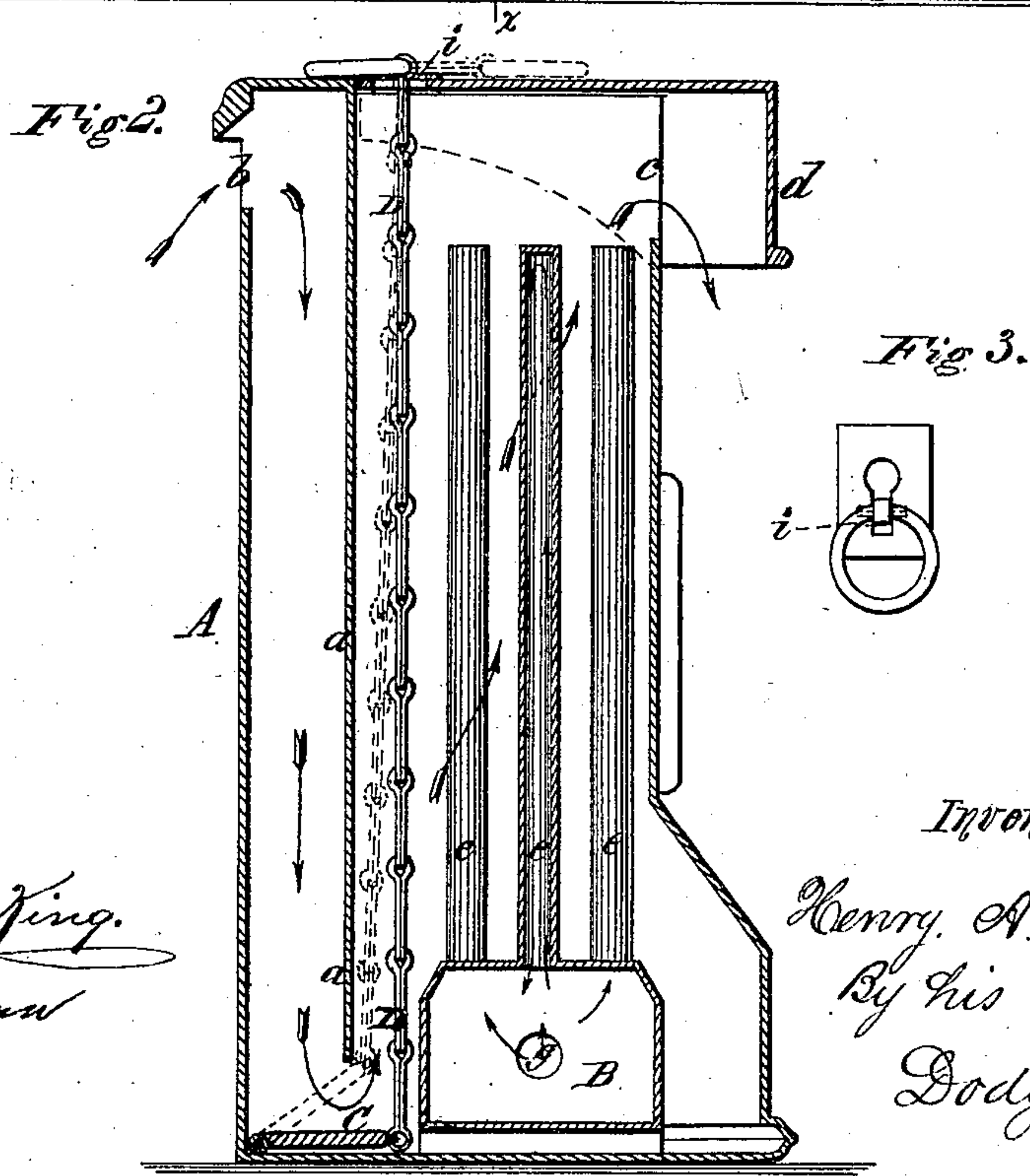
