S. F. MYERS.

FIREPLACE DAMPER.

APPLICATION FILED MAY 3, 1911.

1,047,434. Patented Dec. 17, 1912.

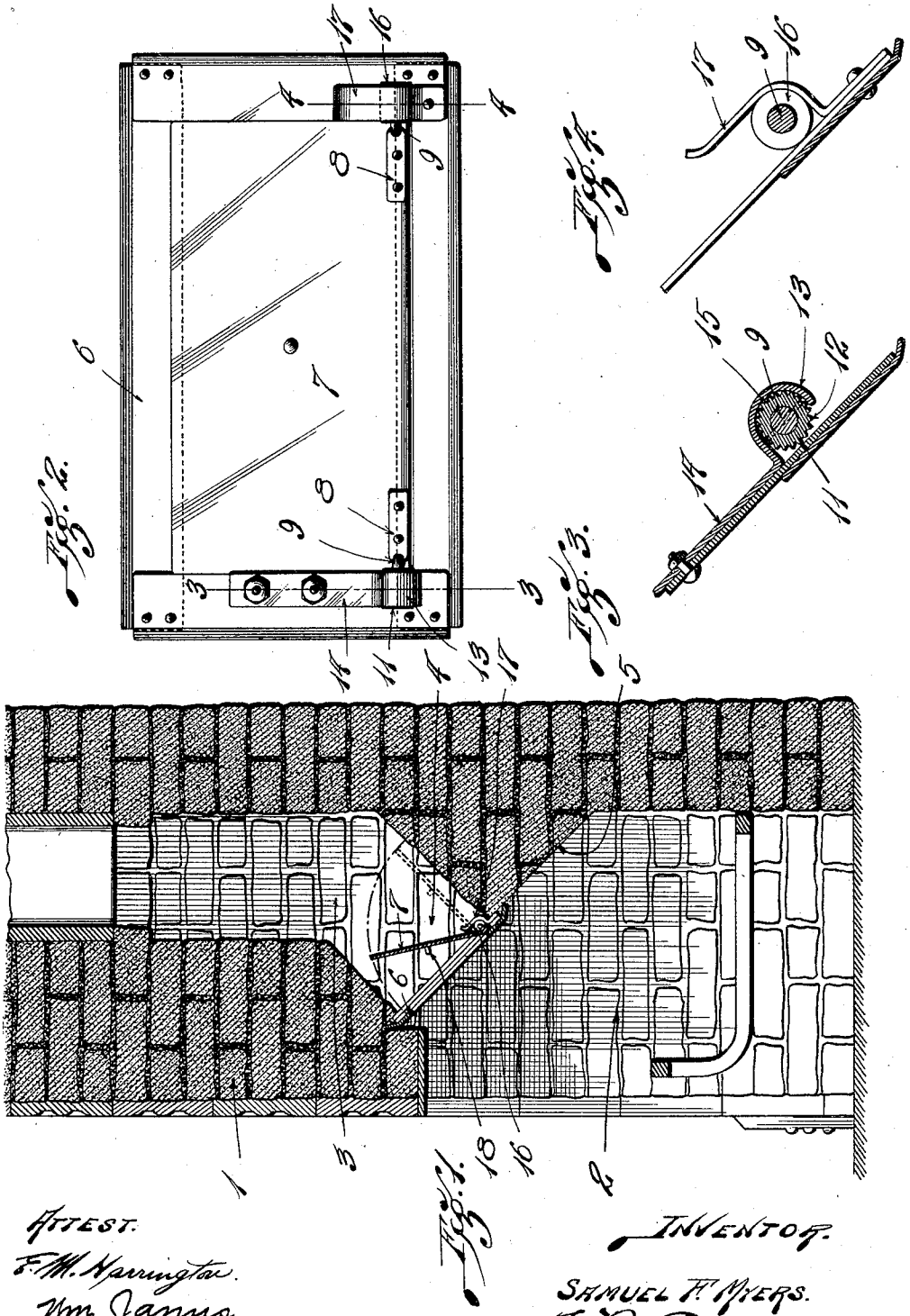

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Attest.

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UNITED STATES PATENT OFFICE.

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FIREPLACE-DAMPER.

1,047,434. Specification of Letters Patent. Patented Dec. 17, 1912.

Application filed May 3, 1911. Serial No. 624,844.

To all whom it may concern:

Be it known that I, SAMUEL F. MYERS, a citizen of the United States, residing at University City, St. Louis county, Missouri, have invented a certain new and useful Improvement in Fireplace-Dampers, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional view taken vertically through the center of a fire place, and illustrating my improved damper positioned therein. Fig. 2 is a rear elevation of the damper. Fig. 3 is an enlarged vertical section taken on the line 3—3 of Fig. 2. Fig. 4 is an enlarged vertical section taken on the line 4—4 of Fig. 2.

My invention relates to a damper for fire places, the object of my invention being to provide a simple inexpensive device adapted to be placed in the throat of a fire place for the purpose of controlling the draft from the fire place into the flue while there is fire on the grate within the fire place, and also for preventing back or down draft through the flue and fire place when the latter is not in use.

