

April 9, 1946.

G. MERRYWEATHER ET AL

2,398,240

FIREPLACE FRONT

Filed July 21, 1945

2 Sheets-Sheet 1.

Fig. 1

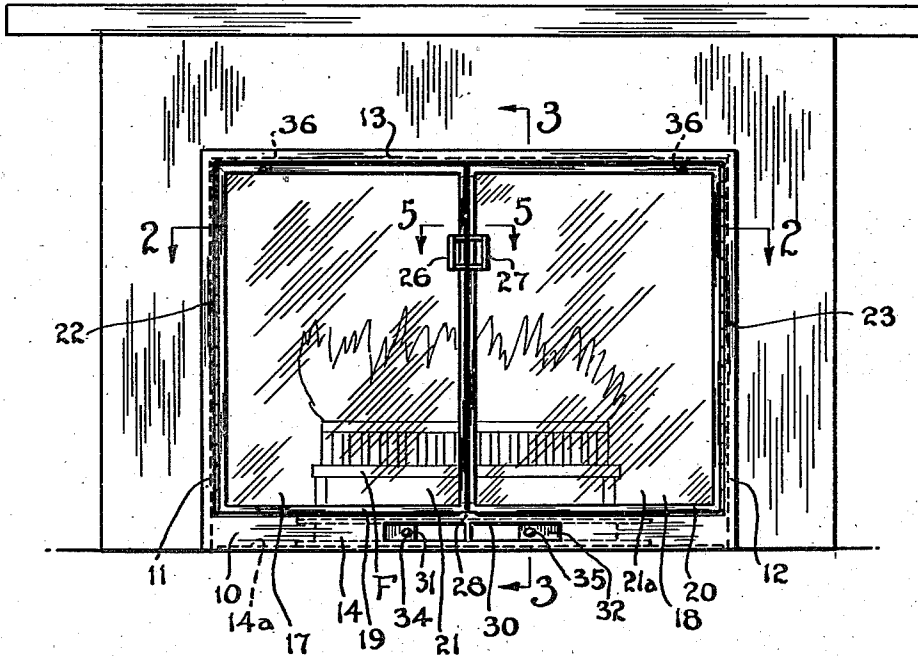
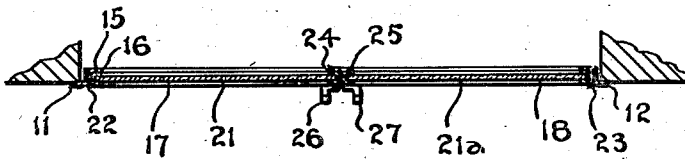


Fig. 2



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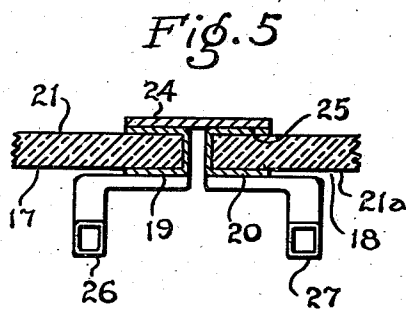
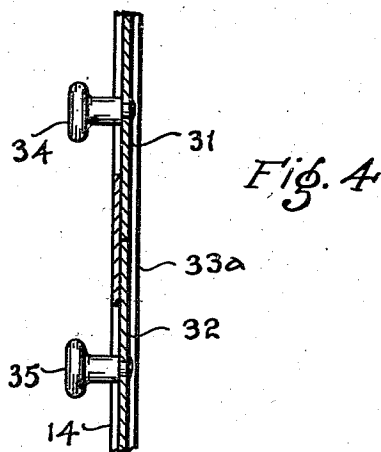
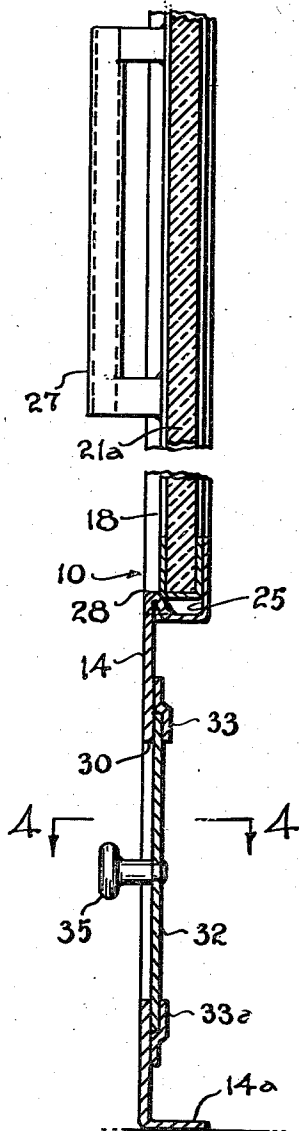
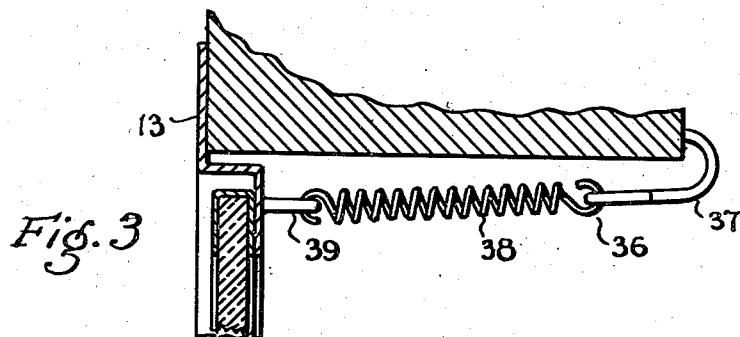
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FIREPLACE FRONT

