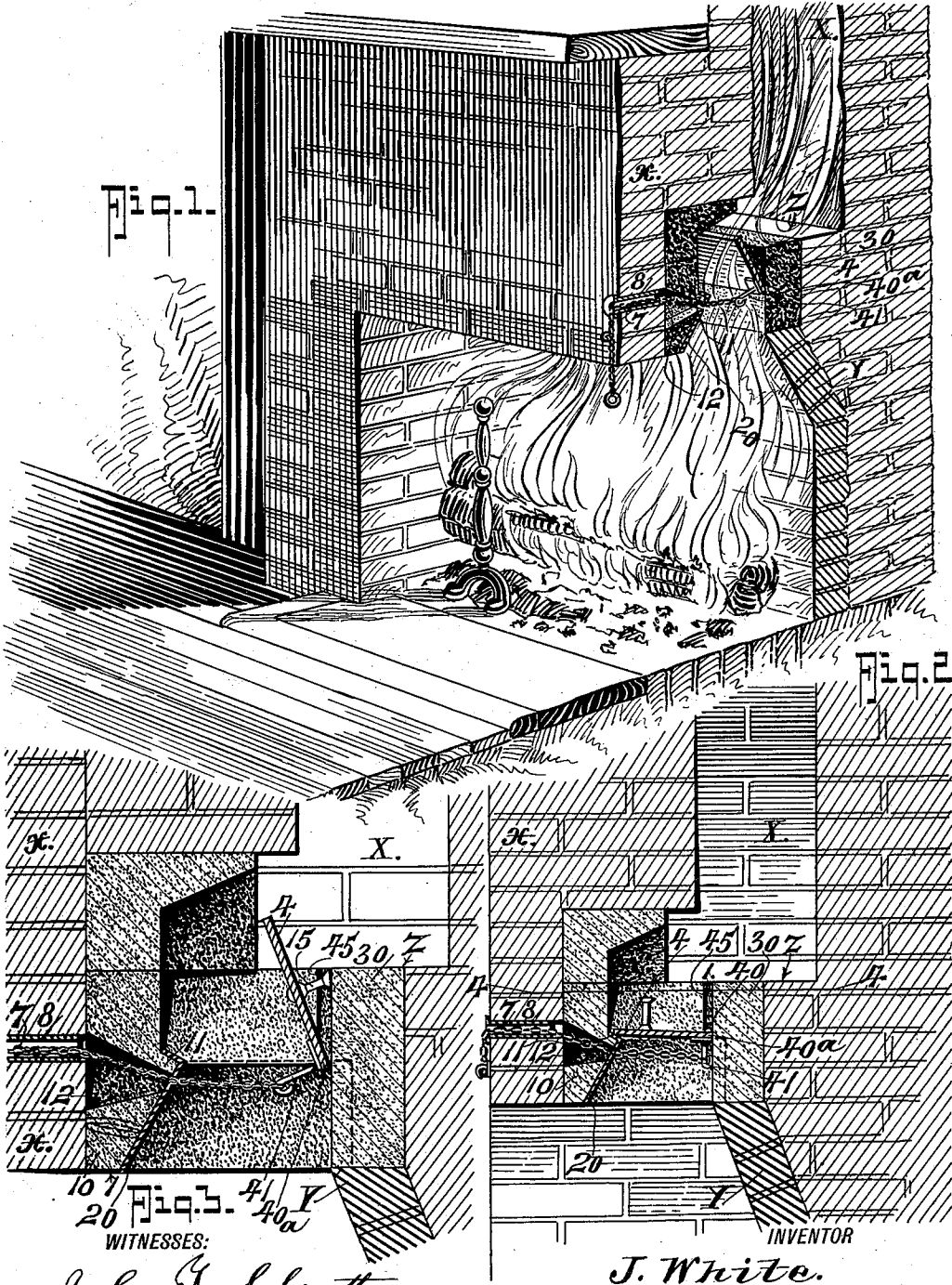


1,023,232.

