Jan. 4, 1944. H. L. HARDY 2,338,378

BLACKOUT WINDOW SHADE

Filed June 5, 1942

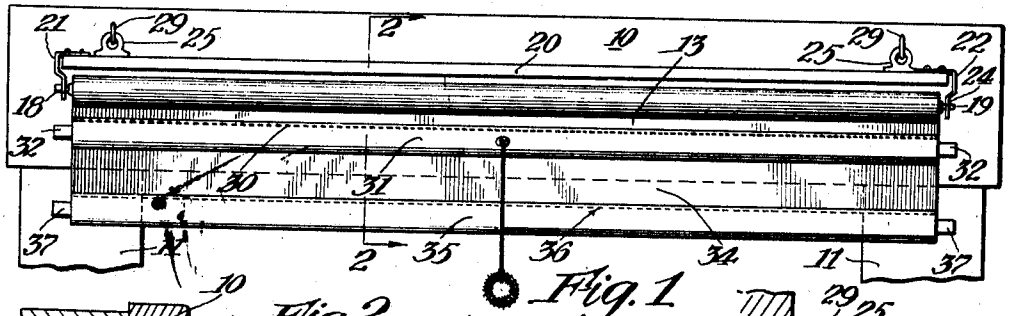


Fig. 1

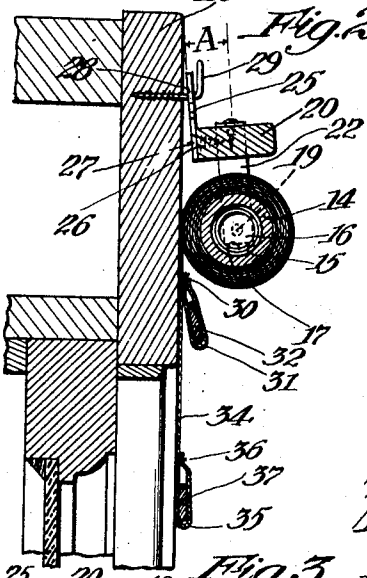


Fig. 2

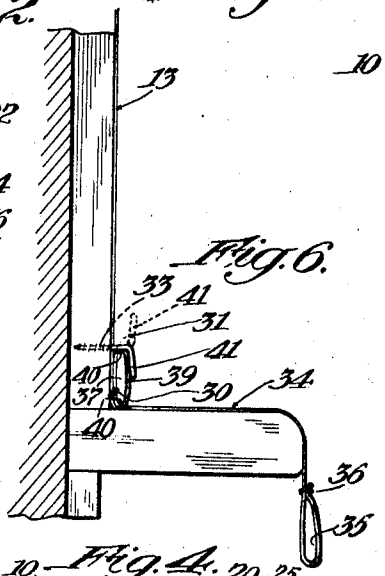


Fig. 6

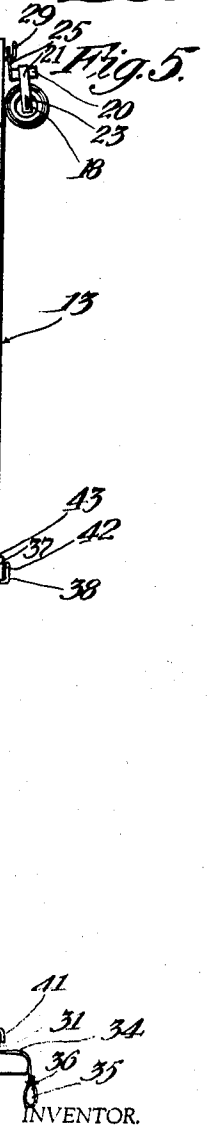


Fig. 5

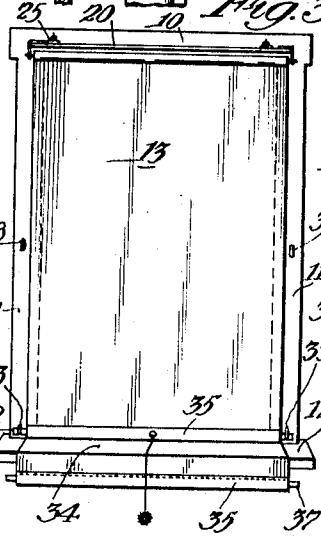


Fig. 3

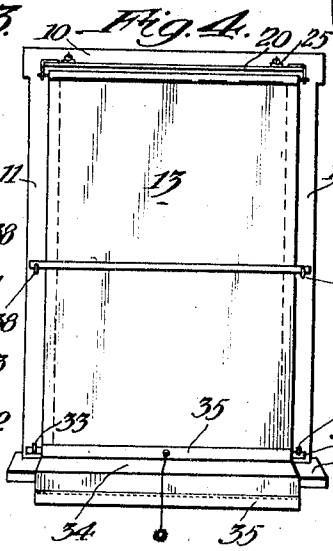


Fig. 4

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BLACK-OUT WINDOW SHADE

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Application June 5, 1942, Serial No. 445,894

11 Claims. (Cl. 160—242)

This invention relates to blackout window shades and has for its principal object to provide a simple device that can be quickly and accurately installed on the window frame or casing and that will automatically cleave to the face of the window frame or casing and thus effectively seal the window opening against the leakage of light.

