(No Model.)

W. H. H. BARTON.

FURNACE DAMPER.

No. 364,888. Patented June 14, 1887.

Fig. 2.

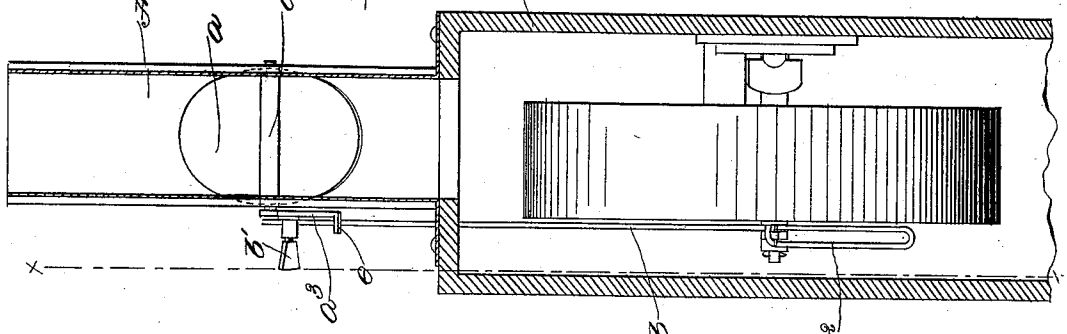
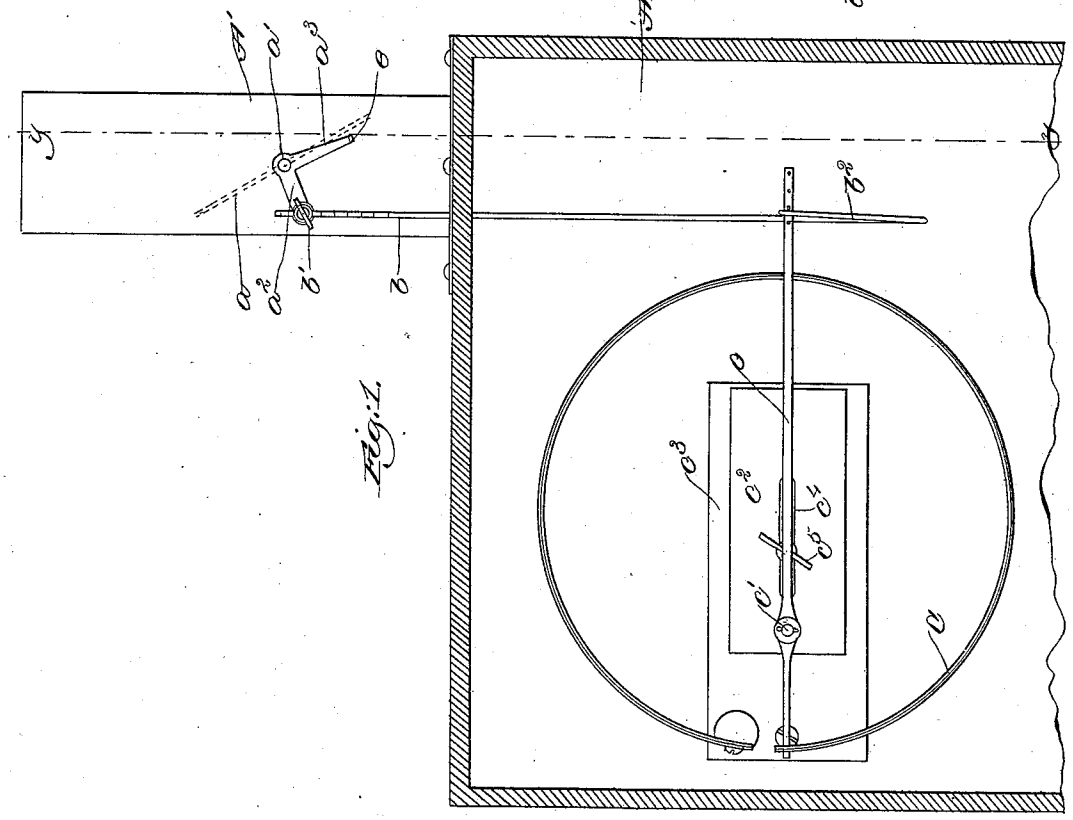


Fig. 1.



Witnesses.
Thomas Ofbday
John F. C. Brinkerhoff

Inventor:
William H. H. Barton
by Crosby & Gregory attys.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM H. H. BARTON, OF BROCKTON, ASSIGNOR TO EDGAR W. UPTON AND HENRY G. RICE, OF PEABODY, AND HERBERT TORREY, OF HANCOCK, MASSACHUSETTS.