J. WHITE.
FLUE DAMPER.
APPLICATION FILED JAN. 30, 1911.

Patented Apr. 16, 1912.

2 SHEETS-SHEET 1.



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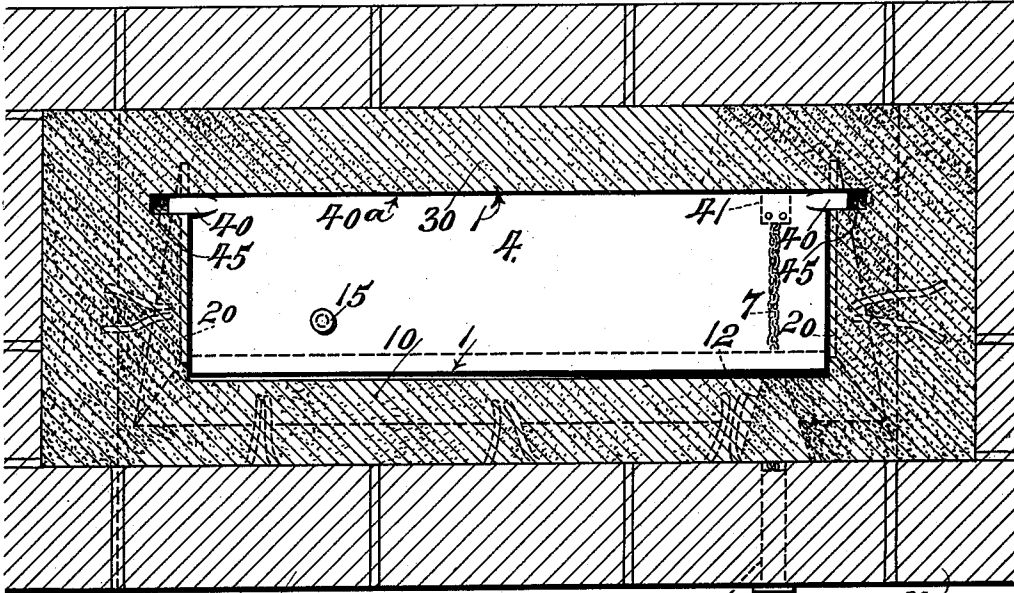


Fig. 4.

