A. WATSON.

Hot-Air Register.

No. 104,802. Patented June 28, 1870

Fig. 1

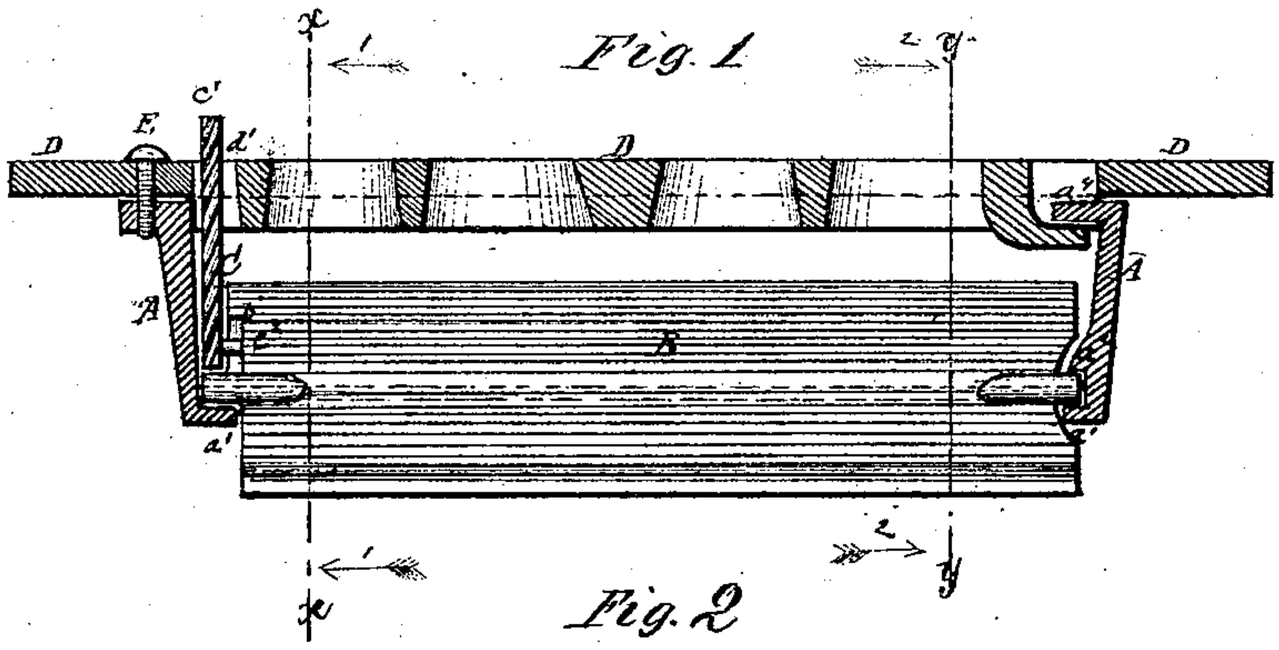

Fig. 2

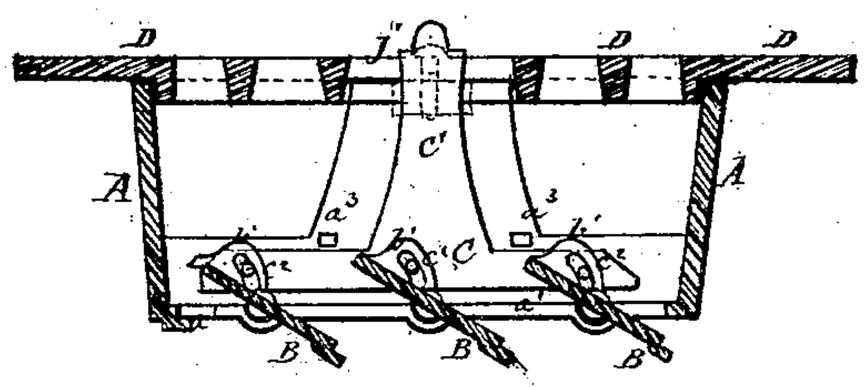

Fig. 3

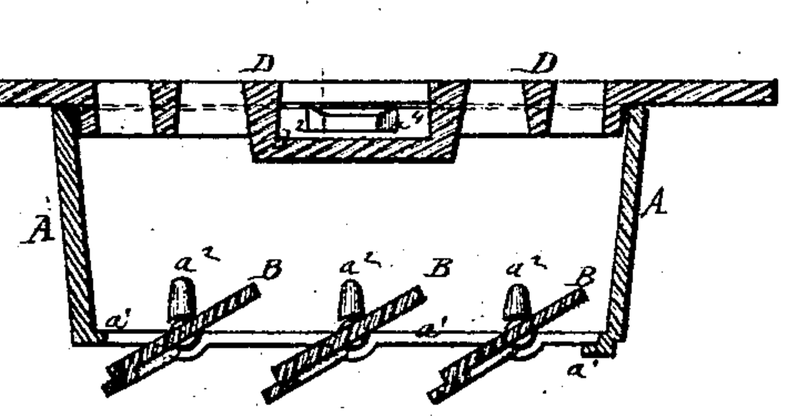

Fig. 4

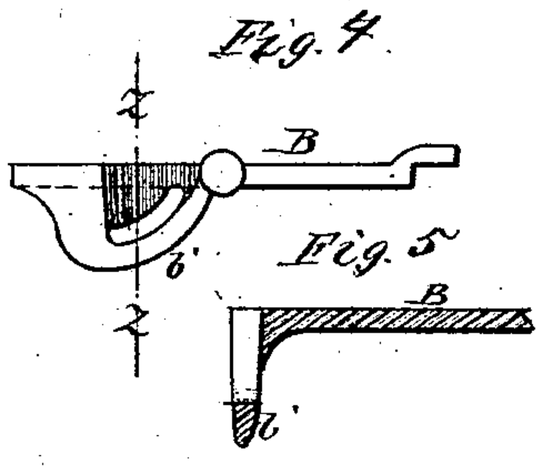

Fig. 5

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United States Patent Office.

ALFRED WATSON, OF JERSEY CITY, NEW JERSEY.

Letters Patent No. 104,802, *dated June* 28, 1870.

HOT-AIR REGISTER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ALFRED WATSON, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Register and Ventilator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a vertical longitudinal central section of my improved register.

Figure 2 is a vertical cross-section of the same, taken through the line *x x*, fig. 1, looking in the direction of arrows 1.

Figure 3 is a vertical cross-section of the same, taken through the line *y y*, fig. 1, looking in the direction of the arrows 2.

Figure 4 is an end view of one of the pivoted slats.

Figure 5 is a detail sectional view of the same, taken through the line *z z*, fig. 4.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved register for regulating the admission of warm or cold air in warming or ventilating buildings, which shall be so constructed as to greatly diminish the time and labor required for "fitting" the register, and consequently materially lessening the cost of manufacture; and

It consists in the construction and combination of various parts of the register, as hereinafter more fully described.

A is the frame or box of the register, which is cast in one piece, and with a narrow inwardly-projecting flange, *a*, around its lower edge.

In the flange a^1, at the ends of the box or frame A, are cast half-round bearings for the pivots of the slots, wings, or valves B, which pivots, at one end of the said frame A, are held in place by small projections, a^2, cast upon the inner surface of the end of said frame, just above the bearings for said pivots, as shown in figs. 1 and 3.

The pivots at the other ends of the slats B are held in place by the slide C, the lower edge of which rests upon the said pivots, and which is held down in place by small projections, a^3, cast upon the inner surface of the other end of said frame A, in such positions as to be just above the upper edge of the slide C.

The slide C can be easily inserted and removed when the grate D has been detached by springing it past the said projections a^3.

Upon the upper edge of the middle part of the slide C is cast an arm, c^1, which passes up through a small cross-slot, d^1, in the end part of the grate D, and projects sufficiently to allow it to be conveniently operated with the hand or foot to adjust the position of the slats B.

