

(No Model.)

F. E. COOPER.  
HOT AIR REGISTER BOX.

No. 574,475.

Patented Jan. 5, 1897.

Fig. 1.

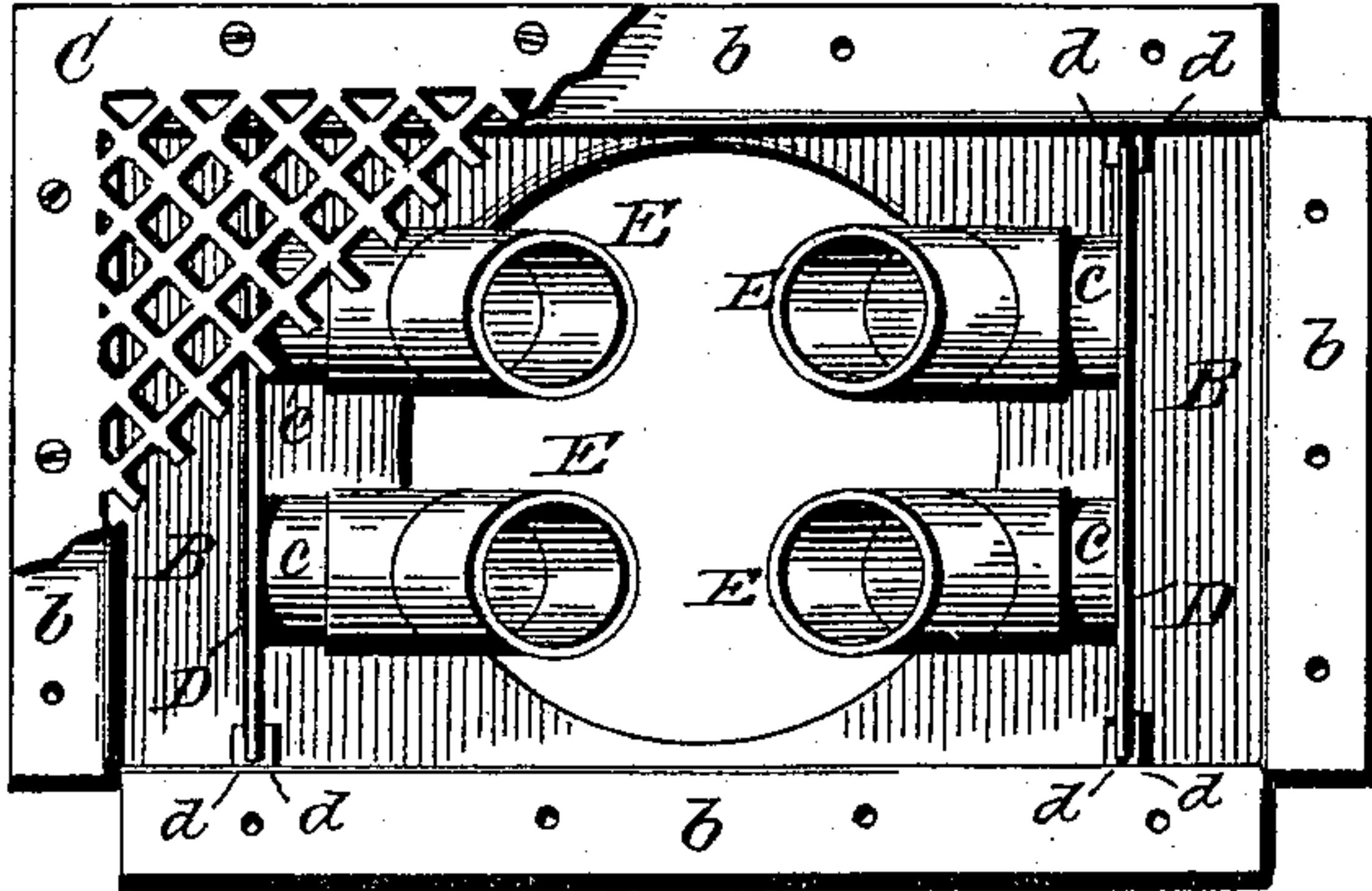


Fig. 2.

