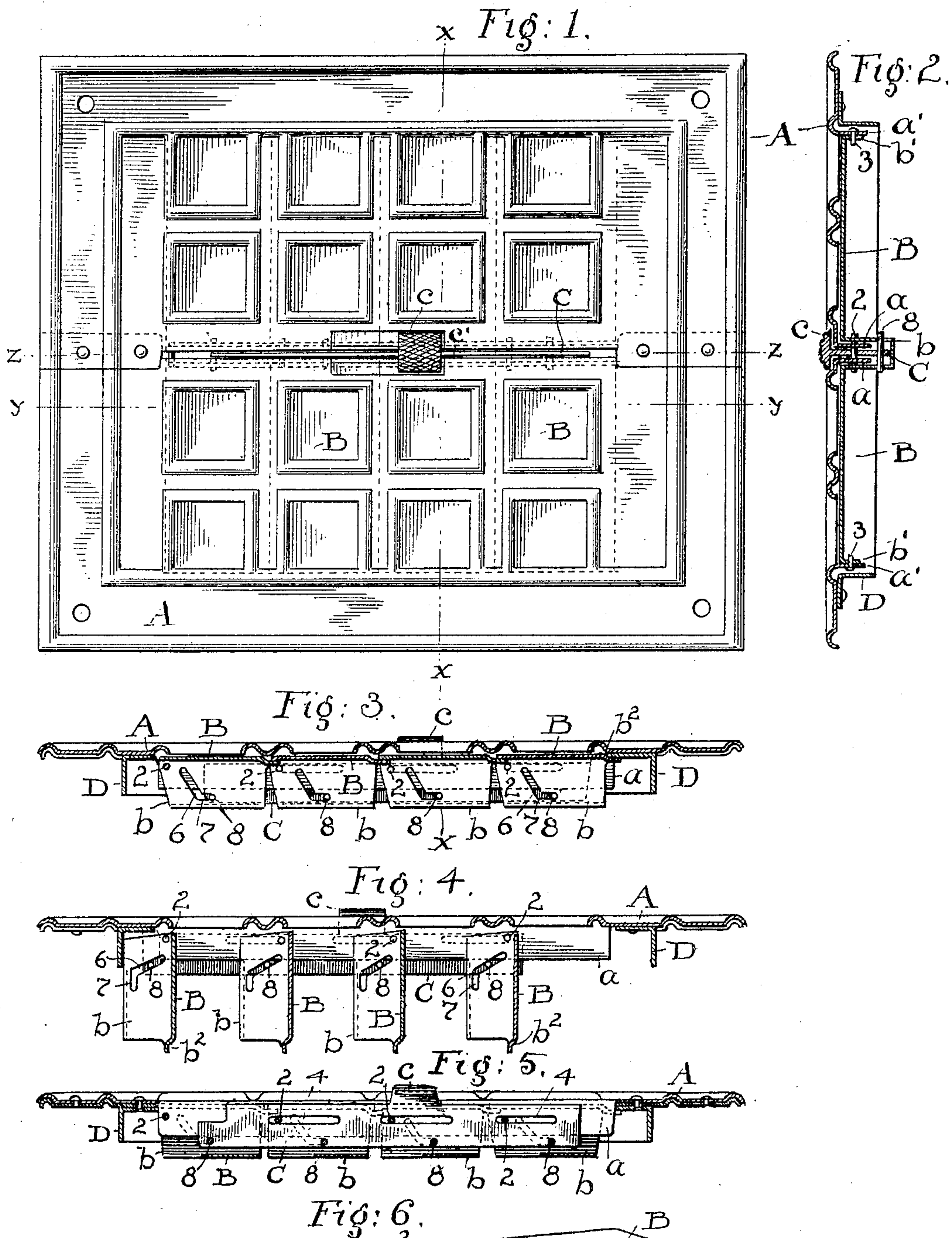


No. 803,073.

PATENTED OCT. 31, 1905.

J. T. SLATER.
HOT AIR REGISTER.
APPLICATION FILED APR. 4, 1905.



ATTEST.

W. B. Moore
Atty. General

INVENTOR

John T. Slater

BY *H. T. Fisher*

ATTY.

UNITED STATES PATENT OFFICE.

JOHN T. SLATER, OF CLEVELAND, OHIO.

HOT-AIR REGISTER.

No. 803,073.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed April 4, 1905. Serial No. 253,781.

To all whom it may concern:

Be it known that I, JOHN T. SLATER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Hot-Air Registers; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to hot-air registers; and the invention consists in a register having a face-plate and blades beneath the same adapted to turn on individual pivots and open and close apertures in the face-plate and in novel means for operating said blades, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan or top view of the register closed; and Fig. 2 is a cross-section thereof on line $x x$, Figs. 1 and 3. Fig. 3 is a cross-section on line $y y$, Fig. 1, which is at right angles to Fig. 2 and off the center of the register and with the blades closed. Fig. 4 is a cross-section on the same line as Fig. 3, but with the blades open. Fig. 5 is a sectional elevation on line $z z$, Fig. 1, traversing the slot between the sides of the central flanges across the register. Fig. 6 is a perspective view of one of the blades.

