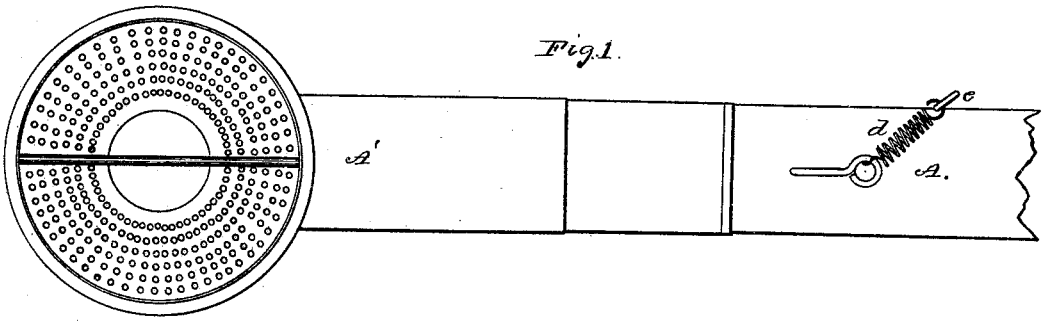
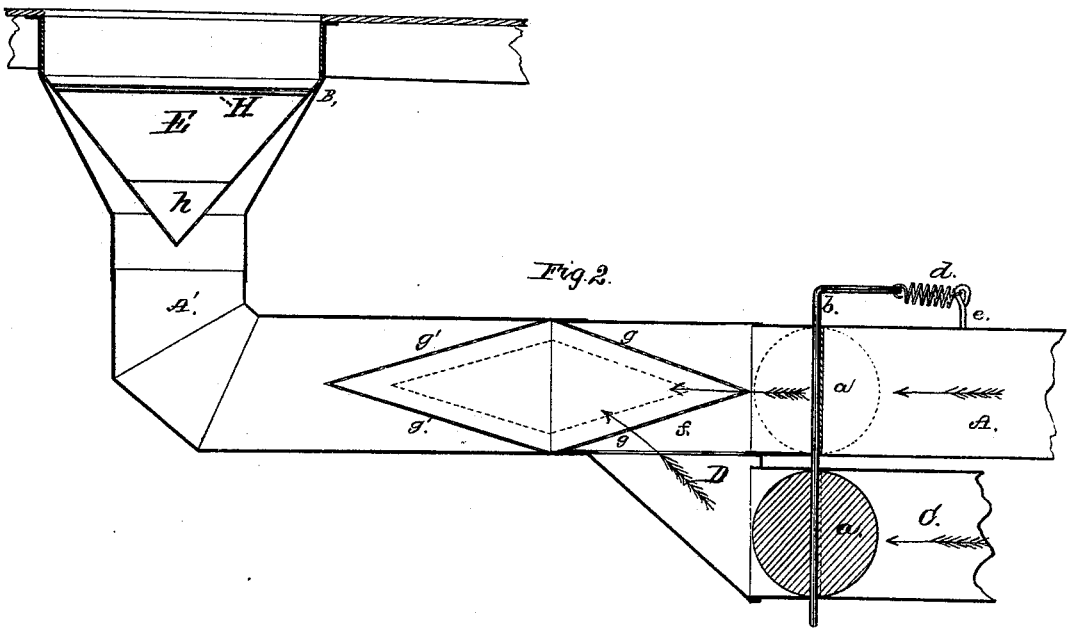
P. MIHAN.

ATTACHMENT FOR HOT-AIR REGISTERS.

No. 186,051. Patented Jan. 9, 1977

Fig. 1.




Witnesses.

Geo Gray

F. G. Hale.

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by his attorney.

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# UNITED STATES PATENT OFFICE.

PATRICK MIHAN, OF CAMBRIDGEPORT, MASSACHUSETTS.

## IMPROVEMENT IN ATTACHMENTS FOR HOT-AIR REGISTERS.

Specification forming part of Letters Patent No. **186,051**, dated January 9, 1877; application filed July 21, 1876.

