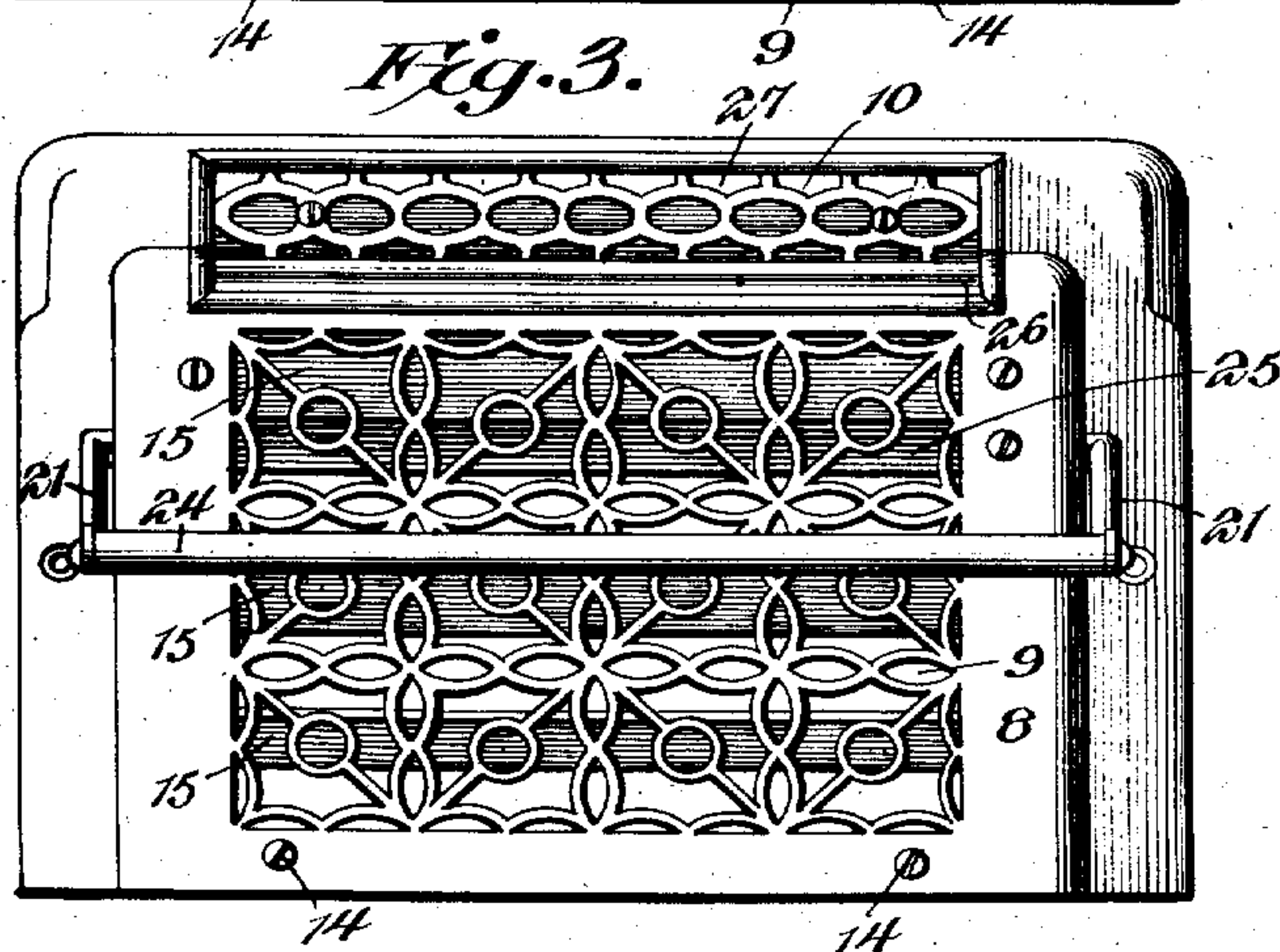


Fig. 4.

