

C. R. HARVEY.

Hot-Air Register.

No. 61,538.

Patented Jan. 29, 1867.

Fig. 1

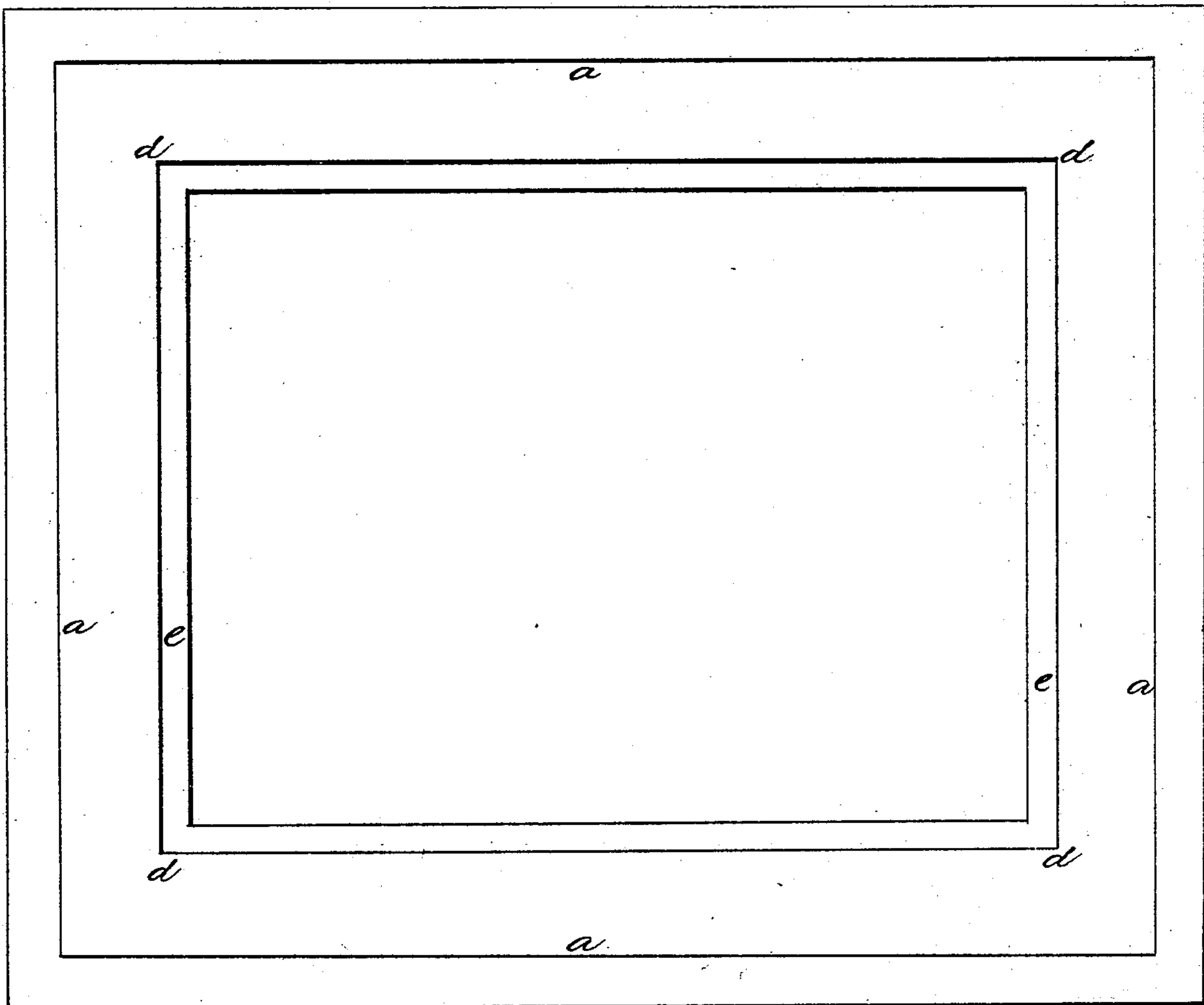
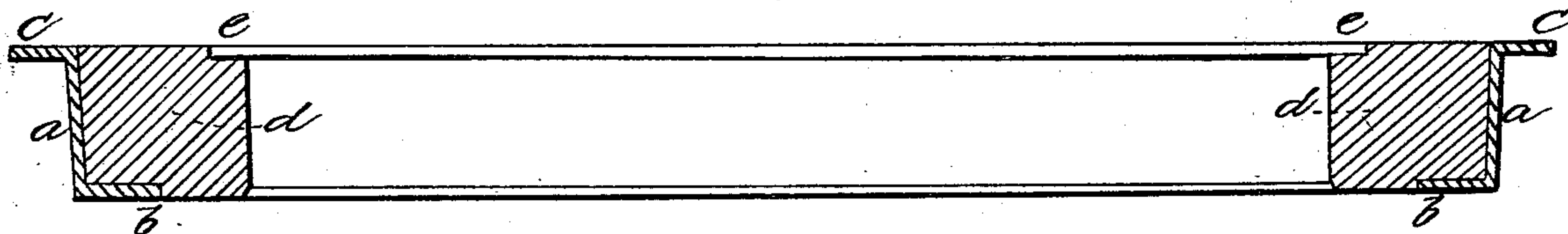


