H. FRITZ.

Hot-Air Register.

No. 160,514. Patented March 9, 1875.

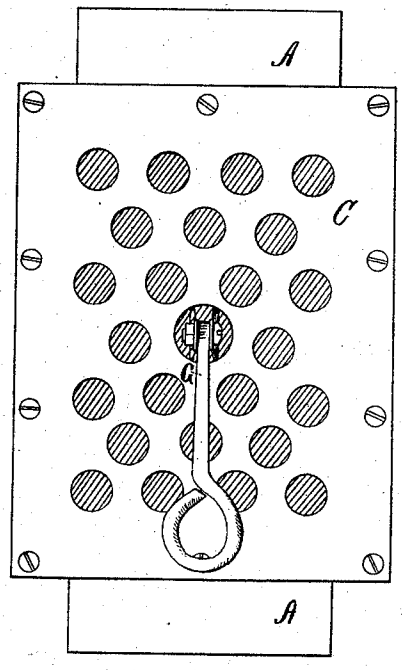

Fig. I.

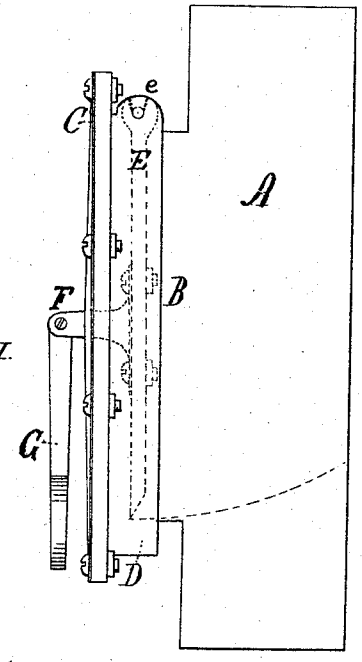

Fig. II.

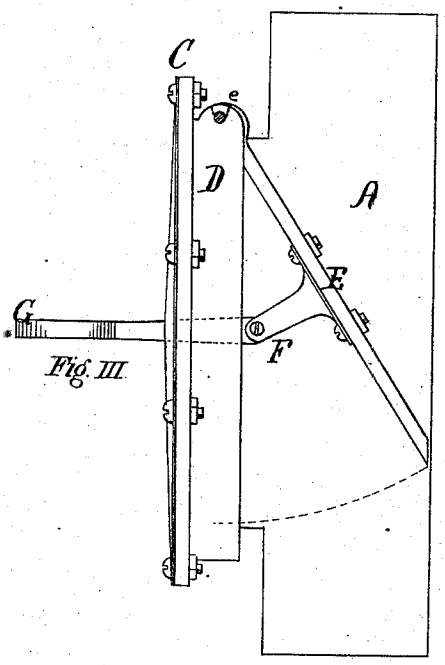

Fig. III.

Witnesses:

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UNITED STATES PATENT OFFICE.

HERMAN FRITZ, OF CLEVELAND, OHIO.

IMPROVEMENT IN HOT-AIR REGISTERS.

Specification forming part of Letters Patent No. **160,514**, dated March 9, 1875; application filed December 1, 1874.

To all whom it may concern:

Be it known that I, HERMAN FRITZ, of Cleveland, county of Cuyahoga, State of Ohio, have invented a certain new and useful Improvement in Hot-Air Registers; and declare the following to be such a clear, full, and exact description of the same, as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which make a part of this specification.

My invention relates to a register, to be employed either as a hot-air register or as a ventilating-register; and consists in a valve hung at the top in the case of a hot-air register, or hung at the bottom in the case of a ventilating-register, of the frame, as hereinafter more fully set forth and claimed.

In the drawings, Figure 1 is the front view of the register, as it appears either as a ventilating-register or as a hot-air register. Fig. 2 is a side elevation of the same as a hot-air register, representing the register as closed; and Fig. 3, a side view, representing the register open, and the valve shutting off the heat from above. Figs. 2 and 3, reversed, indicate the employment of the device as a ventilating-register.

The operation of the device will be described as a hot-air register only, in which—

A is the hot-air flue, leading from the furnace or heating apparatus below. B is an opening from the said flue to the room or other apartment. C is a register-frame, provided with a suitable front for the egress of the hot air. D is a flange or frame, by which the register is supported, and projects into or embraces the opening B from the flue, and at the same time serves as a valve-seat for the valve or damper E, that governs the admission of hot air to the apartment. The valve or damper E is provided with a lug, F, to which is attached a swinging lever or handle, G. The damper or valve E is hinged at the top to the frame or valve-seat D; or, instead of being hinged, it may be provided with trunnions resting in trunnion-seats in the top of the valve-seat, as indicated by the dotted lines at *e*.

The operation of the device is as follows: When in the position shown by Figs. 1 and 2 heat is shut off from the room, and passes up the flue A, and when it is desired to open the register so that the hot air shall enter the room or apartment, the lever G is raised so as to be in the position shown in Fig. 3. It is then pushed toward the flue, and by so doing the valve E is pressed across the flue in the position shown in Fig. 3. The hot air is intercepted in its motion up the flue, and the inclined valve E directs it into the room or apartment.

The valve E, as well as the lever G, the register C, and the valve-seat D, may be made of any suitable material that will withstand the moderate heat to which it is subjected.

The swinging lever G, when in the position shown in Fig. 2, is out of the way, and serves to prevent the valve from being accidentally thrown open.

If it is desired that a part only of the heat should enter the room, thus permitting a portion of the heat to ascend to rooms above, it is easily effected by pressing the valve E only part-way across the flue.

The construction of the register in such a manner as to make the frame D serve at the same time as a valve-seat, enables the whole device to be readily manufactured as an article of trade in itself, that can readily be attached to any flue.

To use this device as a ventilating-register, it is only necessary to reverse it, or turn it upside down, in which position the valve E will turn or tilt upon a pivot or trunnions at the bottom of the valve-seat, instead of swinging from the top, as it does in the hot-air register.

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

The removable register-frame C, in combination with the hinged valve E F, and swinging handle G, said frame constructed with the perforated face, to admit of the egress of hot air, and projecting sides D, which enter or embrace the opening in the flue, the frame C D also forming the valve-seat and hinge or trunnion bearing for the valve E F, as and for the purposes set forth and shown.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of November, 1874.

HERMAN FRITZ.

Witnesses:
M. D. LEGGETT,
FRANCIS TOURNEY.