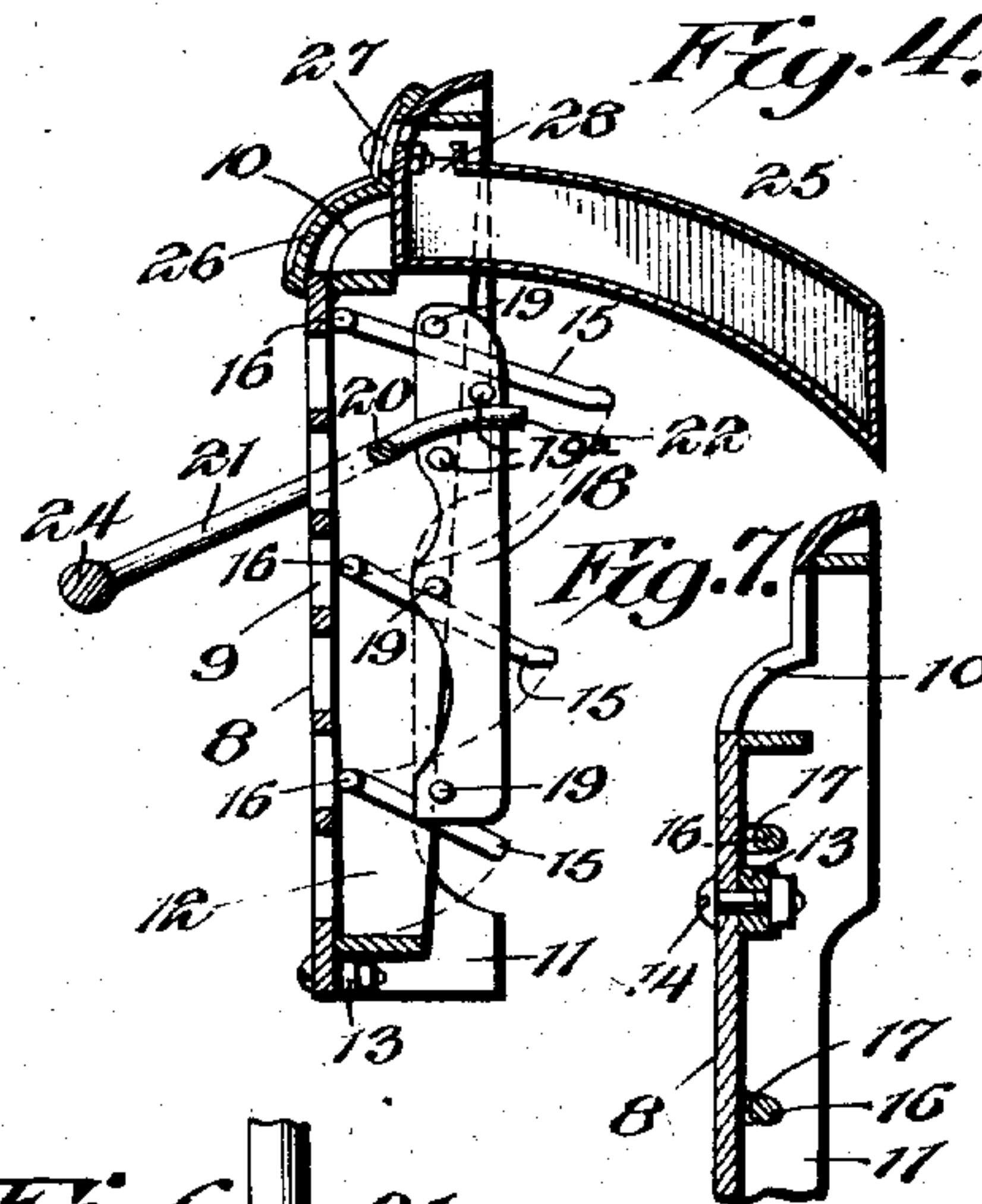


Fig. 5.

