(No Model.)

I. A. ABBOT.

AUTOMATIC ATTACHMENT FOR STOVE OR RANGE DAMPERS.

No. 352,727. Patented Nov. 16, 1886.

Fig. 1

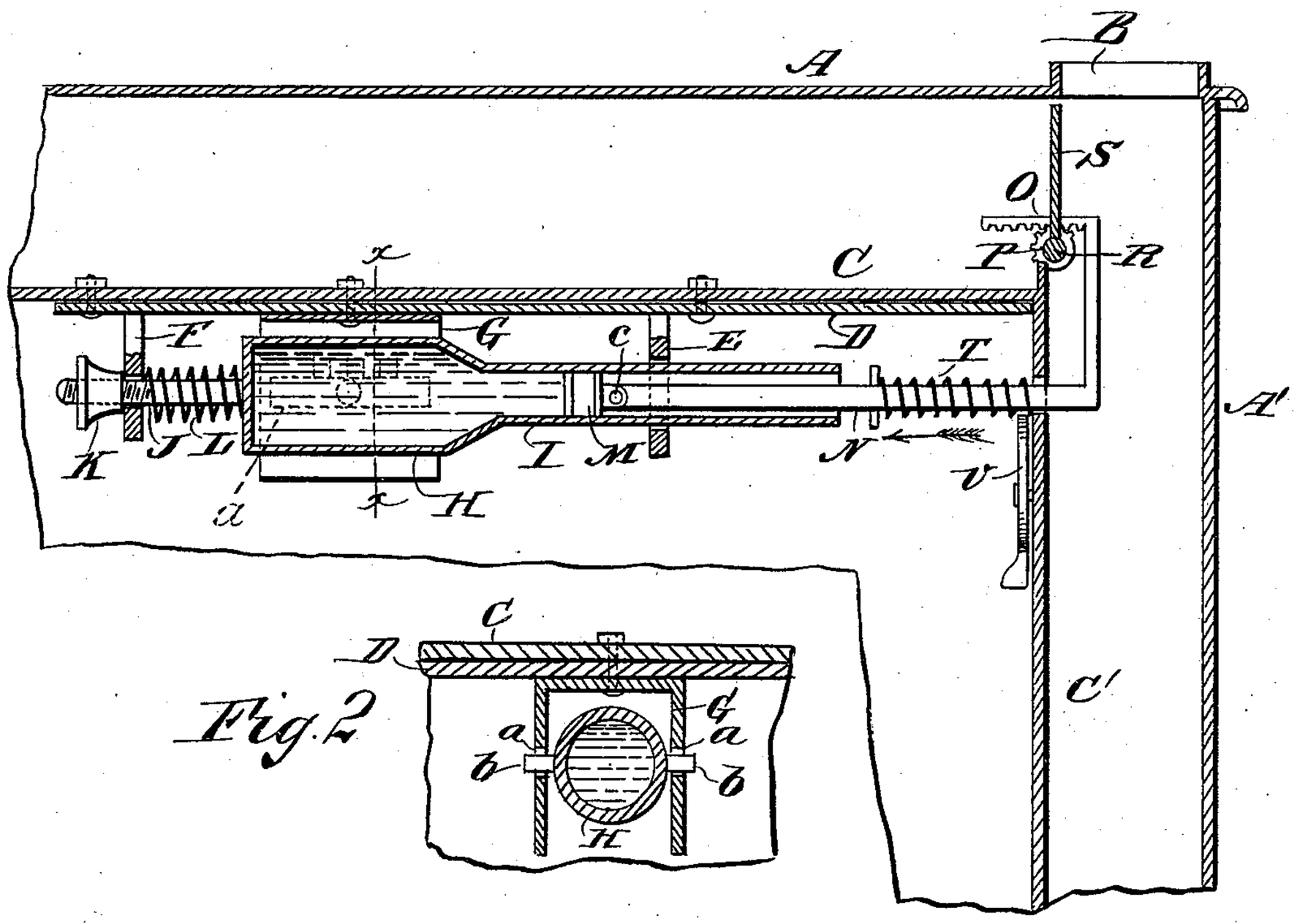
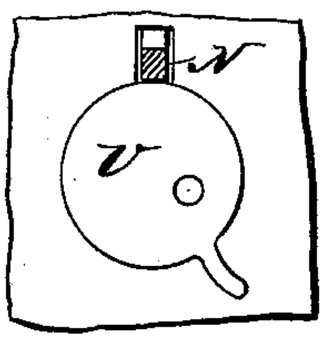


Fig. 2

Fig. 3



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ISAAC A. ABBOT, OF DENVER, COLORADO.