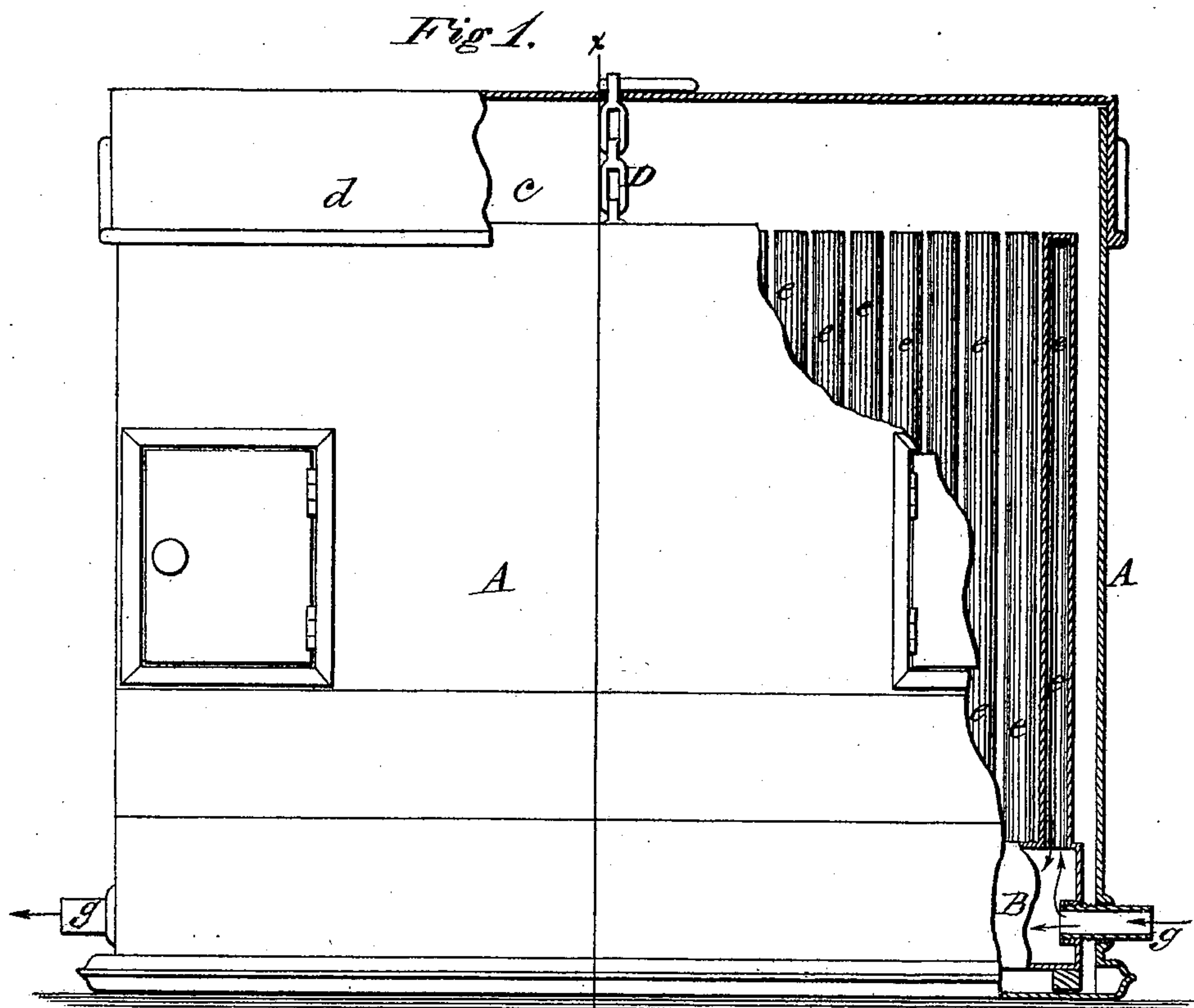


