No. 757,067. PATENTED APR. 12, 1904.

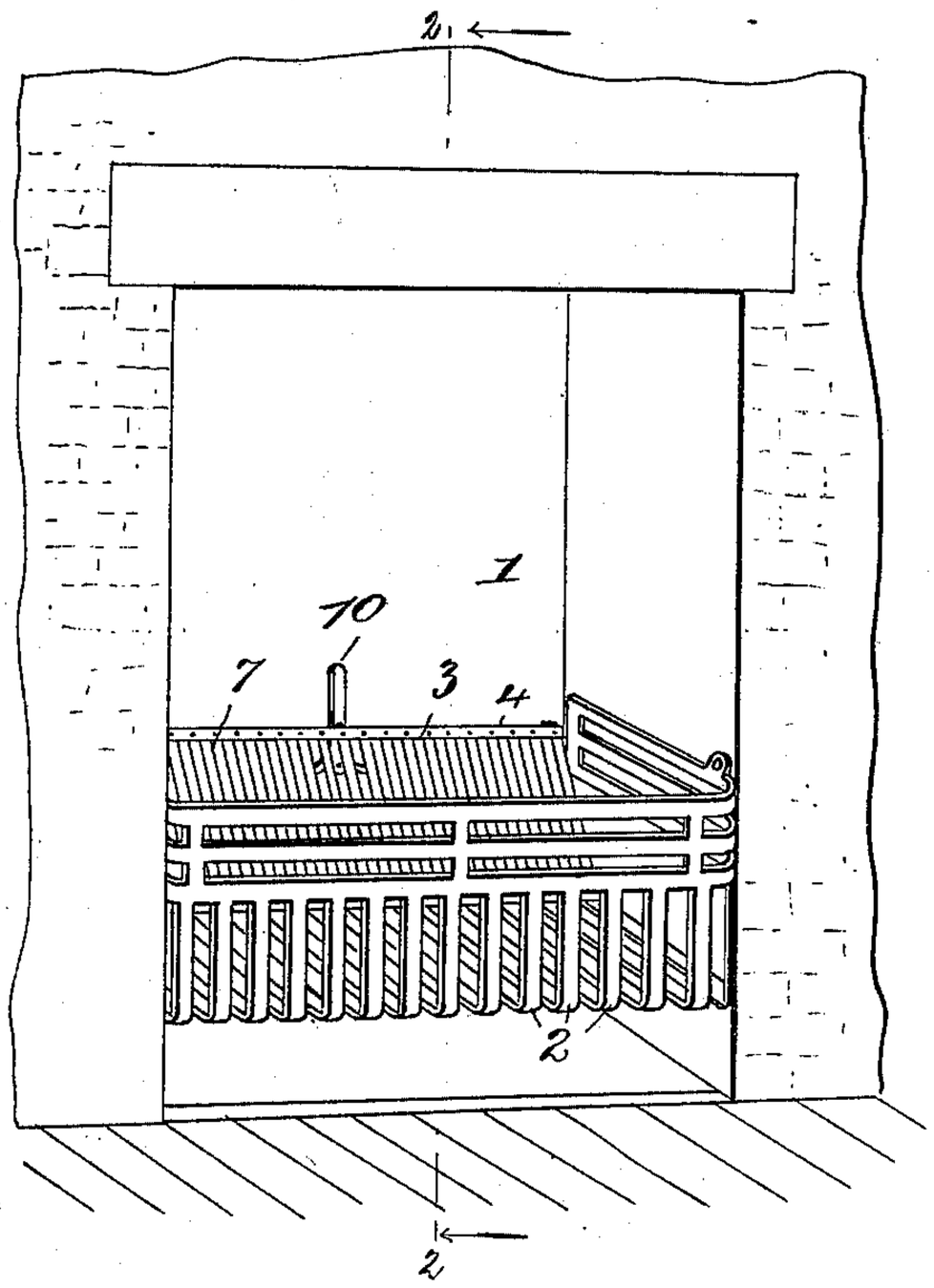
# M. A. STEWART.

## FIRE GRATE ATTACHMENT.

APPLICATION FILED JAN. 15, 1903.

NO MODEL.

