Nov. 26, 1957 I. N. SHULTS 2,814,287

DRAFT CONTROL

Filed Aug. 30, 1956

Fig. 1.

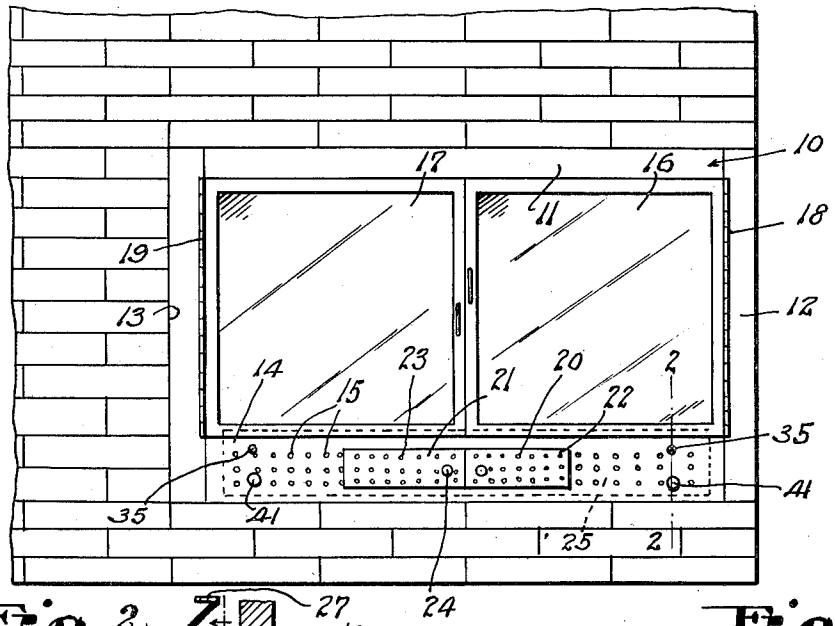


Fig. 2.

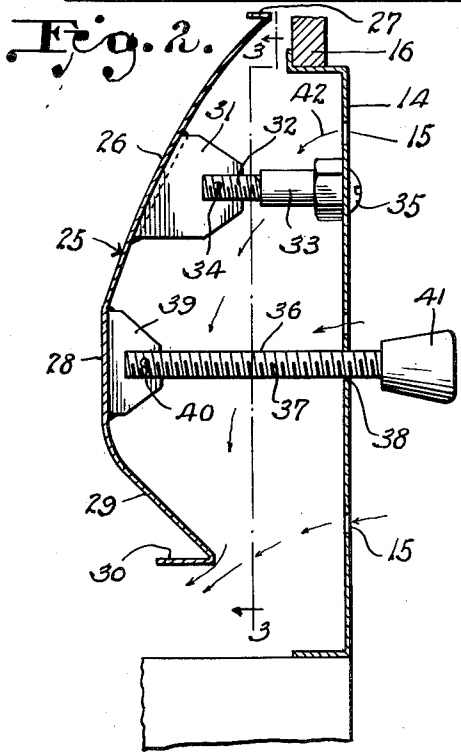
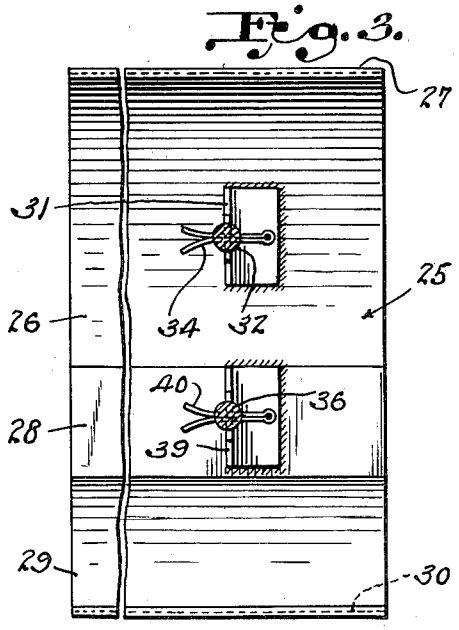


Fig. 3.



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DRAFT CONTROL

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3 Claims. (Cl. 126—140)

This invention relates to a draft controlling air stream for a fireplace.

In a conventional fireplace where the opening in the fireplace is covered by a pair of hinged transparent panels, air is admitted to the fireplace through openings provided below the transparent panels. A bottom plate, which is provided with a series of holes, also has a relatively large opening which is adapted to be closed or partly closed by means of a pair of sliding dampers. It is an object of this invention to provide in a construction of this kind, means whereby the incoming air which enters through the large draft opening and also through the smaller openings may be directed either below the grate for starting a fire or directly up inside of doors along glass, keeping smoke from the glass.

Another object of this invention is to provide a draft controlling means of this kind which can be readily mounted on the inner side of the vertical plate conventionally used with fireplace enclosures so that the incoming air can be selectively directed either to a point below the grate for starting a fire, or directly up inside of doors for keeping smoke from doors.

Other and further objects and advantages of the invention will be hereinafter described and the novel features thereof defined in the appended claims.

In the drawing:

Figure 1 is a detail front elevation of a fireplace having a draft controlling means mounted therein constructed according to an embodiment of this invention.

Fig. 2 is a vertical section taken substantially on line 2—2 of Fig. 1, showing air directed into fire for starting fire.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2.

Referring to the drawing, numeral 10 designates generally a frame which is mounted in a fireplace opening indicated at 13. The frame 10 is formed of an upper frame member 11, vertical side frame members 12 and a relatively wide horizontal bottom plate 14. The bottom plate 14 is provided with a plurality of relatively small air intake openings 15 which permit the entrance of air into the lower portion of the fireplace.

