

No. 650,207.

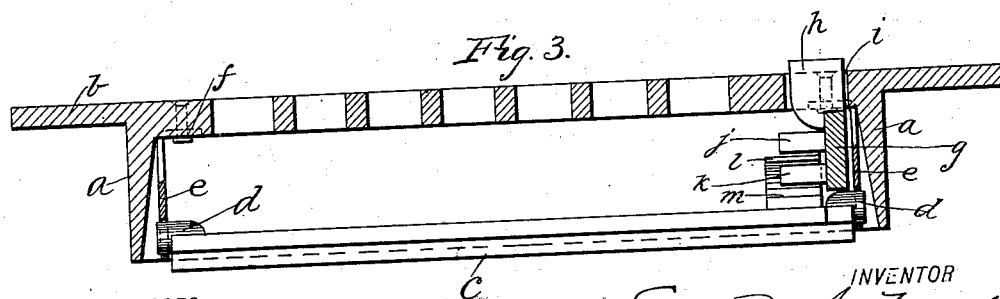
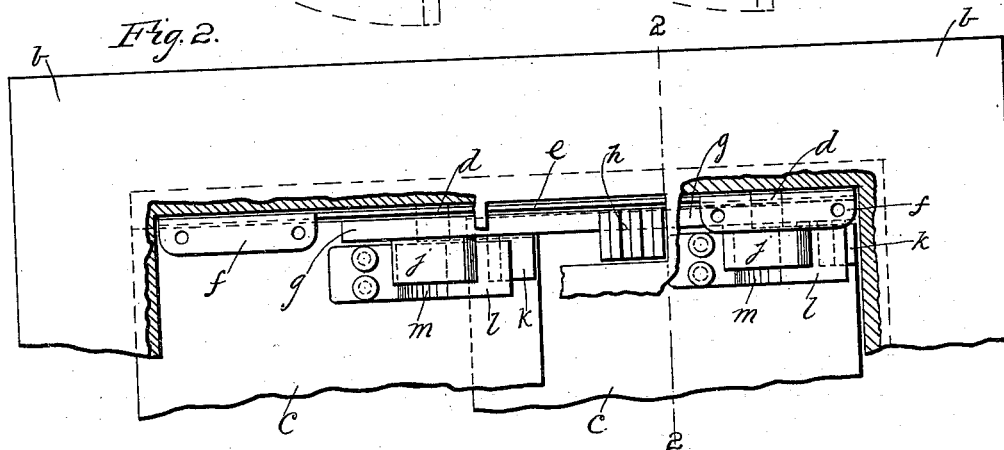
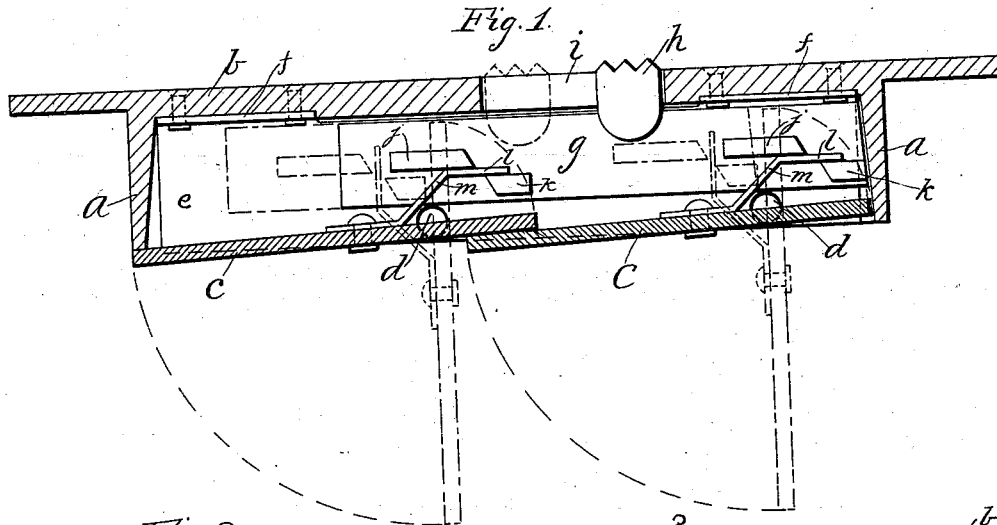
Patented May 22, 1900.

E. A. TUTTLE.

AIR REGISTER.

(Application filed Mar. 6, 1899.)

(No Model.)