*To all whom it may concern:*

Be it known that I, PATRICK MIHAN, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Attachment for Hot-Air Registers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

In such drawing, Figure 1 denotes a top view, and Fig. 2 a vertical and longitudinal section, of an apparatus constructed in accordance with my invention, the damper of the hot-air pipe in such figure being represented by dark lines as closed, and that of the cold-air pipe as open, while the dotted lines show the reverse, viz., the damper of the cold-air pipe as closed, and that of the hot-air pipe as open.

Like letters indicate like parts whenever they occur in the several figures.

The object of my invention is to provide a simple and effective apparatus or means whereby a more thorough commingling of the currents of heated air from the hot-air pipe of a furnace or heat generator with currents of cold air from a cold-air supply-pipe may be effected than by apparatus of this character as heretofore constructed, my said apparatus being provided with means whereby the volume or relative proportion of the warm and cold air to be admixed may be regulated at the will of the operator, in order that the air, when distributed into a room, may be equally suffused with caloric, and such air have any desirable temperature.

In the drawing, A denotes a pipe for conveying heated air from a furnace or heat generator, such pipe at its eduction end being connected with the register-box B, which is to be provided with a register located in the room or apartment to be warmed in the usual manner. Disposed below the pipe A, and opening into the same, as shown in Fig. 2, is a cold-air-supply pipe, C, which may connect with the cold-air chamber of a furnace, or have a direct communication with the atmosphere, as may be desirable, such pipe C having a diameter or capacity equal to that of the pipe A. Each of these pipes is connected with a common distributing-pipe, A′, by means of an angular chamber or connector, D. Each of the pipes is provided with a damper, *a*, which is rigidly affixed to a rod, *b*, which extends vertically down through the pipes, the dampers being arranged on the rod at right angles to each other, so that when the damper of one pipe is closed the other is entirely open, and when one is partially open (whether to a greater or less extent) the other is closed in a corresponding degree. Affixed to an eye from the upper bent end of the damper-rod is a coiled spring, *d*, which is connected with a standard, *e*, extended up from one side of the pipe, as shown in the drawings, the object of this spring (when unacted on) being to preserve the damper of the hot-air pipe closed, while the cold-air damper may remain open, or vice versa; or, if preferable, a chain or cord and weight may be employed in the place of the spring, and as an equivalent therefor. A cord may extend from the eye of the damper-rod over a pulley, and to any convenient part of a room, such serving to enable a person to regulate the position of the dampers, as may be necessary to give the desired temperature to the air introduced into a room. Within the chamber or space *f*, at the junction of the hot and cold air pipes, I dispose a conic foraminous diaphragm or air-mixer, *g*, the same being arranged in an axial line with the pipe A, such conic diaphragm at its base corresponding with the diameter of the said pipe. I also dispose within the pipe A, and with its base in juxtaposition with that of the foraminous diaphragm, a similarly-formed foraminous diaphragm, *g′*. By this arrangement of the perforated diaphragms, the currents of the heated and cool air are broken up and brought into close impingement, being divided into fine and minute streams, whereby a rapid intimate commingling of the two is effected.

B is the register-box, which is disposed in the usual manner in or beneath the floor of the room to be warmed or ventilated. Within this box is arranged a conical detachable vessel, E, the upper portion of which is per-

forated, and the lower part *h* unperforated. H is a rod, which extends diametically across the conic vessel E, the same serving as a handle for the same. This vessel performs a double function, viz., to collect and hold any dirt or foreign matters which may fall through the register, and to deflect and again subdivide and commingle the currents of air just prior to their being distributed into the room, the inclined sides of the cone causing the foreign matters to be directed into the cup at the apex, the vessel E being so applied to the register-box as to be readily removed therefrom by the handle H, as circumstances may require.

Having described my invention, what I claim is—

1. The combination of the hot and cold air supply pipes A A′ C, the dampers *a a*, and chamber *f*, all being arranged substantially as and for the purpose set forth.

2. The combination of one or more foraminous diaphragms, *g g′*, with the hot and cold air supply pipes A A′ C, dampers *a a*, and chamber *f*, all being essentially as shown and described.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

PATRICK MIHAN.

Witnesses:
F. P. HALE,
F. C. HALE.