Upon the inner side of the slide C, near its lower edge, are cast pins or projections, c^2, which pass through lugs b^1 cast upon the sides of the ends of the said slats B, which lugs have slightly-curved slots cast in them to receive the said pins or projections b^1.

The ends of the slats B are recessed beneath the lugs b^1, as shown in figs. 4 and 5, for convenience in molding.

By this construction the slats B and slide C are inserted and secured in place without the necessity of drilling a hole, inserting a screw, or using any other piece.

Upon the inner surface of the end of the frame A, opposite the slide C, and close to the upper edge of said end, is cast a projection, a^4, which enters a recess or cavity, d^2, formed for its reception in the end part of the grate D, as shown in figs. 1 and 3, to lock one end of the said grate D to the frame A.

The other end of the grate D is secured in place by the screw E, which passes through the end of the said grate D, and screws into a hole drilled and tapped in the end of the frame A, as shown in fig. 1, and which is the only screw required in putting the register together when made small.

In large registers more than one screw will be required for securing the grate D to the frame A, one end of said grate, in all cases, being held by one or more of the locks a^4 d^2.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The projections a^2 cast solid upon the inner surface of the end of the frame A, to hold the pivots of the slats B in place, substantially as herein shown and described.

2. The projections a^3, cast solid upon the inner surface of the end of the frame A, to hold the slide C down upon the pivots of the slats B, substantially as herein shown and described.

3. The slide C, cast solid, with an upwardly-projecting arm, c^1, and with laterally-projecting pins c^2, in combination with the curved slots cast in the lugs b^1, cast solid upon the ends of the slats B, and with the slot d^1, in the grate D, substantially as herein shown and described, and for the purpose set forth.

4. The lock a^4 d^2, one or more, in combination with the frame A and grate D of a register, substantially as herein shown and described, and for the purpose set forth.

5. An improved register, constructed, arranged, and operating substantially in the manner herein shown and described, and for the purpose set forth, as a new article of manufacture.

The above specification of my invention signed by me this 16th day of May, 1870.

ALFRED WATSON.

Witnesses:

GEO. W. MABEE,

JAMES T. GRAHAM.