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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN DRAFT-DEFLECTING PLATES IN COOKING-STOVES.

Specification forming part of Letters Patent No. **210,440**, dated December 3, 1878; application filed March 4, 1878.

To all whom it may concern:

Be it known that I, THEODORE B. WAY, of the city of Troy, county of Rensselaer, and State of New York, have invented an Improved Method of Operating a Draft-Deflecting Plate within the Draft-Chamber of a Cooking-Stove, of which the following is a specification:

My invention relates to a manner of constructing a hinged draft-deflecting plate and a slide-damper, so that the latter shall operate the former to open and close the space in the draft-chamber of a cooking-stove, between the edge of the grate and the inside of the stove-wall, at the front.

The object of the invention is to have the slide-damper and swinging plate co-operate, so that when the damper is opened it will in opening force the deflecting-plate to swing up, so as to close the draft-space between the edge of the grate and the inside of the front wall of the stove, and thus force the entering air-draft to pass up through the bottom of the grate, and when the damper is closed will allow the deflecting-plate to swing down, so that the open clinker-cleaning space at the bottom of the front wall of the fire-chamber will be in communication with the draft-chamber area below.

My invention consists in arranging a hinged draft-deflecting plate within the draft-chamber of a cooking-stove, so that it will freely swing up and down, and between the wall and front edge of the grate, by means of an upturned and curved projecting foot formed upon the end of the sliding draft-damper plate, whose curved surface upon its inner side engages the end of the hinged swinging plate, and as the damper-plate is moved laterally it forces the plate to swing up or allows it to drop down.

In the accompanying drawing there are three figures illustrating my invention.

Figure 1 shows a vertical section of the fire-chamber of a cooking-stove, illustrating the hinged swinging plate in contact with the projecting curved foot, with the plate partly turned up. Fig. 2 shows a rear view of the swinging plate.

The various parts of the device and the stove to which the same are applied are designated as follows by letter-reference: J J, the stove-

jambs; A, the draft-chamber below the grate; G G, the part of the grate in position; P, the hinged plate; D', the damper-handle; D'', the sliding damper-plate; O O, the draft-damper openings; F, the projecting curved foot, which engages the edge of the hinged plate P at E. T T designate the journals for the latter to swing in. H denotes the hearth; S, a portion of the fire-chamber front wall, and R the front wall of the stove, to which, on its inner side, the swinging plate is hinged.

The operation of the combination is as follows: The damper-plate D'' is of the usual construction, and arranged, in the usual manner, to slide horizontally upon the inside of the front stove-wall, the latter having apertures O O, to correspond with the apertures formed in the damper-plate, and which when opposite allows all the draft to enter the opening; but when moved horizontally until the blank surfaces on the plate come opposite the openings in the stove-wall it closes the draft. The foot F, formed upon the end of the damper-plate D'', engages the end of the swinging plate at E, so that when the former is moved horizontally to open the damper-apertures the plate swings up, so as to cause the draft to enter the grate at the bottom, instead of allowing part of it to enter the clinker-cleaning opening at the front and bottom of the fire-chamber wall. When the draft-damper is moved horizontally to close the damper, then the swinging plate, no longer held up by the curved foot under the influence of gravity, falls down to open the space between the front of the grate and the inside of the stove front wall, and to which the plate is hinged.

While I have shown the curved foot as formed upon the damper-plate, it is plain that it may be formed upon the hinged plate, and so as to engage a projecting cam-surface upon the sliding draft-plate, and thus arranged to produce the same result.

While I have illustrated the damper-plate with its projected curved and upturned foot arranged upon the front stove-wall, it may be formed upon the hearth with the foot so curved and projected upward and rearward as to engage the end of the swinging plate in the same manner and operate in the same way.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

In combination within the draft-chamber of a cooking-stove, a swinging draft-deflecting plate, hinged to the inside of the stove-front, and a sliding damper-plate having a curved and rearwardly-projecting upturned foot, which engages the end of the hinged plate in the manner specified, so as to force the latter

up to close the space between the grate and front stove-wall when the draft-damper is opened, and releases it to swing down when the draft-damper is closed, as shown and described.

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Witnesses:

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