No. 734,025. PATENTED JULY 21, 1903.

L. A. WATTS.

ADJUSTABLE SHADE HANGER.

APPLICATION FILED OCT. 27, 1902.

NO MODEL.

Fig. 2.

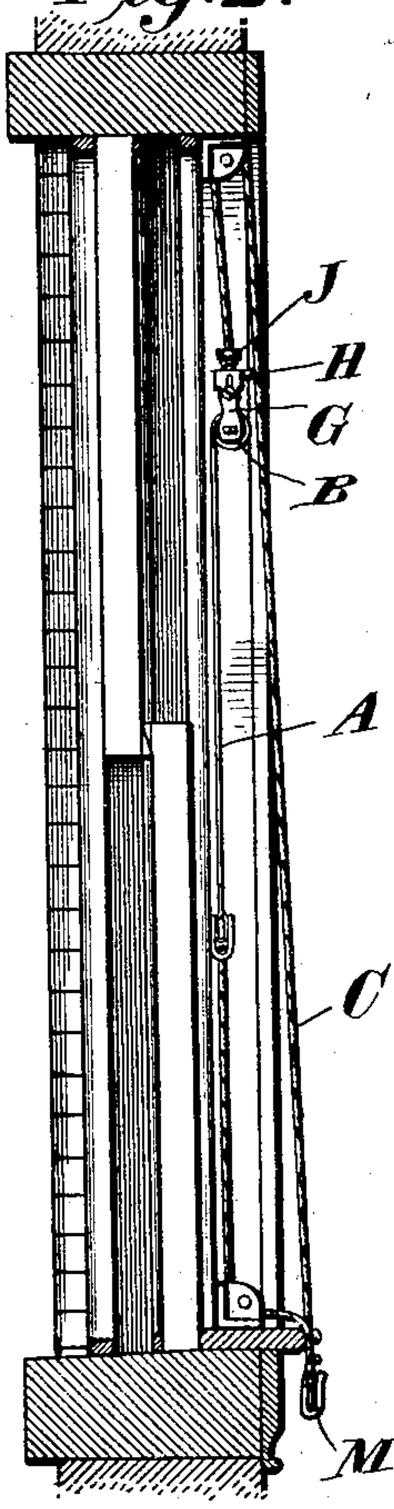


Fig. 1.