WITNESSES
C. Desquicks
J. Howard

INVENTOR
Edward A. Tuttle
BY
A. P. Thayer
ATTORNEY

UNITED STATES PATENT OFFICE.

EDWARD A. TUTTLE, OF NEW YORK, N. Y.

AIR-REGISTER.

SPECIFICATION forming part of Letters Patent No. 650,207, dated May 22, 1900.

Application filed March 6, 1899. Serial No. 707,928. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. TUTTLE, a citizen of the United States of America, and a resident of New York city, county and State of New York, have invented certain new and useful Improvements in Air-Registers, of which the following is a specification.

My invention relates to that class or type of registers in which the case or box containing the regulating valves or fans is cast integral with the top plate of open lattice or fret work; and it consists in the contrivance for pivoting the fans and means of operating them in such a case or box, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a transverse sectional elevation of my improved register, taken crosswise of the fans, which are represented closed in full lines and open in dotted lines. Fig. 2 is a partial plan view with the top plate sectioned off; and Fig. 3 is a transverse section on line 2 2, Fig. 2.

The integral box *a* and face or top plate *b* are made in the usual manner, the box being only of suitable depth to afford room for such radial breadth of the portions of the fans *c*, that swing above the pivots *d*, as will enable easy leverage for working the fans, the down-turning portions of said fans being much wider than the depth of the box, so that there is economy of metal in the box and fewer fans will serve, for instance, where the register is placed in a floor under which ample room is always found. Two fans may be sufficient, the box being only of sufficient depth to hold the pivots of the fans; but in a wall where space behind the box is usually more limited about four fans may be needed, the depth of the box remaining the same.

The fans are made with integral pivots *d*, and they are pivoted in plates *e*, of about equal breadth as the depth of the box, inserted in opposite sides, respectively, and secured at their upper edges by flanges *f*, riveted to the under side of the top plate or in any other approved way, and preferably of sheet metal, and one or both of which is or are sufficiently flexible to permit of springing them, so as to insert or remove the fan-pivots in pivot-holes near their lower edges without

removing any fastenings, such as screws, rivets, or other devices.

The rod *g* for operating the fans is a plate resting by one edge on the pivots of the fans at one end under the top plate *b* and having a knob *h* extending up through a slot *i* in said top plate; said rod also having two lugs *j* and *k* to each fan, projecting from one side to operate the fans; said lugs taking effect on the fans through the instrumentality of an arm *m*, projected diagonally for a certain distance from the upturning side of each fan and then turns parallel in the part *l* with the fan, so as to work between the lugs *j* and *k*, said lugs being placed apart from each other lengthwise of the rod, so that arm *m* may reach upward between them; as indicated in dotted lines in Fig. 1, when the fans open, and also being placed in different horizontal planes, whereby said arm is confined between the under side of lug *j* and the upper side of lug *k* when the fans close.

The lugs *j* moving to the right hand along the diagonal arms *m* close the fans, and the lugs *k* moving to the left hand along said arms open the fans. The lugs *j* resting over the parallel parts *l* of the arms after having closed the fans lock them in the closed positions.

The fans being unbalanced tend to open by gravity when the register is placed in the floor, and in such cases the lugs *k* may not be needed; but they are needed when the register is placed in the wall. Therefore the rod will generally be made with both lugs *j* and *k* for each fan.

The arms *m* of the fans may be formed integral with them. They are preferably made of elastic or flexible sheet metal and attached in any approved way, so that the necessary relations of the arms and lugs for closing the fans tightly may be had without such accurate fitting as would otherwise be required, as the elasticity of the arms will accommodate some inaccuracy in the fitting.

What I claim as my invention is—

1. The combination with the fans, of the inclined operating-arms attached thereto and having the parts parallel with the fans, and the operating-rod having the arm-operating projecting lugs located apart in the length-

wise direction of the rod, and in different horizontal planes whereby said arms work between the edges of said lugs when the fans open, and the parallel parts are confined between the under side of one lug and the upper side of the other lug when the fans close.

2. The combination with the fans, of the elastic inclined operating - arms attached thereto and having the parts parallel with the fans, and the operating-rod having the arm-operating projecting lugs located apart in the lengthwise direction of the rod, and in dif-

ferent horizontal planes whereby said arms work between the edges of said lugs when the fans open, and the parallel parts are confined between the under side of one lug and the upper side of the other lug when the fans close. 15

Signed by me at New York, N. Y., this 28th day of February, 1899.

EDWARD A. TUTTLE.

Witnesses:

C. SEDGWICK,

A. P. THAYER.