G. POLLOCK.

Hot Air Register.

No. 5,382. Patented Dec. 4, 1847.

Fig. 1.

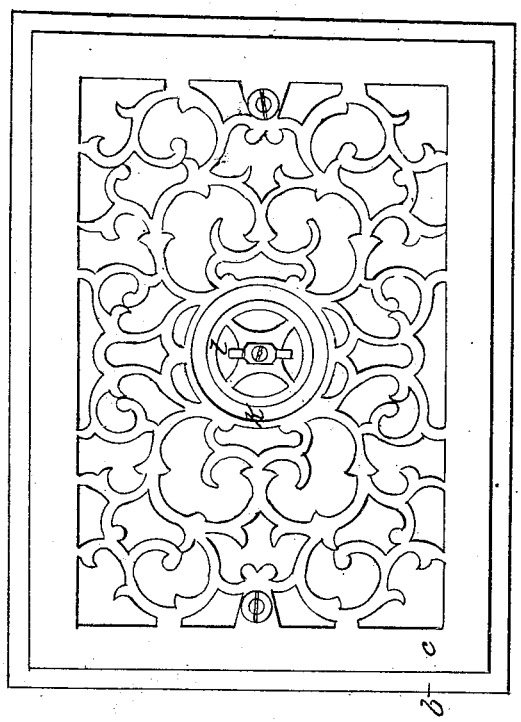


Fig. 4.

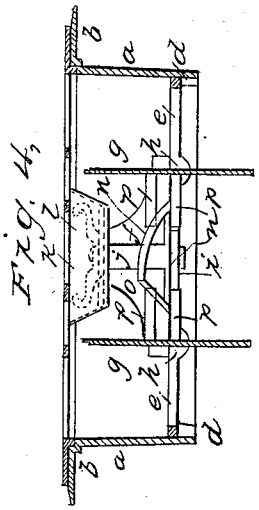


Fig. 2.

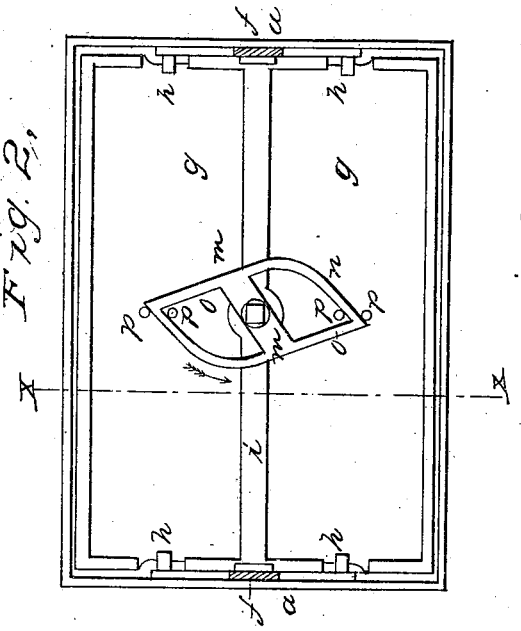
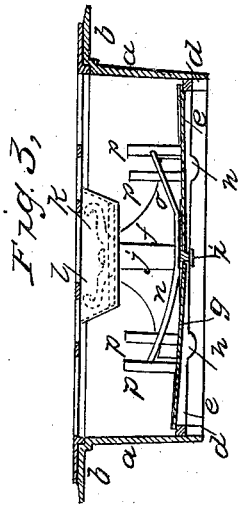


Fig. 3.



UNITED STATES PATENT OFFICE.

GEORGE POLLOCK, OF NEW YORK, N. Y.

REGISTER FOR FURNACES.

Specification of Letters Patent No. 5,382, dated December 4, 1847.

To all whom it may concern:

Be it known that I, GEORGE POLLOCK, of the city, county, and State of New York, have invented a new and useful Register or Ventilator for Regulating the Discharge of Heated Air into or from Apartments, &c., and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan; Fig. 2, a horizontal section taken below the cap plate; Fig. 3, a cross vertical section taken at the line (X X) of Fig. 2; and Fig. 4, a like section with the dampers open.