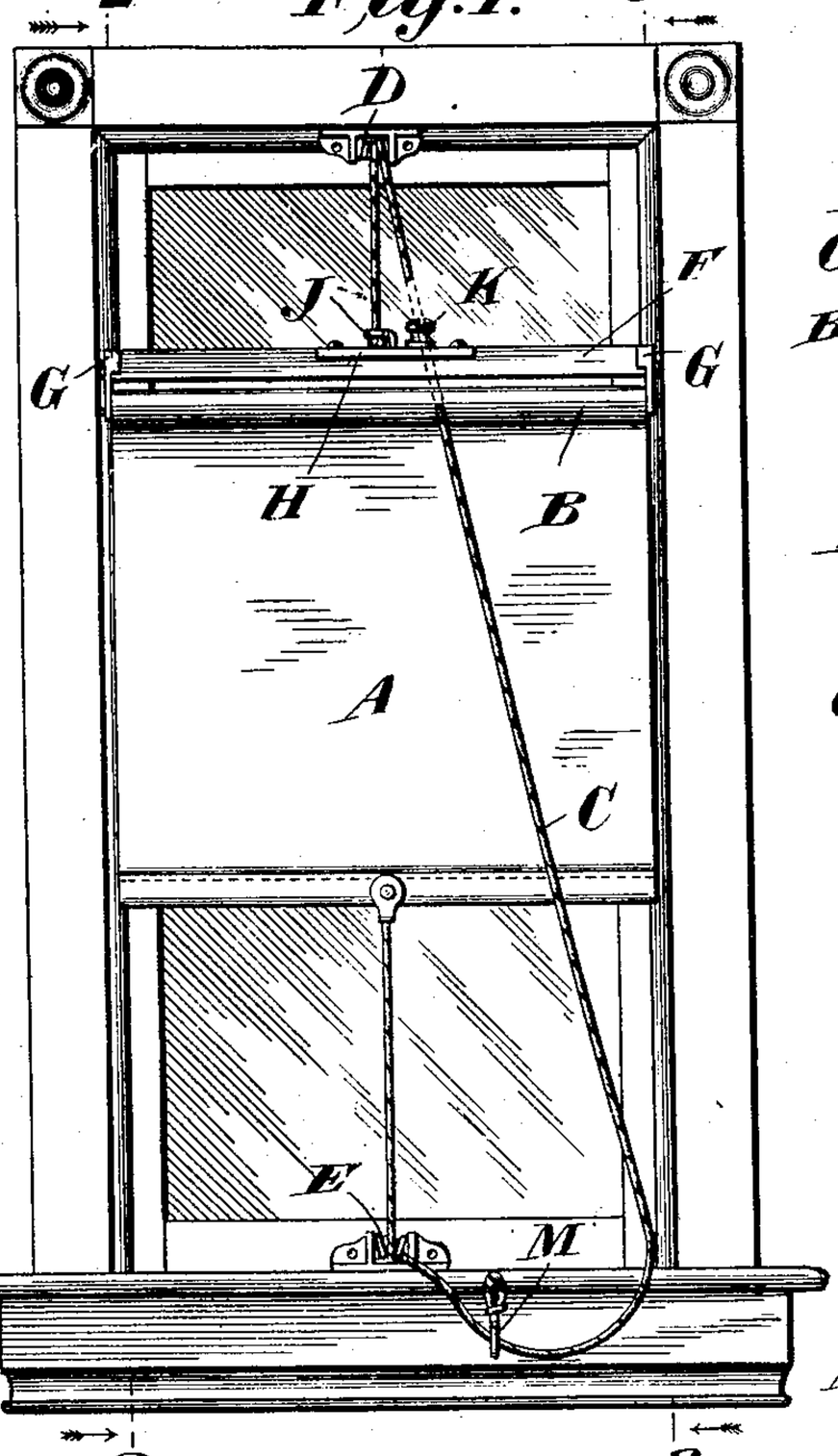


Fig. 3.

