

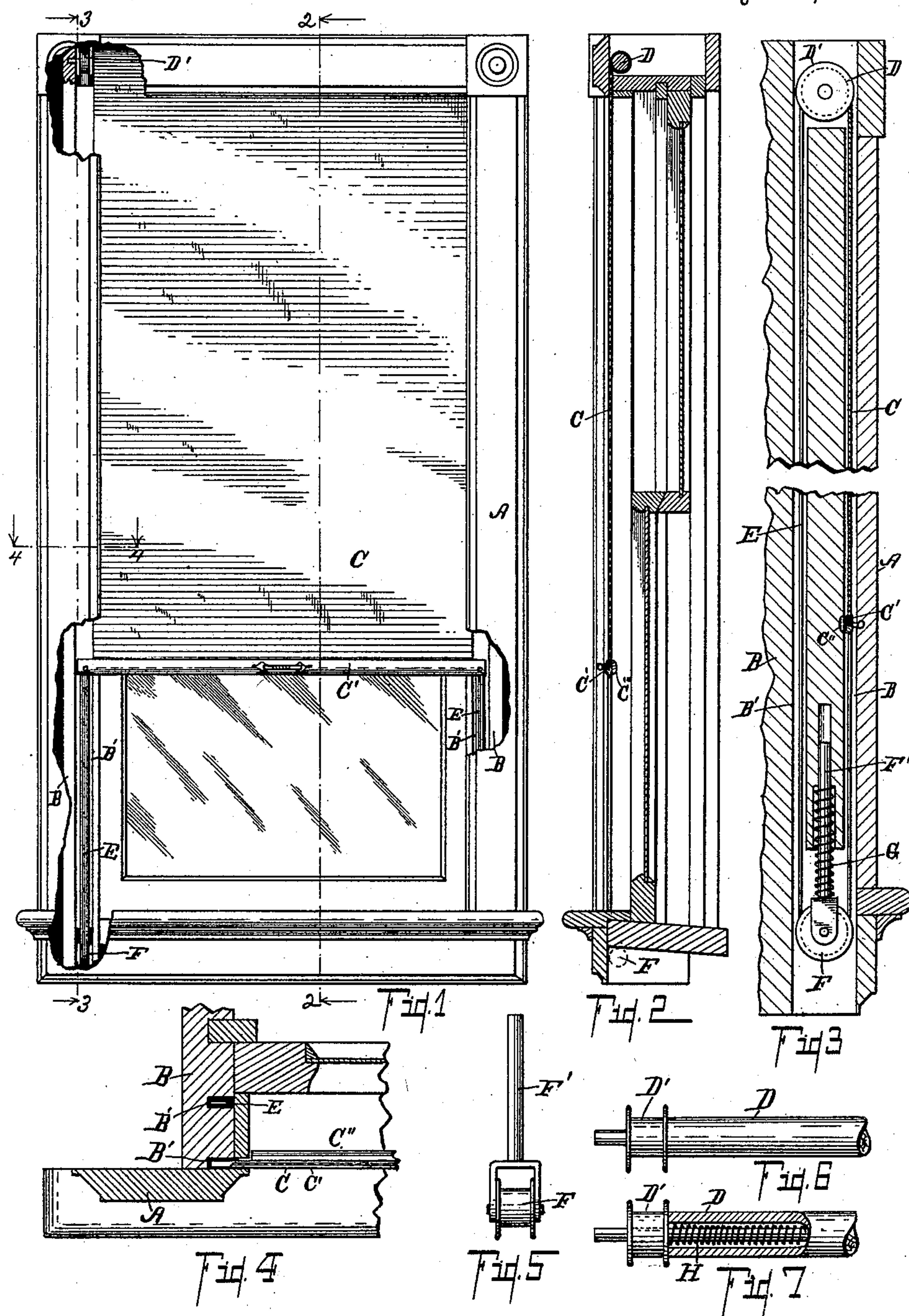
(No Model.)

L. C. TRUMBLE.

WINDOW SHADE AND MECHANISM FOR OPERATING SAME.

No. 582,243.

Patented May 11, 1897.



Witnesses:

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UNITED STATES PATENT OFFICE.

LEWIS C. TRUMBLE, OF LANSING, MICHIGAN.

WINDOW-SHADE AND MECHANISM FOR OPERATING SAME.

SPECIFICATION forming part of Letters Patent No. 582,243, dated May 11, 1897.

Application filed January 9, 1896. Serial No. 574,886. (No model.)

To all whom it may concern:

Be it known that I, LEWIS C. TRUMBLE, a citizen of the United States, residing at the city of Lansing, in the county of Ingham and State of Michigan, have invented certain new and useful Improvements in Window-Shades and Mechanism for Operating the Same, of which the following is a specification.

My invention relates to improvements in window-shades and window-shade fixtures and similar mechanism.