The best form that has thus far been devised is shown in the accompanying drawing in which

Fig. 1 is a front elevation of the upper part of a window casing with the blackout shade installed thereon and in raised position;

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

Figs. 3 and 4 are front elevations on a reduced scale, illustrating steps in arranging the shade for a blackout;

Fig. 5 is an enlarged elevation looking at Fig. 4 from the left;

Fig. 6 is an end elevation of the lower portion of the shade and associated parts when the shade is in drawn position.

But this specific illustration and the corresponding description are used for the purpose of disclosure only and are not intended to impose unnecessary limitations on the claims.

The device is shown in connection with a familiar form of wooden window casing, including a top piece or transom 10 and spaced side pieces 11, rising from a window sill 12 which parts together frame or enclose the window opening, which is to be shaded or darkened.

The window shade, generally indicated by 13, is of black opaque material, such as suitably treated cloth, or paper. One end of the shade, which will be called the upper end, is fastened to a conventional form of spring roller 14, having in one end a hollow or bore 15 to receive a non-rotatable shaft or spindle 16 and a long helical spring 17. One end of the spring is made fast to the roller and the other end is made fast to the shaft, whereby when the roller is rotated in one direction, namely, that corresponding to the unrolling movement of the shade, the spring is put under tension and prepared to rotate the roller in the opposite direction and rewind the shade when that is desired. The arrangement is familiar, and many forms are available, for example, that disclosed in the patent to Hartshorn, No. 293,871 of February 19, 1884.

The projecting end of the shaft or spindle 17 is flattened, as indicated at 18, by means of which the shaft is held against rotation in a suitable bracket that also supports the corresponding end of the roller.

The opposite end of the roller is provided with a round trunnion or pintle 19, which rotates in a suitable bracket and supports the corresponding end of the roller.

In this instance the roller is mounted on a bar 20 by means of two metal brackets 21 and 22. The bracket 21 has an oblong opening 23 to receive the flattened end 18 of the shaft 16 and the bracket 22 has a round opening 24 to receive the trunnion 19.

The bar 20 is flat oblong in cross section, as shown in Fig. 2, and on the inner side, or that side near the transom 10, is provided with two supporting brackets 25, each of which has an opening 26 in its fixed end to receive a flathead screw 27 and a relatively large opening or eye 28 in the opposite or free end to receive an L-shaped tassel-hook 29, two of which are inserted in the transom 10 of the window frame in position to hold the shade 13 in proper alignment with the window opening.

Adjacent to the lower, or free end of the shade, it is folded and stitched at 30 to form a hollow sleeve, or loop 31, adapted to receive a slat 32 long enough to project at each side of the shade and engage two L-shaped tassel-hooks 33, one of which is inserted in each side piece 11 just far enough above the sill 12 to permit the slat to fit snugly between the hook and the top of the sill.

Extending beyond the sleeve, or loop 31, is an apron 34, long enough to overlie the window sill and hang down below it, as shown in Figs. 3–6. The apron ends in another sleeve or loop 35 formed by folding over the edge portion of the shade and stitching it at 36. This sleeve serves as a carrier for another slat 37 which, when the shade is drawn as shown in Fig. 5, is removed from the sleeve and engaged with still two other L-shaped tassel-hooks 38, inserted one in each side piece 11, at about the middle of the window opening.

The work of installation consists of inserting the six tassel-hooks, the upper two of which should be four inches or more above the bottom of the transom 10 of the window frame, and should be so located as to align the shade and fixture with the window opening so that when the shade is lowered it will overlap each side piece 11 a corresponding and appropriate amount.

The distance A, in Fig. 2, should be not more than, and preferably less than the radius of the unrolled portion of the shade when it is fully drawn, as shown in Fig. 5, and the upper tassel-hooks 29 should afford free pivotal movement of the brackets 25. With that arrangement, when the shade is drawn downwardly, the roll of shade on the roller will be automatically forced against the front face of the transom 10 and make a proper seal at the upper portion of the window. Various other forms of mounting will be readily designed by those skilled in the art to effect this purpose.

