

R. F. DOBSON.
Dampers.

No. 151,575.

Patented June 2, 1874.

Fig. 1

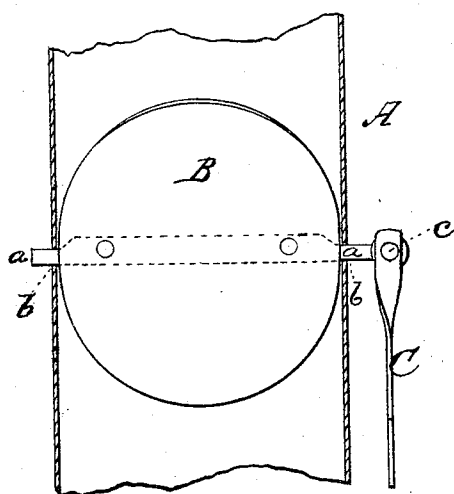


Fig. 2

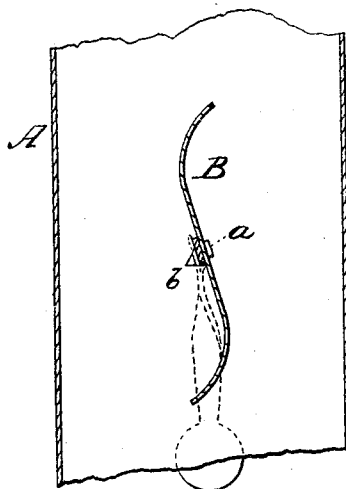
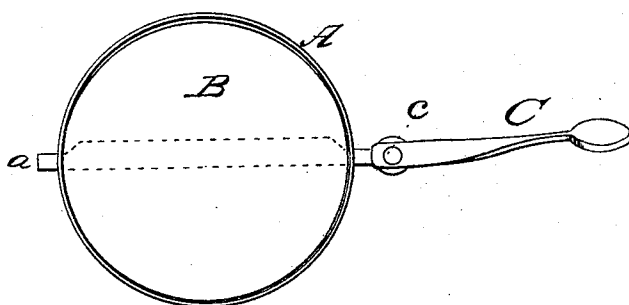


Fig. 3



WITNESSES

George C. Upham.
Robert Everett.

By

INVENTOR

Robt. F. Dobson,
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ATTORNEYS.

UNITED STATES PATENT OFFICE.

ROBERT F. DOBSON, OF DARLINGTON, WISCONSIN, ASSIGNOR OF ONE-HALF
HIS RIGHT TO JOHN MANN, OF SAME PLACE.

IMPROVEMENT IN DAMPERS.

Specification forming part of Letters Patent No. **151,575**, dated June 2, 1874; application filed
March 14, 1874.

To all whom it may concern:

Be it known that I, ROBERT F. DOBSON, of Darlington, in the county of La Fayette and State of Wisconsin, have invented a new and valuable Improvement in Stove-Dampers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figures 1 and 2 of the drawings are representations of my stove-damper as applied. Fig. 3 is a side elevation of the same.

This invention consists in a stove-pipe damper of a serpentine or S shape in cross-section, in combination with knife-edge bearings and an adjustable gravitating arm, which is applied on one end of the knife-edge stem of the damper, whereby a self-acting damper is obtained, which is controlled in its operation by the currents of heated air and smoke rising through the stove-pipe, as will be hereinafter explained.

In the annexed drawings, A designates an upright section of a stove-pipe, and B a damper which is applied therein, and supported, by a stem, *a*, upon the lower edges of triangular holes *b b*, made through the pipe diametrically opposite each other. The damper is curved, so as to present the form of a letter S in cross-section, as shown in Fig. 2, and the stem *a*, which is secured to the damper, and crosses it diametrically, is beveled, so as to present a knife-edge bearing, which will allow the damper to oscillate freely. On one end of the stem *a*, outside of the stove-pipe, I pivot an arm, C, the free end of which is loaded, as shown. The pivot *c* will allow this arm C to be adjusted in line with the stem *a*, or to be set at any desired angle thereto.

The operation of the damper is as follows: When there is no fire in the stove, the damper is held in a perpendicular position, (shown in Fig. 2,) so as to allow a full draft, by means of the weight on the free end of arm C; and, when the heat in the stove increases, the air in the pipe A expands, and rises with a velocity and force proportionate to the amount of heat, and, by impinging against the curved portion on one side of the damper, turns it partly around, and causes it to assume a position represented in Fig. 3, which checks the currents and reduces the draft. As the heat diminishes, the damper will, by reason of a less pressure impinging against it, allow the loaded arm C to approach nearer a vertical position, thus augmenting the draft, and again causing the damper to move more or less toward the closed position.

The arm C is adjustable, so that it can be set at different angles with respect to the line of the stem *a*, and thus made more or less sensitive, as the circumstances of the case require.

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

An automatic damper, having the S-shaped damper-plate B attached to, and oscillating freely upon, stems *a*, having knife-edges, which support them in triangular holes *b b*, situated diametrically opposite each other in a stove-pipe, in combination with the pivoted arm C, which is loaded at the free end, substantially as and for the purposes specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ROBERT F. DOBSON.

Witnesses:

A. W. HOVEY,
EDW. HALLORAN.