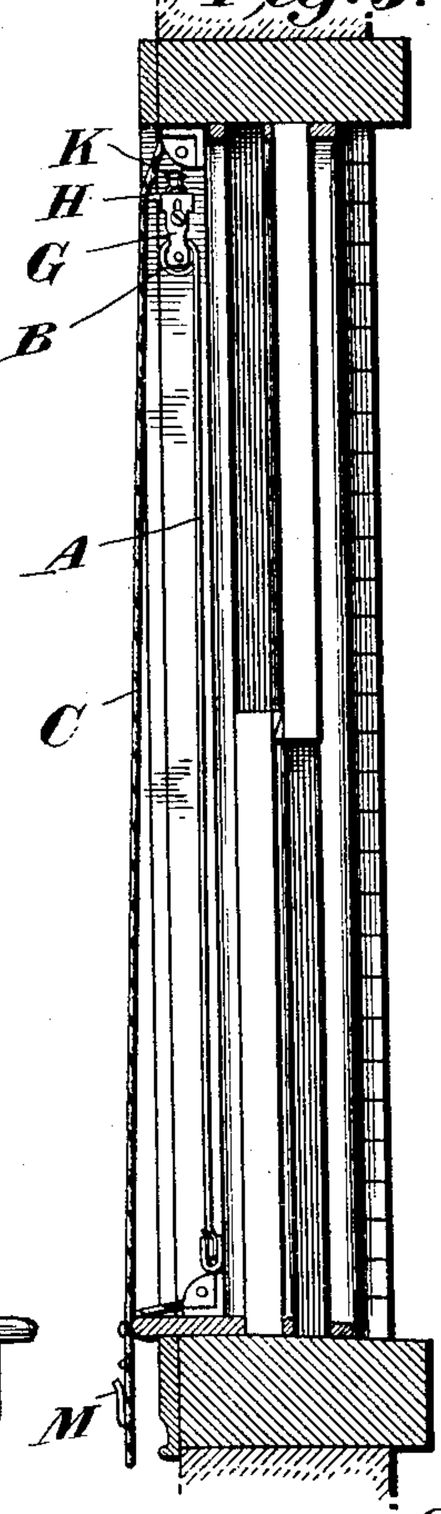


Fig. 4.

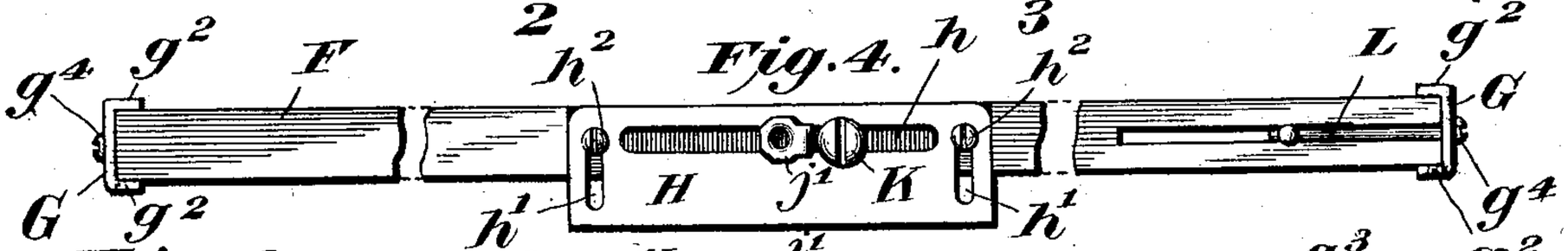


Fig. 6.

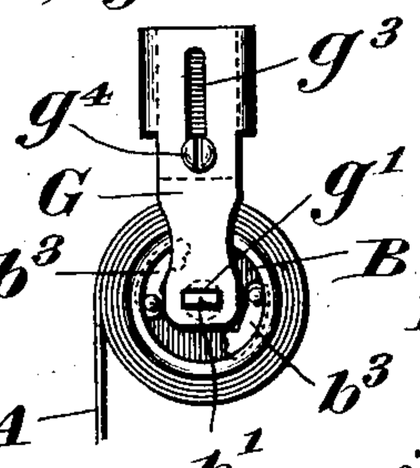


Fig. 5.

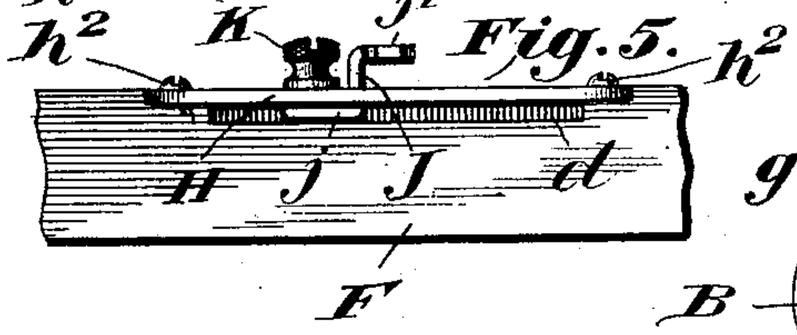


Fig. 7.

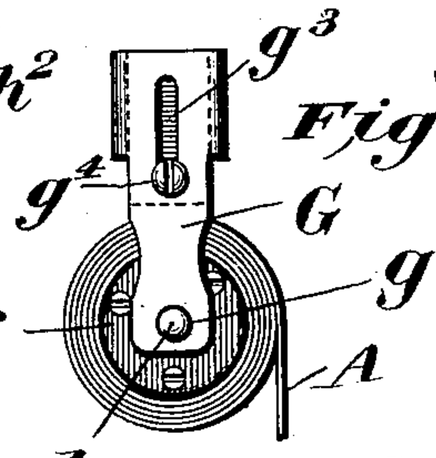


Fig. 8.