H. A. GOUGE.
Steam-Heaters.

No. 148,445.

Patented March 10, 1874.



Witnesses.

Harry King.
H. A. Munn

Inventor.

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UNITED STATES PATENT OFFICE.

HENRY A. GOUGE, OF NEW YORK, N. Y.

IMPROVEMENT IN STEAM-HEATERS.

Specification forming part of Letters Patent No. 148,445, dated March 10, 1874; application filed January 24, 1873.

To all whom it may concern:

Be it known that I, HENRY A. GOUGE, of New York, in the county of New York and State of New York, have invented certain Improvements in Steam-Heaters, of which the following is a specification:

My invention relates to the steam-heaters or radiators employed for heating a single room or apartment; and consists in a novel manner of constructing a body or case containing the heating apparatus, so as to induce a constant current of air through the apparatus; and admit of its being properly controlled.

Figure 1 is a front elevation of my heater, with a portion of one end broken away to show the interior construction. Fig. 2 is a transverse vertical section of the heater on the line *x x*; and Fig. 3 is a plan view of the device for fastening the damper or regulator chain.

In constructing my heater, I build a rectangular body or case, A, of suitable dimensions, and provide the same with a vertical partition, *a*, extending from the top nearly to the bottom, and with two openings, *b* and *c*, one in the front, and the other in the back, side, but both at the top, as shown in Fig. 2. In the front portion of the body I mount the heating apparatus, which, in the present instance, consists of a box or drum, B, provided with upright tubes *e*, and with two pipes, *g*, extending out through opposite ends of the body, one to admit and the other to discharge the steam. The air to be heated enters the rear opening *b*, and descending behind the partition *a* passes under the same, and then passes up around and between the heating-surfaces, and out through the front opening *c*, as indicated by the arrows in Fig. 2. The top of the body is extended forward, and provided with a depending flange, *d*, which extends down in front of the discharge-opening *c*, as shown, so as to direct the heated air downward toward the floor as it issues from the opening.

To provide for regulating and governing the flow of the air through the heater, I hinge to the bottom of the body a damper or plate, C, which may be turned upward so as to partially or entirely close the opening under the partition. This valve I operate by means of a chain, D, attached to its free edge, and carried up through the top of the body, as shown. The hole in the top of the body through which the chain passes, is provided with a narrow

slit or extension at one side, as shown at *i*, Fig. 3, so that by pressing the chain into said slit it may be locked fast, and the damper or valve thereby held up in the required position.

By the above method of construction, I produce a heater in which a continuous current of air is produced over or around the heating-surfaces, which admits of the current being increased or diminished at will, and which deflects the heated air downward toward the floor, so that its full benefit is realized.

The arrangement of the heating apparatus is not a material part of the heater, and it may, therefore, be varied as desired. For example, a continuous coiled pipe, or a cast-iron body, may be employed. The form of the body A may also be varied, as circumstances render necessary, and, when desired, it may be provided with a hinged top, and with doors in its front, as shown.

The construction of my heater renders it especially suitable for use in all places in which it can be supplied with cold air from outside of the apartment or building.

One of the main uses which I intend to make of the heaters is, to place them in windows, raising the sash, and placing the heater in the window thereunder, so as to receive air from without, heat it, and discharge it into the apartment.

In such case the steam will be supplied, and carried off through flexible or extensible pipes, so as to admit of the heater being moved from the window to the floor. The body will also in such case be made of the full width of the window, or means provided for closing up tight around it, so as to prevent air from entering around its outside.

Having thus described my invention, what I claim is—

1. A radiator or heater, consisting of a case, A, divided by a vertical partition, *a*, into two compartments, with the heating-pipes located in the front compartment, and having the inlet-opening *b*, valve C, and outlet *c*, with the deflector *d*, all constructed and arranged to operate substantially as described.

2. In combination with the above, the hinged valve or plate C, arranged as shown, for the purpose of regulating the flow of air.

HENRY A. GOUGE.

Witnesses:

J. MCKENNEY,
PHIL. T. DODGE.