FURNACE-DAMPER.

SPECIFICATION forming part of Letters Patent No. 364,888, dated June 14, 1887.

Application filed July 31, 1886. Serial No. 209,641. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. H. BARTON, of Brockton, county of Plymouth, and State of Massachusetts, have invented an Improvement in Furnace-Dampers, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to construct a thermostatically-operated damper, which may be employed to automatically regulate the draft or ventilation of a hot-air chamber, furnace, or other compartment.

In accordance with this invention a pivoted lever is moved by a thermostatic coil, said pivoted lever being loosely connected with a rod, which in turn is adjustably connected with an arm attached to and moving the damper, so that by any movement of the thermostatic coil the damper will be positively moved.

Figure 1 shows a damper, thermostatic coil, and connecting device embodying this invention, the damper being shown in connection with a section of a hot-air oven or compartment, and taken on the dotted line $x\,x$, Fig. 2, the coil being supposed to be sufficiently heated to partly open the damper, and Fig. 2 a vertical section taken on the dotted line $y\,y$ of Fig. 1.

The box or compartment A, representing in this instance a hot-air oven, is provided with a flue, A′. A damper, *a*, of any suitable shape, is attached to the shaft a', having its bearings in the side walls of the flue A′. Two arms, a^2 a^3, are secured to the end of the shaft a', to extend therefrom at an angle one with relation to the other and forming, as shown, a bell-crank. To one end of the arm, as a^2, is adjustably attached, by an adjusting-screw, b', a rod or connecting-lever, *b*, the opposite end of the said rod or connecting-lever being looped, as at b^2, to receive loosely one end of an operating-lever, *c*, pivoted upon a post, c', mounted upon a plate, c^2, the opposite end of the said operating-lever being attached to the free end of a thermostatic coil, C, of any usual construction. The plate c^2, resting upon a plate, c^3, secured to some part of the frame-work A, is slotted lengthwise, as at c^4, and provided with an adjusting-screw, c^5, to thereby permit the said plate to be adjusted as desired. The arm a^3, attached to the damper-shaft a', is provided with a lug or projection, *e*, of sufficient length to strike the rod *b* when the damper is turned into vertical position by the said rod, the said arm limiting the movement of the damper to prevent it closing in the opposite direction when the thermostatic coil is exposed to excessive heat. It will thus be seen that the movement of the thermostatic coil turns the lever *c* upon the pivot in one direction to raise the rod *b* and open the damper, and in the opposite direction to thereby permit the rod *b* to fall by gravity and close the damper.

It is obvious that the construction of the limiting-stop may be variously modified and yet perform the results herein specified.

The connecting rod or lever b' will in practice be numbered or marked with figures to indicate to the attendant the point upon such rod which, if brought to a certain definite position—as, for instance, under or just below the screw b'—will insure the closing of the damper when the thermostat is subjected to a degree of heat indicated by the said number.

The thermostat and damper herein shown may be employed in any usual class of apparatus wherein a damper is to be opened or closed at a certain temperature—as, for instance, the damper shown may be arranged in connection with a hot-air furnace—so that when the heat is sufficient the damper will be operated by the thermostat to enable cold air to be admitted through the opening normally covered by the said damper, the cold air checking the draft of the furnace, as is well understood.

I claim—

1. The combination, substantially as described, of the pivoted damper, the arm a^2, the connecting-rod *b*, one end of which is adjustably fastened to the arm a^2, as by a set-screw, b', the pivoted lever loosely connected with the connecting-rod, and a thermostatic coil for moving said lever.

2. The combination, substantially as described, of the pivoted damper, the arm a^2, connecting-rod *b*, one end of which is fastened

to the arm a^2 by a set-screw, b', and the other end is provided with a loop, b^2, the pivoted lever, one end of which enters the loop b^2, and a thermostatic coil connected with and moving the said pivoted lever.

3. The combination, substantially as described, of the pivoted damper, the arm a^2, connecting-rod b, one end of which is fastened to the arm a^2 by a set-screw, b', and the other end is provided with a loop, b^2, the pivoted lever, one end of which enters the loop b^2 and is provided with a series of pins for adjustably connecting the rod with the pivoted lever, and a thermostatic coil connected with and moving the said pivoted lever.

4. The combination of the pivoted damper, the arms a^2 a^3, and limiting-stop carried thereon, a connecting-rod attached to arm a^2, a lever pivoted to said rod, and a thermostatic coil connected with said lever.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM H. H. BARTON.

Witnesses:
G. W. GREGORY,
F. CUTTER.