E. T. BELL.

WINDOW SHADE.

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904,298. Patented Nov. 17, 1908.

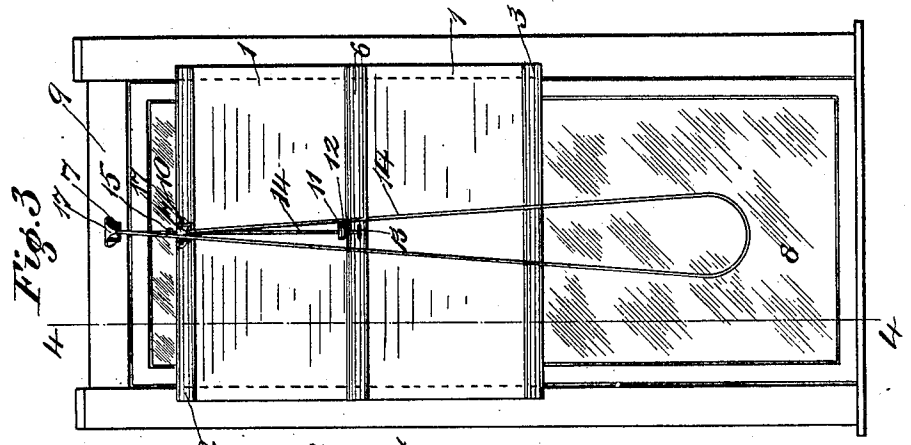


Fig. 3

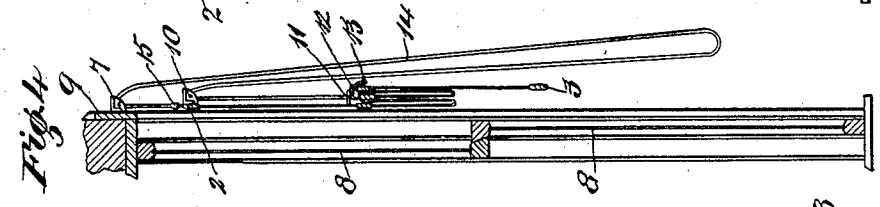


Fig. 4

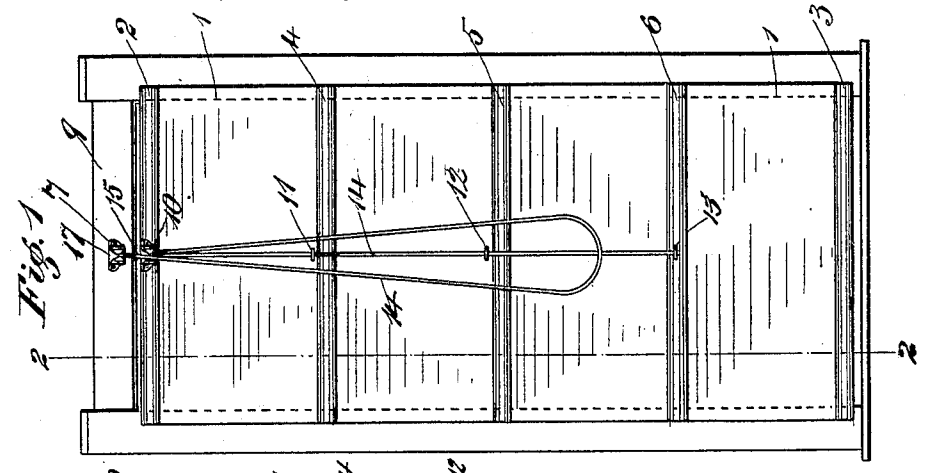


Fig. 1

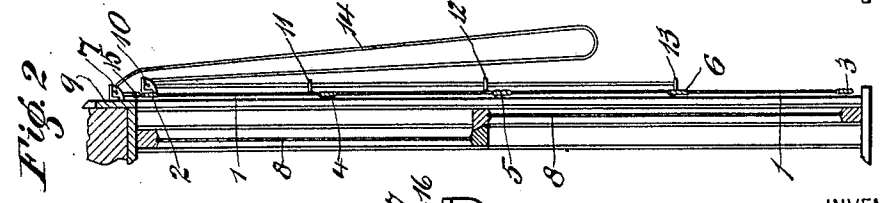


Fig. 2

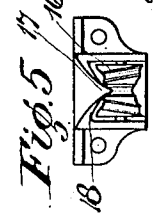


Fig. 5

WITNESSES:

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ENOS T. BELL, OF SPICELAND, INDIANA, ASSIGNOR OF TWO-THIRDS TO OLIVER C. STEELE AND LUTHER O. DRAPER, OF SPICELAND, INDIANA.