The frame 10 has hingedly mounted thereon a pair of transparent panels 16 and 17. These panels 16 and 17 are hingedly secured as at 18 and 19 to the vertical sides 12 of the frame 10.

The bottom plate 14 is provided with a relatively large horizontally disposed air intake opening 20 and a pair of sliding doors or dampers 21 and 22 are slidably mounted on the inner side of the plate 14. These dampers 21 and 22 are provided with relatively small openings 23 so that air may enter through the closures or dampers 21 and 22 when these dampers are in closed position. Each damper 21 and 22 has a knob or handle 24 secured to the inner portion thereof whereby the dampers may be horizontally shifted to provide for more or less air being freely admitted to the fireplace below the transparent doors or panels 16 and 17.

In order to provide a means whereby air entering through the openings 15 laterally of the opening 20 may be regulated as to the flow thereof, I have provided a baffle plate generally indicated at 25. The plate 25 is of a length to extend across substantially the entire rear side of plate 14 and is formed of an upwardly directed and transversely curved upper portion 26 which terminates at its upper edge in a rearwardly directed flange 27. The upper end of the upper portion 26 extends in the direction of the lower ends of the panels 16 and 17 and in the position of the baffle 26 whereby air is directed downwardly to a point beneath the grate, the upper end of the baffle 26 will be in substantially contacting relation with the inner sides of the closures or panels 16 and 17. The baffle 25 is also formed with a substantially vertically disposed intermediate portion 28 and a downwardly and forwardly directed lower portion 29 extends from the intermediate portion 28 and terminates in a rearwardly directed reinforcing flange 30. The baffle 25 is pivotally mounted at the rear of the plate 14 by means of a pair of forwardly extending lugs 31 which are secured to the forward side of the baffle 25 by metal screw at a point above the transverse median of the baffle 25. A pivot bolt 32 is threaded through a fitting 33 which is secured to the rear side of the plate 14 and the bolt 32 is pivoted to the lug 31 by means of a pivot pin 34. The fitting 33 forms a nut which is adapted to be threaded outwardly on the screw 32 and the head 35 of the screw is disposed on the outer side of plate 14.

The baffle 25 is angularly adjusted on the pivot 34 by means of a rod 36 which is provided with threads 37. The rod 36 extends through an opening 38 in the plate 14 and is pivotally secured at its inner end to a lug 39 fixed to the forward side of the intermediate portion 28 of baffle 25. The rod 36 is pivoted to the lug 39 by means of a pin 40. Rod 36 is provided with a knob 41 at its outer end and the threads 37 form a means whereby the rod 36 will be held in its horizontally adjusted position relative to the plate 14.

In the use and operation of this draft controlling means, the baffle or air controlling member 25 is pivotally mounted on the rear side of the apertured plate 14 by means of the bolts 32. The two rods 36 with the knobs 41 provide means at each side of the fireplace whereby the baffle 25 may be angularly adjusted to effect the flow of incoming air to a point either below the grate to start a fire in the fireplace or to direct up inside of the glass to keep the doors clear of smoke. When rod 36 is moved inwardly the upper end of the baffle 25 will be in substantially contacting relation with the inner sides of the transparent panels 16 and 17. In this position of the baffle 25, the air entering the openings 15 will flow downwardly, as indicated by the arrows 42 in Fig 2 and the air will then pass beneath the lower end of the baffle 25.

If the air is to be directed up inside the doors, keeping doors clear of smoke, the rods 36 are pulled outwardly so that the lower edge of the baffle 25 will be in substantially contacting relation with the lower portion of plate 14. At this time the air will flow inwardly through the openings 15 and will then flow inwardly over the upper edge of the baffle 25 along inside of doors keeping smoke from glass. Tests prove that doors will stay clean and clear ten times longer with my baffle plate than they will with present baffle plate used by manufacturers.

In starting the fire in the fireplace the baffle 25 is set as shown in Fig. 2 of the drawing. The incoming air will follow the arrows 42 to a point beneath the grate. When the fire has started, the baffle 25 is reversely tilted so that the lower edge will substantially contact the inner side of plate 14 and the upper edge of baffle 25 will be spaced inwardly from plate 14 and the bottoms of doors

16 and 17. This incoming upwardly directed air will tend to keep the doors 16 and 17 cool, and also to keep the plate 14 sufficiently cool so that the sliding doors or dampers 20 and 21 will not stick due to expansion under heat.

What is claimed is:

1. In a fireplace, a rectangular frame secured in the fireplace opening, said frame being formed of a horizontal top bar, vertical side bars and a horizontal relatively wide bottom plate, a pair of transparent closures hingedly carried by said side bars, said bottom plate having a horizontally elongated air intake opening, a plurality of relatively small openings laterally of said intake opening, a pair of dampers slidingly carried by said plate and for regulating the passage of air through said intake opening, a horizontally disposed baffle at the rear of said plate and having a length substantially equal to the length of said plate, means carried by said plate swingably mounting said baffle for pivotal adjustment about a horizontal axis, and means for adjusting said baffle to selectively direct the air passing through said intake opening and said lateral openings to a point beneath the grate to start a fire or up inside of glass doors pushing smoke away from doors and keeping them clean.

2. In a fireplace as set forth in claim 1, wherein said baffle means comprises a pair of ribbed rods loosely engaging through said plate, and means pivotally securing the inner ends of said rods to said plate.

3. In a fireplace as set forth in claim 1 wherein said baffle includes a pair of forwardly projecting lugs fixed to the forward side of said baffle adjacent the opposite ends thereof, a pair of bolts formed each with a slotted inner end, means securing said bolts to said plate adjacent the opposite ends, thereof, said lugs engaging in the slots of said bolts, and a pivot pin extending through each bolt and lug.

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