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W. H. H. MORELOCK.

AUTOMATIC DAMPER.

APPLICATION FILED FEB. 3, 1904.

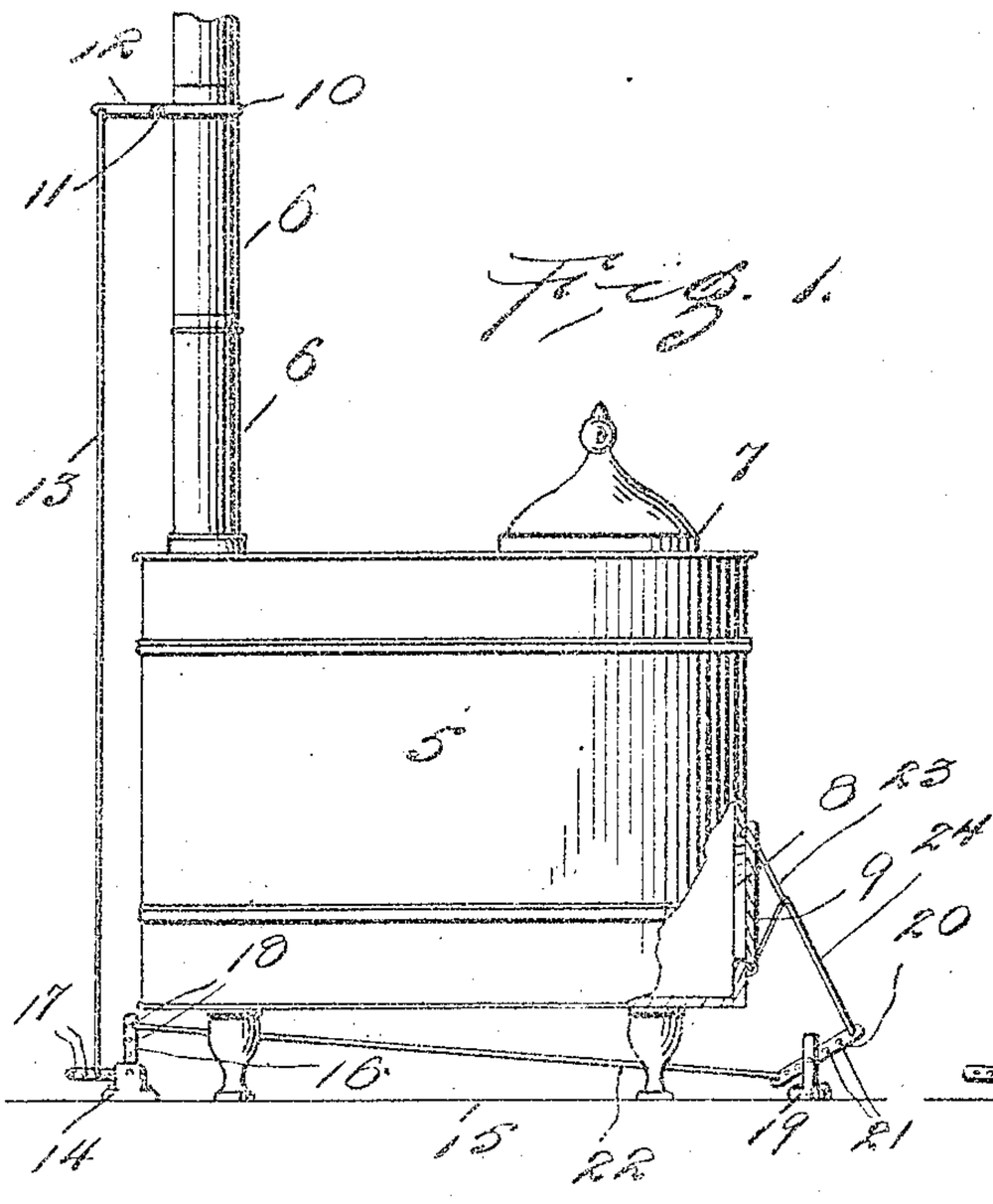

Fig. 1.

