J. E. BIRCH.

DAMPER ATTACHMENT FOR STOVES.

APPLICATION FILED JUNE 15, 1912.

1,053,776. Patented Feb. 18, 1913.

Fig. 1.

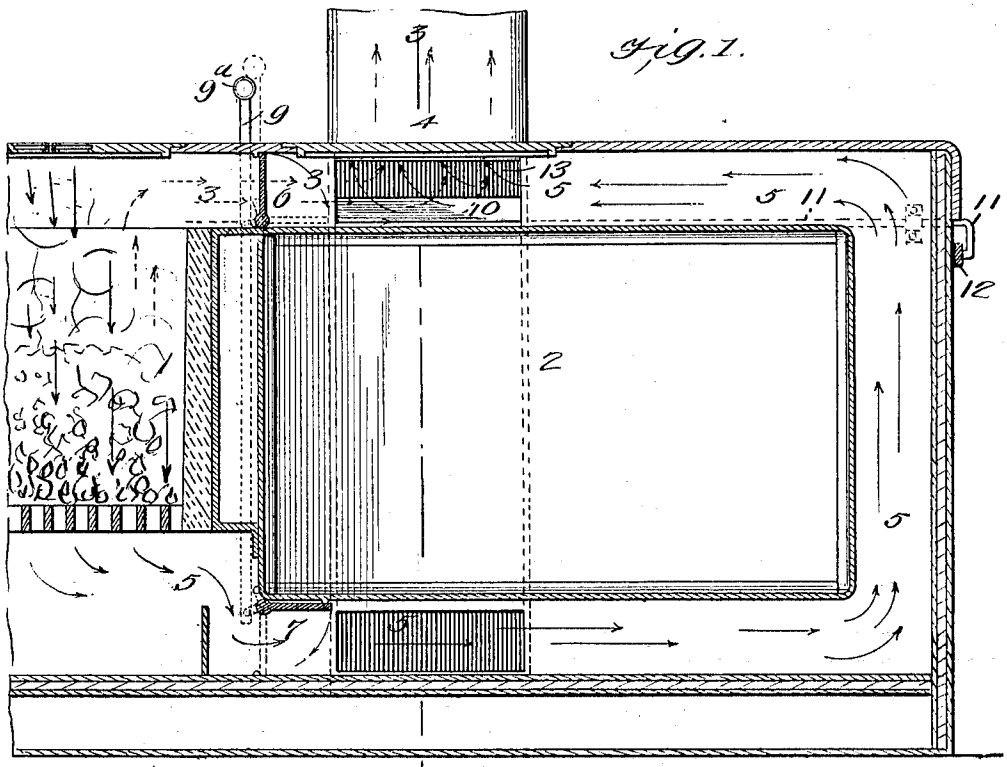


Fig. 4.

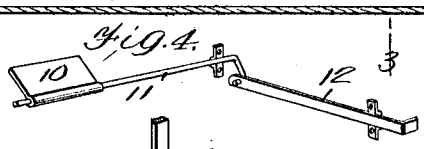
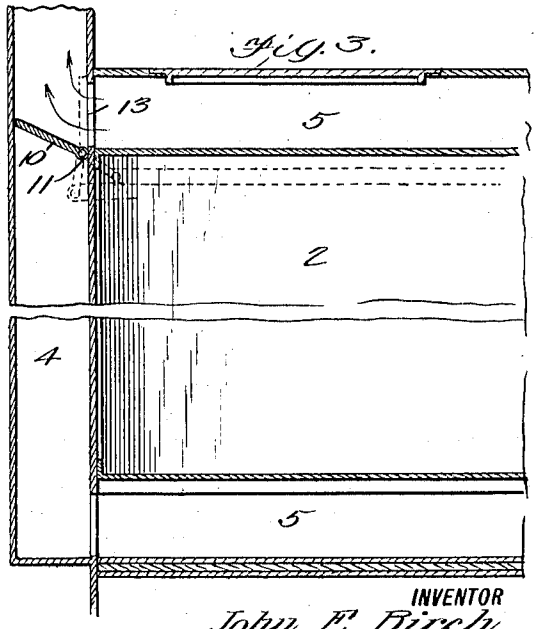


Fig. 3.



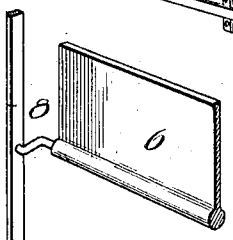
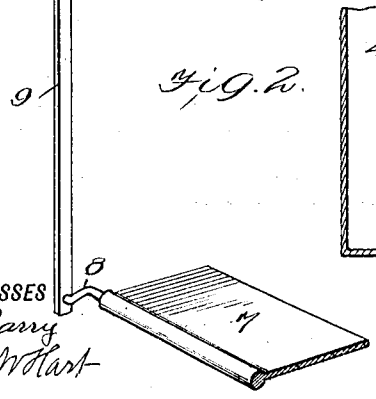


Fig. 2.