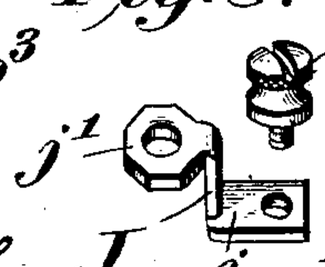


Fig. 9.

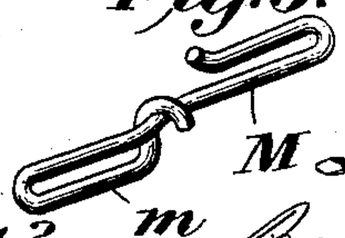
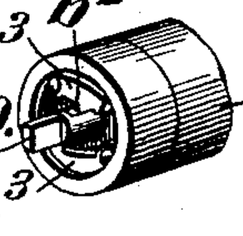


Fig. 10.



Witnesses

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Attorney

No. 734,025. Patented July 21, 1903.

UNITED STATES PATENT OFFICE.

LOUIS A. WATTS, OF CINCINNATI, OHIO, ASSIGNOR TO THE WATTS MANUFACTURING COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

ADJUSTABLE SHADE-HANGER.

SPECIFICATION forming part of Letters Patent No. 734,025, dated July 21, 1903

Application filed October 27, 1902. Serial No. 128,943. (No model.)

To all whom it may concern:

Be it known that I, LOUIS A. WATTS, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Adjustable Shade-Hangers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to window shade or curtain hangers of that type adapted for suspension from the top of a window-frame by a cord or cords by which the hanger can be raised or lowered, while the shade can also be rolled and unrolled or drawn down and let up by a cord at the bottom in the usual manner, whereby the shade may be adjusted to admit light from either above or below or to cover or expose either the whole or any part of the window, as desired.

The invention is particularly adapted for supporting a spring-actuated shade-roller whose spring acts on both the upper and lower cords, holding them under tension, so that by letting down or pulling up the upper cord the roller as it ascends or descends will wind or unwind the shade accordingly, while the shade can also be wound or unwound when the roller is stationary by means of the bottom cord, and such application is illustrated in the present case, though it will be understood that the invention is not restricted thereto.

The principal objects of the invention are to produce an exceedingly simple and convenient device of this character; to provide for holding shade-rolls of different sizes or diameters in the hanger and for adjusting the shade-roller horizontally, so as to insure even winding of the shade; to render the device applicable for use in the manner stated with the ordinary shade-rollers now in use; to provide improved means for securing perfect center balance of the hanger and also for inward and outward adjustments thereof, so as to hold the shade more or less closely to the window-frame; to provide a simple device for holding up the controlling-cord when the shade is drawn and the cord is slack, so as to prevent it from dropping to the floor, where it is liable to become soiled and worn; and to improve generally in details of construction, as will be apparent from the following description. These objects are attained by means substantially as illustrated in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a front elevation of a window with a shade or curtain applied thereto and having its roller mounted in my improved shade-hanger, which is suspended by a controlling-cord from the top of the window-frame in the manner hereinbefore explained, the shade being shown adjusted to admit light from above and below. Fig. 2 is a left-hand side elevation thereof with the left outer member of the window-frame broken away. Fig. 3 is a similar right-hand side elevation with the right outer member of the frame broken away and showing the shade adjusted so as to cover nearly the whole window. Fig. 4 is an enlarged top plan view of the shade-hanger with the shade-roller mounted therein, parts intermediate the center and ends thereof being omitted. Fig. 5 is a detail rear view of the central part of the shade-hanger. Fig. 6 is a left-hand end elevation of the shade-hanger with the roller mounted therein. Fig. 7 is a right-hand end elevation thereof. Fig. 8 is a detail view of a slidable piece attached to the center of the shade-hanger and to which the controlling-cord is fastened for suspending the hanger, with the locking-screw of said slidable piece shown detached. Fig. 9 is a detail view of the device for holding the controlling-cord from the floor when the cord is slack; and Fig. 10 is a detail perspective view of the spring end of an ordinary spring-actuated shade-roller, such as the one mounted in the shade-hanger herein illustrated.