The slat 32 is not tapered, as is conventional

in window shades, but has gently rounded sides 39 and more sharply rounded edges 40. When the shade is drawn down to the position shown in Fig. 5, the slat and its enclosing sleeve are turned upwardly edgewise, as best shown in Fig. 6, while the tassel-hooks 33 have their ends turned upwardly, after which the hooks are screwed down to place the hook portions 41 down alongside the ends of the slat 37 and snug against its outer face 39. As a result, the openings made by the stitching 30 will be sealed and the lower portion of the shade will be forced into close contact with the lower ends of the side pieces 11 and the upper surface of the sill 12. The apron 34 will naturally overlie the sill 12, as shown, and seal the bottom of the window opening. The slat 37 is withdrawn from the sleeve 35 and engaged with the intermediately placed tassel-hooks 38, which are screwed up to make the hook portions 42 snugly embrace the ends of the slat and force the intermediate portion of the shade against the faces of the side pieces 11. The side edges 43 of the slat 37 are preferably made flat, to give a broad area for a contact with the shade.

I claim—

1. In a device of the class described, a shade, a roller to which the shade is attached at one end and upon which it may be rolled, a bar from which the shade roller is suspended at its ends, suspending pivotal supports for the bar inward with respect to the axis of the roller, whereby the roller and shade are automatically forced inwardly against a window frame on which the device is mounted.

2. In a device of the class described, a shade, a roller to which one end of the shade is attached and upon which the shade may be rolled, a bar, means to suspend the roller from the bar for rotation, means swingably suspending the bar located inwardly with respect to the axis of the roller, whereby the roller and shade are automatically swung inwardly, and a slat attached to the shade adjacent to the lower end thereof and by which it may be made fast in drawn position.

3. In a device of the class described, a shade, a roller on which the shade is adapted to be rolled, a bar from which the shade roller is suspended for rotation, means at one side of the axis of the roller for hanging the bar on a window frame, whereby tension on the shade will swing the roll of shade on the roller towards the window frame, a loop in the shade adjacent to its free end, a slat in the loop for securing it to the window frame adjacent to the sill and an apron extending beyond the loop to overlie the sill.

4. Means for hanging a blackout window shade comprising a bar having depending brackets at its ends for mounting a shade roller and having upstanding supporting brackets provided with openings above the rear edge of the bar for hanging the bar from hooks mounted in a window frame.

5. Means for hanging a blackout window shade wound on a roller comprising a bar narrower than the diameter of the roller and having depending brackets for mounting the roller with the axis of the roller in substantially the median plane of the bar and having supporting brackets upstanding from the rear edge of the bar, whereby when said supporting brackets are engaged with bearings positioned close to the surface of a window frame the shade will automatically swing into engagement with such surface.

6. Means for hanging a blackout window shade wound on a roller comprising a bar narrower than the diameter of the roller and having depending brackets for mounting the roller with the axis of the roller in substantially the median plane of the bar and having supporting brackets upstanding from the rear edge of the bar provided with openings for receiving hooks mounted in a window frame, whereby when said supporting brackets are held by said hooks close to the surface of a window frame the shade will automatically swing into engagement with such surface.

7. Means for hanging a blackout window shade wound on a roller comprising a bar, supporting brackets upstanding from the bar and having portions above the rear edge of the bar engageable by bearings positioned close to the surface of a window frame so as to hang the bar, and brackets depending from the bar for mounting said roller, the periphery of the portion of the shade at any time wound on the roller in normal use of the device projecting rearwardly beyond the plane of the bearing-receiving portions of the upstanding brackets, whereby the shade will automatically swing into engagement with the surface of the window frame.

8. In a device of the class described, a shade, means mounting the upper end of the shade on and against a window frame, a loop in the shade adjacent to its lower end, a slat in said loop, means for securing said slat together with its loop against said window frame adjacent to the sill thereof, and an apron extending beyond the loop and overlying the sill.

9. In a device of the class described, a shade, means mounting the upper end of the shade on and against a window frame, a loop in the shade adjacent to its lower end, a slat in said loop, hooks in the window frame and engageable with said slat to hold the loop against the window frame adjacent to the sill thereof, and an apron extending beyond the loop and overlying the sill.

10. In a device of the class described, a shade, means mounting the upper end of the shade on and against a window frame, a loop in the shade adjacent to its lower end, a slat in said loop, means for securing said slat together with its loop against said window frame adjacent to the sill thereof, an apron extending beyond the loop and overlying the sill, and means to assist in maintaining the margins of the shade against the window frame comprising a second slat in combination with means mounted in the frame between the upper and lower ends of the shade for holding said second slat against the shade and clamping the shade against the frame.

11. The device claimed in claim 9, in which the loop is hinged to the shade along a line of stitching and hangs free from the shade by said stitching and in which the hooks are tassel-hooks capable of being turned in the window frame, whereby the loop may be positioned and then held by said hooks in either suspended or upturned position.

HUBERT L. HARDY.

CERTIFICATE OF CORRECTION.

Patent No. 2,338,378. January 4, 1944.

HUBERT L. HARDY.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, first column, line 31, claim 1, for the words "suspending pivotal supports for" read --and pivotal supports suspending--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 29th day of February, A. D. 1944.

Leslie Frazer
Acting Commissioner of Patents.

(Seal)