Fig. 1



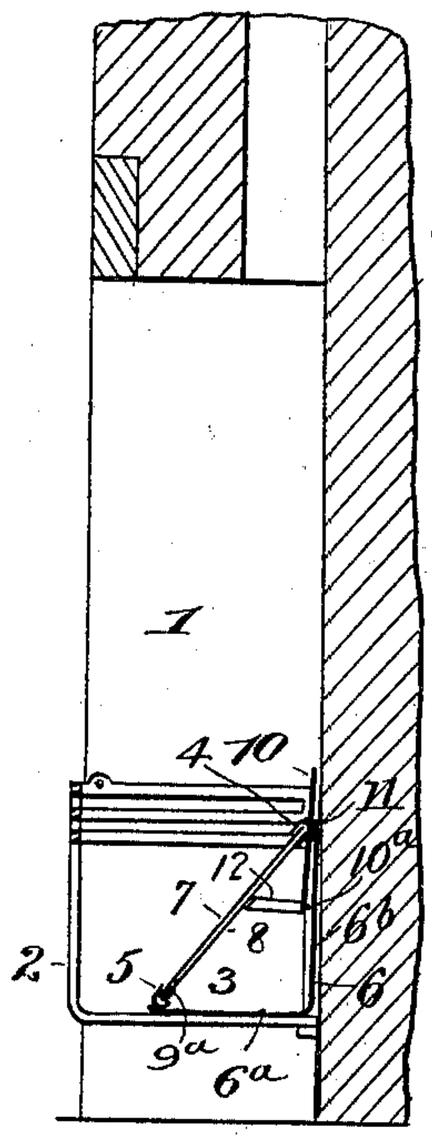




Fig. 2.

Fig. 3

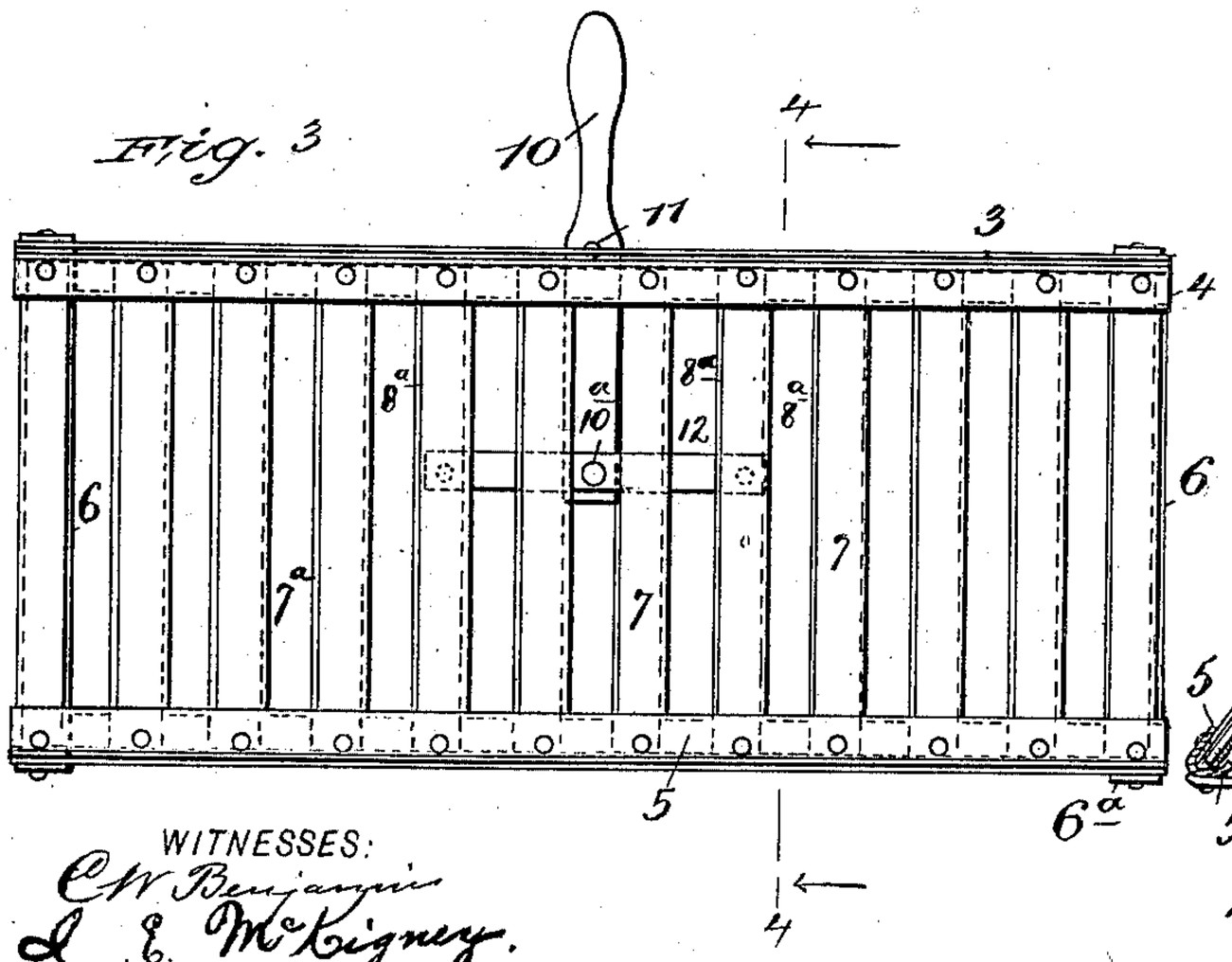
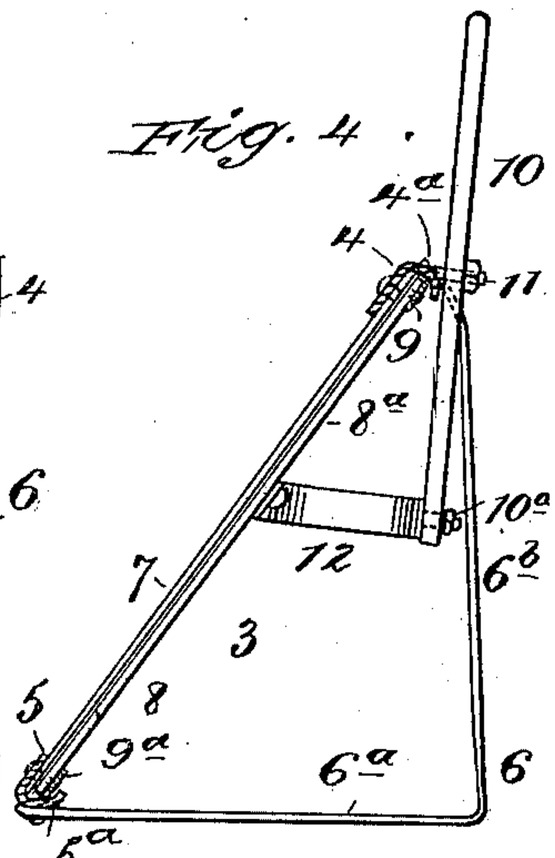



