2 Sheets—Sheet 1.

T. WHITE.

Stove-Damper.

No. 204,406. Patented May 28, 1878.

Fig. 1.

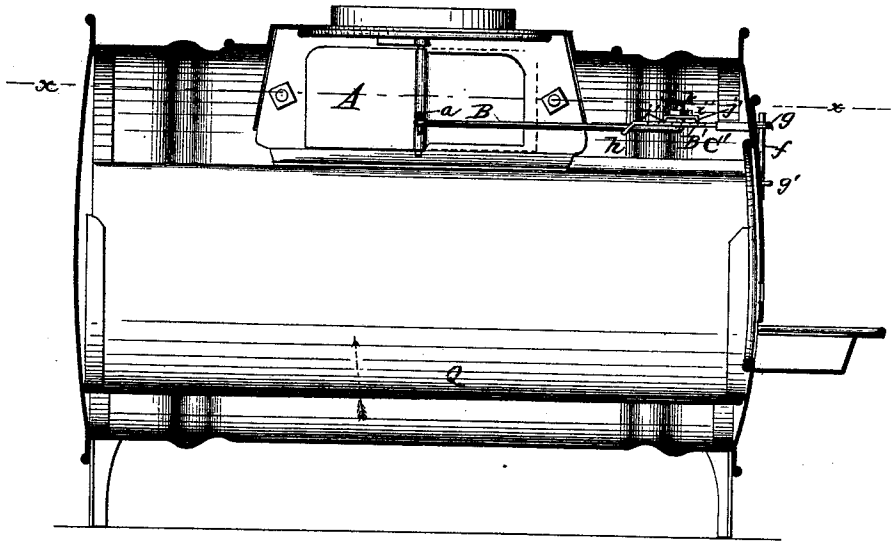
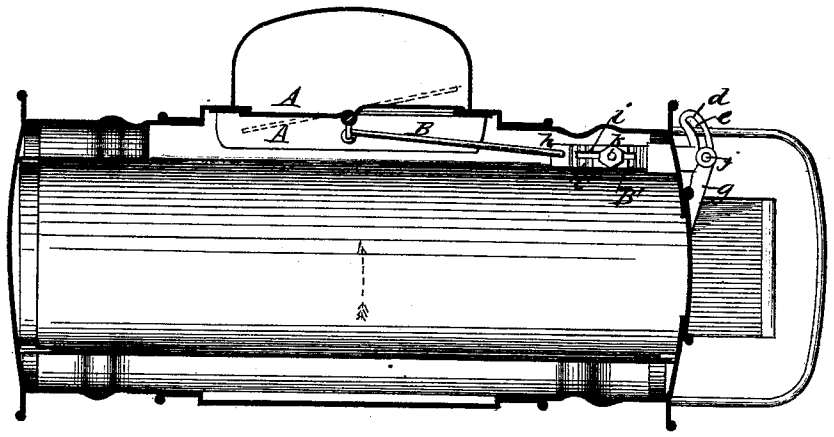


Fig. 2.



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2 Sheets—Sheet 2.

T. WHITE.

Stove-Damper.

No. 204,406. **Patented May 28, 1878.**

Fig. 3.

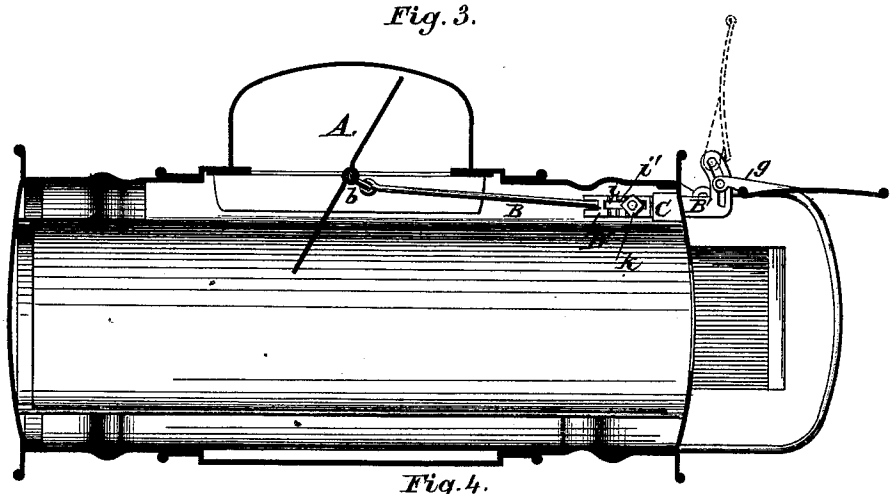


Fig. 4.