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,398,240

FIREPLACE FRONT

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6 Claims. (Cl. 126—140)

This invention relates to a front or fixture for fireplaces.

An object of the present invention is to provide a unit which is readily attachable at the front of the usual relatively large opening of a fireplace of the open type having a grate for burning fuel, such as coal, wood, gas, etc., said unit including means for controlling the intensity of the grate fire and being adapted to radiate or transmit a maximum of heat from the fireplace without the usual cold-draft creating return flow of mixed air from the room to the fireplace and up the chimney thereof.

Another object of the invention is to provide a unit of the character described which at all times while a fire is burning in the fireplace will prevent passage of fumes, smoke, dust, dirt, etc., into the room, thereby eliminating a common objection to open fireplaces, the unit similarly being effective to prevent entry of dust and dirt into the room and to prevent drafty withdrawal of air therefrom when the fireplace is not in use.

Another object of the invention is to provide a fireplace unit having the above described advantages combined with the features that maximum visual enjoyment of a fire in the fireplace may be obtained without certain physical discomforts usually attendant thereto.

Another object of the invention is to provide a device of the character described which eliminates the necessity for having the usual chimney draft-regulating means.

Still another object of the invention is to provide a device by which a fireplace having faulty flue construction may be quickly and economically adapted to provide the advantages of a fireplace of superior construction.

These and other objects of the invention will be manifest from the following brief description and the accompanying drawings.

Of the accompanying drawings:

Figure 1 is a front elevation illustrating the improved front or fixture in position in a fireplace opening.

Figure 2 is a cross-section taken on line 2—2 of Figure 1.

Figure 3 is a cross-section on a greatly enlarged scale taken substantially on line 3—3 of Figure 1.

Figure 4 is a cross-section taken substantially on line 4—4 of Figure 3.

Figure 5 is an enlarged cross-section taken on line 5—5 of Figure 1.

Referring to the drawings, the numeral 10 des-

ignates a rectangular frame having relatively narrow top and side strips 11, 12 and 13 and a relatively wider bottom strip 14, the side and top strips being adapted to overlie the side and top edges of the usual fireplace opening (see Figures 2 and 3). The inner edges of strips 11, 12, 13 and 14 are formed inwardly in reverse bends to provide a relatively narrow recessed seat 15, defining a rectangular opening 16 which substantially closely proximates the full size of the fireplace opening. The lower edge of bottom strip 14 may be flanged inwardly at 14a to enhance the support of the frame. The recessed rectangular seat portion 15 preferably is arranged with respect to the widths of strips 11, 12 and 13 of frame 10 so that the frame will readily fit in fireplace openings within a substantial range of sizes.