Fig. 2



Witnesses:

Sam'l Hightman
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Inventor:

C. R. Harvey

United States Patent Office.

C. R. HARVEY, OF NEW YORK, N. Y.

Letters Patent No. 61,538, dated January 29, 1867.

FRAME, &c., FOR HOT-AIR REGISTERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, C. R. HARVEY, of the city, county, and State of New York, have invented a new and useful Support or Frame for Hot-Air Registers; and that the following, taken in connection with the drawings, is a full, clear, and exact description thereof. In the drawings—

Figure 1 is a plan or top view of my improved frame; and

Figure 2 is a section through the same.

Frames for hot-air registers were formerly made almost universally of soap-stone; such frames were perfectly safe, as the stone is a bad conductor of heat, but were expensive themselves, and also required considerable expenditure in supporting them in place in the floor, they being of necessity so thick that they could not be let into a rabbet or groove in the floor boards. It was necessary, therefore, to support them from the beams below the floor, the stone being so weak that a thin flange worked upon it would have been insufficient to sustain the weight of persons stepping on the register. On account of these considerations, metal frames were introduced; these are inexpensive, and can be formed (owing to the strength of the material) with a thin flange, which can be let into a shallow rabbet in the floor, being thus supported by the boards themselves; but after several years of use it has been determined that such frames are dangerous, owing to the good conducting properties of the metal, and inspectors of insurance companies refuse to permit their use in insured buildings. I have, taking these facts into consideration, invented a register-frame as cheap and easily applied as the metal ones, and as safe as those made of soap-stone; and my invention consists in a compound register-frame, composed of an exterior metallic supporting-frame, with an exterior flange enclosing and sustaining an interior frame made of cement, concrete, or other similar incombustible composition, which is a bad conductor of heat.

In the drawings, the exterior metallic frame is shown at *a a a*. It is formed with an interior flange at *b*, which supports the interior frame, and with an exterior flange at *c*, which is to drop into a groove in the floor boards; and this flange carries the weight of the compound frame and the register. Inside of this frame, and supported by it, is the non-conducting frame *d d*, formed with a groove or rabbet at *e e* to receive the register. I prefer to make the outer frame of cast iron, enamelled or japanned, if required, and the inner frame of Roman cement, sand, and plaster of Paris, mixed with water; and I place the outer frame on a table or board, and then apply a wooden core as large as the cavity in the inner frame, and pour the mixture in between the core and the outer frame, leaving all parts in place until the mixture sets sufficiently hard to admit of being moved. The hot-air pipe is to be applied to the frame in the usual way. The frame may be of any proper shape, and the thickness of either frame or its width may be varied according to the desire of the constructor. The metallic frame supports the cement frame, and also strengthens it, binding it as with a hoop, and the exterior flange admits of the frame, as a whole, being supported on the floor boards. Instead of the inner flange at *b*, I intend sometimes to use corrugations or grooves in the vertical part of the frame, and at others to make the frame of less area at bottom than at top by sloping the sides, the inner frame then resting either in the grooves or on this slope instead of on the flange, as shown in the drawings.

I claim as of my own invention, as a new article of manufacture, a compound register-frame, consisting of an exterior metallic supporting-frame, provided with an exterior flange, as described, and an interior frame, composed of an incombustible, bad-conducting material, substantially such as is described, applied to and supported by the exterior frame, substantially as set forth.

C. R. HARVEY.

Witnesses:

JAMES J. WIGHTMAN,
J. ROMAINE BROWN.