

(No Model.)

J. DETWILER.
HEATER REGISTER BOX.

No. 372,130.

Patented Oct. 25, 1887.

Fig. 1.

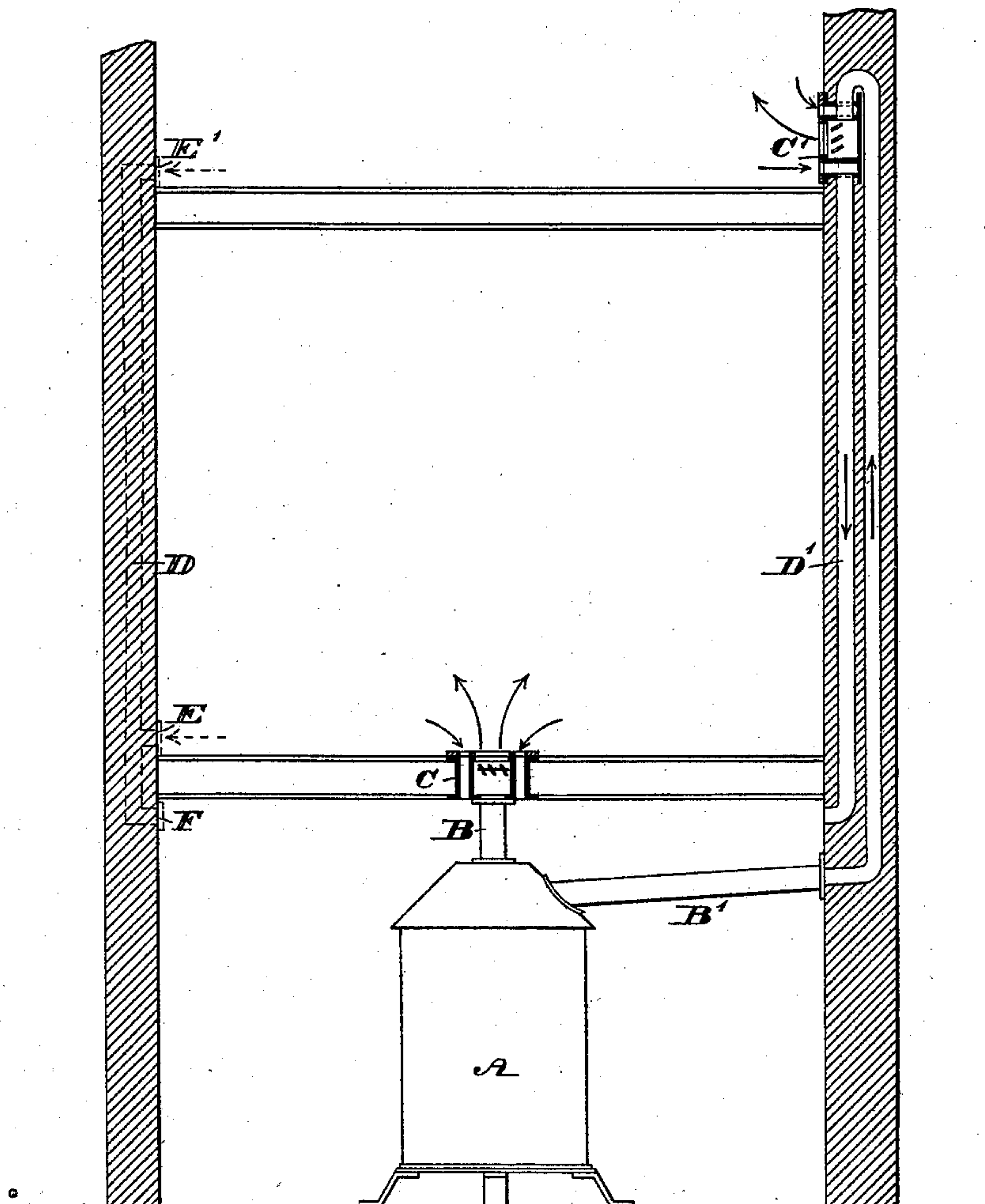


Fig. 2.

