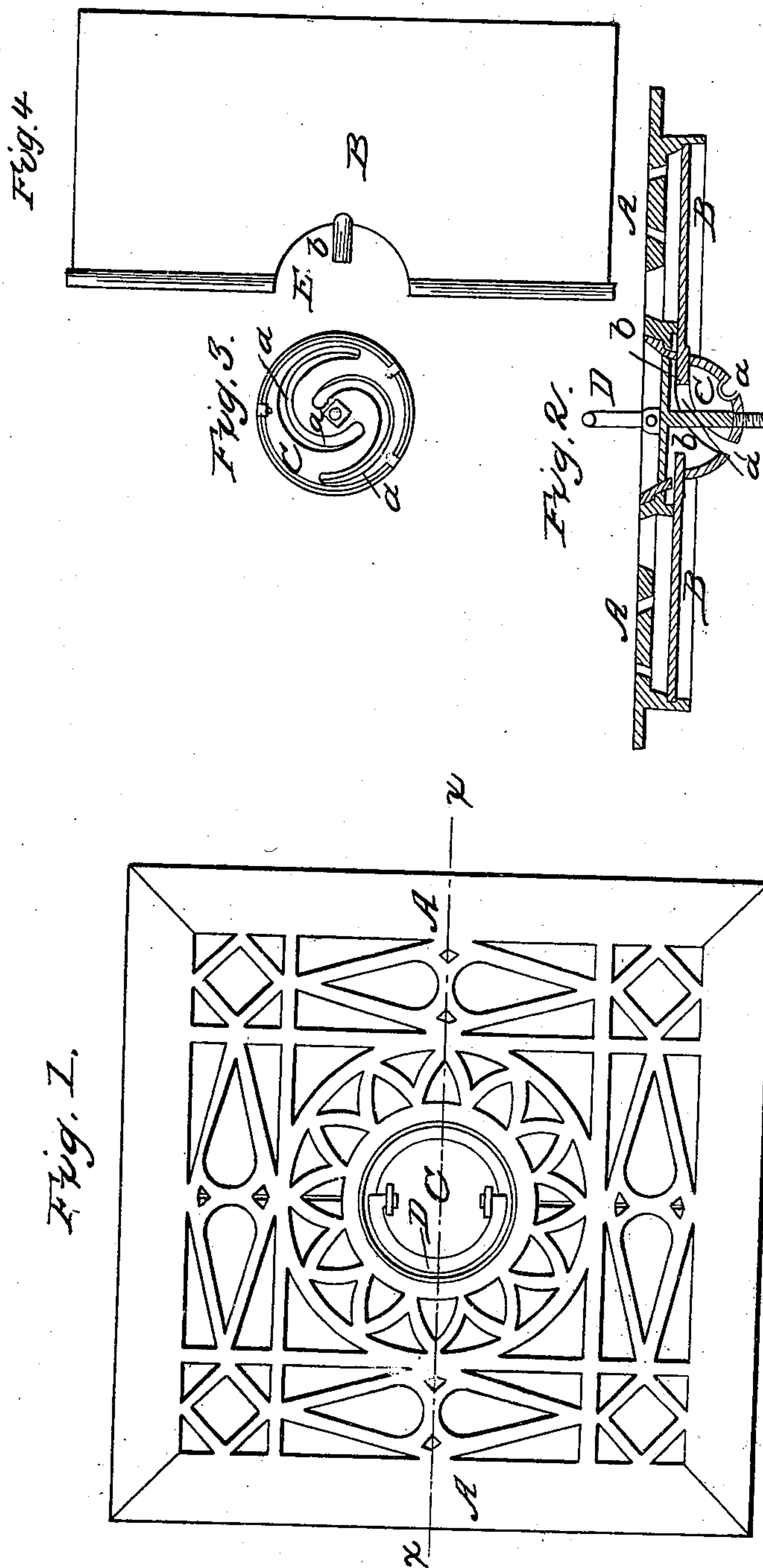


E. BARROWS.

Damper.

No. 4,538.

Patented May 28, 1846.



UNITED STATES PATENT OFFICE.

EBENR. BARROWS, OF NEW YORK, N. Y.

REGISTER FOR FURNACES.

Specification of Letters Patent No. 4,538, dated May 28, 1846.

To all whom it may concern:

Be it known that I, EBENEZER BARROWS, of the city of New York, in the State of New York, have invented a new and useful Improvement in the Manner of Opening and Closing the Valves of Registers Used for the Admission of Air from Air Heating Furnaces; and I do hereby declare that following is a full and exact description thereof.

In the ventilators, or registers, heretofore employed for regulating the admission of air into apartments from air heating furnaces, by the opening or closing of valves, a considerable degree of force has been necessary in closing the valves when the apparatus is placed horizontally, and some special device has been required to cause them to remain partially open, and to retain them in any desired position.

In my improved register the valves are opened and closed with perfect facility and will remain in any position in which they may be placed, without its being necessary to use any other check than the friction of the pins against the volutes in the revolving part of the apparatus by which they are acted upon in opening and closing.

In the accompanying drawings Figure 1 is a top view of my apparatus; Fig. 2 is a vertical section through it in the line $x-x$ of Fig. 1, and Fig. 3 is a direct bottom view of the hemispherical volute, by the turning of which the valves are to be opened or closed; and Fig. 4 is one of the valves, or shutters, upon which the hemispherical volute is to operate.

A A is the stationary perforated plate through which the heated air is to be allowed to pass.

B B, Fig. 2, are the valves, or shutters, which are to be hung on pivots in the usual way, and do not differ in this respect from such as have been previously in use.

C is a hollow hemisphere which is placed in the center of the plate A with its convex side downward in such manner as that it may swivel, or be made to turn back and forth, by means of the handle D on its upper side, which when not in use falls down on the flat side of the hemisphere C and is flush with the surface of the plate A. This handle affords the means of turning the hemisphere around with sufficient power

whatever may be the size of the valves without its being necessary to use a key to increase the leverage as has been the case with other registers for a like purpose.

In Fig. 3, a, a , are volute formed openings made through the hemisphere C, to receive pins b, b , that are made fast to the valves B B. The valves have each a semicircular notch or opening as shown at E in Fig. 4 to adapt them to the hemisphere C, from the middle of which opening the pin b projects. The volute formed openings a, a , through the hemisphere C, are represented as curved around to the distance of three fourths or more of the circuit of said hemisphere, and this will afford an inclined surface against which the pins b, b will bear, which inclination is so little abrupt, that the valves will be retained by them in any position in which they may be placed, and that as perfectly when the plate is situated in a horizontal plane, as when it is made to stand vertically; if desired, however, said volutes may be extended farther around.

Instead of the volute formed openings a, a made through the hemisphere C, it may be furnished, with projecting threads passing spirally around it, which threads may be embraced by the pins b, b , which in that case will have notches made in their ends to embrace the threads; or, the threads may be made double and receive the pins between them, I however prefer the first described modification as being more simple than the other.

Having thus fully described the manner in which I construct and arrange my apparatus for the opening and closing of the valves of registers for air heating furnaces, what I claim therein as new, and desire to secure by Letters Patent is—

The manner herein set forth of employing a hemispherical body furnished with volute formed openings, or threads, which receive and operate upon pins extending from the middle of the valves adapted thereto; the whole combination and arrangement, and the consequent operation of the parts being substantially the same with that herein fully made known.

E. BARROWS.

Witnesses:

THOS. P. JONES,
E. BARROWS, Jr.