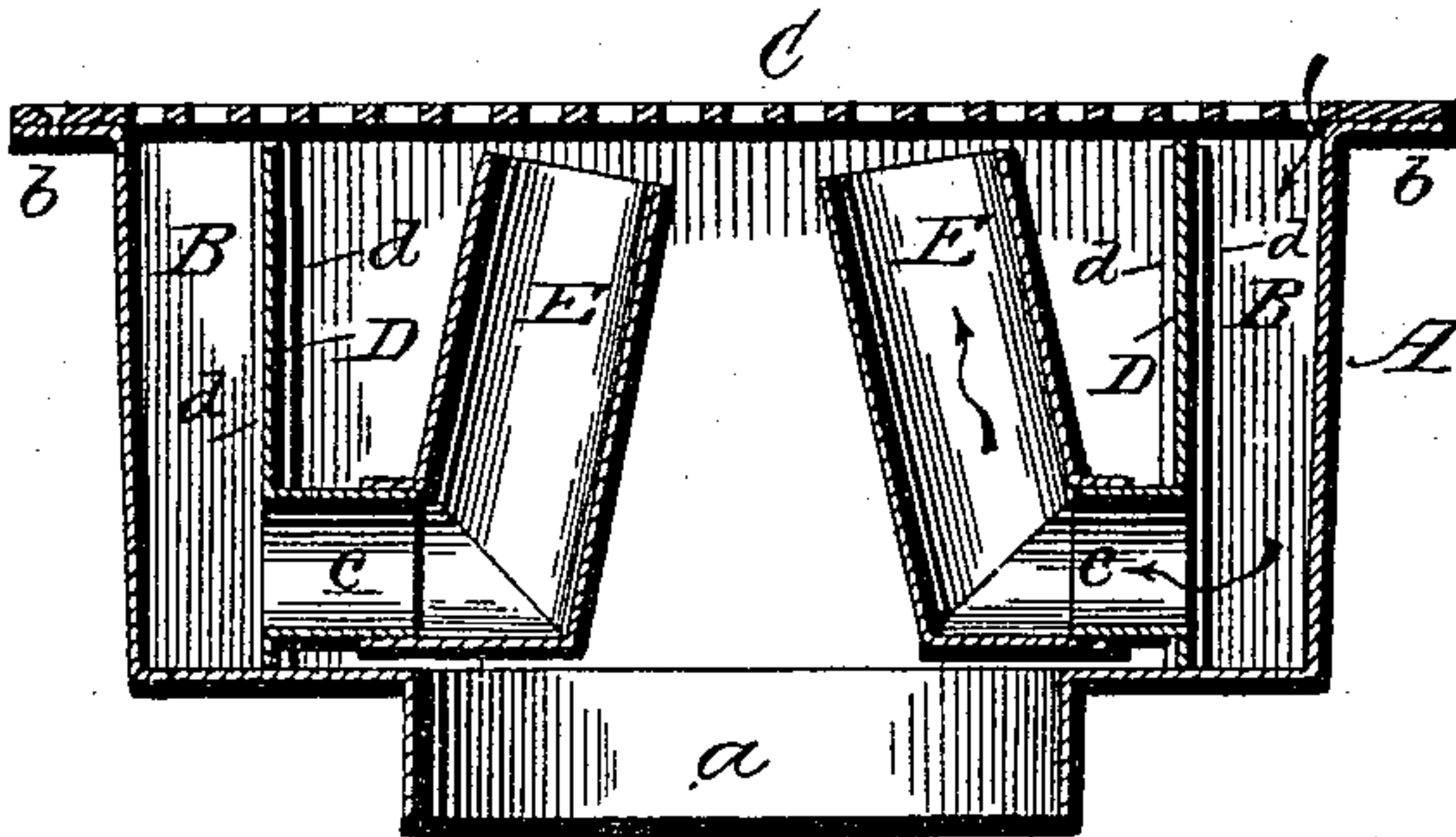
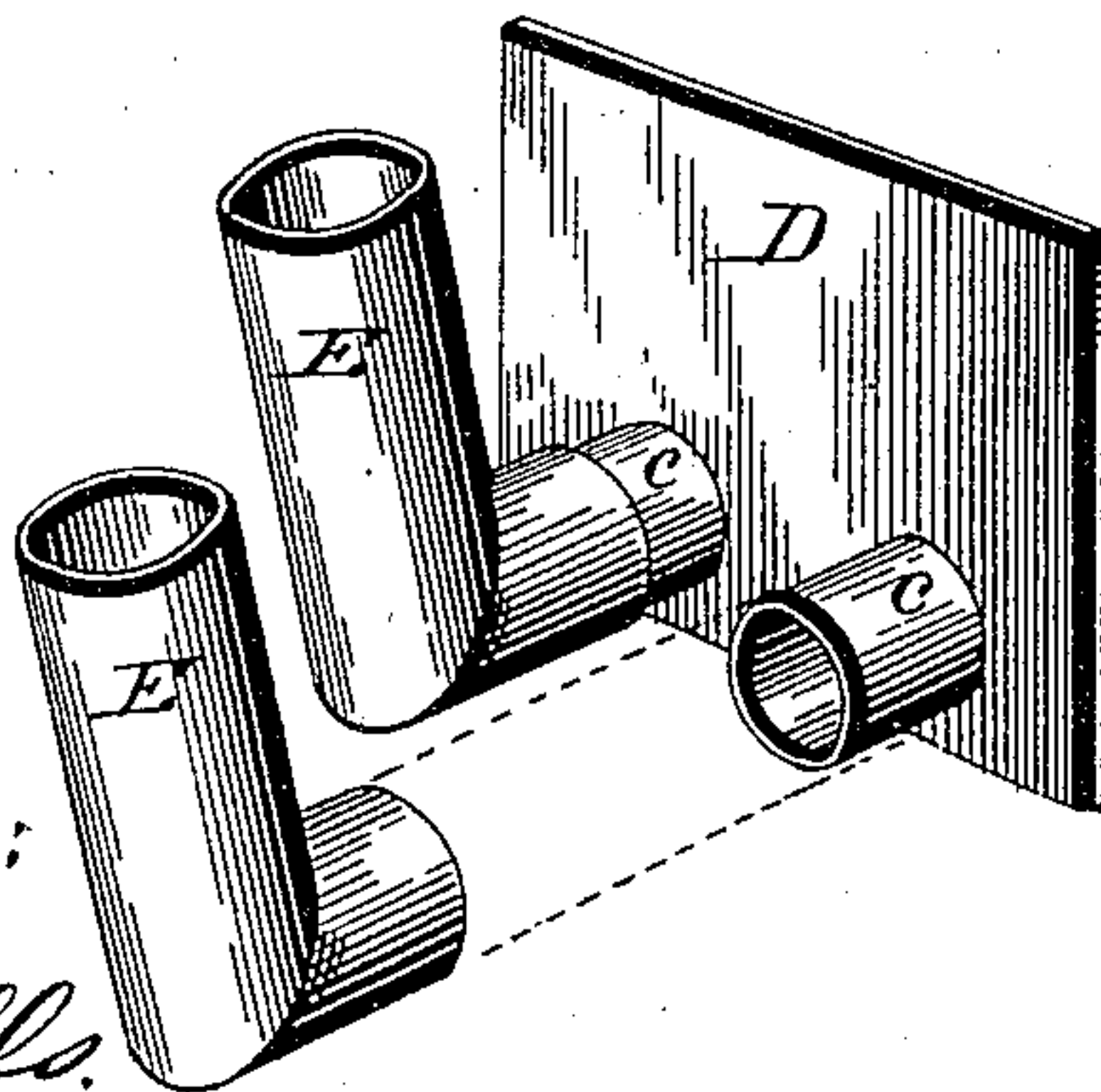


