No. 770,326. PATENTED SEPT. 20, 1904.

J. T. B. SLATER.

FLOOR REGISTER.

APPLICATION FILED FEB. 16, 1904.

NO MODEL.

FIG. 1.

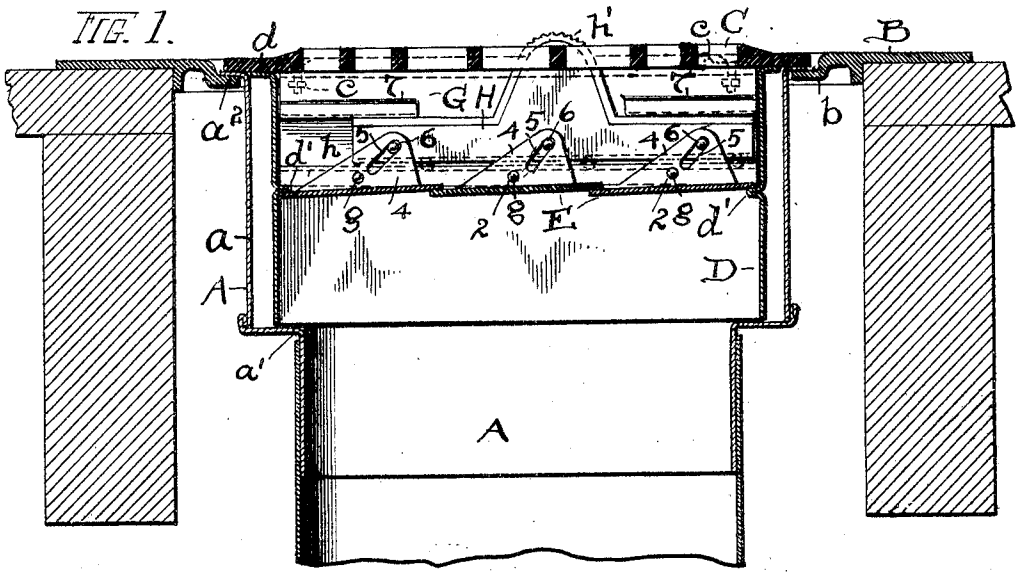


FIG. 2.

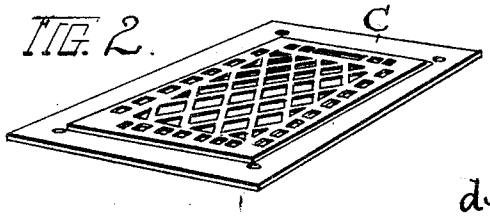


FIG. 4.

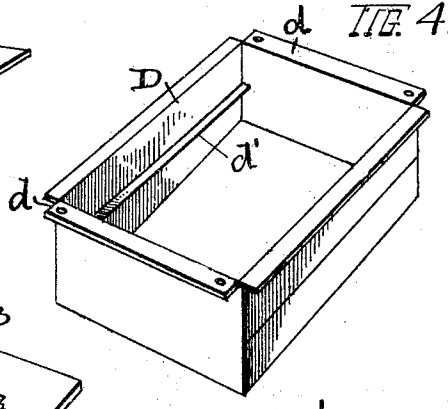


FIG. 3.

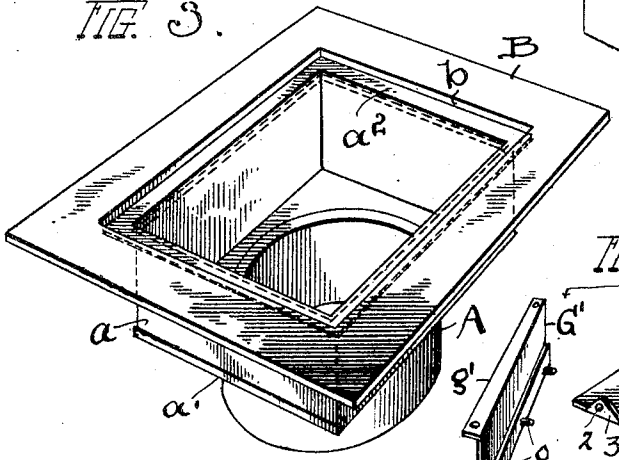
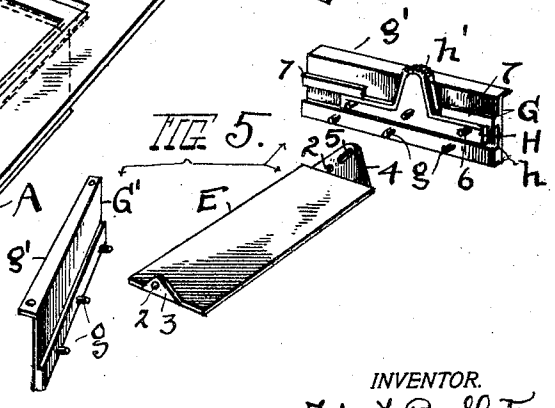


FIG. 5.