WITNESSES

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DAMPER ATTACHMENT FOR STOVES.

1,053,776. Specification of Letters Patent. Patented Feb. 18, 1913.

Application filed June 15, 1912. Serial No. 703,972.

To all whom it may concern:

Be it known that I, JOHN E. BIRCH, a subject of the King of Great Britain, and a resident of Roland, in the Province of Manitoba, Dominion of Canada, have invented an Improved Damper Attachment for Stoves, of which the following is a specification.

My invention is applicable particularly to cook stoves and is embodied in the construction and arrangement of two pivoted dampers, whereby they may be operated simultaneously for closing one and opening the other, to control the circulation of the products of combustion, whereby they may pass directly to the escape flue or be diverted to pass around the oven.

The details of the invention will be understood from the following description, referring to the accompanying drawing, in which—

Figure 1 is a vertical longitudinal section of the main portion of a cook stove. Fig. 2 is a perspective view illustrating the damper attachment. Fig. 3 is a vertical section on the line 3—3 of Fig. 1. Fig. 4 is a perspective view of an ordinary damper and means for operating it.

The numeral 1 indicates the fire-box or fuel chamber and 2 the adjacent oven of a cook stove. A short upper flue 3 leads directly to the vertical escape flue or smoke pipe 4 and a flue 5 leads from the bottom of the fire-box under the bottom of the oven and around the rear end and over the top of the same. This flue is formed by a narrow space which separates the oven on three sides, to wit, top, bottom, and rear end, from the inclosing stove wall.

A damper 6 is pivoted horizontally at the mouth or entrance of the flue 3 and a similar damper 7 is pivoted at the mouth or entrance of the longer flue 5. Each damper is pivoted in such manner as to turn from a vertical to a horizontal position and vice versa, and they are provided with crank arms 8 which are connected by a vertical rod or bar 9 whose upper end 9^a extends above the top of the stove, so as to be conveniently accessible.

It will be understood that the rod is on the outside of the stove and that the cranks serve as pivots at the adjacent ends of the dampers. The dampers are fixed to the cranks or pivots and one is arranged at right angles to the other, as shown in Fig. 2, whereby when one is closed, the other is opened, and vice versa. In Fig. 1, the upper damper 6 is shown vertical, that is to say, closed, and the lower damper 7 is shown horizontal, that is to say, opened. To throw the dampers into this position, pressure is applied to the handle 9^a of the rod 9; and to change the dampers to the alternative position shown by dotted lines in Fig. 1, the rod is pulled upward to the position indicated by dotted lines. It will be seen that when the upper damper 6 is closed, as shown by full lines, the draft is downward through the fire-box and the products of combustion pass into the flue 5 and around the oven to the escape pipe 4. On the other hand, if the dampers be adjusted in the alternative position, indicated by dotted lines, the upper damper will be horizontal and the lower one vertical, thus opening the upper flue 3 and closing the lower flue 5, so that the draft is upward from the fire-box directly into the flue 3 and pipe 4. The two lines of draft are indicated by full or plain arrows and by dotted arrows respectively.

By the construction, combination, and arrangement of dampers and operating mechanism as described, I am enabled to easily control the direction of the products of combustion from the fire-box with advantages which are apparent.

Figs. 3 and 4 illustrate an ordinary damper 10, such as used in cook stoves, which is fixed on a rotatable crank rod or shaft 11 arranged parallel to the flue side of the stove and passing through the vertical flue 4. A slidable bar 12 is pivoted on the crank of said rod and supported horizontally on the rear end of the stove. The damper 10 is adapted to close an opening 13 in the smoke flue 4. The function of this damper is to cut off draft from flue 5. If there were no damper in flue 4, the draft would be direct from fire-box and not go around the oven 2, as indicated by arrows in Fig. 1. The damper 10 must be opened when damper 7 is closed and damper 6 opened.

What I claim is:—

The combination of a fire-box, an adjacent oven, an inclosing wall from which the oven is spaced on three sides, thus forming a flue 5 which opens into the fire-box at the top and bottom of the latter, a vertical smoke-pipe with which the said flue communicates at top and bottom of the oven,

dampers 6 and 7 arranged at the upper and lower entrances of the above-named flue, mechanical means connecting said dampers, and a third damper arranged in the aforesaid smoke-flue and above the oven near the upper entrance of the flue which extends around three sides of the oven, and means for adjusting said dampers to control draft, as described.

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