In ordinary fire places, or fire places not equipped with dampers or draft retarding devices the greater portion of the heat from the fire on the grate passes upward into and through the flue leading from the fire place, and I propose to overcome this objectionable feature by providing a simple damper which can be readily adjusted so as to regulate and control the draft from the fire place into the flue and thereby deflect the heat from the fire upon the grate outward into the room in which said grate is located.

To the above purposes my invention consists in certain novel features of construction and arrangement of parts hereinafter more fully described and claimed.

Referring by numerals to the accompanying drawings 1 designates the brick work or wall in which the fire place 2 is formed, and leading upward through the wall from said fire place is the usual flue 3.

4 designates the throat or opening leading from the fire place 2 into the vertical portion of the flue 3 and which throat is usually inclined relative to the vertical plane occupied by the flue.

The upper rear face 5 of the fire place is usually inclined and my improved damper as hereinafter described is applied to this inclined face 5 immediately over the opening into the throat 4.

In the construction of my improved damper a rectangular frame 6 is formed of metal, either in a single piece or of a series of rails as shown in Fig. 2, the ends of which are united in any suitable manner, and this frame is positioned immediately against the inclined face 5 of the fire place with the opening in the frame coinciding with the opening into the throat 4. The ends of the frame thus formed are embedded in the brick work forming the side walls of the fire place, or where the damper is applied to fire places already built it can be anchored in position by means of pins or bolts seated in the brick work.

The movable portion of the damper comprises a rectangular plate 7 of metal of such size as to close the opening in the frame 6, and fixed to the lower corners of this plate 7 are short plates 8, the outer ends of which are provided with pins 9 which project beyond the side edges of the plate 7.

Rigidly fixed in any suitable manner to one of the pins 9 is a cylindrical member 11, the periphery of which is provided with a series of longitudinally disposed ribs or corrugations 12. This ribbed member 11 is inclosed by a semi-circular plate 13, which is formed on or fixed to the lower end of a flat resilient plate 14, the upper portion of which is detachably fixed to the rear side of the frame 6 immediately adjacent the opening therein. Formed on the inner face of the semi-circular plate 13 is a transversely disposed lug or rib 15 which is adapted to engage between the ribs or corrugations on the cylindrical member 11. When the plate 7 is swung backward or forward relative to the frame 6 the lug or rib 15 rides into the depressions between the ribs or corrugations 12 on the periphery of the cylindrical member 11, and in so doing the semi-circular plate 13 carrying the rib or lug 15 yields slightly, which action is possible for the reason that the plate 14 is resilient.

Fixed on the pin 9 opposite the pin to which the member 11 is fixed is a cylindrical member 16 which is journaled in a bearing 17, the same being fixed to the rear side of the plate 6.

Formed on or fixed to the front face of

the plate 7 is a projection 18 which is adapted to be engaged by a suitable tool or device when the damper or plate 7 is to be adjusted.

When my improved damper is in use and a fire is started on the grate within the fire place 2 the damper or plate 7 is swung to its limit of movement rearwardly as shown by dotted lines in Fig. 1, thereby uncovering the opening into the throat 4 and permitting the smoke and products of combustion arising from the newly started fire to pass freely through the throat and into the flue. When the fire has burned down so that heavy smoke is no longer given off the damper or plate 7 is drawn forward by engaging the projection 18 with a suitable tool or device, and said plate or damper can be adjusted in position so as to partially cut off the draft from the fire place into the flue and the greater portion of the heat from the fire within the fire place will now be deflected outward into the room, in which the fire place is located, and the gases and other products of combustion arising from the fire will pass through the narrow opening into the throat and from thence into the flue.

When the fire place is not in use the opening from said fire place into the flue can be wholly closed by bringing the damper or plate 7 into position directly against the frame 6 and thus back or down drafts are prevented from passing downward through the flue and into the room in which the fire place is located.

When the damper or plate 7 is moved from one position to another the cylindrical members 11 and 16 rotate within their respective bearings, and the lug or rib 15 carried by the yielding semi-circular plate 13 engages between the pair of the ribs or corrugations 12 to effectually hold the plate or damper in its adjusted position.

A device of my improved construction is comparatively simple, can be readily applied for use, and can be easily and quickly adjusted for the purpose of controlling the drafts from a fire place into the flue, and for preventing back draft from the flue into the fire place.

While I have shown my improved damper positioned in a brick fire place, it will be readily understood that the damper can be advantageously used in connection with all forms of fire places and particularly the so-called combination grates wherein a metal frame and grate are combined and are located in the fire place opening.

I claim:

1. A damper for fire places comprising a frame adapted to be located in the fire place around the opening leading therefrom into the flue, a plate adapted to close the opening in said frame, hinge pins on said frame, one of which hinge pins is provided with a series of notches, bearings on the frame in which the hings pins are journaled, one of which bearings is resilient and engages the notched hinge pin, and a lug on said resilient bearing adapted to engage between the notches of said notched hinge pin.

2. The combination with a rectangular frame adapted to be located within a fire place, of a plate adapted to close the opening in said frame, laterally projecting trunnions on the lower corners of said plate, bearings fixed to the frame for receiving said trunnions, one of which bearings is resilient, and an interlocking connection between said resilient bearing and the trunnion operating therein, whereby the plate is supported in position after adjustment.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 28th day of April, 1911.

SAMUEL F. MYERS.

Witnesses:
M. P. SMITH,
WILLIAM L. MYERS.