AUTOMATIC ATTACHMENT FOR STOVE OR RANGE DAMPERS.

SPECIFICATION forming part of Letters Patent No. 352,727, dated November 16, 1886.

Application filed January 30, 1886. Serial No. 190,307. (No model.)

To all whom it may concern:

Be it known that I, ISAAC A. ABBOT, of Denver, in the county of Arapahoe and State of Colorado, have invented a new and Improved Automatic Attachment for Stove and Range Dampers, of which the following is a full, clear, and exact description.

This invention pertains to improvements in attachments whereby the heat of ovens or other portions of a stove may be regulated; and the invention consists of the combinations of parts, including their construction, substantially as hereinafter set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a view of my improved automatic attachment for stove and range dampers, the view being taken in central vertical section. Fig. 2 is a cross-sectional view taken on line *x x* of Fig. 1, and Fig. 3 is a view illustrating the arrangement of the disconnecting mechanism.

Referring now to the general construction illustrated in the drawings, A represents the top, and A′ the back, of an ordinary form of cooking-stove, the flange to which the stove-pipe is secured being shown at B.

C C′ represent, respectively, the upper and back walls of the oven. In supplying a stove such as is partly shown in the drawings with my improved form of automatic damper-regulator, I secure a plate, D, directly beneath the top plate or wall, C, of the oven, said plate D being provided with two central apertured and downwardly-projecting plates, E and F, between which plates there is secured a U-shaped bracket, G, formed with longitudinal slots *a a* in its downwardly-projecting legs, said slots being arranged to receive the trunnions *b b* of a vessel, H, provided with a rearwardly-projecting cylinder, I, which extends through the aperture of the plate E, said vessel being also provided with a forwardly-projecting stem, J, which projects through the plate F, and is provided with a threaded end that is engaged by a thumb-nut, K, a spiral or other form of spring, L, being arranged to force the vessel H toward the rear of the oven. Within the cylinder I, I arrange a piston, M, that is pivotally connected, as at *c*, to a bar, N, that extends to the rear, through the back wall, C′, of the oven, extending upward back of the said wall, and carrying a forwardly-projecting rack, O, that engages with a pinion, P, secured to the shaft R, on which the damper S is mounted, a spiral or other form of spring, T, being arranged, as shown, to force the rod N forward in the direction of the arrow. The vessel H is filled with mercury, and is so set by means of the nut K that when the heat in the oven reaches a certain degree the mercury which it contains will expand and force the piston M toward the back of the oven, which movement of the piston will, through the medium of the connections described, act to open the damper S and thus diminish the draft around the oven, so that the heat therein will be diminished. In case it is desired to disconnect the automatic attachment, I provide a disconnecting-cam, U, that is pivotally connected to the wall C′, and arranged to bear upon the under side of the rod N, the arrangement being such that when the cam is turned to bear upon the under side of the rod and raise it the rack O will be thrown out of engagement with the pinion P.

In case the opening of the damper should not be sufficient to diminish the heat within the oven, the expansion of the mercury contained within the vessel H will cause such vessel to move toward the front of the oven against the tension of the spring L, the idea being to prevent any possible breaking of the parts.

Although I have described a specific connecting mechanism between the piston M and the damper, I do not desire to be limited to such connection, as any other form will do as well.

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

1. The combination, with a damper, of a vessel, H, provided with trunnions, brackets formed with slots in which said trunnions ride, a piston, M, a spring, L, and a mechanism for establishing a connection between the damper and piston, substantially as described.

2. The combination, with a damper pro-

vided with a pinion, of a vessel containing mercury and formed with a cylinder, I, and provided with trunnions, brackets formed with slots in which the trunnions of the mercury-vessel ride, a piston, M, rod N, carrying a rack, O, and a spring, T, substantially as described.

3. The combination, with a damper, of the following-named elements: pinion P, rack O, rod N, piston M, spring T, cylinder I, vessel H, that is provided with the stem J, trunnions *b b*, a bracket, G, formed with slots *a a*, a spring, L, and a thumb-nut, K, substantially as described.

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