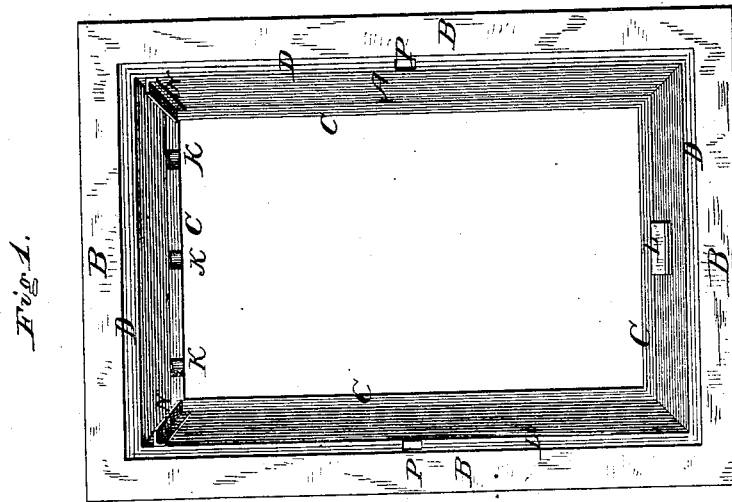
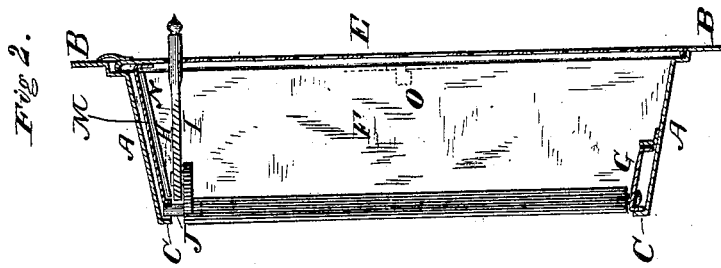


J. W. COLLINS.
Hot-Air Register.

No. 205,786.

Patented July 9, 1878.



Witnesses.

Harry King
W. C. Jindrustou

Inventor.

John W. Collins
By Hill & Ellsworth
His Atty.

J. W. COLLINS.
Hot-Air Register.

No. 205,786.

Patented July 9, 1878.

Fig. 4.

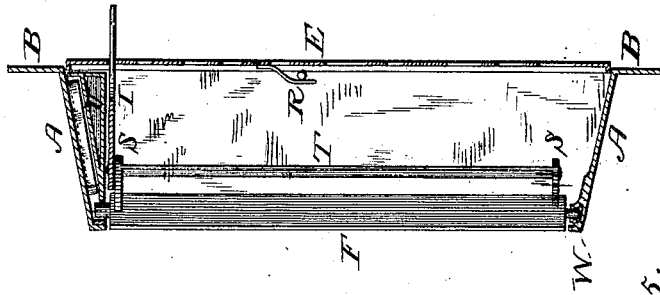
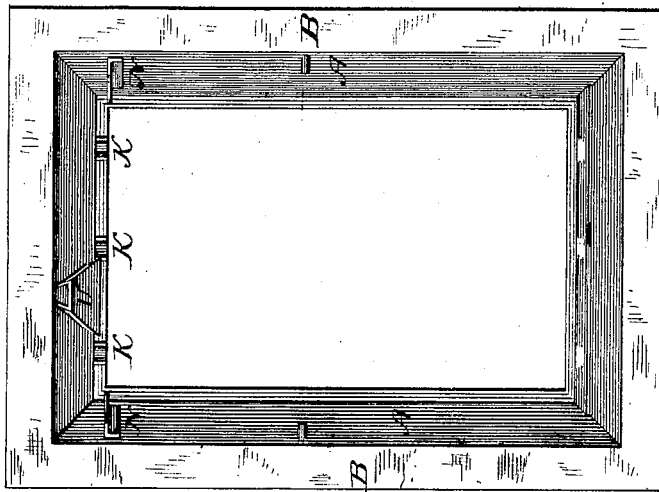


Fig. 5.



Fig. 3.



Witnesses.

Harry King
W. C. Jordanston

Inventor.

John W. Collins
Per Hill Vellowitt
His Atty.

UNITED STATES PATENT OFFICE.

JOHN W. COLLINS, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN HOT-AIR REGISTERS.

Specification forming part of Letters Patent No. **205,786**, dated July 9, 1878; application filed March 13, 1878.

