

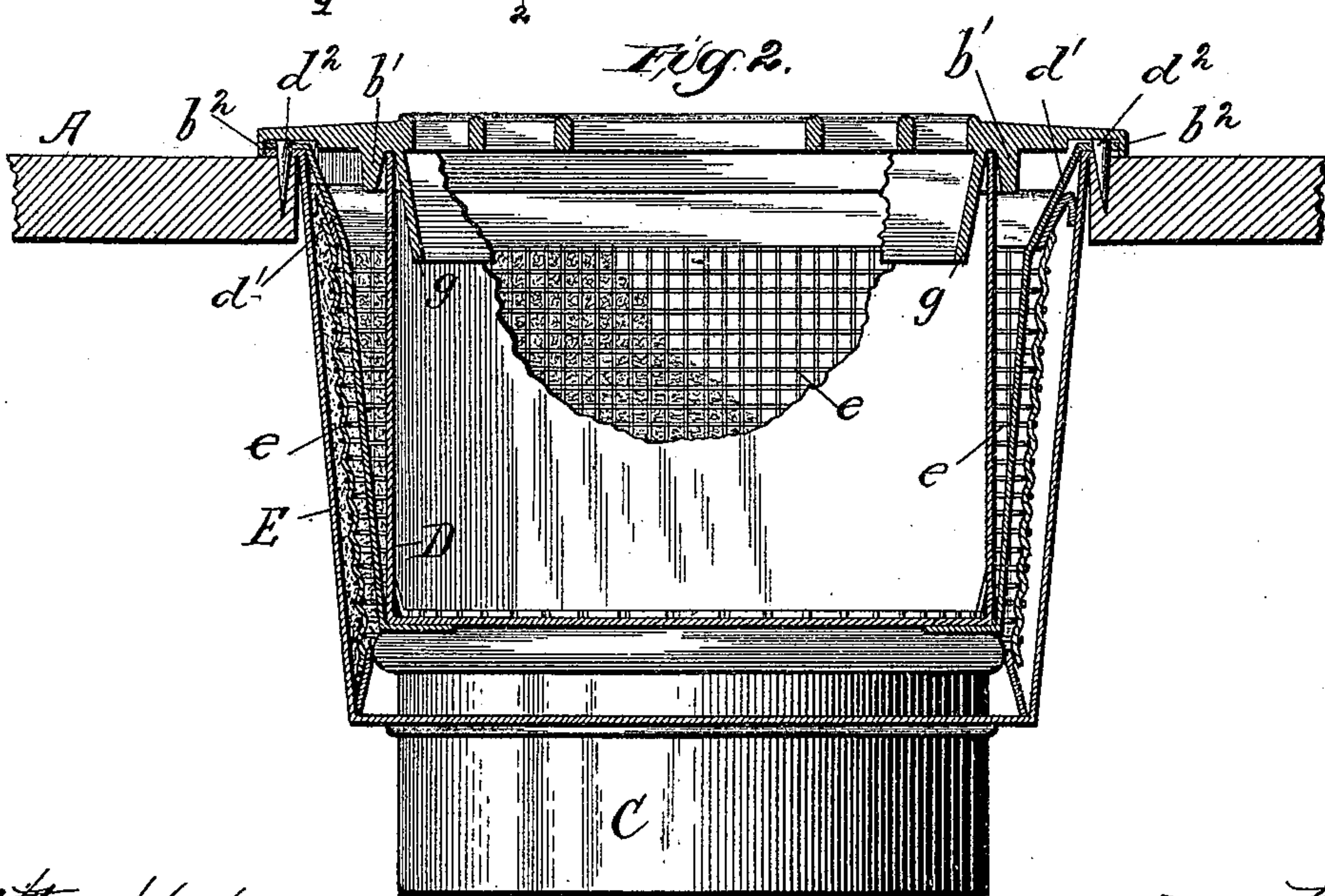