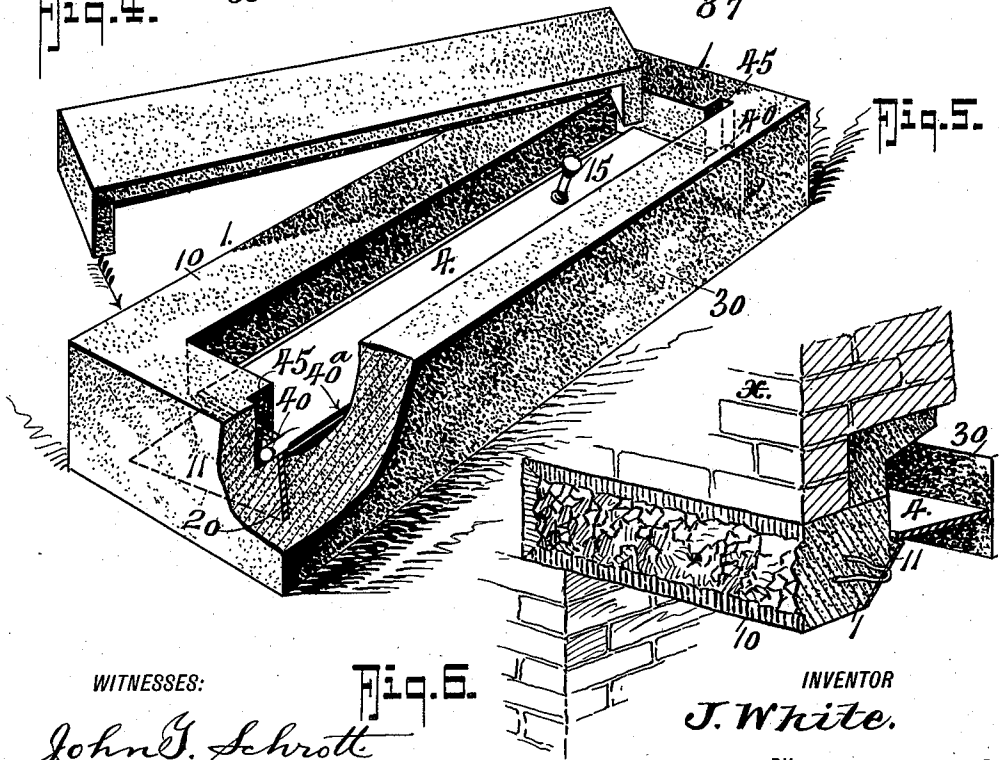


Fig. 5.

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Fig. 6.

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FLUE-DAMPER.

1,023,232.

Specification of Letters Patent

Patented Apr. 16, 1912.

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To all whom it may concern:

Be it known that I, JOHN WHITE, residing at Boise, in the county of Ada and State of Idaho, have invented a new and Improved Flue-Damper, of which the following is a specification.

This invention, which relates generally to damper devices for smoke flues, is more particularly designed for use in connection with open fire-place flues, and it primarily has for its object to provide an improved construction of damper devices of the character stated of a simple and economical nature, in which the parts are so designed and arranged to coöperate, that they can be readily put into operative condition and built in the fire-place by unskilled labor, and when set up the same will be held from being disabled or put out of order under ordinary use, and that can be easily set from the outside of the fire-place and held to its set position.

Another object of my invention is to provide a damper construction of the kind stated, in which the operative parts form, *per se*, a complete structure, that is set in position during the process of building the flue and in which the damper member and actuating means therefor is so arranged, with respect to the flue, that danger of the damper being thrown out of action by dropping down the flue, or by an imperfect building of the flue, is reduced to the minimum.

My invention consists in the peculiar construction and arrangement of the parts hereinafter generally described, specifically pointed out in the appended claims, and illustrated in the accompanying drawings, in which:

Figure 1, is a perspective view of a fire-place with my invention applied, parts being shown in section and broken away to illustrate the internal arrangement thereof. Fig. 2, is a cross section, the damper being at the normal or closed position. Fig. 3, is a similar view that shows the damper as held locked to the upper or open position. Fig. 4, is a horizontal section on the line 4-4 of Fig. 2, Fig. 5, is a perspective view of the concrete lintel or frame, the damper devices mounted thereon, the supplemental concrete lintel being also shown. Fig. 6, is a sectional perspective view showing a modified form of construction.

In the practical application of my invention a rectangular frame 1 is provided, that

is preferably formed of reinforced concrete, and it constitutes the stationary part of my invention. The front member 10 of the member 1 has a finished facing, see Fig. 6, whereby it serves as a lintel, an arch and an angle iron, making anchors unnecessary, the ends of the said frame being built in the flue walls. To provide for a perfect facing a supplemental reinforced beam is loosely mounted on top of the facing frame member 10 that sustains the front wall of the flue and insures a perfect building of the flue, and at the same time cuts down the trouble and expense in cutting bricks, as is usual in the ordinary methods of flue building. When the front of damper devices serves as a front lintel, the said lintel facings are covered with supplemental brick or tiling, as shown in the drawings, and that part over the member 10 is preferably ornamental. The other longitudinal member 30 of frame 1 forms the back of the damper frame and it rests on the back or fire-brick lining Y of the fire-place, its opposite ends being built in the common brick flue walls. The front frame member 10 has its inner face formed with a horizontal shoulder 11 that extends its full length and that part below the ledge tapers to increase the width of the flue opening at the bottom of the damper frame. The member 10 also has a V-shaped opening 12, the apex of which is at the inner side and the outer side of which communicates with a narrow tube 8 that is built in the joints of the supplemental facing and extends through the front thereof, as is best shown in Figs. 2 and 3, by reference to which it will be noticed the hole 12 and the tube 8 form the passage for the pull chain 7 that sets the damper 4, presently again referred to, to its open position and holds it to such set position, the holding being effected by hooking the links of the chain when they pass through the outer end of the tube so they serve as detents (see Fig. 3), it being obvious that the elevated position of the damper may be indicated by the number of chain links pulled out of the tube 8. The damper 4 is a metal plate that extends within the full length of the frame and it is rockably mounted, its trunnions 40, (see Fig. 4) being located nearer the rear member 30 than the front member 10 of the frame for reasons presently explained, and to provide for an easy fitting of the damper plate the concrete frame 1 has vertical sock-