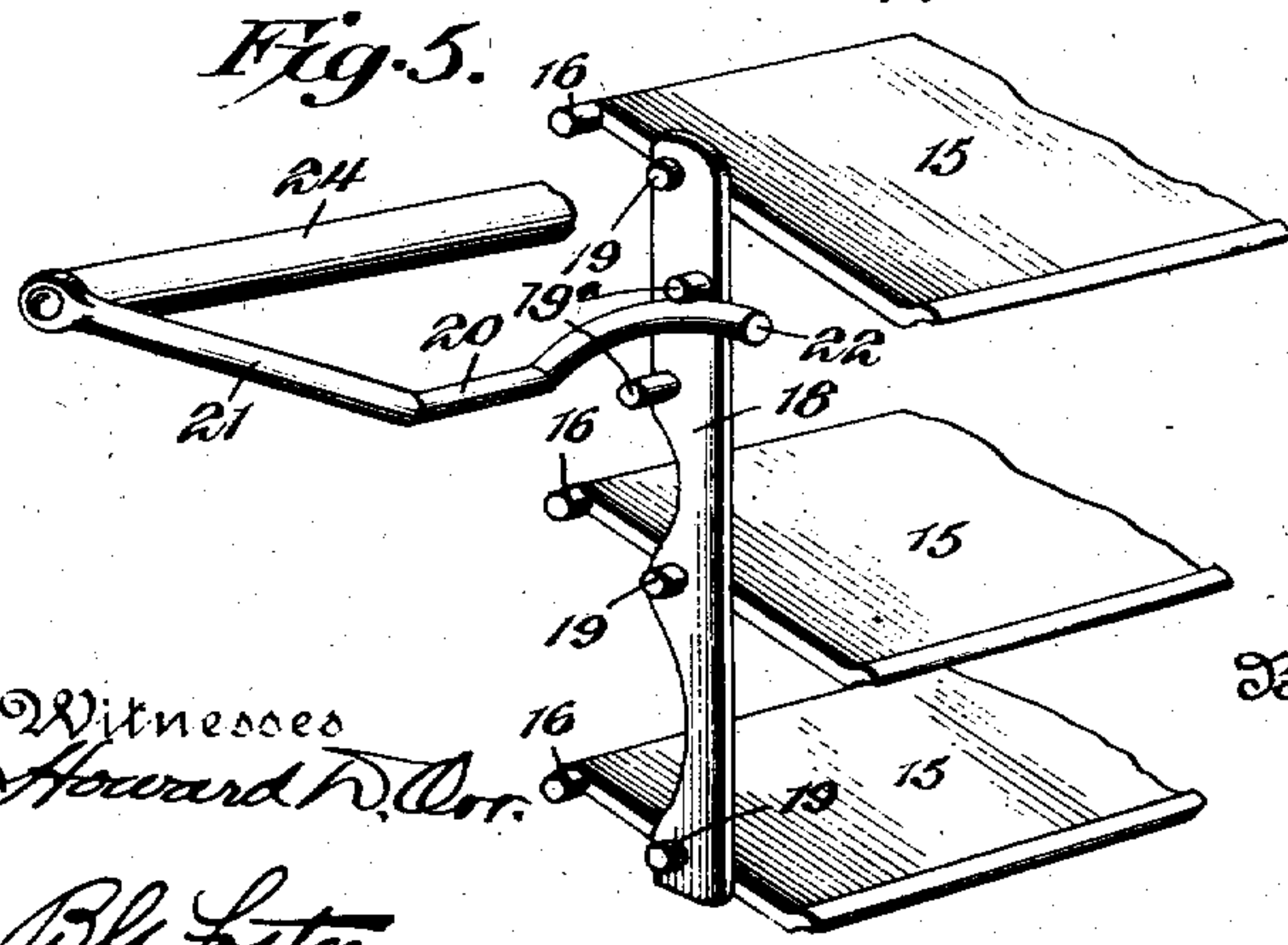