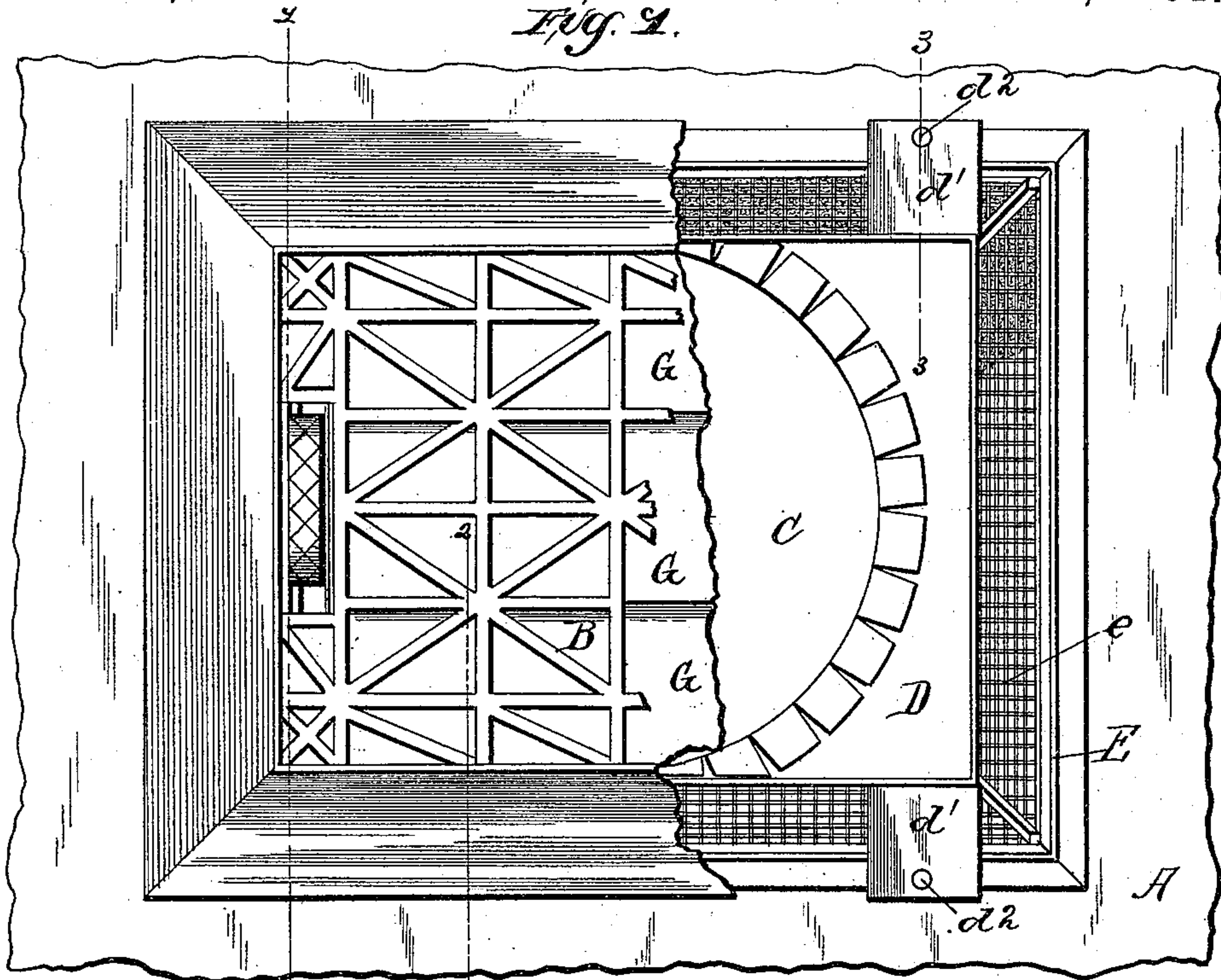
(No Model.)