Fig. 4.

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No. 757,067. Patented April 12, 1904.

# UNITED STATES PATENT OFFICE.

MATTHEW A. STEWART, OF NEW YORK, N. Y.

## FIRE-GRATE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 757,067, dated April 12, 1904.

Application filed January 15, 1903. Serial No. 139,118. (No model.)

*To all whom it may concern:*

Be it known that I, MATTHEW A. STEWART, a citizen of the United States, and a resident of New York city, borough of Manhattan, New York, have invented certain new and useful Improvements in Fire-Grate Attachments, of which the following is a specification.

In many fire-grates now in use the ashes pack more or less tightly in the lower back corner of the grate and prevent free circulation of air from below at the back through the live fire, thereby making the lower back portion of the grate at times not only useless for heating purposes, but a detriment to the proper draft of the fire in the grate.

The object of my invention is to provide an attachment or device adapted to be removably placed at the lower back corner of a grate of an open fireplace to obviate and prevent the packing of the ashes at the back corner of the grate, as above indicated, and also to assure free circulation of air through the live fire upwardly from the lower back corner of the grate, provision in such attachment being made for regulating the draft through it upwardly toward the fire.

To these ends my invention comprises a frame adapted to fit at the back of the grate and provided with a front upwardly and rearwardly inclined grating or grid adapted to permit the circulation of air therethrough to the coal lying in front thereof and a regulator carried by said attachment to control the passage of air therethrough after the manner of a damper.

The invention also contemplates the novel details of improvement that will be more fully hereinafter set forth, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part hereof, wherein—

Figure 1 is a perspective view of a fireplace-grate provided with my improvements. Fig. 2 is a vertical section thereof on the line 2 2 in Fig. 1. Fig. 3 is a detail face view of my improved grate attachment, and Fig. 4 is a section thereof on the line 4 4 in Fig. 3.

Similar numerals of reference indicate corresponding parts in the several views.