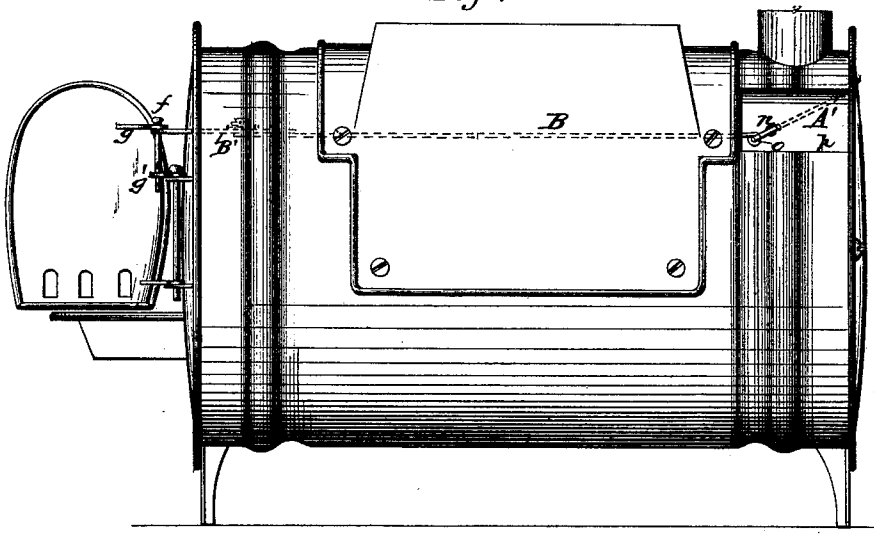


Fig. 5.

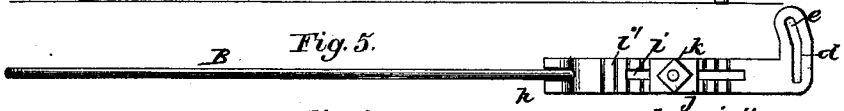
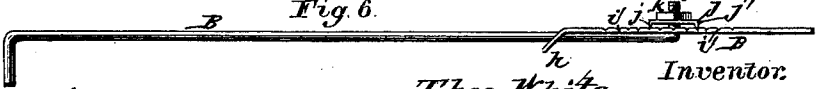


Fig. 6.



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UNITED STATES PATENT OFFICE.

THOMAS WHITE, OF QUINCY, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO DANIEL E. PARRIS, OF TROY, NEW YORK.

IMPROVEMENT IN STOVE-DAMPERS.

Specification forming part of Letters Patent No. **204,406**, dated May 28, 1878; application filed March 16, 1878.

To all whom it may concern:

Be it known that I, THOMAS WHITE, of Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Automatic Dampers for Stoves, of which the following is a specification:

This invention relates to an improved means for operating stove-dampers or draft-regulators by swinging the doors; and its object is to prevent smoking at the doors of stoves when opened.

It consists in the combination, with a stove door and damper, of a connecting-link composed of two parts, which are longitudinally adjustable with respect to each other, whereby the operation of the damper by the swinging of the door may be regulated as desired, as will be hereinafter particularly described; and it also consists in the novel construction of an adjustable link or rod for connecting the door and damper.

In the accompanying drawings, Figure 1 represents a vertical longitudinal section of a wood-stove, having its pipe leading from one side, and its damper-operating devices constructed and arranged according to my invention; Fig. 2, a horizontal section of the same on line *x x*, Fig. 1, showing the stove-door closed; and Fig. 3 is a similar view, showing the door open. Fig. 4 is a side elevation of a stove having its pipe leading from one end, and provided with my improvement. Fig. 5 is a top view, and Fig. 6 an edge view, of the adjustable damper-rod.