The letter A designates the window shade or curtain, and B denotes the shade-roller, which is of the ordinary spring-actuated type and is mounted in my improved shade-hanger, which latter is centrally suspended by a con-

trolling-cord C. This cord in the present illustration of the invention passes over a suitable stop-pulley D, located at the middle of the upper member of the window-frame, thence down and under a stop-pulley E, similarly located at the lower part of the window-frame, thence up and is finally attached to the center of the curtain-stick or lower part of the shade. The tension of the spring in the shade-roller pulls oppositely on the upper and lower parts of the controlling-cord, so that the shade can be adjusted both from the top and the bottom in the manner already explained, the stop-pulleys allowing the cord to be pulled or released and holding them in any desired position.

The shade-hanger consists of a horizontal suspension-bar F, preferably flat and narrow, with its wider side standing vertical and depending brackets G G adjustably attached at opposite ends of said bar, one of said brackets (here the right-hand one) having a round opening or socket *g* to receive the rotary spindle *b* at one end of the shade-roller and the other bracket (here the left-hand one) having a slot or polygonal opening *g'* to receive the fixed flat-ended or angular stem *b'* at the opposite or spring end of the roller. These brackets, as shown, consist of flat metal pieces having side flanges or lugs g^2, which embrace the ends of the supporting-bar, and vertical slots g^3, through which suitably-headed screws g^4 are inserted into the bar for attaching the brackets. On loosening these screws the brackets can be raised or lowered to hold the shade-roller nearer or farther from the bar, thus permitting rolls of different sizes to be used, and said brackets can also be adjusted vertically to hold the shade-roller in true horizontal position or parallel with the supporting-bar, so as to insure even winding and unwinding of the shade—that is, to prevent its edge from running beyond the end of the roller.

It will be observed that the slot or opening *g'* in the left-hand bracket for the fixed stem *b'* at the spring end of the shade-roller extends crosswise instead of lengthwise, the latter being usually the case in shade-brackets. While the invention is not limited to such arrangement, it is nevertheless an advantageous feature in such an application of the invention as herein illustrated, for the following reason: As is well known, the ordinary spring-actuated shade-roller (in which a coiled spring for winding the shade is fastened at one end to the roller and at the other to a fixed stem on which the roller is rotatably mounted) has its fixed stem *b'* formed with a flat end adapted to fit in a slot or corresponding opening in the shade-bracket, which slot is generally open-ended and vertically disposed to allow said flat-ended stem to slip into it. This stem *b'* is also usually formed with notches b^2, (see Fig. 10,) adapted to be engaged by dogs or pawls b^3 on the roller to hold the latter from rotating, said notches facing up and down, so that the upper dog or pawl will drop into the upper notch by gravity. Now in applying any of the ordinary shade-rollers to such a use as illustrated in the present case it is generally necessary to take out these dogs or solder them or otherwise fasten them out of the way; otherwise they will catch in the notches, and thus cause jerky motion of the roller and interfere with the proper action of the roller when the hanger is drawn up or let down by the upper controlling-cord, whereas it is very desirable to have the spring in the roller exert an even tension on the controlling-cord both at the top and bottom; but by holding the stem in such position that the notches face in and out instead of up and down, as in Fig. 10, the dogs will not engage them, but will revolve freely around the stem without liability of catching. This may be accomplished by forming the slot *g'* crosswise to its usual position in ordinary curtain-brackets, as shown in Fig. 6, and thus ordinary spring-actuated shade-rollers may be used in fixtures of the present nature, the difficulty of removing, soldering, or fastening the dogs, as well as the annoyance frequently caused by ineffectually-fastened dogs, being obviated. This same purpose may, however, be accomplished by other suitable means, as by forming the flat end of the stem *b'* at right angles to its usual position; also, a roller without dogs may be used, so that it may be desirable to give the slot *g'* other positions, as well as other formations, all of which will depend on the fixed stem of the shade-roller. In some instances also my improved shade-hanger may be used where it is not desired to wind the shade downward, only the upper stop-pulley being used and an ordinary pull-cord being attached to the lower part of the shade, in which case it is necessary to make use of the coöperating dog-and-ratchet devices, and hence the roller would then be mounted in the hanger preferably in the same manner as in ordinary shade-brackets.

