J. MOORE, Jr.

Register Box for Heaters.

No. 201,551. Patented March 19, 1878.

Fig. 1.

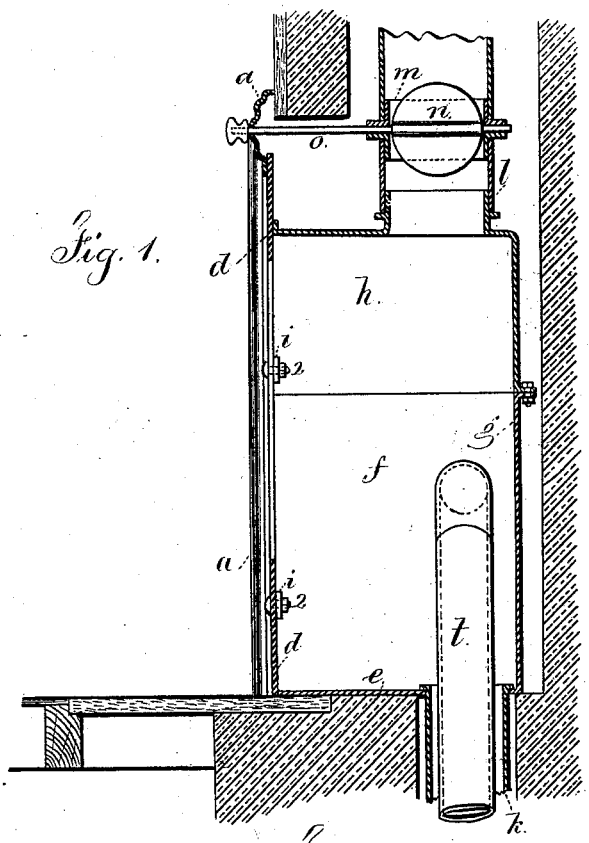
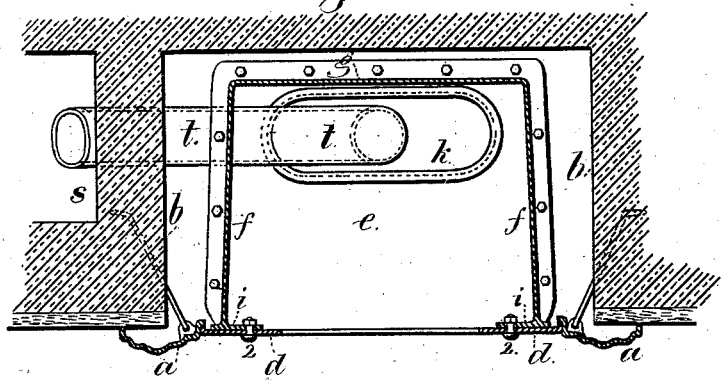


Fig. 2.



Witnesses

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IMPROVEMENT IN REGISTER-BOXES FOR HEATERS.

Specification forming part of Letters Patent No. **201,551**, dated March 19, 1878; application filed February 1, 1878.

To all whom it may concern:

Be it known that I, JONATHAN MOORE, Jr., of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Register-Boxes for Heaters, of which the following is a specification:

Hot-air pipes are often passed vertically within the brick-work of a chimney, to connect with a fire-place heater in the basement or lowest floor. In this case the register-box at the floor or floors above the heater is made of sheet iron or tin, and has to be constructed so as to be set into the fire-place behind the grate-frame, and bricked into place. This is not only expensive to set, consuming a large amount of time, but there is a large amount of heat wasted in consequence of the mortar cracking, and allowing the hot air to escape eventually from the top of the chimney.

My invention is made for lessening the expense of fitting the register-box into place, for securely connecting such box in its position, for preventing waste by the escape of hot air, and rendering the hot-air pipes and connections much more durable and reliable than heretofore.

In the drawing, Figure 1 is a vertical section of said register-box, and Fig. 2 is a sectional plan of the same.

The grate-frame *a* is of ordinary construction, and is secured permanently to the brick-work *b* of the chimney by anchors, as usual. The plate *d* is of a size and shape to fit within the grate-frame in the same manner as a summer-piece; but it is made to form a border to the register. This register-border is also well known, and it is provided with an opening of a size and shape adapted to receive the register, the said register also being of ordinary character.

My improved register-box is made of cast-iron. It is of a size to pass easily through the opening within the grate-frame. It might be cast in one piece; but it is generally preferable to make the same of the bottom *e*, sides *f*, back *g*, and arch *h*, bolted together; and there are lugs at *i*, adapted to receive the bolts 2, that pass through the register-border and secure the box to the border in a firm and tight manner, so that there will be no opportunity for hot air to leak at any of the joints.

In the bottom plate *e* there is an opening for the vertical hot-air pipe *k*, and in the top of the arch *h* there is an opening and collar for the tube *l*, that is preferably of sheet metal, connecting the register-box with the damper-ring *m*. This damper-ring is made of two parts, set together and bolted or riveted, the damper *n* and its rod *o* being first inserted into said ring. The rod is part of or permanently connected to the damper, so that they cannot become disconnected through careless handling, as heretofore frequently the case. This damper-rod passes through a hole in the grate-frame, and is provided with a handle, by which it may be turned.

It is preferable to have an index on this handle to denote the direction of the damper, and a friction spring or notches may be used to retain the damper in the position at which it may be placed.

In applying this register-box it is only necessary to insert the same into the fire-place, and then put the register-frame in place, and connect the parts sufficiently to allow for correctly marking the places to be cut out in the hearth for the pipe *k*, and at the side for the lateral opening into the flue *s* for the smoke-pipe *t*.

The mason-work is then cut through in the usual manner, unless the chimney has been especially built for receiving such pipes. A bed of mortar may be provided upon the hearth to receive the register-box, and said box is set in position and secured to the register-border. The register-opening in such border allows for the insertion of the hot-air pipes, that are passed down to the fire-place heater below, or to a similar register-box at an intermediate floor. The top of the hot-air pipe is dressed or bent over the bottom plate of the register-box, and then the smoke-flue is connected up to place and passed off laterally to the brick-flue.

The register-border can be slipped out without disturbing the other parts, so that the damper-ring can be put into place and the smoke-pipe plastered into the masonry. The

register and its frame or border are then screwed to place, and the connection is complete.

I am aware that a cast-iron box has been employed in connection with dampers or registers; but the same was not adapted to a separate register-border, register, and grate-frame.

I claim as my invention—

1. In combination with a separate register-border adapted to a grate-frame, a cast-iron register-box, provided with an opening in the bottom for the air-pipe, and bolts for connecting the said box removably to the register-border, substantially as and for the purposes set forth.

2. The register-box, made of cast-iron, with an opening through the bottom plate for the hot-air pipe *k* and an opening through the side plate, in combination with the smoke-pipe passing through the hot-air flue and laterally to the chimney, and the register-border secured to the grate-frame, substantially as set forth.

Signed by me this 28th day of January, A. D. 1878.

JONATHAN MOORE, JR.

Witnesses:
GEO. T. PINCKNEY,
CHAS. H. SMITH.