Normally seated against the seat 15 to fill opening 16 may be a pair of closure panels 17 and 18 comprising rectangular frames 19 and 20 of metal or other heat-resisting material, which are U-shaped in section, and in which may be fitted sheets 21 and 21a of fully transparent glass or like material adapted to withstand relatively high heat from a heat unit in the fireplace, such as a coal fire in a grate F. Glass suitable for the present purposes is now available on the market under the trade name of "Herculite," the same being manufactured by the Pittsburgh Plate Glass Company. The frames 19 and 20 are relatively narrow to expose a maximum area of the transparent glass panels, so that a maximum full view of a fire in the fireplace will be possible. The panel frames 19 and 20 are suitably hinged at the outer edges thereof to the frame 10, as indicated at 22 and 23, to permit swinging the panels to open position for purposes to be described later.

The panel frame 19 may have secured to the inner side thereof a vertical strip 24 providing a seat 25 for stop engagement by the inner edge of the panel frame 20. Suitable handles 26 and 27 may be provided on the inner sides of frames 19 and 20, as shown, to facilitate opening and closing the closure panels. Also, releasable locking means for retaining the panels in the normally closed position is provided by a detent or raised portion 28 in lower frame strip 14, at the center of the frame, over which the door panel frames 19 and 20 are yieldingly engageable, as will be readily understood.

To provide adjustable draft means operable when the closure panels are in normally closed position, there may be a horizontally elongated

slot 30 in lower frame flange 14, over which oppositely disposed closure plates 31 and 32 are slidable from and toward each other in parallel guide strips 33 and 33a secured to the back of bottom strip 14. Forwardly projecting knobs or handles 34 and 35 are provided on plates 31 and 32 for shifting the same to adjust the size of the draft opening.

For anchoring frame 10 in a fireplace opening there may be provided a plurality of self-adjusting anchoring devices 36. Each anchoring device 36 may comprise a hook member 37 engageable, for example, with a part of the brickwork or other structure of a fireplace, and yieldingly connected through a tension spring 38 to an eye 39 attached to the top of frame 10. Similar anchoring devices may be provided at other parts of the frame 10 if desirable or necessary.

In the use or operation of the improved fireplace fixture, positioned in a fireplace opening as previously described, the closure panels 17 and 18 are only opened on hinges 22 and 23 to build or replenish a fire in the fireplace or for cleaning purposes. That is, the panels are normally in closed position whether there is a fire in the fireplace or not.

When there is a fire in the fireplace the draft, and therefore the amount of heat and rate of burning thereof, is effectively controlled by shifting slide plates 31 and 32 to adjust the size of the opening through slot 30. The fire thus controlled will burn uniformly at substantially any desired rate, as compared with the usual open fireplace in which the rate of burning is unsteady and unpredictable. Furthermore the transparent glass panels transmit the heat of the fire outwardly and substantially uniformly, by radiation, the only heat loss from the room to the fireplace being through the relatively small draft aperture 39, and therefore being negligible. In addition, the transparent panels permit full view of the fire burning in the fireplace with attendant visual enjoyment thereof, but without the usual discomfort of an open fireplace caused by non-uniform heat emanating therefrom combined with cold drafty air drawn to the fireplace by the relatively large open draft thereof. It has been established, for example, that an unshielded open fireplace draws air from a room at substantially all areas of the frontal opening, so that instead of heat being transmitted to the room from the fire in the fireplace, actually heat from other sources may be dissipated outwardly through the fireplace and flue thereof.

When there is no fire in the fireplace, the fixture in closed condition prevents entry of dust or dirt into the room, the slot 30 then being maintained closed, and at the same time prevents passage of drafty currents of air from the room to the fireplace. The improved construction, furthermore, eliminates the necessity for the fireplace having the usual flue draft damper, and makes possible full beneficial use of fireplaces having faulty, smoke creating draft means, which might otherwise be unusable.

Thus has been provided an improved fireplace front or fixture of the character described which accomplishes the stated objects of the invention. Modifications of the invention may be resorted to without departing from the spirit thereof or the scope of the appended claims.

What is claimed is:

1. In a fireplace front of the character described, a unit comprising a frame having relatively narrow top, bottom and side strips there-

by forming a substantially encircling frame for fitting in the usual opening of a fireplace and adapted to be in front of a fuel burning area thereof, said frame having an opening therein of substantially the full size of the frame and having a seat around the same, closure panel means received on said frame seat to close the frame opening, draft means adjacent the bottom of said frame opening, said closure panel means being movably connected to said frame, said closure panel means being of substantially permanently transparent high heat resisting character, said closure panel means being of substantially uniform thickness over the entire area of the frame opening to provide substantially uniform radiation of heat from the closure panel means, said transparent closure panel means thereby providing therethrough substantially unrestricted view of a fire in said fuel burning area, and means mounted on said frame for fastening the same in said fireplace opening.