The suspension-bar F is suspended from the controlling-cord in such manner as to permit horizontal adjustments for obtaining a perfect center balance of the hanger with the shade-roller mounted therein and also to permit inward and outward adjustments for the purpose of holding the shade more or less closely to the window-frame or window-casing. The means shown for such purposes comprise a flat slotted plate H, adjustably attached to the bar, and an angle-shaped piece J, slidably secured therein and fastened to the end of the controlling-cord, by which the hanger, with its shade-roller, is suspended. The slot *h* in the plate extends lengthwise or parallel with the bar, and the top side of the latter is cut away or recessed beneath said slot, as shown at *d* in Fig. 5. The middle upright part of the angle-shaped piece or slide J is inserted through the slot *h*, and its lower flat end *j* slides under the plate in the recess *d* in the bar and may be locked in any

desired position by a suitably-headed screw K, the stem of which passes through the slot and is screwed into the lower flat end *j* of the slide. A perfect center balance of the hanger with its shade-roller may thus be obtained after the fixture is mounted merely by loosening the screw K and adjusting the angle-shaped piece or slide J. This is an advantageous feature over certain prior devices of this character, wherein the hangers must be set for balancing before they are suspended, after which they will often hang imperfectly and have to be taken down and readjusted or which have no provision for central adjustment, but depend for balancing on weights, which must be adjusted or often taken out and replaced by others, with consequent trouble and consumption of time. The upper end *j'* of the slide J is shown flat and bent parallel with its lower end *j* and is formed with an opening through which the controlling-cord is inserted, the lower end of the latter being knotted below said device, whereby the hanger is suspended with the cord perfectly straight. The central part of the slide or piece J is preferably of less width than the slot *h*, so that said slide may be inserted readily therethrough. The plate H, as shown, has also two cross-slots *h'* at its ends, through which headed screws h^2 are inserted and screwed into the bar F, and obviously on loosening said screws the plate may be adjusted inward and outward, so as to shift the weight of the bar, and thus hold the shade more or less closely to the window-frame. This also is an advantageous feature and obviates certain objections of prior devices, in some of which in order to adjust the shade more closely to the window-frame the hanger must be turned around, while in others the suspension-bar is located beneath the shade-roller, where it contacts with and wears the shade. In the present illustration of the invention when the plate H is moved to its outermost position (shown in Fig. 4) the slot *h* and the controlling-cord are in the longitudinal center of the bar F, so that the shade-roller hangs directly beneath said bar; but on moving the plate inward the bar will be suspended from the inner side of its longitudinal center, and hence the bar will incline and hold the shade-roller more closely against the face of the window-frame. I thus provide means for effecting both of these necessary adjustments—longitudinal and transverse—while the shade is suspended with practically no trouble and without the necessity of removal of any parts. It will be understood, however, that I am not restricted to the details of construction and arrangement described and that other suitable means may be substituted for the same purposes.

By mounting the ends of the shade-roller in depending brackets at the end of the suspension-bar the weight of said roller is brought directly beneath the same, and the device balances more perfectly than where the roller is mounted in lateral or upstanding brackets, and, further, the bar is at all times kept from contact with the shade. However, certain features of my present invention are also applicable where the hanger holds the roller to the side or above it.