WINDOW-SHADE.

No. 904,298. Specification of Letters Patent. Patented Nov. 17, 1908.

Application filed April 29, 1908. Serial No. 429,883.

To all whom it may concern:

Be it known that I, ENOS T. BELL, citizen of the United States, residing at Spiceland, in the county of Henry and State of Indiana, have invented certain new and useful Improvements in Window-Shades, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to an improvement in window shades whereby the shade is suspended by a suitable cord depending from a pulley situated at or above the top of the window frame, so that the said shade may be raised or lowered to any desired position in front of or below the window to which it is applied, and whereby said shade may be furled from the bottom end portion thereof, as will be hereinafter more fully set forth in the specification and particularly pointed out in the claims.

The object of this invention is to provide a means whereby the bottom portion of the shade may be furled without changing the position of the shade thereof, and whereby the shade thus furled may be moved into any position in front of or below the window to cover all or any desired portion thereof in order to entirely shut out the direct rays of light or to permit them to pass over the top end portion of the shade or below the bottom end portion thereof, or both as desired. I attain this object by means of the shade illustrated in the accompanying drawings in which like numerals of reference designate like parts throughout the several views.

Figure 1 is an elevational view of my invention of a window shade applied to a window; Fig. 2 is a sectional view of the same taken along the line 2—2 in Fig.1; Fig. 3 is a view similar to that of Fig. 1 showing the bottom portion of the shade drawn up or furled; Fig. 4 is a sectional view of Fig. 3 and taken along the line 4—4 in Fig. 3; and, Fig. 5 is an enlarged detail view of the pulley whereby the suspending cord of the shade is carried.

The shade 1 is provided with an upper stretcher bar 2, and a lower stretcher bar 3, both of which are connected to the shade in the usual well known manner. Intermediate the top and bottom ends of the shade are formed folds or pockets which extend in parallel relation to each other across the shade and into which the top, middle, and lower intermediate stretcher bars 4, 5, and 6 are introduced to extend across the shade for the purpose of not only operating as a stretcher for the shade, but also, for the purpose of carrying the guiding means for the suspension cord 14 whereby the said cord is maintained in position, and also to operate as a means for stretching the shade, preventing its creasing, and folding it. The greater or lesser number of intermediate bars may be employed in connection with the shade, according as a greater or lesser number of the folds is desired in said shade, to fold the latter into a smaller compass.

The suspension cord pulley 7 is situated centrally above the window 8 to which the shade is to be applied, and is secured to the top rail 9 of the window frame. A suspension cord pulley 10, similar to the suspension cord pulley 7, is situated centrally on and secured to the upper stretcher bar 2, to be in alinement with the pulley 7. Secured centrally to said stretcher bars 4 and 5, in vertical alinement to each other and the suspension cord pulley 10, are the guide eyes 11 and 12, and secured centrally on the stretcher bar 6 is the fastening eye 13 to which one end of the suspension and draw cord 14 is secured whereby the shade 1 is drawn up and folded, as shown in Fig. 4. The said guide eyes 11 and 12, and the fastening eyes operate to not only maintain the shade in vertical alinement when the draw end portion of the draw cord 14 is being drawn up wholly or partially, but also to operate as stops whereby the depth of the folds of the shade are limited.

The suspension cord 14 is preferably of one piece and the blind lifting end portion thereof is passed over the suspension cord pulley 7, thence to the top bar 2 of the blind to which it is secured at its end to the center portion of the top stretcher bar 2; the other end portion of the suspension cord is passed over the suspension cord pulley 10, mounted on the stretcher bar 2, thence down through the guiding eyes 11 and 12, thence to the fastening eye 13 to which this end of said cord 14 is secured, thus the lower portion of the shade 1 may be drawn up and folded, as shown particularly in Figs. 3 and 4.