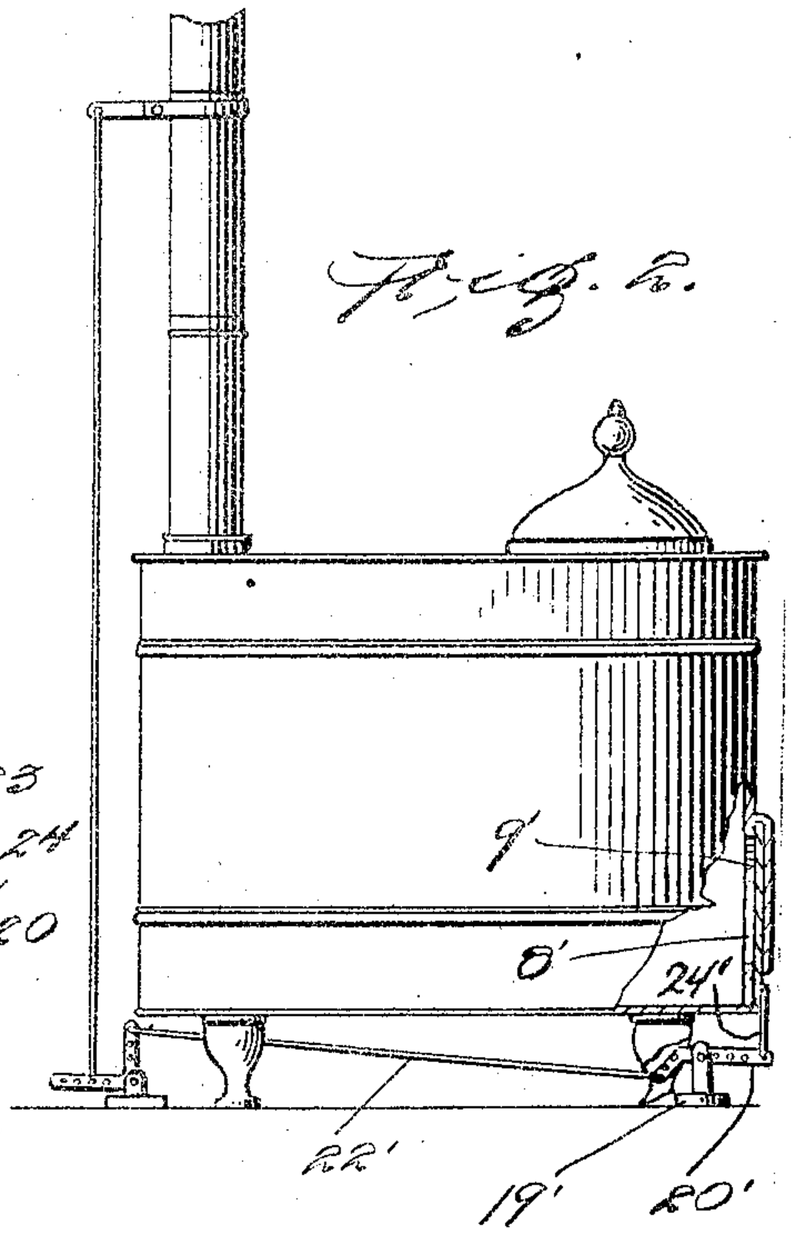

Fig. 2.

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AUTOMATIC DAMPER.

No. 813,228. Specification of Letters Patent. Patented Feb. 20, 1906.

Application filed February 3, 1904. Serial No. 191,820.

To all whom it may concern:

Be it known that I, WILLIAM H. H. MORELOCK, a citizen of the United States, residing at Jonesboro, in the county of Craighead, State of Arkansas, have invented certain new and useful Improvements in Automatic Dampers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to stoves; and more particularly to dampers for maintaining an even heat of the stove, the object of the invention being to provide a construction of extreme simplicity which will contain but few parts that may be easily and quickly applied to an ordinary stove and which will be automatically actuated to open and close a damper or other draft-regulator in accordance with fluctuations in the temperature of a part of the stove.

In the drawings forming a portion of the specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a view, partly in section and partly in elevation, showing the invention applied to an ordinary wood-burning stove. Fig. 2 is a detail view showing a construction for operating a sliding door in the body of the stove.

