

March 20, 1945.

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2,371,764

BLACKOUT DEVICE OR THE LIKE

Filed June 8, 1942

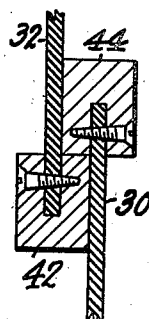
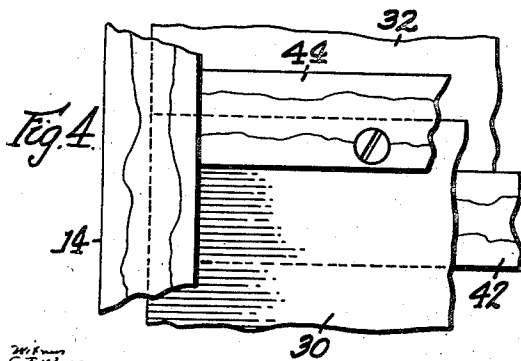
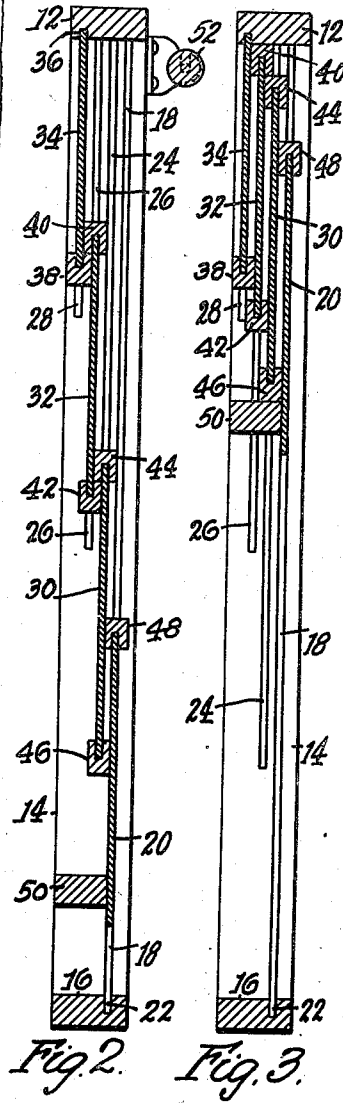
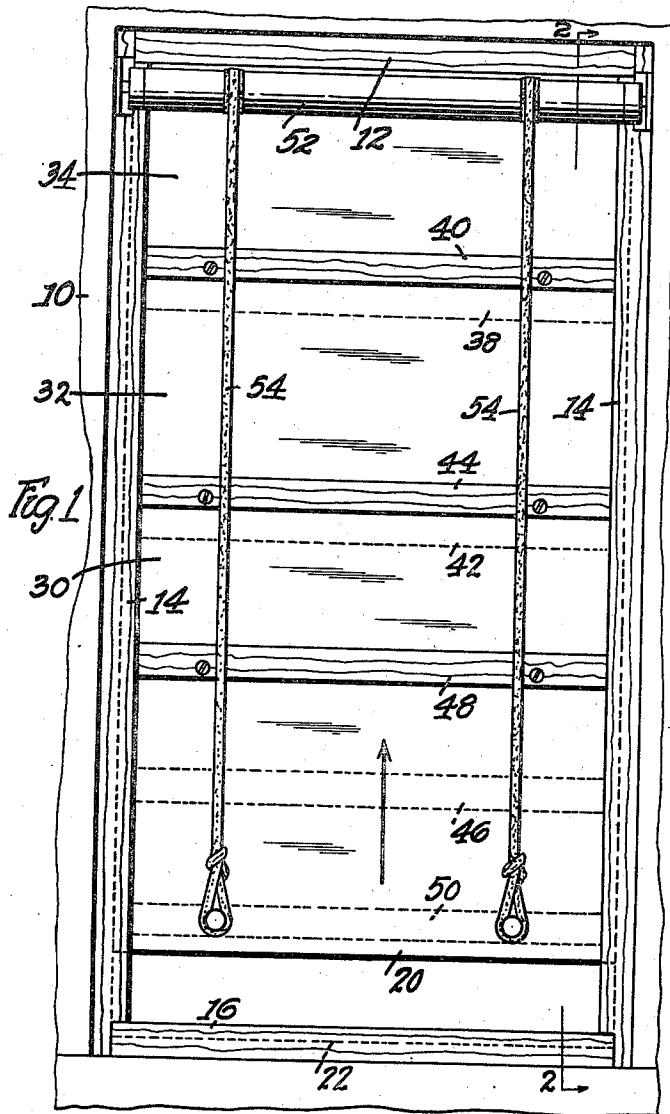


Fig. 5.

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UNITED STATES PATENT OFFICE

2,371,764

BLACK-OUT DEVICE OR THE LIKE

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Application June 8, 1942, Serial No. 446,204

1 Claim. (Cl. 160—182)

This invention relates to blackout or the like devices for windows, doors, etc., but the construction may be applied to other uses if desired or convenient.