In the drawings the numeral 1 indicates a fireplace, and 2 a grate of any usual form of well-known open fireplace, and at 3 is indicated generally my improved attachment for the grate.

The attachment, as shown in the drawings, comprises horizontally-disposed bars 4 5, connected together at their ends by bracket-pieces 6, having base portions $6^a$ and upright portions $6^b$, which preferably extend at a right angle to each other, or nearly so, so that the parts $6^a$ may rest upon the bottom bars of the grate and the parts $6^b$ will rise along the back of the fireplace, as indicated in Fig. 2. Between the bars 4 5 extends a grating 7, preferably in the form of parallel bars located at suitable distances apart to provide air-spaces $7^a$, the arrangement being such that the bars 7 extend in an upward and rearward direction or incline rearwardly from the front bar 5 to the upper bar 4, the attachment in end view appearing substantially triangular, the base of the triangle being at the bottom, the vertical or upright side being at the back, and the inclined grate-like side being at the front when the attachment is placed within the grate 2. (See Fig. 2.) The bars 4 5 7 and members 6 of the attachment, as above described, may be of separate pieces of metal riveted or otherwise secured together or may be made of cast metal in a single structure or otherwise suitably arranged for the purpose.

To control the draft through the spaces $7^a$ between the bars 7, I provide a damper or slide 8, preferably in the form of a grating or grid having bars $8^a$, corresponding to and lying behind the bars 7 and adapted to slide across the spaces or openings $7^a$ between the bars 7 to wholly or partially close such openings or leave them entirely open.

To conveniently support damper 8 in connection with bars 7, I have shown the bars $8^a$ as connected at their ends with bars 9 $9^a$ and guided by the bars 4 5, for which purpose the latter are shown as grooved longitudinally on their inner opposed faces, as at $4^a$ $5^a$, respectively, forming guides or ways for the bars 9 $9^a$ to slide in. By this means the damper 8 is connected with the attachment so as to slide with respect thereto.

To operate the damper 8, I have shown a lever or handle 10, pivotally connected with the attachment, as upon a pivot 11, extending

from bar 4, the lower end of lever or handle 10 being connected with the damper 8, as by a yoke or extension 12, secured to certain of the bars 8ª, as by rivets, and projecting rearwardly, the handle 10 being pivotally connected at 10ª with the yoke or extension 12, sufficient looseness being provided at the pivotal point 10ª to permit proper relative movement of the parts. By this means by rocking the handle 10 the damper 8 may be adjusted with respect to the openings between the bars 7 to regulate the draft between said bars. The attachment above described is to be placed within the grate at the lower back corner of the same, so that the coals for a fire will rest upon the inclined bars 7, whereby an open space at the lower back portion of the grate is provided which permits air to circulate upwardly and through the coals from the rear portion of the latter in addition to the ordinary draft through the front portion of the grate. The result of this arrangement is to prevent the packing of ashes at the lower back portion of the grate and consequent stoppage of or interference with the draft to the fire at the back portion of the grate, whereby the fire can burn more freely, and also by reason of the air entering the fire from behind the heat is driven outward into the room to a greater extent than where a grate is used without such attachment, the advantages of which will be obvious. By suitably manipulating the damper 8 the draft through the back of the fire can be regulated as desired.

The details of construction may be varied without departing from the spirit of my invention.

Having now described my invention, what I claim is—

1. An attachment for fire-grates comprising a series of bars having spaces between them, cross-bars connected to the ends of the first-named bars, standards secured to said bars for supporting the first-named bars in an upwardly and rearwardly inclined position within an open fire-grate, a damper comprising a series of bars connected together and having spaces between them, guides carried by the cross-bars for supporting said damper to slide with respect to the first-named bars, and means for operating said damper, substantially as described.

2. In a grate attachment of the character described, the combination of a pair of bars provided with opposed grooved portions, parallel bars connected with said bars to have spaces between them, standards connected with said first-named bars and arranged to support the said parallel bars in an upwardly and rearwardly inclined position, a damper provided with openings and adapted to be guided by said grooved bars, and means for operating said damper, substantially as described.

3. In a grate attachment of the character described, the combination of upwardly and rearwardly inclined bars having spaces between them, horizontally-disposed bars connected with the first-named bars, means for supporting said bars, a damper to coact with said inclined bars to regulate the draft between them, a handle pivotally connected with one of the horizontal bars, and an extension from said damper pivotally connected with said handle, substantially as described.

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