

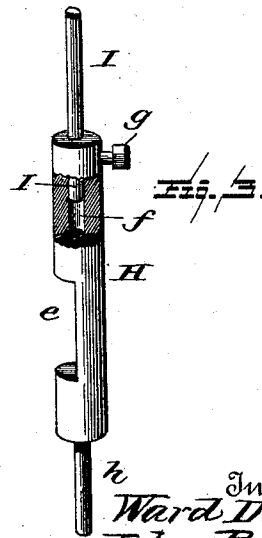
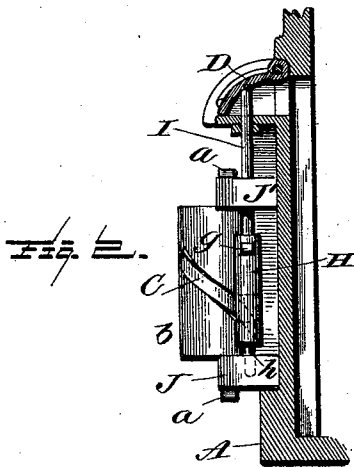
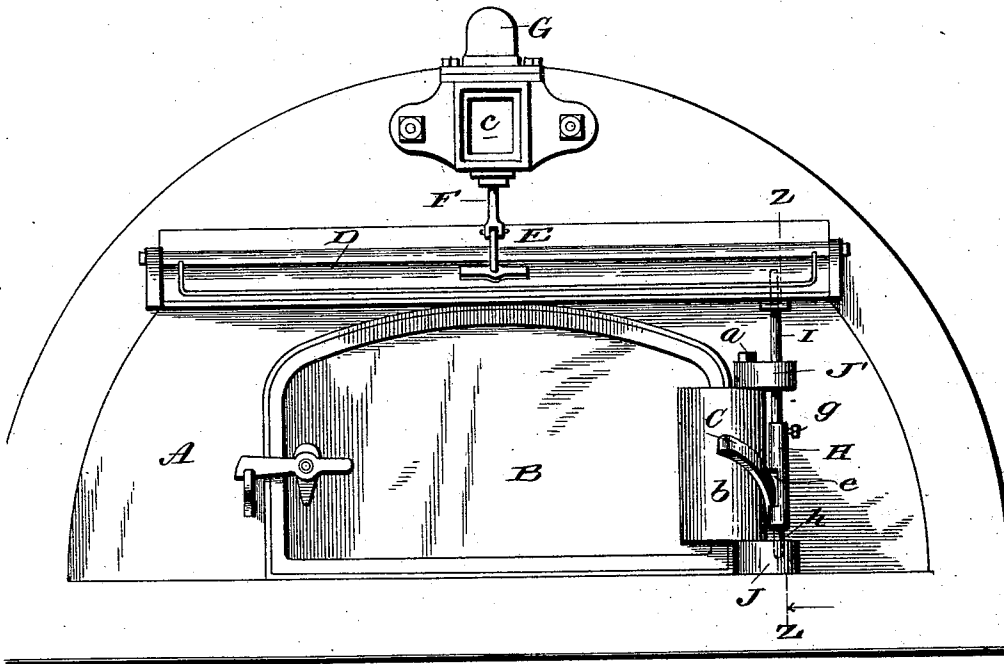
(No Model.)

W. DECKER & J. P. BELL.
FURNACE.

No. 472,728.

Patented Apr. 12, 1892.

Fig. 1.



Witnesses

L. C. Mills.
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Inventors:
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UNITED STATES PATENT OFFICE.

WARD DECKER AND JOHN P. BELL, OF OWEGO, NEW YORK.

FURNACE.

SPECIFICATION forming part of Letters Patent No. 472,728, dated April 12, 1892.

Application filed November 23, 1891. Serial No. 412,819. (No model.)

To all whom it may concern:

Be it known that we, WARD DECKER and JOHN P. BELL, citizens of the United States, residing at Owego, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Furnaces; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in furnaces and stoves, and more particularly to means or devices for moving a trap or damper for the admission of air as the fuel-door is opened for the admission of fuel. We provide means either on or actuated by the door-hinge for actuating the damper or trap from outside of furnace. The form shown is what we at present consider the best form for carrying out our invention. We provide simple means for adjustment, whereby the trap or damper may be held open at any required distance for the admission of more or less cold air, as may be desired.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a front elevation of a portion of a furnace, showing the door and trap or damper and the means for operating the same. Fig. 2 is a vertical section on the line *z z* of Fig. 1. Fig. 3 is an enlarged perspective view showing the means for adjustment of the trap-holding rod.

Like letters of reference indicate like parts throughout the several views in which they occur.

Referring now to the details of the drawings by letter, A designates a portion of a furnace or other heating appliance, and B is the fuel-door thereof. This door is hinged at one side—as, for instance, upon the vertical pintles *a*—and at this side is provided with suitable means, as the rounded projection *b*, upon

the outer face of which is the cam-lug C, as clearly shown in Figs. 1 and 2.

D is a trap or damper hinged or pivoted upon horizontal pintles or hinges, so as to move upward in the arc of a circle, as will be readily understood from Fig. 2. If desired, suitable means may be provided for aiding the trap or damper in its downward movement. Such a provision is seen in Fig. 1, which consists of a pivoted weighted arm E, depending from the rod F, which is connected with the sliding damper G, which controls the aperture *c* into the interior of the furnace. This latter contrivance may, however, be omitted.

H is a vertical rod arranged to the rear of the door hinge or pintles, and this rod or sleeve is provided with a notch *e*, as seen best in Fig. 3, in which the cam-lug on the door is designed to work as the door is swung open, and the contact of the cam-lug in this notch causes the rod or sleeve to be moved upward vertically. The upper end of this rod or sleeve is bored, as seen at *f*, and in this bore is adjustably held a rod I, which is also adjustable therein and designed to be held in its adjusted position by suitable means, as a set-screw *g*. The lower end of the rod or sleeve is provided with a vertical pintle *h*, which works in an opening in the lug J on the furnace-front, the upper end of the rod I working through a similar lug J', as seen in Figs. 1 and 2, the upper end of the rod engaging the under side of the trap or damper, as seen in Fig. 2.

The operation will be apparent. When the fuel-door is opened to feed fuel to the furnace, the rod is moved vertically by reason of the engagement of the cam-lug with the notch of the sleeve, and the trap or damper is opened. As the door is closed the trap or damper gradually falls and closes the opening and prevents the admission of cold air. By adjusting the rod I and holding it in its adjusted position by the set-screw the trap or damper may be made to open more or less, as desired, or may be so arranged as to be kept open more or less at all times.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What we claim as new is—

The combination, with the hinged door with its rounded projection *b* at its pintle side working between the pintle-lugs and provided with a cam-lug, of the hinged damper, the vertically-movable notched sleeve, and the vertically-adjustable rod carried by said sleeve, as
5 and for the purposes specified.

In testimony that we claim the above we

have hereunto subscribed our names in the presence of two witnesses.

WARD DECKER.
JOHN P. BELL.

Witnesses:

F. C. HILL,
FRED. H. ELSTER.