The letter A designates the damper, arranged at the entrance of the smoke-flue and pivoted at its middle; and *a* is a stud or eye, projecting inwardly from about the center of said damper. B is a rod, connected at one end to the eye of the damper, and at the other end to a sliding bar, B′, arranged in a horizontal guide-sleeve, C, projecting inwardly from the end plate of the stove, and surrounding a slot cut therein. The outer end of this sliding bar projects through the stove-plate, and has a laterally-extending arm, *d*, in which is cut a curved slot, *e*, through which passes a pin, *f*, which passes also through two lugs or ears, *g g′*, projecting from the front of the stove-door, one, *g*, above and the other, *g′*, below said arm, and forming a portion of the door-hinge. The sliding bar B′ has its end bent flatwise and bifurcated, as shown at *h*, and through the greater part of the length of said arm is cut a slot, *i*. Upon the upper surface of this bar are formed serrations *i′*, and upon this serrated portion is arranged a rectangular washer or plate, *j*, having its ends bent to form lips *j′*, the long edges of which are sharpened and engage with the serrations *i′*. The outer end of the rod B is screw-threaded, and bent at an angle so as to extend upward through the slot in the bar B′ and through the plate or washer *j*, in which position it is held by a nut, *k*, an intermediate portion of said rod lying in the fork *h*.

By loosening the nut *k* it will be seen that the plate or washer *j* may be moved toward either end of the bar B′, so as to increase or diminish the length of the rod B projecting beyond the end of said arm. Now, when the stove-door is shut, the plate or washer *j* may be so adjusted and secured as to hold the damper either entirely closed, as shown in full lines, Fig. 2, or partly open, as shown in dotted lines.

In opening the stove-door the pin *f* strikes against the outer wall of the slot *e* and causes the bar B′ to move longitudinally, thus drawing the rod B, so as to open the damper; and when the door is fully open, or at a position at right angles to the end of the stove, the bar B′ will cease to slide outward, the shape of the slot *e* permitting the door to swing farther on its hinges without affecting said bar.

In the stove shown in Fig. 4 the pipe is attached at one end, and the damper A′ is hinged at its lower edge, the rod *n*, to which it is firmly attached, extending out through the wall of the stove, and bent to form a crank, *o*, to which the operating-rod B is attached. Said crank plays in a recess, *p*, in the stove-wall, and the operating-rod projects through an aperture in the front wall of this recess. The operation of this modification is obvious.

In the style of stove shown in Fig. 1 the damper A is kept fully closed when the door is shut, the draft passing from the front under the fire-basket Q, and to the flue in the direc-

tion of the arrows; but in a stove only having single walls the damper-rod must be so adjusted as to permit the damper to stand open sufficiently to allow enough draft to promote a proper combustion of fuel and to permit the escape of smoke.

Though I have shown only a wood-stove in illustrating my invention, it is obvious that it may be applied to coal-stoves as well, if found desirable.

It is well known that when stoves are opened for adding fuel or other purposes, smoke is liable to issue from the door unless the damper has been opened also to permit a draft directly inward through the door and fire-chamber to the flue; and while this is more frequently the case with wood than with coal stoves, it often occurs with both, owing to forgetfulness or neglect to properly adjust the damper.

By my improvement the simultaneous opening of the door and damper is secured, and the annoyance of smoky rooms and the double trouble of opening separately the door and damper prevented.

The damper and door of a stove have heretofore been connected by a rod, the outer end of which projects through the wall of the stove, and is provided with rack-teeth gearing with a toothed segment attached to the door. The inconvenience of this projecting end is obviated by my improvement, in which the adjustment is effected inside of the stove.

Having now fully described my invention, I claim—

1. The combination, with a stove door and damper, of a connecting-link composed of two parts longitudinally adjustable upon and with respect to each other, so that said link may be lengthened or shortened within the stove, substantially as and for the purpose set forth.

2. The combination of the rod B, adjustable washer or plate *j*, and the serrated slotted bar B′, having the lateral slotted arm *d*, said parts being held together by a suitable nut, substantially as described, and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

THOMAS WHITE.

Witnesses:
DICKERSON MCAFEE,
CHAS. W. SHINN.