As thus shown, A represents the face-plate, which is of grid or grate pattern, as usual, and may be struck up from sheet metal or made in a single casting of suitable weight. If of sheet metal, it will necessarily be of two sheets at least, as otherwise it would be impossible to obtain the two parallel down-flanges a centrally across the plate of a sufficient depth to serve my purpose and between which the blade-actuating mechanism is adapted to operate. Thus it is seen that the space or slot between these flanges is so narrow as to be practically unnoticeable in top or outside view, while the said flanges each have several times the width of said slot; but a cast plate can be made in a single piece and have flanges of any desired depth, with a suitably narrow slot. Any preferred pattern or formation of face-plate may be adopted, and the pattern may be largely varied without departing from the spirit of the invention. The said plate is in this instance made up of two sheet-metal sections united on the line of the slot between them, and each is formed with one of the two middle flanges a at its inner edge.

B represents the several register-closing

blades, one of which is seen in full at Fig. 6, and each blade is formed with a transverse double-walled right-angled substantially trough-shaped depression b , having a depth somewhat in excess of the flanges a , which it is designed to cover when the blade is closed and with which the blades have pivoted or hinged connection on pins or points 2 engaging the walls of depression b and the flanges a . Corresponding pivots or hinges 3 are in the same line and unite the end flanges b' of the blades with the down-flanges a' of the face-plate, so that each blade has a pivotal support at four points preferably. On these pivots said blades are adapted to hang relatively, as seen in Fig. 4, when open, and to lie in overlapped relation against the bottom of the face-plate when closed, as seen in Fig. 3. In this latter position the otherwise open slot in the face-plate walled by flanges a is practically closed by the depressions b overlapping the same at the bottom.

Now, having the face-plate and blades thus constructed and arranged with respect to each other, the said blades are operated by means of projections or studs 8 on a slide plate or bar C, which occupies the slot in plate A between walls a , and is provided with longitudinal slots 4, engaged by pins 2 through the flanges a , whereby said bar is permitted enough longitudinal movement to afford blades B a quarter-turn on their pivots 2. Said blades have inclined or substantially L-shaped slots 6 in the sides of depressions b with ends or terminals 7 parallel to the bottom of said depressions, and said slots are engaged by transverse pins 8 in or on bar C. A spring c' at the side of projection c , bearing against flange a , will serve to lock the plates in partially-open position. So it occurs when the said bar is carried in one direction its full length of operation the pins 8 run into the straight portion 7 of slots 6 and not only close said blades, but by running into portions 7 lock the blades closed; but when carried the opposite direction the pins 8 run into inclined slots 6 relatively, as seen in Fig. 4, and open said blades by carrying them into a vertical position edgewise.

I show the face-plate in conjunction with a frame D in several of the views, and said frame is adapted especially to be used when the register is set into a wall rather than in a floor.

The depressions b are necessarily shortened at one end where the blades overlap and an

underlapping edge is seen at b^2 , Fig. 6, where the immediate edge is thrown down to engage beneath the next blade at the front.

What I claim is—

5 1. In hot-air registers, a face-plate provided with a pair of flanges across its center providing an open space between said flanges, in combination with closing-blades having transverse depressions at their middle
10 of greater depth than said flanges and adapted to inclose the same and actuating means for said blades located between said flanges.

2. The face-plate having a pair of inwardly-projecting flanges across its center, in combination with blades pivotally supported
15 across said flanges and provided with depressions adapted to close upon the sides and bottom thereof when the blades are closed, said depressions having inclined slots in their
20 sides, and a sliding bar between the flanges on the face-plate operatively engaged with said blades through said inclined slots.

3. The face-plates having two inward flanges across its center, in combination with
25 blades having walled depressions across their center adapted to overlap said flanges and

inclined slots in the walls of said depressions having terminals parallel to the bottom edges of said depressions, and an actuating-bar between the said flanges provided with lateral
30 projections engaged in said slots, whereby the blades are opened and closed, and when said projections engage in said straight terminals the blades are locked against opening.

4. The face-plate having parallel right-angled flanges across its center, a series of
35 blades provided each with a transverse right-angled depression at its center corresponding to said flanges and pivotally hung at one edge to said plate, said blades provided with
40 substantially L-shaped slots in the sides of said depressions near the pivot edge thereof, a bar slidably supported between said flanges and provided with projections engaged in said slots, and a frame engaged
45 about said blades to said face-plate.

In testimony whereof I sign this specification in the presence of two witnesses.

JOHN T. SLATER.

Witnesses:

C. A. SELL,

R. B. MOSER.