To all whom it may concern:

Be it known that I, JOHN W. COLLINS, of Washington, in the county of Washington and District of Columbia, have invented a certain new and Improved Hot-Air Register; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, Sheet I, is a front elevation of the register-frame, with the face-plate and slats removed. Fig. 2, Sheet I, is a vertical section of the register, with the face-plate and slats in place. Fig. 3, Sheet II, is a front elevation of a register-frame of a modified construction, the face-plate and slats being removed. Fig. 4, Sheet II, is a vertical section of the same, with the face-plate and slats applied; and Fig. 5, Sheet II, is a side view of the locking-plate used in the modification.

Similar letters of reference in the several figures denote the same parts.

My invention has for its object to improve the construction of the hot-air register for which Letters Patent of the United States No. 186,081 were granted and issued to me January 9, 1877; and to this end it consists, principally, in the means for attaching the pivoted slats to the permanent register-frame, and in the construction and manner of applying the face-plate to the frame, as I will now proceed to describe.

In the accompanying drawings, A represents the register-frame, cast with an exterior flange, B, around its front edge and an interior flange, C, at its rear edge. It is adapted to be set permanently into a chimney, wall, ceiling, or floor, with its flange B fitting over the edges of the opening. It is also cast with a rabbet, D, between the outer flange and sides, to receive the face-plate E, so that the latter shall lie flush, or nearly so, with the face of the flange, thereby forming a neat finish, instead of the clumsy appearance incident to the use of a face-plate large enough to overlap the flanges of the frame. The face-plate, thus let into the frame, also serves the purpose of holding the locking-plate in place, as I will presently show.

F are the register-slats, the lower ends of which, as shown in Fig. 2, are journaled in a

narrow plate, G, the ends of the journals being headed down to prevent the plate from slipping off. The upper ends of the slats are hung by lugs or rivets H to the operating or handle plate I, and are also provided with central journals J, which, when the slats are in place, rest and turn in recesses K, cast in the interior flange of the frame. The slats thus connected are applied to the permanent frame by placing the plate G across the lower end thereof behind one or more lugs, L, and resting against the interior flange C. The upper journals are then dropped into their recesses K, and a thin metal plate, M, having corresponding recesses in its inner edge, is placed down upon them behind two guide-flanges, N, cast upon or attached to the frame. This forms a secure fastening for the slats, and at the same time admits of their ready removal by simply pulling out the locking-plate M and then lifting the plate G from behind the lug L.

The locking-plate may be cast with one or more lugs, notches, or flanges, to facilitate its application and removal.

The face-plate E is made of sufficient size to fit within the rabbet of the permanent frame, as above stated, being secured in place by catches O, (shown in dotted lines, Fig. 2,) engaging with openings P in the frame.

Any other suitable fastening device may be employed, as, for example, the catches and pins R. (Shown in Fig. 4.)

The face-plate serves also to prevent the locking-plate from working off the upper journals of the slats, and from being otherwise displaced or pulled out.

Figs. 3, 4, and 5 show a modification in the means for connecting the slats to the permanent frame, which consists in providing both ends of each slat with lugs S, to receive the longitudinal rods T, as shown, the upper ends of such rods serving as pivots for the operating-handle plate I. The journals at the upper ends of the slats enter recesses in the permanent frame and locking-plate, in the manner above described; but the locking-plate is held in place by the dovetail connection U U, formed partly on the plate and partly on the frame, as shown. The journals at the lower ends of the slats are inserted in holes W made in the

lower end of the permanent frame, instead of in a removable plate. In this modification the permanent frame is not rabbeted; but the ends of the face-plate are flanged slightly, so as to be pressed into the beveled frame. The frame may be beveled, however, if desired.

Various means may be employed for holding the locking-plate in place besides those already described, without departing from the invention, as will be readily understood.

I am aware that a sliding handle-plate has been employed to hold the slat-journals in place at one end of the frame, it being also provided with pins, which move in curved slots at the ends of the slats, to operate the latter when the plate is moved from side to side; but this construction forms no part of my invention.

Having thus described my invention, what I claim as new is—

1. The combination, with the hot-air-register frame adapted to be permanently fixed in a chimney or wall, of a series of slats, held

therein at one end by a locking-plate, M, which is prevented from working out of place by the face-plate E, substantially as described.

2. The combination, with a hot-air-register frame adapted to be permanently fixed in a chimney or wall, of a series of slats, held therein at one end by a locking-plate extending entirely across the frame, and prevented from dropping down from the slat-journals by a dovetail connection, U, or by being slipped behind guides N or other suitable holding devices, substantially as described.

3. The hot-air register consisting of the permanent frame A B C, a series of removable slats, F, a locking-plate, M, for the upper journals of the slats, and a removable plate, G, for their lower journals, substantially as described, for the purpose specified.

JOHN W. COLLINS.

Witnesses:

W. C. JIRDINSON,
M. CHURCH.