The same letters indicate like parts in all the figures.

Registers or dampers for regulating the delivery of heated air from furnaces into apartments have been made with two valves hung on journals near the middle of a frame and provided with a spindle having two spiral grooves in a semi-spherical boss, into which run two pins, one from the back edge of each of the valves, so that by turning the spindle by a thumb and finger piece on the upper end thereof, and placed in a recess in the upper surface of an ornamentally perforated plate which constitutes the top of the whole apparatus, the valves can be opened and closed; but the use of this apparatus is attended with inconvenience for the whole weight of the valves tends constantly to turn the spindle and open the register. This difficulty I have obviated by my improvement which consists in hanging the valves on journals in the middle so that each valve shall be balanced, or nearly so, when this is combined with the arrangement for opening and closing them which consists in having two pins projecting from the upper surface of each valve and perpendicular thereto, and acted upon by a cam-formed rim attached to the vertical spindle, this rim being so formed that as it recedes from the axis of the spindle it rises in a plane oblique to the axis. By this arrangement the cam rims are embraced by their appropriate sets of pins, so that when the spindle is turned in the direction from the point of the greatest diameter of the cam rim toward the shortest diameter the two valves are turned from a plane at right angles, or nearly so, with the spindle, to a plane parallel therewith, and vice versa.

In the accompanying drawings (*a*) represents a cast iron case with a flange (*b*) fitted to the floor, wall, &c., and having a recess all around to receive an ornamentally perforated cap plate (*c*), and ledges or flanches (*d*) at the lower edge, on which rests a ring (*e*) connected with the cap plate at the ends by means of standards (*f*, *f*) so that the cap plate with the lower ring and all the appendages can be taken out when desired for repairs and to give access to the pipe or funnel. The two valves (*g*, *g*) have journals (*h*, *h*) projecting from the middle of their ends and fitted to appropriate boxes in the stationary rim (*e*) so that when the valves are turned down they close on the side edges of the rim and against a central bar (*i*) running along the middle of the rims. A vertical spindle (*j*) with its lower stop fitted to a hole in the middle of the bar (*i*) extends up to, and through a hole in the middle of the cap plate which is then depressed as at (*k*) to form a recess in which may turn the thumb piece or handle (*l*) attached to the upper end of the spindle. From the lower end of the spindle project two arms (*m*, *m*) on opposite sides of the axis, and these carry the two cam formed rims (*n*, *n*) which gradually recede from the axis and rise in an oblique or slightly curved form as shown in Figs. 3 and 4, and the outer ends of these rims are connected to the arms (*m*, *m*) by straight inclined braces (*o*, *o*) to give them the requisite strength. The cam formed rims (*n*, *n*) are circular in their cross section. These two rims are embraced each by two pins (*p*, *p*) projecting from the upper surface of each valve and at right angles thereto, and a little outside of a line passing through the axis of motion, so that when the valves are open and in a vertical plane, as in Fig. 4, the pins shall embrace the rims where they start from the arms (*m*, *m*), and as the spindle is turned in the direction of the arrow the pins are carried toward the outer ends of the cam rims by the increased diameter thereof, and thus turned from a horizontal to a vertical position to close the valves, the circular form of these rims in their cross section admitting of this; and to retain the leverage of the cam rims on the pins, they (the cam rims) must rise in an oblique or curved plane. By this

arrangement the valves can be kept at any point desired, either closed, opened or only partly so without any tendency to open by their weight as in the plan heretofore used.

What I claim as my invention and desire to secure by Letters Patent, is—

Hanging the valves on journals in the middle of their width to be balanced, substantially as described, when this is combined with the cam formed and oblique or curved rims by means of the pins projecting from the surface of the valves, and at right angles thereto or nearly so, substantially as described.

GEO. POLLOCK.

Witnesses:
ROBERT GREEN,
JOSEPH C. ALBERTSON.