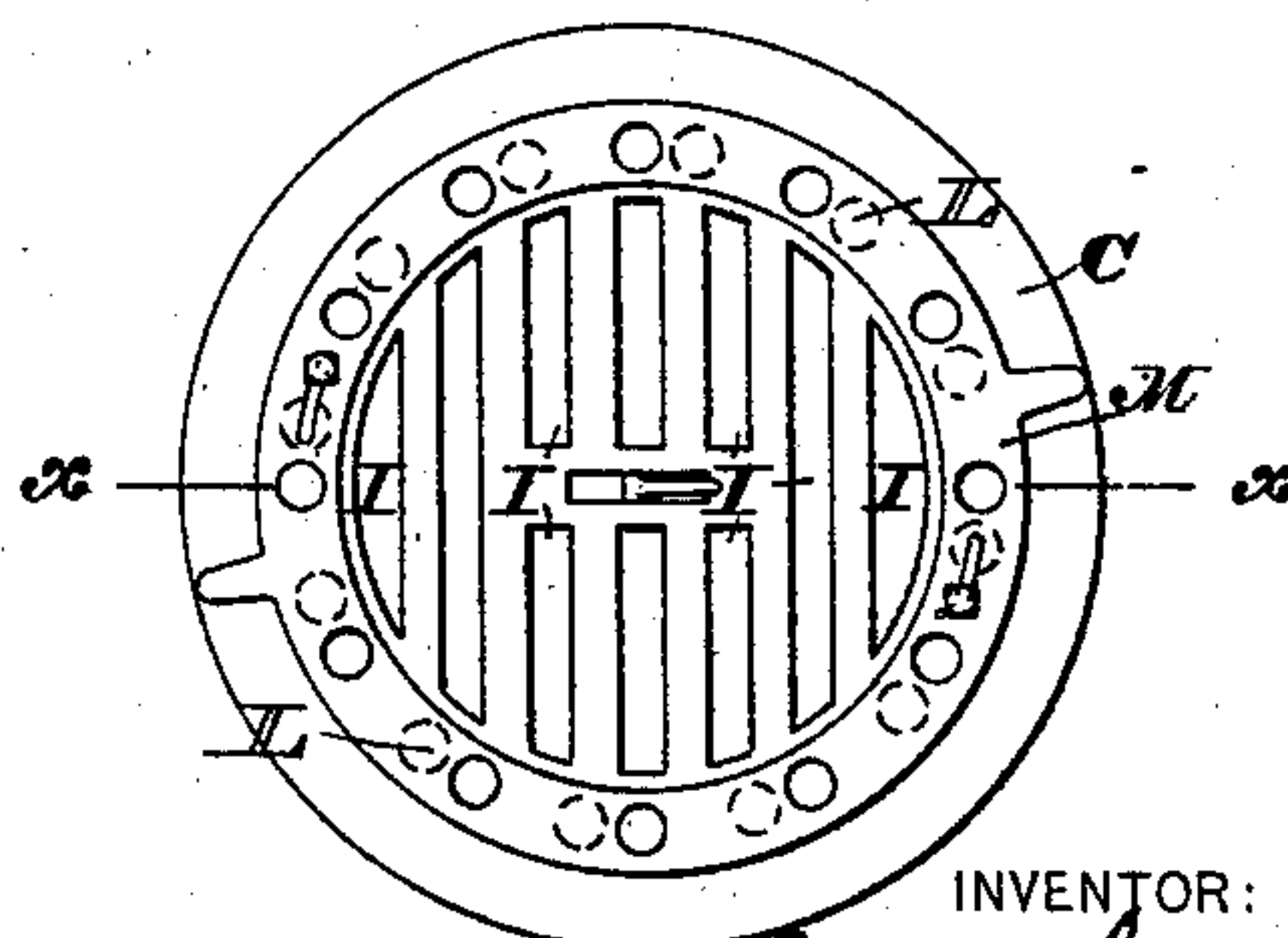
