

MACKWITZ & FRANKFURTH.

Stove Pipe Damper.

No. 46,007.

Patented Jan'y 24, 1865.

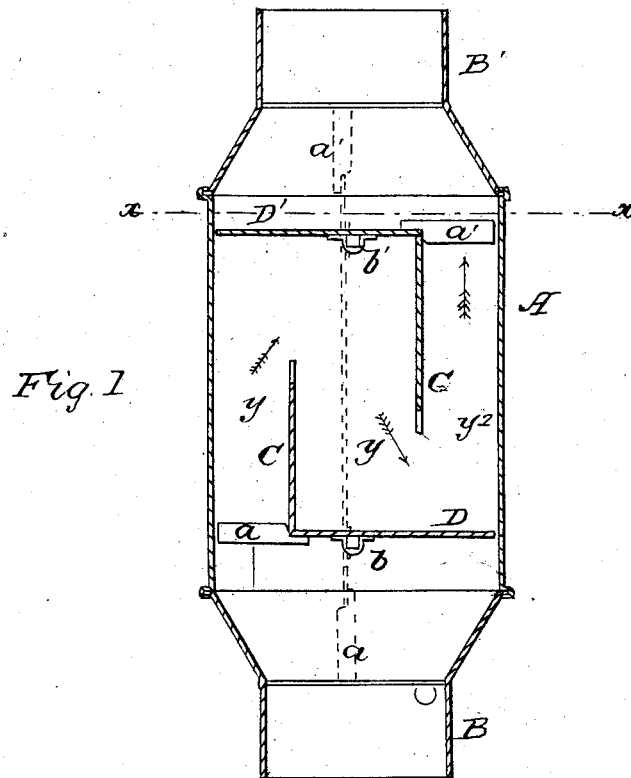
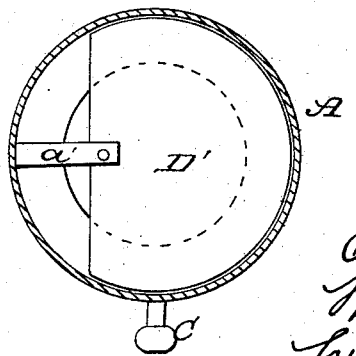


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

EDUARD MACKWITZ AND WILLIAM FRANKFURTH, OF MILWAUKEE, WIS.

IMPROVED STOVE-PIPE DAMPER.

Specification forming part of Letters Patent No. 46,007, dated January 24, 1864.

To all whom it may concern:

Be it known that we, E. MACKWITZ and WILLIAM FRANKFURTH, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Stove-Dampers; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical longitudinal section of a damper made after our invention. Fig. 2 is a cross-section of the same, taken on the line *x* of Fig. 1.

Similar letters of reference indicate like parts.

This invention consists in a novel construction and arrangement of fixed and rotating partitions within a section of stove-pipe, whereby the products of combustion and heated gases from the fire are caused to take a circuitous path in escaping to the chimney, so as to impart their heat to the sides of the pipe.

A represents a section of a stove-pipe, within which the said partitions are placed. The said section in this example of our invention is enlarged, its ends B B' being tapered off to the size of the pipes with which they are to be connected.

C C' are fixed partitions, set longitudinally within the pipe and parallel with each other, extending across from side to side of the pipe after the manner of parallel cords drawn within a circle. These fixed partitions are flat metallic plates, and their positions are on opposite sides of a vertical plane drawn through the axis of the pipe, and each is equidistant between the adjacent side of such a plane and the opposite side of the pipe; or, in other words, said partitions severally bisect the radii drawn from the axis of the pipe to its opposite sides. The said partitions are placed at different heights in said pipe, so that the upper edge of the lower one reaches past the plane of the lower edge of the upper one.

b b' are damper-shafts which pass through the said pipe in the line of its diameter. The lower shaft, *b*, is in the same plane with the lower edge of the lower partition, C, and the upper shaft, *b'*, is in the same plane with the upper edge of the upper partition. Movable or rotating partitions D D' are firmly secured to these shafts, respectively. These movable partitions D D' are each segments of a circle, from the several bases of which extend weighted bars *a a'*, whose office is to balance the said movable partitions.

The said shafts *b b'* have each a thumb-piece, *c*, without the pipe, by means of which the dampers or rotating partitions are set in any required position. When they are set in vertical planes, as shown in red outline in Fig. 1, they are parallel with the fixed partitions, and when set in horizontal planes, as shown in blue outline, their lines are at right angles with said fixed partitions, and as the diameter of said segmental rotating partitions is equal to the distance between the fixed partitions and the furthest side of the pipe, it follows that that whole space will be closed when the segmental partitions are set in horizontal planes. The course of the products of combustion is then upward through the narrow space *y*, thence over the top of the fixed partition C into the space *y'* between the fixed partitions, thence below the fixed partition C' into the space *y''*, and through that space into the connecting-pipe above.

We claim as new and desire to secure by Letters Patent—

1. The arrangement within a drum or a section of a stove-pipe of the fixed and movable partitions C D and the fixed and movable partition C' D' in two series, one above another, substantially as above described.

2. Weighting the movable partitions D D', substantially in the manner described.

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Witnesses:

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