The objects of my invention are, first, to provide a window-shade which is completely adjustable; second, to provide a window-shade or similar article which is not only perfectly adjustable, but is secured perfectly in place, thus avoiding unnecessary wear and tear from a flapping of the shade and securing not only the benefits of the shade as a protection against light, but against heat and cold as well; third, to provide a shade that can be operated quickly, and further objects appearing in the detailed description. I accomplish these objects of my invention by the devices and means described in the following specification and illustrated in the accompanying drawings, in which—

Figure 1 is an inside elevation of a window with my improved shade in position, portions of the casing and window-sill being broken away to show details of construction. Fig. 2 is a sectional view on line 2 2 of Fig. 1. Fig. 3 is a sectional view on line 3 3 of Fig. 1. Fig. 4 is an enlarged detail sectional view on line 4 4 of Fig. 1. Fig. 5 is an enlarged detail perspective view of one of the bottom guide and tension rollers F. Fig. 6 is an enlarged detail perspective view of one end of the shade-roller D at the top. Fig. 7 is an enlarged detail view of the end of a shade-roller of a modified construction to be hereinafter described and explained.

In the drawings all of the sectional views are taken looking the direction of the little arrows at the end of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A represents the window-casing, B the window-frame, and C the window-shade. Within the casing of the window at the top is supported a roller D, on which the shade is

wound. To each end of the roller are little spools D', integral therewith, which project to each side of the window. A part of the window-stop is cut away, and vertical grooves B' B' are cut into the frame. The front edge of the window-stop is cut away and leaves a space at that point for the passage of the edge of the shade. Across the bottom of the shade extends a suitable curtain stick or bar C'', which fits closely between the window-stops and acts as a guide. On the opposite side of the shade a stiff binding-strip C' projects into the outer groove B'. Supported in the window-frame to each side just below the window-sill are antifriction tension-rollers F. These are carried on suitable stems F', which project upwardly into the window-frame or other timber and bear coiled springs G, which tend to throw the same downwardly. A tape E extends from each end of the stiffened binder C' down through the groove B', around the rollers F, and back over the spool D' in the opposite direction from the shade C over the roller D. From this construction it will be seen that when the shade is raised the end of the tape E attached to the shade will be drawn upwardly and will be unwound from the spool D' and will consequently wind up the shade. As the tape unwinds, however, each revolution of the spool will lessen the amount of tape taken, and each revolution of the roller will take up more of the curtain. Consequently the height of the tension-roller F will be varied up and down to compensate for this difference, and when the curtain is moved in the opposite direction these conditions are reversed and the tension-roller F, by raising or lowering, compensates for that difference also. The tape and curtain both being inelastic preserve a perfectly parallel motion and the tape and shade are carried evenly up and down as required.

Having thus described my improved shade and mechanism, I desire to state that it can be considerably varied in its construction without departing from my invention. The rollers F could be made stationary, and the spools D' and the roller D above could be independent, with a spring-tension connection H, as indicated in Fig. 7, between, and serve the purpose very well, it only being required to have a spring-tension to keep the

tape and shade taut to have them operate perfectly. By reversing this mechanism and putting the shade-roller at the bottom the shade can be raised from the bottom with
5 exactly the same facility that it can be lowered from the top. By placing the shade-roller in the vertical position the shade can be carried forth horizontally and be used as a sliding door, and is particularly well adapted
10 for that purpose, as it will roll up inside an ordinary door-casing. The mechanism can also be used to control the curtain to a theater-stage or a scenery thereon and can be used to adjust a screen or shade of any description.

15 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a window-shade the combination of the roller D, with the spools D', at each end
20 thereof, with the window-casing, the window-shade C, attached to said roll and projecting from said casing across the window through suitable grooves between the casing and the window-stops; a cross-stick C'', fitting closely
25 between the window-stops to guide the window-shade; a stiff binding-strip C', projecting into grooves B', into the window-frame; rollers F, carried on the stems F'; springs G, on said stems for putting tension on said rollers; tapes
30 attached to the outer ends of the stiff binding C', of the shade extending around the rollers F, to the spools D', and wrapping around the same in the opposite direction from the shade

upon the roller all coacting together substantially as described for the purpose specified. 35

2. In a window-shade the combination of the roller D, with the spool D', at each end thereof within the window-casing; the window-shade C, attached to said roll and projecting from the casing across the window; a
40 stiff binding-strip across the end of said shade with guides thereon to guide the same within the window-frame; suitable tension-rollers and tapes or belts extending from the end of said binding-strip around said tension-rollers
45 to the spools D', and wrapping around the same into rolls in the opposite direction from the shade upon the roller for the purpose specified.

3. The combination of a roller with the
50 spools at the end thereof; a suitable screen attached to said roller; a stiff cross-piece on the end of said screen with guides therefor; suitable belts extending from said cross-piece through suitable guides back to the spools to
55 wrap into rolls around the same in the opposite direction from the screen upon the roller and suitable means of putting tension upon said tapes as specified.

In witness whereof I have hereunto set my
60 hand and seal in the presence of two witnesses.

LEWIS C. TRUMBLE. [L. S.]

Witnesses:

JOSEPH C. TEMAN,

WARREN M. DISBREU.