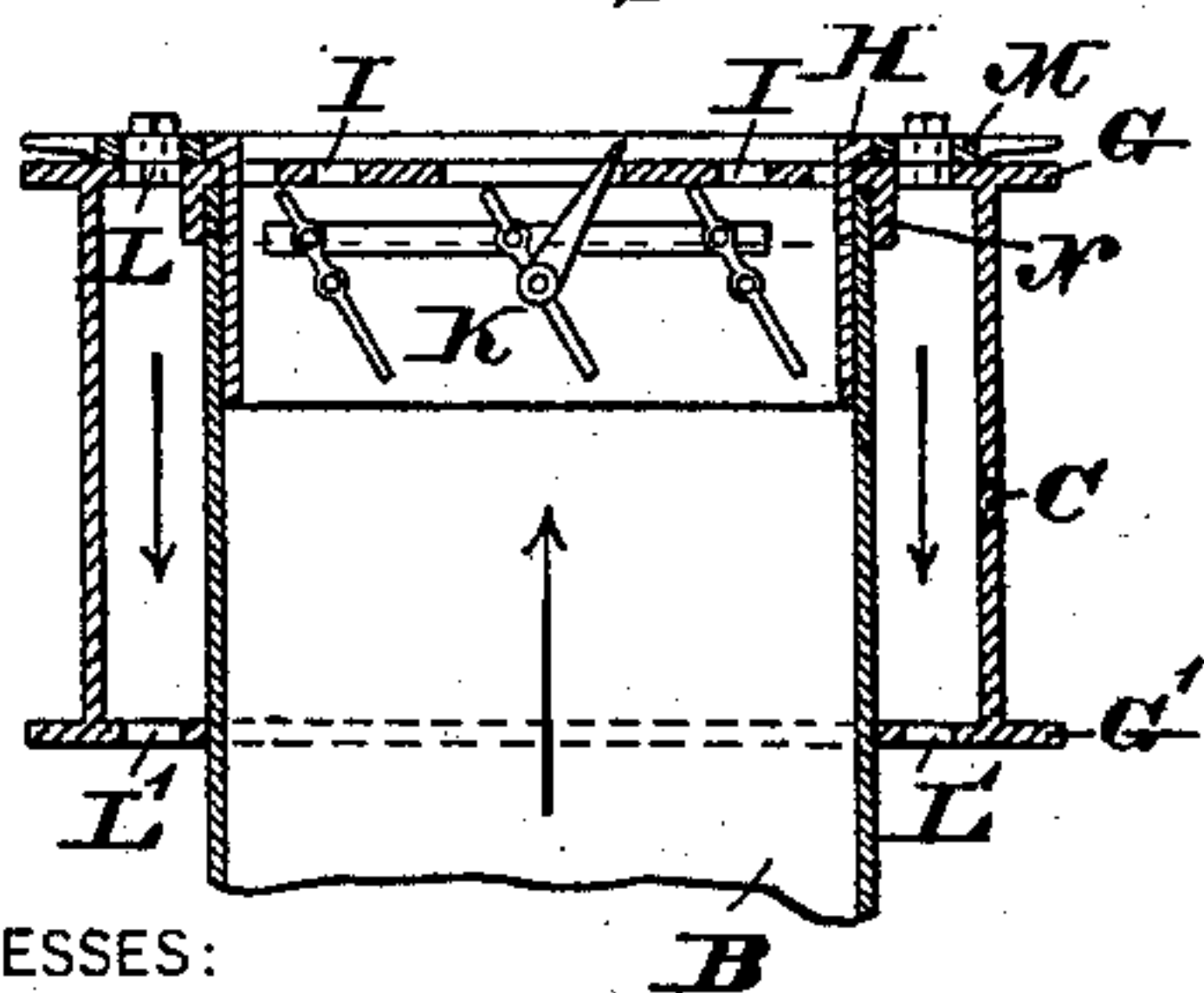


