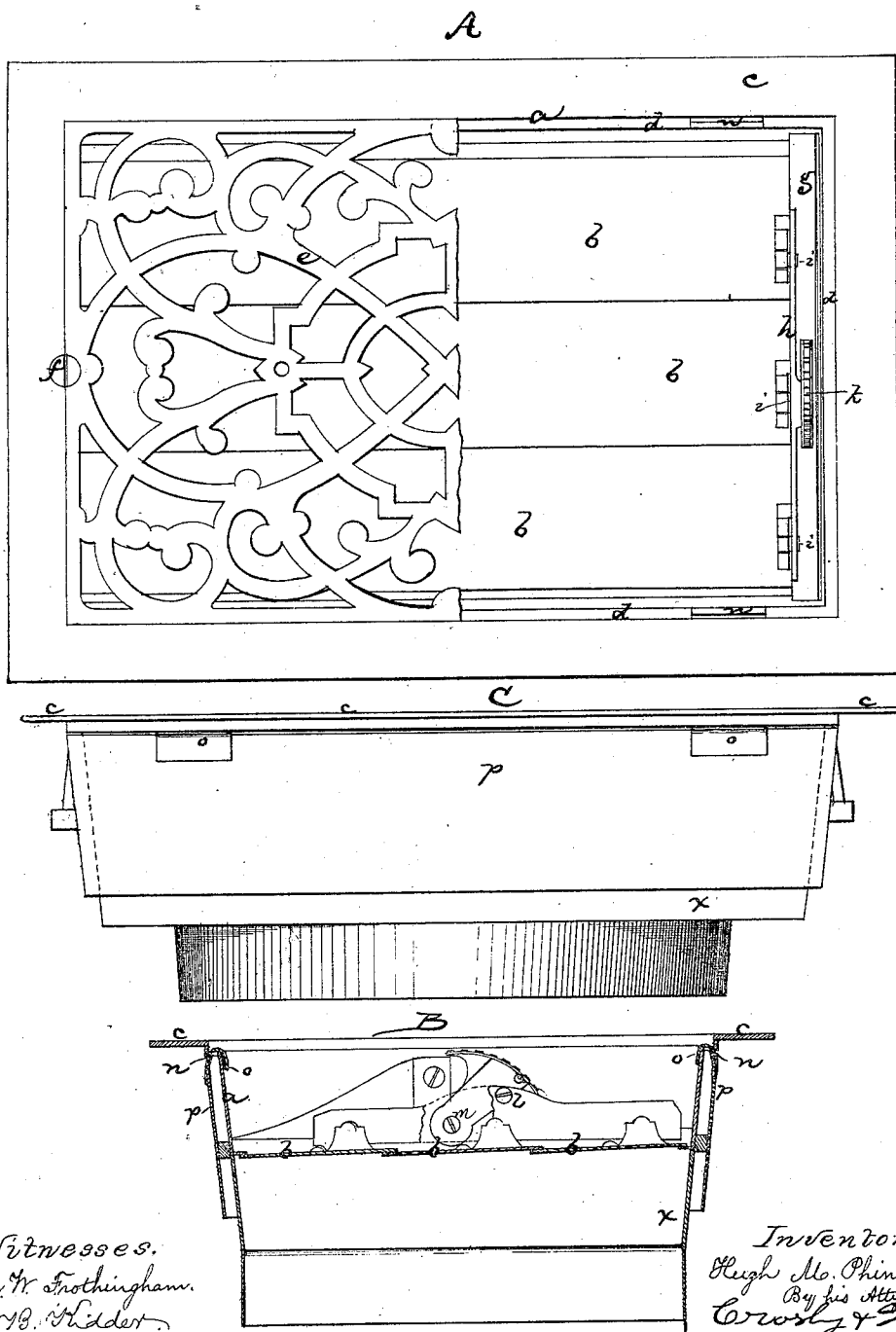


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Improvement in Hot-Air Registers.