The suspension cord pulleys 7 and 10 are alike in form and operation. The pulley 7 whereby the suspension cord 14 is carried, is

situated centrally above or at the central portion of the rail 9 of the window frame of the window 8 to which the shade is to be applied, and said pulley is provided with cord grooves 16 which are inclined and lead from the smaller central portion of the pulley to the larger end portion thereof, so that, when the loose depending end of the suspension cord 14 is directed downwardly and toward the smaller diameter of the pulley, said cord will freely pass around the center of said pulley to lower the shade and will have no tendency to follow either of the grooves of the pulley to climb to the larger diameters thereof; but, immediately the depending slack end of said cord 14 is guided or directed to either side of said pulley, said cord will immediately follow that outwardly inclined groove situated at the side to which said cord is directed and will climb, with the assistance of the guiding fingers 17, that larger end of said cord pulley to which said cord is directed to be locked or wedged between the larger diameter of the pulley and the root of the guide fingers 18. This construction of cord-pulley, however, is not absolutely necessary to the proper practice of my invention, as any other cord-pulley of approved construction, whereby the suspension cord of the shade may be manipulated to adjust the position of the shade may be used in connection with my invention, but I prefer to use the above described cord-pulley, as the same has been found to be particularly adapted to this invention.

The shade 1 being suspended by the cord 14 extending over the pulley 7 may be readily raised or lowered to expose that top portion of the window above the shade. That end of the suspension cord 14 passed over the suspension pulley 10 secured to the stretcher bar 2 may be independently operated by that portion of the suspension cord extending over the pulley 10 when it is found desirable to admit light through the bottom portion of the window. The bottom portion of the suspension cord 14 is drawn to raise the bottom stretching bar 3, and the bottom portion of the shade 1 to expose the lower portion of the window, as shown in Fig. 3 to admit light therethrough.

It is obvious that a greater or lesser number of intermediate stretcher bars may be used in connection with the shade 1, according as the shade is made longer or shorter.

I claim:

1. The combination with a depending window shade, of a suspension cord pulley situated at or above the top of the window to which said shade is applied, a suspension cord extending over said pulley and connected at a central point of the top end of said shade, a stretcher bar situated to extend along the top end of said shade, a lower stretcher bar situated to extend across the lower portion of said shade, and a second cord pulley situated centrally and vertically under said first suspension pulley, so that the other end of the cord may be extended over the latter cord pulley and be connected at one end to the lower stretcher bar of said shade.

2. The combination with a depending window shade, of a suspension cord pulley situated at or above the top of the window to which said shade is applied, a suspension cord extending over said pulley and connected at a central point of the top end of said shade, a stretcher bar situated to extend along the top end of said shade, a lower stretcher bar intermediate the top and bottom ends of said shade, and a second cord pulley situated centrally and vertically under said first suspension pulley, so that the other end of the cord may be extended over the latter cord pulley and be connected at one end to the lower intermediate stretcher bar of said shade.

3. The combination with a depending window shade, of a suspension cord pulley situated at or above the top of the window to which said shade is applied, a suspension cord extending over said pulley and connected at a central point of the top end of said shade, a stretcher bar situated to extend along the top end of said shade, a lower stretcher bar intermediate the top and bottom ends of said shade, and a second cord pulley situated centrally on said first named stretcher bar and vertically under said first suspension cord pulley, so that the draw portion of the suspension cord may extend over the latter cord pulley and be connected at one end to the lower intermediate stretcher bar of said shade.

4. The combination with a depending window shade, a cord pulley situated at or above the top of the window to which said shade is applied, a suspension cord connected at one end to the top end of said shade and extending over said cord pulley, a stretcher bar situated to extend along the top end of said shade, a second cord pulley situated centrally on said stretcher bar, stretching bars situated intermediate the ends of said shade to extend across the same, and cord guides situated centrally on the latter upper intermediate stretcher bars, so that the other end of the suspension cord may be extended over the latter pulley, through said guides and be connected at its end to the lower of the series of intermediate stretcher bars.

5. The combination with a depending window shade, stretcher bars extending along the bottom and top ends of said shade, stretcher bars situated intermediate the ends of said shade to extend across the same, a cord pulley situated at or above the top of the window to which said shade is applied,

and a suspension cord extending over said pulley and connected at its end to a central portion of the top bar of the series of said stretcher bars, of a cord pulley situated centrally on said top stretcher bar, and guiding eyes situated centrally on the upper series of intermediate stretcher bars, so that the other end of the suspension cord may be extended over said latter cord pulley down through said guiding eyes and be connected at its end to the central portion of the lower of the series of said intermediate stretcher bars.

In testimony whereof I affix my signature in presence of two witnesses.

ENOS T. BELL.

Witnesses:
O. L. RIFNER,
FRANK FOSTER.