2. In a fireplace front of the character described, a unit comprising a frame having relatively narrow top, bottom and side strips thereby forming a substantially encircling frame for fitting in the usual opening of a fireplace and adapted to be in front of a fuel burning area thereof, said frame having an opening therein of substantially the full size of the frame and having a seat around the same, closure panel means received on said frame seat to close the frame opening, draft means adjacent the bottom of said frame opening, said closure panel means being hingedly connected to said frame, said closure panel means being of substantially permanently transparent high heat resisting character, said closure panel means being of substantially uniform thickness over the entire area of the frame opening to provide substantially uniform radiation of heat from the closure panel means, said transparent closure panel means thereby providing therethrough substantially unrestricted view of a fire in said fuel burning area, and means mounted on said frame for fastening the same in said fireplace opening.

3. In a fireplace front of the character described, a unit comprising a frame having relatively narrow top, bottom and side strips thereby forming a substantially encircling frame for fitting in the usual opening of a fireplace and adapted to be in front of a fuel burning area thereof, said frame having an opening therein of substantially the full size of the frame and having a seat around the same, closure panel means received on said frame seat to close the frame opening, draft means adjacent the bottom of said frame opening, said closure panel means including two door panels hingedly connected to said side strips of said frame, said closure panel means being of transparent high heat resisting glass, said closure panel means being of substantially uniform thickness over the entire area of the frame opening to provide substantially uniform radiation of heat from the closure panel means, said transparent closure panel means thereby providing therethrough substantially unrestricted view of a fire in said fuel burning area, and means mounted on said frame for fastening the same in said fireplace opening.

4. In a fireplace front of the character described, a unit comprising a frame having relatively narrow top, bottom and side strips thereby forming a substantially encircling frame for fitting in the usual opening of a fireplace and

adapted to be in front of a fuel burning area thereof, said frame having an opening therein of substantially the full size of the frame and having a seat around the same, closure panel means received on said frame seat to close the frame opening, draft means in said bottom strip, said closure panel means being movably connected to said frame, said closure panel means being of substantially permanently transparent high heat resisting character, said closure panel means being of substantially uniform thickness over the entire area of the frame opening to provide substantially uniform radiation of heat from the closure panel means, said transparent closure panel means thereby providing therethrough substantially unrestricted view of a fire in said fuel burning area, and means mounted on said frame for fastening the same in said fireplace opening.

5. In a fireplace front of the character described, a unit comprising a frame having relatively narrow top, bottom and side strips thereby forming a substantially encircling frame for fitting in the usual opening of a fireplace and adapted to be in front of a fuel burning area thereof, said frame having an opening therein of substantially the full size of the frame and having a seat around the same, closure panel means received on said frame seat to close the frame opening, sliding door draft means in said bottom strip, said closure panel means being movably connected to said frame, said closure panel means being of substantially permanently transparent high heat resisting character, said closure panel means being of substantially uniform thickness

over the entire area of the frame opening to provide substantially uniform radiation of heat from the closure panel means, said transparent closure panel means thereby providing therethrough substantially unrestricted view of a fire in said fuel burning area, and means mounted on said frame for fastening the same in said fireplace opening.

6. In a fireplace front of the character described, a unit comprising a frame having relatively narrow top, bottom and side strips thereby forming a substantially encircling frame for fitting in the usual opening of a fireplace and adapted to be in front of a fuel burning area thereof, said frame having an opening therein of substantially the full size of the frame and having a seat around the same, closure panel means received on said frame seat to close the frame opening, draft means in said bottom strip, said closure panel means being movably connected to said frame, said closure panel means being of substantially permanently transparent high heat resisting character, said closure panel means being of substantially uniform thickness over the entire area of the frame opening to provide substantially uniform radiation of heat from the closure panel means, said transparent closure panel means thereby providing therethrough substantially unrestricted view of a fire in said fuel burning area, and adjustable means mounted on said frame for fastening the same in said fireplace opening.

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