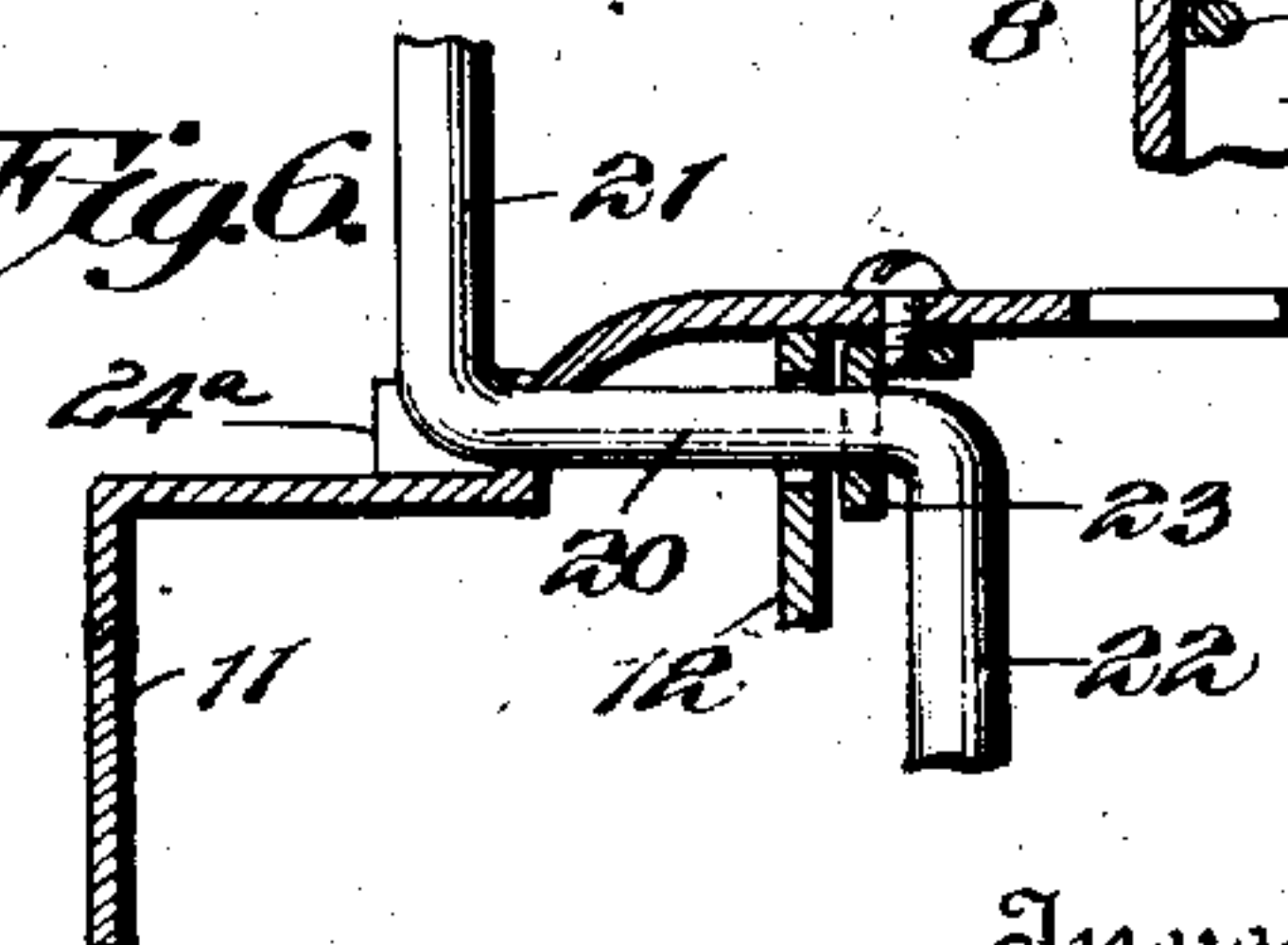