ets 45 to receive the trunnions 40, as clearly shown in Fig. 5.

It should be stated that the frame 1 is built in the fire-place in advance of the main or vertical flue X, or in other words, it is offset from the main flue X so that falling of brick bats, heavy mortar chunks, etc., will strike on the ledge Z at the bottom of the flue X rather than on the damper or its frame, it being clear that by reason of such offset position, anything dropping down the flue, will merely roll over and onto the damper 4, without undue jar or injury to it, or its supporting and actuating devices.

The damper plate 4 (see Figs. 2 and 3) is so mounted that it will drop down to a closure position when the pull on the chain 7 is released so long as the damper does not pass up to the perpendicular position, and to prevent its being pulled up to such position it has an upwardly projected stud 15 of a length greater than the short edge 40 of the damper plate and the said stud 15 engages the member 30 when the damper is swung up (see Fig. 3) and prevents the said damper reaching the perpendicular position.

41 designates a crank stud that projects down from the edge 40^a to which the chain is attached.

By reason of the construction shown and described, the damper is always held free of the danger of being knocked out of operative condition while building the chimney and its closing action is automatically and positively effected when the chain is released. The chain pull and the guide therefor affords a simple and accurate means for regulating the set of the damper and since no springs or rods are used, and the main frame with the damper devices are a complete structure, the same are easily set up, and can be used in connection with any type of fire-place structure.

To reinforce the cement block and also act as a baffle for protecting it from the intense heat, especially at the parts where the flame strikes it the most, I provide a metal plate lining 20 that fits over the inner surface of the block, as best shown in Figs. 3, 4 and 5, by reference to which it will be also noticed that the end members of the said baffle also serve as bearings for the trunnions 40 of the damper 4.

What I claim is:

1. As an article of manufacture a block of fire resisting material having top, bottom, side and end faces and a central flue passage, a damper hingedly mounted in said passage along one edge and adjacent to one side wall, said block having a ledge on which said damper rests to close said passage, said damper swinging to its closed position under the influence of gravity, said block having a passage in one side wall, a flexible

device passing through said passage and connected with said damper whereby said damper may be swung toward a vertical position to open said flue passage and means for limiting the movement of said damper to prevent its reaching a vertical position.

2. As an article of manufacture a block of fire resisting material having top, bottom, side and end faces and a central flue passage, a damper hingedly mounted in said passage along one edge and adjacent to one side wall, said block having a ledge on which said damper rests to close said passage, said damper swinging to its closed position under the influence of gravity, said block having a passage in one side wall, a flexible device passing through said passage and connected with said damper whereby said damper may be swung toward a vertical position to open said flue passage and means for limiting the movement of said damper to prevent its reaching a vertical position, and a second block having a chamber section fitted over said first mentioned block to form a continuation of the central passage thereof of said second block being of less width than said first block.

