



# UNITED STATES PATENT OFFICE

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## WINDOW BLACK-OUT SHIELD

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5 Claims. (Cl. 160—268)

This invention relates to devices designed to blackout windows, to render light within a room or compartment invisible externally of a building, and the object of the invention is to provide a device of the character described which is extremely simple and economical in construction; and further so constructed that a few varying sizes of the devices will satisfy all requirements aside from the very unordinary extremely large and extremely small windows for which special devices can be constructed; a further object being to provide a device of the character described wherein the blackout sheeting is of a structure to shield high powered light and will for most instances be sufficient to meet government requirements and specifications; still further the inner surface of the sheeting can be decorated to give a neat and finished appearance within the room; and a still further object being to provide a blackout device of the character described wherein the blackout sheeting or curtain is manually raised and lowered thereby eliminating the use of springs and other metallic parts consumption of which is objectionable at the time of this application, and with these and other objects in view, the invention consists in a device of the class and for the purpose specified which is simple in construction, efficient in use and which is constructed as hereinafter described.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my invention are designated by suitable reference characters in each of the views; and in which:

Fig. 1 is a perspective view of the inside of a window showing one of my improved devices in operative position and with parts of the construction broken away.

Fig. 2 is a view looking in the direction of the arrow 2, on an enlarged scale and with part of the construction broken away.

Fig. 3 is a section on the irregular line 3—3 of Fig. 2 showing one end portion only of the device, and

Fig. 4 is a cross sectional view through part of one side of the window frame and shade, when in open position, illustrating a sealing strip attachment of the shade to the frame.

In view of the need to fulfill the requirement of blackouts in the existing emergency period, the average type and kind of dark shades and method of hanging the same is not suitable to produce the desired result primarily due to the fact that clearances are provided at the side edges of the curtains through which streaks of light

will pass and further the materials used in the curtains are not of the type to insure a total blackout. In view of these facts many buildings, public and otherwise, have resorted to the use of paint to produce the desired result. This method of procedure is costly and furthermore, provides a permanent blackout which requires the continued use of artificial lighting.

It is the purpose of my invention to provide a blackout device which in the first place can be made in a few sizes which would satisfy the majority of windows as used in public buildings and in private homes; and furthermore devices of such economic construction as to render the same materially less expensive than the blackout painting of windows; and still further the device maintains normal uses of a window except for the blackout period and the devices can be quickly and simply moved into operative position when blackout is to be established.

To illustrate one adaptation of the invention, I have diagrammatically indicated in Fig. 1 of the drawing the interior of a window 10 in which are arranged the upper and lower sashes 11 and 12. 13 represents the side vertical rails of the window frame. 14 represents the top rail and 15 the bottom rail and sill.

My improved blackout device is generally indicated at 16 and comprises, in the construction shown, a transverse finishing strip 17 preferably ornamented on its outer surface, as seen at 18, to produce a neat and attractive appearance and this strip is secured to substantially V-shaped brackets 19 arranged at the ends thereof. The strip 17 in conjunction with the brackets 19 form what may be termed an elongated frame portion. The brackets 19 have inner perpendicular surfaces 20 which are adapted to be arranged upon the surface of the window frame and secured thereto by screws or other devices 21. The lower ends of the brackets have upwardly inclined surfaces 22 on which the strip 17 is arranged, thus the strip 17 in conjunction with the frame of the window, forms a V-shaped trough 23 in which the rolled shade or blackout sheet 24 is normally disposed and which would be rendered invisible within the room by reason of the front strip 17. The inner surfaces 25 of the brackets 19 are preferably of the rounded contour, clearly illustrated in Fig. 2 to provide a neat and finished appearance. Rotatably mounted in each of the brackets 19 is a dowel pin 26. Secured to the outer end of this pin is a knob 27 having a circumferential groove 28 and secured to the inner end of the pin is a plug or sleeve 29 reduced as seen at 30 to

form a mounting for an end of a cardboard or paperboard tube 31. The plugs 29 and tube 31 collectively form a roller to which the upper end of the sheet 24 is secured and around which the sheet is rolled when in inoperative position. Arranged in the groove 28 of one of the knobs 27, at one side of the device, is a turn-and-a-half of a stout and strong cord 32, the ends of which hang downwardly from the knob 27 and have knobbed ends 33 to finish the cord ends. Arranged in the bracket 19, above the grooved knob and bearing lightly on the enlarged head end 34 of this knob, is a friction pin 35 which bears upon at least one of the turns of the strand 32 arranged in the groove to retain the cord in positive frictional engagement with the knob so that in pulling downwardly on one end of the cord, the sheet 24 will be lowered and by pulling downwardly on the other end of the cord, the sheet will be raised or wound upon the tube. In both of these operations, it is preferred that both hands be used, one arranged upon each end of the cord to maintain a tension on each end of the cord to maintain the turns snugly in the groove 28.

In the operation of pulling down on one end of the cord, the first turn immediately extending from this end will pass to the bottom of the groove, whereas the turn immediately joining the other end will raise in the groove to frictionally engage the friction pin 35. This operation takes place in the pull on both ends of the cord. When the cords are released, the frictional engagement of the cord as well as the head 34 of the knob with the pin, retains the shade 24 in position.

It will also be understood that my improved device may be used as an ordinary window shade and raised and lowered to different positions within the window.

The inner or lower edge of the strip 17 is preferably rounded, as seen at 36, and is arranged closely adjacent the surfaces of the window-frame, so as to maintain the sheet 24 snugly upon this surface of the frame.