Fig. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM L. CARTER, OF WATERLOO, IOWA, ASSIGNOR TO WATERLOO REGISTER COMPANY, OF WATERLOO, IOWA.

REGISTER.

No. 833,871.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed November 7, 1904. Serial No. 231,763.

To all whom it may concern:

Be it known that I, WILLIAM L. CARTER, a citizen of the United States, residing at Waterloo, in the county of Blackhawk and State of Iowa, have invented a new and useful Register, of which the following is a specification.

This invention relates to hot-air registers, and while more particularly intended for use in walls there are features thereof that may perhaps be advantageously used in other analogous structures of this character.

One of the objects of this invention is to provide a simple and novel register which can be readily fitted and placed in position without the necessity of any material alterations to the surrounding work.

Another object is to provide novel means for controlling the passage therethrough of the heated air, and more particularly the mechanism for operating the controlling means.

Still another object is to provide means of a simple character for moistening the air in the room in which the register is located, said means constituting a part of the register in that it acts as a deflector.

The preferred form of construction is illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation of the register, showing the shutter closed. Fig. 2 is a vertical sectional view through the same. Fig. 3 is a view similar to Fig. 1, but showing the shutter open. Fig. 4 is a vertical sectional view through the register with the parts as shown in Fig. 3. Fig. 5 is a detail perspective view of one end of the shutter and a portion of the operating means therefor. Fig. 6 is a detail sectional view on the line 6 6 of Fig. 1. Fig. 7 is a detail sectional view showing the manner of mounting the leaves of the shutter.

Similar reference-numerals indicate corresponding parts in all the figures of the drawings.

In the embodiment illustrated a supporting-frame is employed comprising a face-plate 8, having a grated heat-exit 9, above which is located a vapor-outlet opening 10, which opening is formed in a rearwardly and upwardly curved portion forming practically the top of the register. At the end edges the face-plate is provided with rearwardly-extending flat flanges 11, constituting abut-

ments, against which the adjacent ends of the base-board bear. Thus it will be apparent that the only fitting necessary is to square the ends of said base-board. Within the casing thus formed is an angular boxing 12, that surrounds the grated heat-outlet and is provided with ears 13, through which are passed suitable fastenings 14, that secure the boxing in place. This boxing constitutes the means by which the usual heat-pipe is connected with the register, and it furthermore constitutes supporting means for a shutter that controls the heat-exit, as well as a support for the operating mechanism for said shutter. This shutter comprises a plurality of leaves 15, each having at one edge and projecting from its ends pintles 16, that are journaled in notches 17, formed in the edges of the upright end walls of the boxing 12, that are abutted against the inner face of the plate 8. The opposite edges of the leaves are adapted to overlap, as shown in Fig. 2, and said leaves are of unequal width—that is to say, the central one is of greater width than the lowest and the uppermost is wider than the central leaf—so that when the shutter is moved to open position, as illustrated in Fig. 4, each leaf will act as a deflector, as they extend different distances into the current of ascending air. The leaves 15 are connected at one end by an upright link 18, having openings that receive pins 19, carried by the leaves in rear of their pivot-pintles 16. Said link is furthermore provided with spaced outstanding lugs 19^a.

Journaled in the upright end walls of the boxing 12 are pivots 20, that also extend through the face-plate 8 and carry outwardly-extending crank-arms 21. One of these pivots also is provided with an inwardly-extending curved crank-finger 22, that passes between the lugs 19^a and is arranged to engage the same. The bearing of the pivot having said crank-finger is preferably reinforced by an ear 23, secured to the face-plate 8, as illustrated in Fig. 6. The outer ends of the crank-arms 21 are connected by a foot-rest bar 24, that extends across the heat-exit in front of the face-plate and is adapted to be elevated above said exit, as shown in Figs. 1 and 2. Its downward movement is limited by stop projections 24^a, carried by the face-plate 8 and located adjacent to the outer ends of the pivots 20.

In connection with the above-described structure there is employed an air-moistener consisting of a water-receptacle 25, that is secured to the inner side of a cover 26, extending over the vapor-outlet 10 and having a grated portion 27 covering the upper portion of said opening. The receptacle 25 is thus supported by the cover and is removable through the opening 10, as shown in Figs. 2 and 4. This receptacle curves or inclines downwardly and rearwardly above and back of the heat-exit, thereby constituting a deflector for directing heated air thereto. Said receptacle is preferably closed with the exception of a small outlet 28, located in rear of and adjacent to the grated portion of the cover.

The operation of the device, it is believed, will be clear. The foot-rest is of course not needed except when drying or warming the feet, and thus when the register is closed said rest is elevated, as shown in Figs. 1 and 2. Upon swinging the rest downwardly the shutter of the register is opened and the rest is located across the heat-exit, this downward movement being limited by the stop-lugs shown. The heated air during its upward passage will strike the bottom of the water-receptacle 25 and be deflected thereby outwardly. This causes the water contained in the receptacle to be heated, and the vapor therefrom will pass freely into the room through the grating 27. Thus the air in each room containing a register can be separately moistened and the receptacle can be supplied by merely moving the same outwardly through the opening 10 until the mouth 28 is exposed.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a register, the combination with a supporting-frame having a heat-outlet, of a grated plate covering the outlet, a movable shutter for the heat-outlet located in rear of the grated plate, a foot-rest movably mounted on the frame and movable to a position in advance of and below the top of the grated plate and the heat-outlet, and means actuated by the foot-rest upon its movement to operate the shutter.