Fig. 3.



WITNESSES:

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JOHN DETWILER, OF MALVERN, PENNSYLVANIA.

HEATER-REGISTER BOX.

SPECIFICATION forming part of Letters Patent No. 372,130, dated October 25, 1887.

Application filed April 30, 1887. Serial No. 236,622. (No model.)

To all whom it may concern:

Be it known that I, JOHN DETWILER, a citizen of the United States, residing at Malvern, in the county of Chester, State of Pennsylvania, have invented a new and useful Improvement in Heater-Register Boxes, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to heating devices connected with furnaces for heating houses, &c.

It consists in a novel form of register-box connected to, or adapted to be connected to, existing furnace-pipes at their entrance into the room or chamber to be heated, the box being of such novel construction as to permit the hot air to ascend into the room through its center, while the cold air passes out through ventilating-holes arranged about its periphery, the invention being especially serviceable for preventing drafts or puffs of cold air entering a room or apartment from blowing the hot air rising in the hot-air flue back into said flue.

It also consists in certain novel features, hereinafter specified, and particularly pointed out in the claims which follow this specification.

Figure 1 is a cross-section of a part of a building, showing the interior of two rooms, the cellar, furnace, and my improved apparatus. Fig. 2 is a plan view of my improved register-box. Fig. 3 is a cross section of Fig. 2 taken on line *x x*.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A represents the furnace, of usual construction; B B', the hot-air pipes; C C' my register-boxes in position; D D', cold-air flues connecting the various rooms with the cellar, the flue D having register-doors E E', the outlet of said flue being shown at F, and having a register-door, if desired.

Referring, now, particularly to Fig. 3, C represents the register-box, having shoulders G G' adapted to fit snugly against the floor and ceiling, as in the lower story, or in the wall, as seen in Fig. 1. This box is made of two casings or parts, C and H, the latter fitting into the former, and having in its upper side hot-air register-holes I, which have the usual form of shutter-register, K. The outer part,

C, is provided with holes L L', and an additional sliding register, M, of well-known form, for opening and closing the same. The hot-air pipe B is inserted between the parts C and H, and connected thereto by being attached to the lip N. It will be seen that by this arrangement the pipe becomes a wall for both the hot and cold air passages. The box is separable, and can be applied to any hot-air pipe of proper size.

The register C' differs from register C in having the hot-air pipe pass through the side of the outer casing, and also in having the outer or cold-air chamber of the register communicating directly with the cold-air flue.

I will now describe the mode of operation of my invention.

It is a well-known fact in the art of heating buildings that as the hot air ascends the cold air is forced to the bottom of the room. It is old, as I am aware, to allow the cold air to pass into flues, and thence to the outside of the building, and to furnish the building with a draft of cold air from the outside of the building. Such features are objectionable, for the reason that under certain conditions, dependent upon the direction of the wind, it is impossible to keep the house properly warmed, the draft or puffs of wind forcing the hot air rising in the hot-air flue back or down said flue and preventing the proper ascent of the same.

With my invention I furnish a circulation of air wholly within the house, the cold air being allowed to fall, by the flues D D' and holes L L', to the cellar, when it again passes through the furnace and is reheated. Of course it will be understood that ventilators may be provided in any well-known manner, such features being wholly without my invention.

As the air is heated in the drum of the furnace A, it ascends to the registers C C', by the hot-air pipes B B', and enters the rooms, as shown by the ascending arrows, the registers of course being open. The hot air ascends while the cold air descends, passing back to the cellar by the cold-air holes L L' and cold-air flues D D', as shown by the descending arrows. Of course it is understood that the necessary regulation of both hot and cold air will be effected by the registers K and M, either jointly or independently, as desired.

I may use the left-hand flue D, with its registers E, E', and F, in connection with the hot-air registers and cold-air holes L L', or alone, as desired.

5 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. A heater system consisting of a furnace, a hot-air pipe leading therefrom to a register-box, said register-box having a hot-air flue, and a cold-air flue surrounding said hot-air flue, in combination with a separate cold-air pipe, substantially as described.

2. The combination of a register having outer and inner casings, and provided with 15 dampers, with the hot-air pipe passing through the outer casing of the register on the side thereof, and into the inner casing, and a cold-air flue connected with the outer chamber of the said register, substantially as described.

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Witnesses:

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