No. 131,459.

Patented Sep. 17, 1872.



Witnesses.
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UNITED STATES PATENT OFFICE.

HUGH M. PHINNEY, OF CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN HOT-AIR REGISTERS.

Specification forming part of Letters Patent No. 131,459, dated September 17, 1872.

To all whom it may concern:

Be it known that I, HUGH M. PHINNEY, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented an Improved Register; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to the construction of hot-air registers or ventilators, with particular reference to provision for removal of the open-work outer plate.

In my invention I make the valve-box or casing that contains the open and shut valves or blades for controlling supply of air with a flange that sets into and rests upon the floor or wall, which flange is integral with the box, both being cast as one piece.

In United States Letters Patent No. 113,447, granted to me, I make the flange and box as one casting, embracing with the flange, however, the open-work plate; but for ready access to the blades such construction is objectionable in that the plate cannot be removed without removing the whole box. To remedy this and retain the advantage resulting from the integral flange and box, I cast the box with the flange, and with an internal lip or shoulder for receiving the open plate, said plate being a simple casting with edges free from flanges, and setting upon the shoulder within the flange, so that its top or outer surface is flush with the top or outer surface of the flange. It is in this construction that my invention primarily consists, there being other minor features in the invention, which will be readily understood from the description.

The drawing shows a register embodying my improvements.

A shows the register with one part or half of the open-work plate broken out. B is a central cross-section. C is a side elevation. *a* denotes the box which contains the pivoted valves or blades *b*. *c* is the flange extending outward from the top of the box, and cast in one piece with it. Within the flange *c* is shown the shoulder *d*, extending entirely around the inner side of the box at the top thereof, this shoulder receiving and support-

ing the plate *e* that covers the blades *b*, the plate being secured in position by screws *f*. The position of the shoulder is such that the top surface of the plate is flush with the top surface of the flange, so that, in effect, they are but one when the register is in position, while by removing the screws *f* the plate *e* may be raised and removed for access to the blades *b*, to enable them to be cleaned and accumulations of dust and dirt to be removed from the box. The blades are pivoted at one end directly in the end wall of the box, and at the other end in a removable bearing-piece, *g*, fastened to the adjacent end wall of the box, the removability of this bearing-piece enabling the blades to be applied or removed; and at the ends of the blades, pivoted to this bearing piece, is the reciprocating bar *h* that actuates the blades, a pin, *i*, extending from each blade into this bar. Between the bar and the end wall of the box is the lever-segment *k* that actuates the bar, said segment being jointed to the bar by a screw or pin, *l*. The segment is pivoted upon a screw or pin, *m*, extending through the segment into the wall, and by thus pivoting the segment directly to the box it is more securely arranged and operated more freely and accurately than when pivoted to the bearing-piece *g*.

The connector *x* is a cast-metal box, having a form at top, to fit it to the register-box, and a form at bottom to fit the sheet-metal air-pipe to be connected to the register, this connector being used for convenience, or to enable the air-pipe to be joined to the register without making a special sheet-metal connection.

For facilitating the connection of the pipe and register when such cast-metal connection is not used, I make the box *x* with slots or long apertures *n*, through which apertures pieces *o*, projecting from the sheet-metal connecting-piece *p*, may extend, each piece *o*, passing through its slot, and being then bent over and down to the inner surface of the wall through which the slot is made. By these means the register-box and air-pipe are securely united without screws, pins, or other special fastenings.

I claim—

1. The box, cast with the flange *c* and shoul-

der *d*, and having the plate *e* fitting and resting against the shoulder *d*, and fastened by the screws *f*, substantially as shown and described.

2. The box-frame, formed with slots *n* for receiving the projections *o*, substantially as shown and described.

3. Uniting the sheet-metal box to the regis-

ter-box *a* by the projections *o*, which enter the slots *n*, and are bent down at the inner side of the box, substantially as shown and described.

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Witnesses:

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