WITNESSES:

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No. 770,326. Patented September 20, 1904.

UNITED STATES PATENT OFFICE.

JOHN T. B. SLATER, OF CLEVELAND, OHIO.

FLOOR-REGISTER.

SPECIFICATION forming part of Letters Patent No 770,326, dated September 20, 1904.

Application filed February 15, 1904. Serial No. 193,513. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. B. 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 Floor-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 improvements in floor-registers; and the invention consists in the construction, arrangement, and operation of parts, substantially as shown and described, and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a vertical sectional elevation of the complete register as it appears located in a floor. Fig. 2 is a perspective view of the floor plate or grate which covers the same. Fig. 3 is a perspective view of the stationary outside box connected with the air-flue beneath; and Fig. 4 is a perspective view of the removable inside box, which is a separate part adapted to be set into the outer box and apart from the same, relatively as seen in Fig. 1. Fig. 5 represents certain details of the mechanism shown in Fig. 1 and hereinafter more specifically described.

In the improvement as thus shown I have had in mind several distinct advantages, which will appear as the description progresses, and as among these I may enumerate the construction whereby the register can be removed and separated for cleansing and reassembled by an unskilled person, the construction which avoids downdrafts of cold air and induces upward flow of the hot air, and the mechanism for easy operation, all as hereinafter more fully set forth.

A represents an ordinary hot-air flue coming up from below and having the upper and outer box *a* connected therewith by base-flange *a'*, and said box is provided with an outwardly-extending flange a^2 at its top. The skirting or outside supporting-plate B for the register on the floor is provided with an inner depressed portion *b*, upon which the flange a^2 of the box *a* rests, and the grate or open-work plate C is designed to come substantially flush with the top surface of plate B, so as to make an even surface to the floor.

The inner removable box D is of a size adapted to be set on the right-angled base-shoulder *a'* of the outer box *a* and is apart therefrom to leave an air-space between, relatively as shown, and said box D has right-angled flanges *d* at its top and holes therein for screws *c*, which connect the grate C therewith, so that the box D and all that it carries are removable with the grate.

The box D is of sheet-tin preferably and has ledges *d'* struck up therein along its sides about midway its depth, which serve as closures at the edge of the register plates or vanes E. The said vanes are shown as having pivot-holes 2 in the right-angled ends 3 and 4, respectively, by which they are supported on the pivot-pins *g* on the supporting plates or pieces G and G' for said vanes. These plates have right-angled flanges *g'* along their upper edges with holes for the screws *c*, and the said flanges are clamped between the edges of inner box D and floor-plate C, and hence are lifted out with them when said parts are removed. Once being out the screws *c* are removed, and the parts are separated and available for individual cleansing. This is deemed important from a sanitary point of view as well as on other accounts, and it will be observed that there are no other screws in the entire structure and no rivets or other connecting means by which said parts are united, except the pins *g* and holes 2, as above noted. These could be reversed on said parts and serve the same purpose.

For the operation of the vanes or plates E I provide each end flange 4 with an inclined slot 5, and this is engaged by a pin or lug 6 on a sliding actuating-bar H, running in a confining guideway or channel *h* in the plate G. Said plate is of less length than plate G and is provided with a post or projection *h'*, which stands up between two spaced stops or shoulders 7 on plate G and is corrugated or roughened at its top to be engaged by the foot to move said bar, and thereby open or close the register. This brings the actuating-point for the vanes through pins 6, working in slots 5, so far above their pivots *g* that a very easy

leverage is afforded for operating the vanes. When bar H is at one extremity of its possible movement, the vanes are open, and when at the other extreme they are closed.

It will be observed that the walls of inner box D are perpendicular on all sides and that they set back from the entrance of pipe A below, so that it follows practically that the hot air from pipe A has a free and unobstructed passage-way upward through the register and there is no converging of side walls or other construction which will impede the travel of the hot air or promote the counter travel of cold air from above.

The vanes E overlap, as usual, and are axially rotatable, but have no connection with each other, except indirectly through plates G and G′ and bar H.

What I claim is—

In hot-air registers, the outer box having an outwardly-extending flange in the upper portion thereof, a grate overlapping the top portion of the outer box, an inner box provided with right-angular flanges having apertures therein and having integral projections formed on the interior thereof, means passing through the apertures and the grate to removably secure said inner box to the grate, a vane-support having an outwardly-extending flange at its upper portion interposed between the grate and the edge of the inner box, and provided with shoulders forming a channel thereon, said vane-support being adapted to rest on the projections of the inner box, pins formed upon said support, a slidable member provided with pins mounted in the channel of the support having an upwardly-extending projection, and vanes adapted to engage with the interior projections of the inner box having right-angularly-disposed integral projections formed on their ends provided with pivot-holes and angularly-disposed slots adapted to receive the pins of the vane-support and the pins of the sliding member, substantially as described.

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

JOHN T. B. SLATER.

Witnesses:
R. B. MOSER,
C. A. SELL.