A series of gummed tapes or other securing devices 37 may be secured to the surfaces of the rails 13 between the top and bottom of the window-frame to be forced onto and secured to the side edges 38 of the shade 24 to seal these side edges against the passage of light therethrough. It will be understood that these edges overlap the surfaces of the rails 13 sufficiently to provide a complete blackout. In some instances, these edges may extend the full width of the frame and even beyond the frame in which later instances blocks will be used on the walls to make up the difference between the surface of the wall and the surface of the frame, and a few of these blocks of different thicknesses will be supplied with the complete devices and will be cut of a length to fit the inner surfaces 20 of the brackets 19. These strips are not shown, as they simply constitute blocks of wood and will be apparent to anyone skilled in the art.

Secured to the lower free edge of the sheet 24 is an elongated finishing strip 39, the surface of which is preferably beaded to ornament the same and this strip has centrally a knob 40, which can be used to draw the shade downwardly rather than using the cord and this strip seats upon the lower edge 36 of the strip 17 when the shade is in the fully released position. The ends 41 of the strip 39 are of the same length as the strip 17 and naturally protrude beyond the side edges 38 of the shade. Suitable fastening devices, such

as eye-screws 42, will be mounted in the ends 41 of the strip 39 to firmly retain the strip in its lowermost position. These eyes may also be used to attach cords or strands thereto for other fastenings, particularly if the strip 39 protrudes beyond the sides of the window frame.

The lower end 43 of the sheet or shade 24 is folded upon itself and in this fold is arranged a supplemental strip 44 and these parts are secured to the surface of the strip 39 by any suitable fastening devices. With this construction, the sheet or shade 24 is maintained flatly upon the surface of the entire window frame and the fold 45 can bear upon the surface of the sill 15.

The sheet or shade 24 may be composed of any desired material preferably of a structure meeting the required test for producing a complete blackout of a window opening. In some instances, instead of a single sheet, a number of superimposed sheets can be employed and such structures as a single faced corrugated sheet can be employed, such as used by me in roller door constructions as evidenced by my prior Patent #2,200,329, dated May 14, 1940. It is also preferred that the inner surface of the sheet or shade be ornamented as indicated diagrammatically at 46 in Fig. 1 of the drawing to produce a neat and finished appearance within the room, whereas the outer surface, that is to say the surface exposed to the exterior of the building may be black or of any other dark color. With this construction, the interior of the window may be kept in a pleasing and attractive appearance and it is preferred that the ornamentations be of a suitable design and preferably in neutral colors so as to fit any type or kind of interior decoration.

In the shipment of the device, the strip 39 may be seated in the valley of the general V-shaped cross sectional form of the device, so as to minimize the size of the cross sectional dimensions of the package.

It is also preferred that in some uses of the invention, particularly when the shade is subjected to drafty conditions that the entire side edges 39 of the shade may be coated or covered with a material as indicated by the shade lines 47 to provide a surface from which such tapes as Scotch tapes 37, note Fig. 4, may be readily removed without destruction to the shade and which will facilitate attachment and detachment of such strips. In these cases, a series of long sealing strips can be used longitudinally of the side edges of the shade and in extreme cases a strip may be run the full length of each side edge.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A window blackout device of the character described comprising a frame portion, a roller rotatably mounted within the frame portion, a shade of dark material secured to the roller, said roller having at least one pin protruding beyond one end of the frame, means on said pin for manually rotating said roller to positively wind and unwind the shade with respect thereto, and means on the frame engaging said last named means to frictionally restrain the roller against rotation in either direction.

2. A blackout shade for windowed openings, said shade comprising substantially V-shaped brackets, an elongated strip of a length greater than the window opening having its ends secured to said brackets, on one angular surface thereof, to dispose the strip in upwardly inclined position

with respect to the frame of a window opening, another angular side of the brackets being mounted directly upon the inner surface of the window frame, means for rotatably supporting a rolled shade of dark material between said brackets and inwardly of said strip, means for unrolling and rolling the shade to extend the shade to close the window opening and to substantially fully uncover said opening, means for securing side edge portions of the shade to the frame of the opening, when the shade is in extended position in providing a complete closure of said opening, means supporting the shade adjacent said brackets in close proximity to the said frame, and frictional means for retaining the shade against rolling and unrolling.

3. A blackout shade for windowed openings, said shade comprising substantially V-shaped brackets, an elongated strip of a length greater than the window opening having its ends secured to said brackets, on one angular surface thereof, to dispose the strip in upwardly inclined position with respect to the frame of a window opening, another angular side of the brackets being mounted directly upon the inner surface of the window frame, means for rotatably supporting a rolled shade of dark material between said brackets and inwardly of said strip, means for unrolling and rolling the shade to extend the shade to close the window opening and to substantially fully uncover said opening, means for securing side edge portions of the shade to the frame of the opening, when the shade is in extended position, in providing a complete closure of said opening,

means supporting the shade adjacent said brackets in close proximity to the said frame, frictional means for retaining the shade against rolling and unrolling, one surface of the shade being ornamented, and a finishing strip attached to the free edge of said shade.

4. The combination with a window shade of means at side edge portions thereof to which adhesive tapes may be removably attached, and adhesive tapes having one edge secured to said means, and the other edge secured to a support to provide secure mounting of side edges of the shade to said support throughout the full length of the shade.

5. A blackout shade for windowed openings, comprising a frame portion adapted for mounting upon the inner surfaces of a window frame, means for rotatably supporting a rolled shade of dark material in said frame portion, said shade being of a width greater than the width of the opening of said window frame, means for unrolling and rolling the shade to extend the shade to close the window opening and to substantially fully uncover said opening, means for securing side edge portions of the shade to the window frame beyond the limits of said opening, when the shade is in extended position, in providing a complete closure for said opening, means supporting the shade adjacent said frame portion in close proximity to the window frame, and frictional means for retaining the shade against rolling and unrolling.

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