A weight L is shown secured in a slot in the spindle end of the roller. This is merely to counterbalance the weight of the spring in the opposite end of the roller and not for center-balancing the hanger, the latter being accomplished solely by the central device already described.

It is often the case that where the shade is drawn to cover the whole or nearly the whole window the slack cord drops to the floor, where it may be trampled on, soiled, and worn, or become tangled, or catch the feet of persons passing, or where the curtain is applied to a glass door it may interfere with the opening of the door. Hence I have provided the device shown in detail in Fig. 9 for holding the slack cord, consisting of a simple wire hook M, having a looped extremity *m*, by which it may be tied, stapled, or otherwise fastened to the window-sill or any other suitable part of the window-frame or to the door.

The uses and advantages of my invention are apparent from the foregoing description. As before stated, I am not limited to the particular application shown, for my improved hanger may be employed with advantage where it is desired merely to suspend the same without having the shade wind downward or where only one stop-pulley is used.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A shade-hanger of the character described consisting of a horizontal bar adapted to be suspended from the center, with vertically-adjustable depending brackets attached to said bar and formed to receive the ends of a shade-roller, the latter being mounted in said brackets beneath the bar and in substantially the same vertical plane therewith.

2. A shade-hanger of the character described consisting of a horizontal bar adapted to be suspended from the center, and shade-brackets adjustably secured to said bar so as to permit the shade-roller or either end thereof to be moved toward or from the bar.

3. A shade-hanger of the character described consisting of a horizontal suspension-bar and slotted shade-brackets adjustably secured to opposite ends thereof by screws entered through the slots, said brackets having flanges or lugs which slidably embrace the ends of the bar.

4. A shade-hanger of the character described consisting of a horizontal suspension-bar and depending shade-brackets vertically adjustably secured at opposite ends thereof, the latter having flanges or lugs which slid-

ably embrace the end portions of the bar and intermediate vertical slots through which headed screws are entered into the ends of the bar.

5. A shade-hanger consisting of a horizontal suspension-bar having suitable brackets for mounting a shade-roller, a device secured to the middle part thereof capable of adjustment both lengthwise and crosswise of the bar, and means for locking said device in desired position, and a cord directly above the bar from which said device is suspended, substantially as and for the purpose described.

6. In a shade-hanger of the character described, a horizontal suspension-bar supporting the shade having a central longitudinal recess or slot, and a slide in said recess adapted for attachment to a suspension-cord, and a screw for locking said slide in desired position, whereby a perfect center balance may be obtained when the hanger is suspended.

7. In a shade-hanger of the character described, a horizontal suspension-bar supporting the shade, a longitudinally-slotted plate fastened to the central part of said bar, an angle-shaped piece or slide under said slotted plate having one member projecting through the slot and adapted for attachment to a suspension-cord, and a suitably-headed screw inserted through said slot and into the other member adapted for locking the slide to the plate.

8. In a shade-hanger of the character described, a horizontal suspension-bar supporting the shade, a longitudinally-slotted plate fastened to the central part of said bar, an angle-shaped piece or slide under said slotted plate having one member projecting through the slot and adapted for attachment to a suspension-cord, and a suitably-headed screw inserted through said slot and into the other member adapted for locking the slide to the plate, with means for adjusting said plate crosswise of the bar.

9. In a shade-hanger of the character described, a horizontal suspension-bar having depending shade-brackets at opposite ends for mounting a shade-rolier, a longitudinally-slotted plate attached to the center of the upper side of the bar by means of flat-headed screws entered through cross-slots in said plate, so that the plate may be adjusted crosswise, an angle-shaped piece or slide having one member beneath said plate, a flat-headed screw for locking said member to the slot in desired position, and said slide having its other member projecting through the longitudinal slot in said plate and adapted for fastening to a suspension-cord.

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

LOUIS A. WATTS.

Witnesses:
GEORGE SCHOTT,
CLIFFORD J. ROBERTS.