M. STRASBURG & W. S. THOMAS.

DAMPER FOR OPEN GRATES.

APPLICATION FILED DEC. 23, 1912.

1,067,203. Patented July 8, 1913.

Fig. 1.

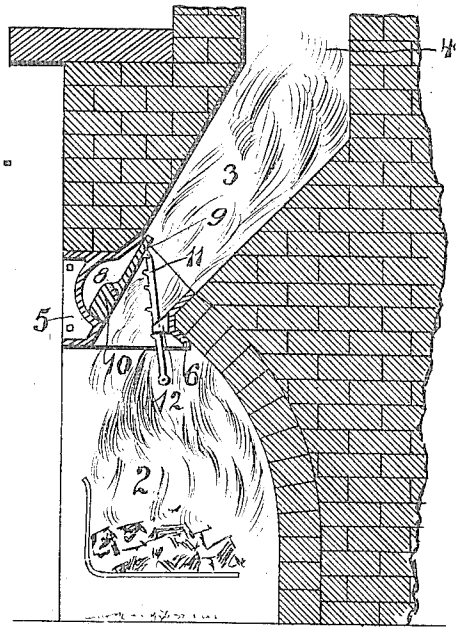
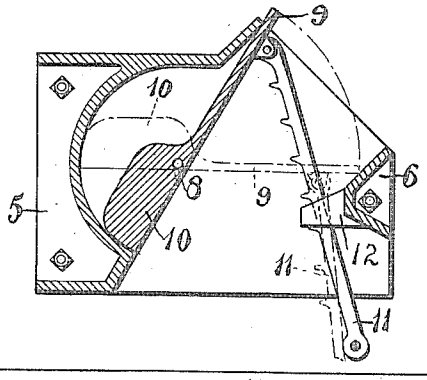


Fig. 2.



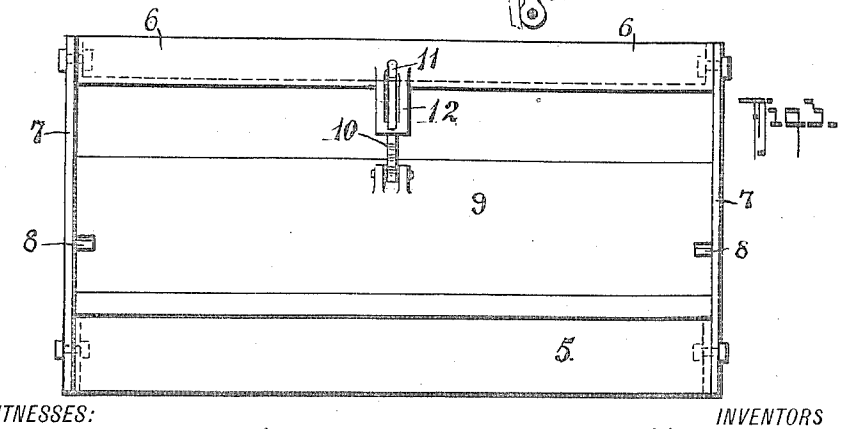


Fig. 3.

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MARTIN STRASBURG AND WILLIAM S. THOMAS, OF VANCOUVER, BRITISH COLUMBIA, CANADA; SAID STRASBURG ASSIGNOR TO ERNEST PHULLER, OF WATERVILLE, WASHINGTON.

DAMPER FOR OPEN GRATES.

1,067,203. Specification of Letters Patent. Patented July 8, 1913.

Application filed December 23, 1912. Serial No. 738,241.

To all whom it may concern:

Be it known that we, MARTIN STRASBURG and WILLIAM S. THOMAS, citizens of the United States of America, residing at Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Damper for Open Grates, of which the following is a specification.

This invention relates to a damper for controlling the draft of an open grate to the chimney and our object has been to provide a draft control that will direct the products of combustion in conformity with the approved construction of grate and its flue without confusion of flow.