2 Sheets—Sheet 1.

J. NORTHERN.
HOT AIR REGISTER.

No. 448,141.

Patented Mar. 10, 1891.



Witnesses—
W. C. Corlies
John C. Weber

Inventor
John Northern

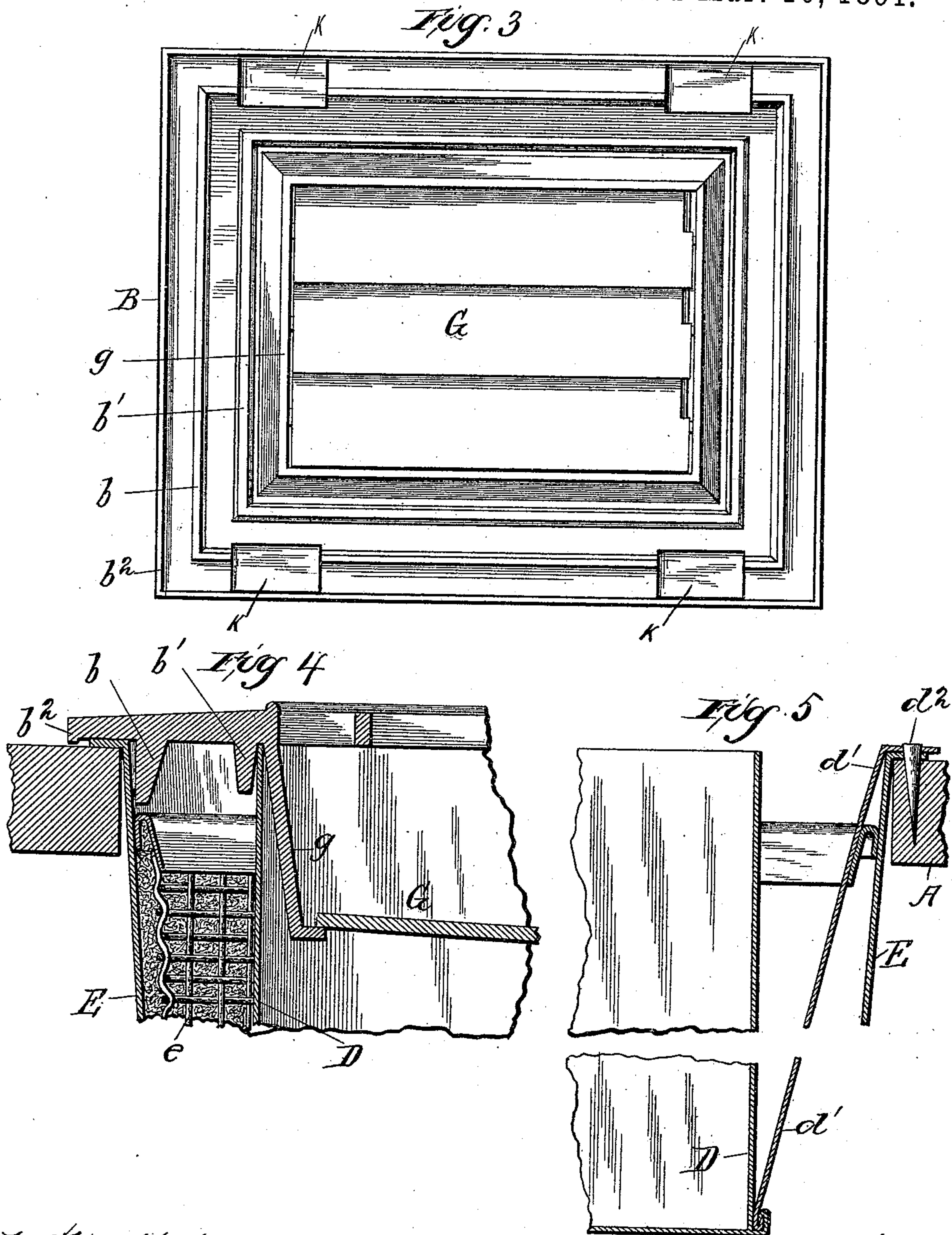
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UNITED STATES PATENT OFFICE.

JOHN NORTHEN, OF CHICAGO, ILLINOIS.

HOT-AIR REGISTER.

SPECIFICATION forming part of Letters Patent No. 448,141, dated March 10, 1891.

Application filed November 2, 1889. Serial No. 329,044. (No model.)

