

Stovepipe Damper.

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Letters Patent No. 68,738, dated September 10, 1867.

DAMPER FOR STOVE PIPES.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that we, WILLIAM HAILES and PETER FINKLE, of the city of Albany, State of New York, have jointly invented a new and useful Damper for the regulation of the draught in the pipe, flue, or chimney of stoves or furnaces, which we call the Self-Acting Rotary Damper, of which the following specification, with the drawings forming part thereof, is a full and complete description.

Figure 1 represents the damper in front, and

Figure 2 in end view.

Similar letters denote the same parts of the apparatus.

A is a ring of metal, whose exterior periphery is to be of the proper size to fit the diameter of the pipe or flue whose draught is to be regulated, so as to turn freely within it, (in the manner of ordinary disk dampers,) revolving upon axes B and C, and operated by the thumb-piece D, an extension of the axis B, in the usual way. Within the ring A is a wind-wheel fitted to revolve snugly but freely, being a set of oblique wings, E, attached to a central boss, through which passes its axis, by which it is suspended to bars crossing the central diameter of the ring on each side, one of which is shown at G. The outer ends of these wings, as we construct them, and as is shown, are secured to or form part of a thin ring, J; the boss, wings, and ring being cast together. The wings are to be set at such angle or pitch as may be found expedient in practical use.

The operation of the damper is obvious. When an entire free draught is desired, it is turned edgewise in the pipe or flue. When the draught is to be checked the damper is closed across the pipe. When this is done, the wind-wheel begins to revolve, and soon moves with a rapidity proportional to the velocity of the current of air in the pipe, which at first will be very rapid. The effect of the passage of the air as deflected through the wings, combined with its movement along the pipe, causes the currents so to cross and mingle as to check their direct movement through the pipe in direct proportion to the velocity of the wheel, that is, to the quantity of hot air passing through the flue. By this the draught is gradually checked until it is so far reduced as to pass off the gaseous fumes alone and still keep the fuel active.

To use the ordinary disk damper properly it is necessary to close it by hand gradually in order to prevent the escape of gas from the stove or furnace, which would occur by shutting the damper too close at first. This is a troublesome operation, which the revolving damper gradually performs by its self-acting operation.

Another beneficial feature is that the movement of the wings, with their currents of air, prevents the accretion of soot upon the damper, with its injurious consequences.

What we claim as our invention, and desire to secure by Letters Patent, is—

The construction and application of a damper in the form of a wind-wheel with oblique wings fitted to revolve within the pipe, flue, or chimney of a stove or furnace, substantially as described and for the purposes set forth.

WILLIAM HAILES,
PETER FINKLE.

Witnesses:

RICHD. VARICK DE WITT,
D. W. DE WITT.