The approved form of open grate is arched or sloped upward from the back of the grate toward the front and the flue delivers backward therefrom to the chimney. The ordinary damper, as applied to this opening, is either unbalanced, or if balanced, opens both to the front and back of the pivot on which it turns so that conflicting currents are formed where there should be free egress.

The damper, which is the subject of this application, is pivoted in the approximate plane of the front of the flue and is counterweighted with a slight tendency to open upward to that plane, so that it requires to be secured in the closed, or in any intermediate position, and delivers to the back from the front. The design of the damper is such that it may be readily adapted to variation of size of flue.

The invention is particularly described in the following specification, reference being made to the drawings by which it is accompanied, in which:

Figure 1 is a vertical cross section showing the application of the damper to an open grate of approved form. Fig. 2, is a cross section of the damper and its casing frame to an enlarged scale, and Fig. 3 is a plan with one end of the casing frame detached.

In these drawings 2 represents the fireplace and 3 the flue leading therefrom to that of the chimney 4.

The damper frame consists of a front portion 5 and a back portion 6 which parts connect together the two end plates 7. The damper 9 rests on studs 8 projecting from these end plates 7 and the axis of the studs 8 is in the approximate line of the front side of the flue 3 produced, the casing 5, which forms this front, being hollowed to the radius of the counterweighted end 10 of the damper. The free end of this damper 9 rests, when closed, upon the back portion 6 of the casing and when open, as shown in full lines, will form the front side of the flue, so that, when the damper is fully open, an unimpeded passage is provided which is in conformity with the correct form and direction of the flue; and when partially open, as in any position intermediate of what is here shown, delivers in the same conforming direction.

A rod 11 is pin-connected to the underside of the damper 9, adjacent to its free edge, and depends into the fire-place. This rod is notched to engage the under edge of a loop or keep 12 projecting from the back member 6 of the casing through which loop the rod passes, and the damper is counterweighted, as at 10, to have a slight normal tendency to open. The damper may thus be drawn shut by pulling down the rod 11 or may be opened by pushing that rod back to disengage its notches from the loop 12.

The front, back, and ends of the casing being separable, they may be readily adapted to various widths of flue and damper and the necessity for carrying a variety of patterns is avoided.

We are aware that dampers have previously been used which have been pivotally mounted to turn in the flue, but all with which we are acquainted have been mounted on their axis to expose an opening on each side of the pivot. This double passage is objectionable in such a position as it interferes with the natural flow of the products of combustion and forms confusing eddies, whereas the damper, which is the subject of this application, opens toward the back and is angled to deliver the furnace gases in the direction of flow without confusion.

Having now particularly described our invention and the advantages of its use, we hereby declare that what we claim as new and desire to be protected in by Letters Patent, is:

1. A damper for an open grate, comprising a casing fitted in the outlet from the fireplace to the chimney flue, the front member of which casing is hollowed to a curvature concentric with studs projecting from each end the axis of which studs is approxi-

mately in the continuation of the front face of the flue, a damper having bearings to rest upon the pivotal studs and having a counter-weighted end projecting into and fitting the curvature in the front side of the casing, the back edge of said damper adapted to rest upon the back frame of the casing, and a lifting rod pin-connected to and depending from the free end of the damper, said rod being notched to engage the underside of a loop projecting from the back member of the casing frame.

2. In combination with a fire place and its rearwardly and upwardly projecting outlet to the chimney; a damper comprising a casing fitting the outlet, said casing having a chambered portion in its front side, a damper plate pivoted in said casing to form a closure for said chambered portion and a continuation of the plane of the front wall of said outlet when said damper plate is in its "open" position, said casing including a rear projection to be engaged in its "closed" position and means for sustaining the chambered plate in its adjusted positions.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

MARTIN STRASBURG.
WILLIAM S. THOMAS.

Witnesses:
ROWLAND BRITTAIN,
MAY WHYTE.