Referring now to the drawings, and more particularly to Fig. 1 thereof, there is shown a stove comprising a body portion 5, having the usual smoke-pipe leading from the top thereof and consisting of the usual sheet-iron sections 6. The stove illustrated has the usual opening 7 in its top to permit of introduction of fuel, and in the end of the body 5 opposite to the smoke-pipe and directly adjacent to the bottom of the stove-body is an air-feed opening 8, in connection with which there is employed a pivoted door 9, which may be adjusted to close the air-inlet opening to a greater or lesser degree.

The automatic apparatus for opening and closing the door 9 comprises a split collar 10, having a clamping-bolt 11 for clamping it around the smoke-pipe at a suitable distance above the top of the stove, the collar having an ear 12, which projects beyond the plane of the adjacent end of the stove-body 5, and connected to this ear is a rod 13. A block 14 is provided and is adapted for attachment securely to the floor 15 of the room in which the stove is installed, and pivoted to this block 14 is an angular lever 16, the pivot of which passes through the angle thereof. The arms of the angular lever 16 are provided with longitudinal series of perforations 17 and 18, respectively, and the lower end of the rod 13 is turned laterally and is adapted for engagement with the perforations of the series 17 interchangeably, so that as the rod is moved vertically in the manner hereinafter described the angular lever will be given a greater or lesser angular movement. A second block 19 is provided and is secured to the floor beyond the end of the stove in which the opening 8 is formed, and to the block 19 is pivoted a simple straight lever 20, in which is formed a longitudinal series of perforations 21 at both sides of the pivot of the lever. A rod 22 is connected or engaged in any one of the perforations of the series 18 in the lever 16, depending upon the longitudinal movement to be given to the rod, said rod being connected also or engaged in one of the perforations 21 in the adjacent end portion of the lever 20. A bracket 23 is formed upon the outer face of the door 9 and is connected with the lever 20 by means of a link 24, which is pivoted at one end to the bracket, while its opposite end is engaged in a perforation 21 in the opposite end portion of the lever 20 from the rod 22.

It is found in practice that with an arrangement such as above described there is an amount of expansion and contraction of the smoke-pipe between the stove and the collar 10 to actuate the rod 13 longitudinally sufficiently to rock the levers 16 and 20 and swing the door 9 a sufficient angular distance to so modify the draft as to insure a practically even rate of consumption of the fuel in the stove. It will of course be understood that as the smoke-pipe expands the door 9 will be swung into closed position, reducing the draft, and consequently the rate of combustion, so that the smoke-pipe will be permitted to cool. As the smoke-pipe cools the door is swung open, permitting more draft and a higher rate of combustion, and the pipe again expands. In this way the rate of combustion is regulated so as to be practically even, it being understood that the movement of the door is very gradual.

In Fig. 2 of the drawings there is shown a modification adapting the invention for use in connection with a stove-body having a sliding door 9′ for opening and closing the air-inlet or draft opening 8′. In the place of

the straight lever 20 there is employed an angular lever 20′, mounted upon a block 19′ beneath the body of the stove, one end of the lever having connected thereto a rod 22′, corresponding to the rod 22, while a link 24′ connects the opposite end of this angular lever with the sliding door 9′. As the rod 22′ is reciprocated the lever 20′ is correspondingly moved and the door 9′ is slid into open or closed position.

What is claimed is—

As an article of manufacture, an automatic damper-moving mechanism comprising a split collar adapted for engagement with the smoke-pipe of a stove, a clamping-bolt engaged in the collar, an ear carried by the collar, a rod engaged in the ear, a supporting-block, a lever pivoted in the supporting-block for movement in a vertical plane and having series of perforations therein at opposite sides of its pivot-point, said rod having an angular end arranged for interchangeable engagement in the perforations at one side of the pivot-point, a second supporting-block, a lever pivoted in the second supporting-block for movement in a vertical plane, said second lever having series of perforations therein at opposite sides of its pivot-point, a rod having angular ends, one engaged in one of the perforations at the opposite side of the pivot-point of the first-named lever from the first-named rod and being adapted for interchangeable engagement in these perforations, the other angular end of the second-named rod being engaged in one of the perforations of the second-named lever and being adapted for engagement in the several perforations of the same series interchangeably, the other series of perforations of the second lever being adapted to receive an attaching device for connection of said lever with the damper mechanism of a stove.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. H. MORELOCK.

Witnesses:

C. B. GREGG,

HARRY H. HAMILTON.