To all whom it may concern:

Be it known that I, JOHN NORTHEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Hot-Air Registers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in hot-air registers. Its object is to provide a fire-proofed register in which the outer frame or border may be entirely dispensed with, and the register may be fitted within a much smaller hole in the floor or wall than the present form. Its further object is to provide a secure attachment for the flue head or box, so that the register may be lifted out at any time without disturbing the box.

In the accompanying drawings, Figure 1 represents a plan view of my improved register, a portion of the register being broken away, so as to show the interior of the box and the manner of attaching it to the floor. Fig. 2 shows a transverse vertical section through the line 1 1, the end of the box being shown in elevation and a portion of it broken away to reveal the fireproofing material. Fig. 3 is a plan view of the register inverted. Fig. 4 is a vertical section through the line 2 2. Fig. 5 is a similar sectional view through the line 3 3, the fireproofing material not being shown.

In the register commonly used the box or flue-head is attached to a metal border resting upon the floor. This border is made of sufficient size to permit the floor to be cut away to such an extent that there is no danger of the wood igniting from an overheated box. This form of construction is objectionable, especially in that it necessitates the cutting of the joists in the use of the larger makes of registers. It is also objectionable because in carpeting a floor it becomes necessary to raise the border, and in order to accomplish this the box is necessarily detached from it, and as this work is usually done by persons who are not skilled in metal work

the box is never properly reattached to the border. These difficulties are fully overcome in my improved register, as will fully appear in the following detailed description thereof.

In the accompanying drawings, A represents a floor of a room.

B represents the face of the register, the fret-work being cast integrally therewith.

C represents the hot-air flue, attached to the box D in any suitable manner. The upper edges of the box-walls need not be finished in any way. An outer box E incloses the box D and fits upon the flue-pipe C, its walls extending slightly above the floor A and being flared out upon it, so that the floor supports the box. Supporting-strips d' are secured to the lower end of the box D and, extending in an upwardly direction, overlap the top of the walls of the box E, extending sufficiently beyond them to be nailed to the floor, as indicated at d^2 . These supporting-strips may be of any required number to provide a secure support for the flue-head. Recesses K K are formed in the under surface of the register-face and in the flange b to accommodate the strips d' .

The box E is of greater dimension in all respects than the box D, so that their walls nowhere touch, and fireproofing material of any suitable variety may be introduced within the space between the walls of the two boxes. As shown, mineral wool is used, secured to the walls of the box E by a woven-wire netting e .

As shown in the drawings, the box E is formed of tin. Should a fireproofing material be used which is of sufficient tensile strength, the box may be made of it without the use of tin, and will be equally effective in protecting the wood-work.

The lower side of the register-face B is provided with the flanges b , b' , and b^2 , extending downwardly and entirely surrounding the face B, either continuously or in sections. The flange b is intended to fit within the box E, so as to secure the register-face in its proper position. The flange b' is located near the frame g , inclosing the register-shutters G, so as to form with the wall of this box a tapering recess adapted to receive the upper edge of the box D and make a close joint. The flange b^2 is at the outer edge of the face B,

and is designed to rest upon the floor for the purpose of excluding dust from beneath the register and to hide the strips *d'* and the box E.

5 The shutters G are not new in any respect. I claim—

1. In combination with a hot-air flue and with a hot-air register and wholly detached from the latter, a flue-head, supporting-straps
10 secured thereto for attachment to the house-floor, and an external box inclosing the flue-head and fitting closely upon the flue, substantially as described, and for the purposes set forth.

15 2. In a hot-air register, the combination of a face-plate cast as a single piece and having downwardly-projecting flanges, with a flue-head wholly detached therefrom and consisting of an inner and an outer box, the outer

box carrying a fireproofing material, said 20 flue-head being provided with supporting-straps for attachment to the house-floor, substantially as described, and for the purposes set forth.

3. In a hot-air register, the combination, 25 with a fireproofed flue-head, of a face-plate wholly disconnected from the flue-head and having downwardly-projecting flanges for engaging the flue-head and the edges of the floor-aperture, substantially as and for the 30 purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN NORTHEN.

Witnesses:

JOHN C. WEBER,
SPENCER WARD.