Objects of the invention include the provision of a series of sliding panels so connected as to be extended or selectively contracted to close or open the window or door to which they are applied; the provision of a series of interconnected relatively stiff panels which are slidable so as to be capable of nesting for opening the window or door or of being extended in edge-overlapping condition to close the window or door, so that where the panels are opaque the construction is light-proof; the provision of a portable frame to be set into a window frame or the like, said first-named frame having a series of opposed grooves in its opposite side members, a stiff opaque panel adapted to slide in each pair of grooves, said panels being connected at their edges when in closing or blackout condition for rendering the device light-tight and also to provide for movement of each panel by a preceding panel in extending or retracting them, each panel being of a height to cover but a fractional part of the window opening; and the provision of a frame adapted to be set into a window frame or the like to be detachably secured thereto, the detachable frame having a series of longitudinal grooves on the inside surfaces of its opposite side frame members, one of said grooves extending from top to bottom of the frame members, and the other grooves being progressively shorter, a stiff panel mounted by its edges to slide in each pair of grooves, and means interconnecting the edges of the panels for simultaneous sliding action thereof to close or open the frame.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing in which:

Fig. 1 is a front elevation of my new device showing it as it appears from the inside of a window and set in place in the window frame;

Fig. 2 is a longitudinal section of the device taken on line 2—2 of Fig. 1;

Fig. 3 is a view similar to Fig. 2 but showing the sliding panels in raised or retracted condition; and

Figs. 4 and 5 are enlarged detail views of the panel connections.

As one application of the invention, I have shown a window frame 10 of conventional construction into which the frame 12, 14, 16 of the blackout device fits, the latter being secured by

any desired means to the window frame, as by spring clips, screws, brackets or the like. As shown, the numeral 12 indicates the top rail, 14 the side rails, and 16 the bottom rail comprising the frame of the blackout device, and this frame carries the entire apparatus so that it may be easily applied to the frame 10 as a single unit. Frame 12, 14, 16 is rigidly connected and may be manufactured in sizes to fit the conventional window frame sizes, or the frames may be custom-built for individual windows.

Each side rail 14 is provided with a slot or groove 18 at its inside surface, these grooves extending from the top rail 12 down past the upper edge of the bottom rail 16, and the grooves in the side rails are disposed exactly opposite to each other in a single plane to slidably receive the edges of a stiff panel 20, and therefore panel 20 may be slid from top to bottom of the frame. A groove 22 is provided in the top surface of the bottom rail, and this groove connects grooves 18 and receives the bottom free edge of panel 20 when the latter is in its lowermost position.

Spaced from grooves 18, there are a series of pairs of progressively shorter grooves 24, 26, 28 in the side rails 14, as shown in Figs. 2 and 3, and each opposed pair of grooves receives a panel as 30, 32, 34, the latter being fixed in grooves 28 so as to be stationary. Each panel is of a height to cover but a fraction of the window, but all together they will completely close the same and overlap at their edges when extended, while the lower edge of panel 20 enters slot 22 and the upper edge of panel 34 rests in a groove in the upper rail 12, see Figs. 2 and 3 at 36.

Stationary panel 34 is provided at its lower edge with a rabbeted stile 38, the ends of which are received between the frame side rails 14. The panel extends into the rabbet, as shown, and the stile 38 extends transversely laterally of the panel to cooperate with a similar but reversed stile 40 at the top edge of panel 32. One side surface of stile 40 engages a surface of panel 34 and slides thereover when panel 32 is raised or lowered in its grooves 26, and the side surface of panel 32 slidably engages a side of stile 38, so that a light-tight connection between the panels 32 and 34 is ensured at all times and in all conditions of use of the device. Also, stile 38 provides a stop for stile 40, and therefore panel 32, in the downward motion of the latter.

In like manner, panel 32 is provided with a bottom stile 42; panel 30 has top and bottom stiles 44, 46, and panel 20 has a top stile 48, these stiles providing stops and light-tight connections

and being slidably received between the side rails 14 of the detachable frame. The lower edge of panel 20 is free to enter groove 22, but a stile 50 is secured in spaced relation to this edge at the rear of the panel to rest on the bottom rail 16 in closed condition of the device.

By means of the above described construction, the window may be open as in Fig. 3, and merely by sliding panel 20 downwardly in its slots or grooves 18 until its lower edge enters groove 22, panels 30 and 32 will likewise be brought down as by the respective stiles, so that the window is completely closed in light-tight condition. By raising panel 20, the other panels will be successively raised by the engagement of the stiles, and the window opened thereby. The frame 12, 14, 16 is clearly easily set in window frame 10, and the panels may be made of glass, cardboard, wall-board, or any other desired material. Naturally if the device is to be used for blacking out, opaque material will be used, or the panels painted black.

If desired, a tension device 52 may be mounted on the frame and cords 54 connected therefrom to the lowermost panel to assist in raising the panels and maintaining them in raised condition, but other means such as spring clips or the like may be employed if desired or convenient without departing from the scope of the invention.

Having thus described my invention and the advantages thereof, I do not wish to be limited to

the details herein disclosed, otherwise than as set forth in the claim, but what I claim is:

A unitary blackout device for application to a window frame and comprising a portable rectangular frame having top, bottom, and side rails, an opaque stiff panel secured in fixed relation to said rectangular frame and effective to prevent light passing through the latter, a plurality of opaque stiff panels slidably mounted in the side rails and adapted to be slid into substantially aligned nesting relation with said fixed panel to leave the rectangular frame open, said slidable panels being successively slidable outwardly beyond said fixed panel, stop means on each panel to engage a stop means at a relatively opposite end of the next adjacent panel so that the panels are each successively stopped by the next preceding panel, with each panel edge overlapping the contiguous edge of its next adjacent panel, means in said side rails for overlapping the adjacent side edges of the panels, and grooves in the top and bottom rails receiving the end edges of the fixed and terminal slidable panel respectively to provide a light-tight closure for the window, said stop means comprising elements extending laterally of the panels between the side rails, but stopping short of the side edges of the panels, and grooves receiving said side edges.

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