Fig. 3.



Witnesses:  
L. C. Hills.  
Wm. C. Reed.

Inventor:  
Frank E. Cooper.  
per Cha. H. Fowler.  
Atty.



# UNITED STATES PATENT OFFICE.

FRANK E. COOPER, OF OWEGO, NEW YORK.

## HOT-AIR REGISTER-BOX.

SPECIFICATION forming part of Letters Patent No. 574,475, dated January 5, 1897.

Application filed August 3, 1896. Serial No. 601,446. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK E. COOPER, a citizen of the United States, residing at Owego, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Hot-Air Register-Boxes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has for its object to provide a register-box for hot-air furnaces that will be simple in construction and in which the circulating power is obtained from the heated air alone by dividing the box into compartments and thereby produce a space for cold air taken from the floor of the room, which is heated and circulated, thereby producing a perfectly-acting register-box simple in construction and inexpensive to manufacture.

The invention consists in a register-box constructed substantially as shown in the drawings, and hereinafter described and claimed.

Figure 1 of the drawings represents a top plan view of my improved register-box, the register face-plate being shown as partly broken away; Fig. 2, a longitudinal vertical section thereof; Fig. 3, a detail perspective view of one of the partitions, showing one of the pipes connected thereto and the other removed.

In the accompanying drawings, A represents the register-box, which may be of any suitable size and shape and provided with a collar *a* for connecting therewith the pipe communicating with the hot-air furnace. This box is preferably provided with flanges *b* at its top and around its four sides for attaching thereto the usual face-plate C. Any suitable means, however, may be employed for securing the face-plate in position over the register-box, and any form of plate may be substituted for that shown.

The box A at its ends is divided into two cold-air compartments or chambers B by means of removable partitions D, which have openings near their lower end with collars *c* for removably connecting thereto the pipes E.

The pipes E are preferably disposed at an angle to a perpendicular, and the ends come in close proximity to the under side of the

face-plate C, as shown in Fig. 2 of the drawings.

The partitions are held in an upright position by means of guides *d* upon the side walls of the register-box, or by any other desirable means that will admit of the removal of said partitions when found necessary to clean out the box and to lighten it in being carried from place to place.

The cold air above the floor of the room passes down into the chambers B and up through the pipes E, and thence through the register face-plate C into the room, as indicated by the arrows in Fig. 2 of the drawings. As the air from above the floor is taken into the chambers B and in its course passes through the pipes E the air is heated by contact with the heated pipes and mingles with the heated air in the register-box A previous to its passing out through the face-plate C into the room.

A perfect circulation is given to the air by means of the heated flue-pipes E, the air from the furnace-pipe heating the flue-pipes to the required degree to heat the air as it passes through them. The chambers B are preferably tapering to a slight degree, the greatest width being at the top and gradually decreasing in width in a direction toward the bottom thereof, thereby providing a tapering chamber which will serve to act more effectively in conducting the air into the flue-pipes E, thus keeping up a more perfect circulation.

Having thus described my invention, I claim—

A hot-air register-box having an opening *a*, through its bottom for the admission of hot air, and which is provided with guides *d*, at each end, combined with the removable partitions D, which form the cold-air chambers which communicate with the compartment that is being heated, and the pipes C, E, connected to the partitions, and which conduct the cold air from the chambers B to the hot-air one, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

FRANK E. COOPER.

Witnesses:

A. L. GROSS,  
C. A. KIMBALL.