3. A fireplace flue structure including a wall inclosing a flue passage, a fire resisting block set into said wall to extend across said flue passage, said block having a flue passage through the same and including a ledge projecting into said passage, said block having side bearing grooves extending from the upper surface of said block down into said flue passage of the same and terminating opposite said ledge, a damper having trunnions held in said grooves and adapted to gravitate onto said ledge to close the passage of said block and a manually operated device connected with said damper and extending through an opening in the front wall of said block and an opening in the front wall of said fireplace, by means of which said damper may be swung on its pivot to open said block flue passage more or less.

4. In a fire-place, a flue damper, comprising a block of fire resisting material having side and end walls supported at the ends in the flue walls, said block having a flue passage, a damper plate pivotally mounted in the said passage and gravity dropped to close the said passage, and a flexible chain device attached to the damper plate and operable from the outside of the fire-place for swinging the damper plate to the vertical position said block having an opening through which said chain device projects.

5. In a fire-place, the combination with the main flue; of a building block of fire resisting material having a flue passage horizontally mounted in the fire-place in advance of but in communication with the main flue, a damper plate pivotally mounted

in the block passage to close the same, a chain secured to said damper plate, said block having a passage extended through its front face, a tube mounted in the fire-place wall and alining with said passage through which said chain projects, and a hook on the outside of the said fire-place wall on which said chain may be engaged to hold said damper plate open.

6. In a fire-place, the combination with the main flue; of a block of fire resisting material having a flue passage, said block being horizontally mounted in the fire-place in advance of but in communication with the main flue, a supplemental block of fire resisting material mounted in the fire-place over the front or face member of the block having the passage, a damper plate pivotally mounted in the block passage, a flexible connection secured to the said plate, guides in the fire-place wall and in the block having the flue passage for the said chain, and means on the damper plate for preventing the said plate being tilted to a vertical position.

7. In a fire-place, the combination with the main flue having an offset near its lower end, a block of fire resisting material mounted in the fire-place in the plane of said offset and in advance of the main flue, a damper plate in the flue passage pivotally mounted therein to drop to a horizontal position by gravity, a supporting ledge on the said block that forms a rest for the damper plate, a pendent member on the said plate at a point to the rear of its pivot, an upwardly projecting stud on the plate at a point in advance of its pivot, a flexible pull connected with the pendent member of the damper plate and guide passages for the said flexible pull in the flexible block and in the front or facing wall of the fire-place.

8. As a new article of manufacture a flue damper consisting of a building block of fire resisting material and having a flue passage through the same, metallic plates at the ends of said flue passage, said block having grooves at the ends of said flue passage adjacent to the back wall, a damper having trunnions set into said slots and resting on said plates, said damper adapted to close said flue passage under the influence of gravity, manually operated means for

moving said damper to open said passage, and a stop carried by said damper to prevent its being moved to beyond a perpendicular position, substantially as shown and described.

9. As a new article of manufacture a flue damper consisting of a building block of fire resisting material and having a flue passage through the same, metallic plates at the ends of said flue passage, said block having grooves at the ends of said flue passage adjacent to the back wall, a damper having trunnions set into said slots and resting on said plates, said damper adapted to close said flue passage under the influence of gravity, manually operated means for moving said damper to open said passage, a stop carried by said damper to prevent its being moved to beyond a perpendicular position, combined with a supplemental cover block fitted over substantially the front half of said building block and terminating short of said bearing grooves whereby the damper may be set into the bearing grooves when said blocks are in position.

10. In a fireplace a structure having a flue passage, a building block of fire resisting material set into said structure across said flue passage, said block having itself a passage, a supplemental block set onto said first mentioned block and above the same and extending partly across the flue passage of the same said supplemental block having a chambered portion registering with the flue passage of said first mentioned block, said first mentioned block having trunnion receiving grooves adjacent to the wall opposite said second mentioned block, a damper having trunnions at each side adjacent to one edge, said trunnions being held in said bearing slots, said damper being removable from said building block through the top of same when said blocks are in their relative position, means for sustaining said damper in its closed position to close said building block flue passage, and devices operatable from the outside of the fireplace for moving said damper on its trunnions to open the flue passage.

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Witnesses:

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