2. In a register, the combination with a supporting-frame having a heat-outlet, of a grated plate covering the outlet, a shutter for the heat-outlet movably mounted on the

frame in rear of the grated plate, a foot-rest bar pivotally mounted on the frame and movable to a position in advance of and below the top of the grated plate and the heat-outlet, and means actuated by the foot-rest upon its pivotal movement to operate the shutter.

3. In a register, the combination with a supporting-frame comprising a grated plate, of a shutter comprising a plurality of leaves pivoted on the frame in rear of the grated portion of the plate, a foot-rest bar pivotally supported on the frame and movable over the exposed face of the plate, and means operated by the foot-rest bar and connected with the leaves for moving the same.

4. In a register, the combination with a frame having a heat-exit, of a shutter controlling said heat-exit and comprising a plurality of movable leaves, spaced crank-arms pivoted upon the frame, a foot-rest connecting the crank-arms, one of said arms having a crank-finger, and a connection between said finger and the leaves.

5. In a register, the combination with a supporting-frame having a grated heat-outlet, of a shutter for controlling the outlet comprising a plurality of leaves journaled in the frame, a foot-rest bar pivotally mounted on the frame and movable to a position in front of the grated outlet, and means connecting the bar and leaves for operating the latter upon the movement of the former.

6. In a register, the combination with a supporting-frame including a grated plate, of a shutter comprising a plurality of leaves pivoted on the frame in rear of the grated plate, a foot-rest bar movable to and from a position in advance of the exposed face of the plate, and means operated by the foot-rest bar and connected with the leaves for moving said leaves.

7. In a register, the combination with a frame including a grated face-plate forming a heat-exit, of a shutter comprising a plurality of leaves pivoted upon the frame in rear of the face-plate and controlling the heat-exit, a link pivotally connecting the leaves and having spaced lugs projecting from one side, outstanding crank-arms pivoted upon the frame and projecting in front of the face-plate, one of said crank-arms having a rearwardly-extending curved crank-finger that extends between and engages the lugs of the link, and a foot-rest bar connecting the outer ends of the crank-arms and extending across the front of the heat-exit.

8. In a register, the combination with a frame having a heat-exit, of a water-receptacle supported on the frame above the heat-exit, said receptacle having a water-containing portion inclining downwardly toward its rear end in rear of the heat-exit and constituting a deflector for directing the air toward the same.

9. In a register, the combination with a frame having a grated heat-exit, of a shutter for controlling the heat-exit, a water-receptacle supported on the frame and located above and in rear of the heat-exit, said frame having a vapor-outlet above the receptacle and said receptacle including a water-containing portion that inclines downwardly in rear of the heat-exit and constituting a deflector for directing the air toward said exit.

10. In a register, the combination with a frame having a heat-exit and a vapor-outlet located above the same, of a water-receptacle detachably mounted in the frame above the heat-exit and having an open mouth disposed contiguous to the vapor-outlet, and a grated cover for said outlet secured to the receptacle and detachable therewith, said cover constituting a stop to position the receptacle in the frame.

11. In a register, the combination with an

upright frame including a face-plate having a grated heat-exit and a vapor-outlet located above the same, of a shutter for controlling the heat-exit, a grated cover for the vapor-outlet over,apping and fitting against the face-plate, and a water-receptacle secured to the inner side of the cover and removable through the vapor-outlet, said receptacle having an opening-mouth disposed contiguous to the grated portion of the cover and being furthermore downwardly inclined in rear of the heat-exit constituting a deflector for directing air thereto.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM L. CARTER.

Witnesses:

JAMES A. GILMORE,
JOHN H. RILEY.

Correction in Letters Patent No. 833,871.

It is hereby certified that in Letters Patent No. 833,871, granted October 23, 1906, upon the application of William L. Carter, of Waterloo, Iowa, for an improvement in "Registers," an error occurs in the printed specification requiring correction, as follows: In line 26, page 3, the words "over, apping" should read *overlapping*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 6th day of November, A. D., 1906.

[SEAL.]

E. B. MOORE,

Acting Commissioner of Patents.

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