No. 872,322. PATENTED DEC. 3, 1907.

W. C. ATHERTON.

WINDOW SHADE FIXTURE.

APPLICATION FILED NOV. 26, 1906.

Fig. 1.

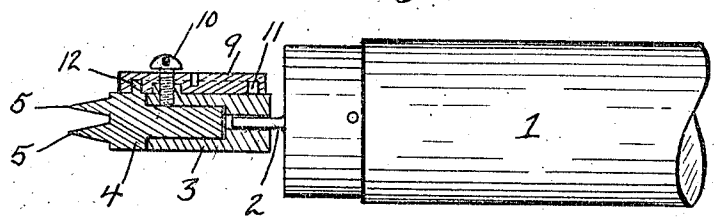


Fig. 2.

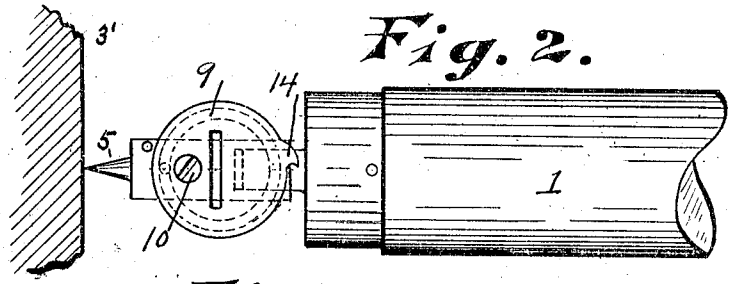


Fig. 3.

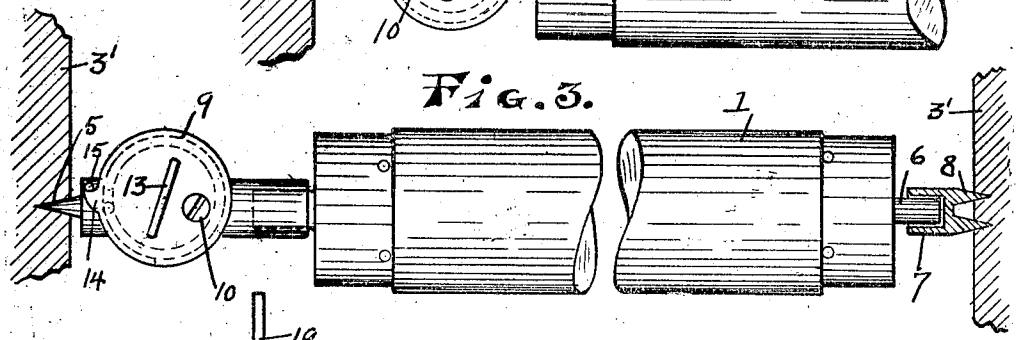
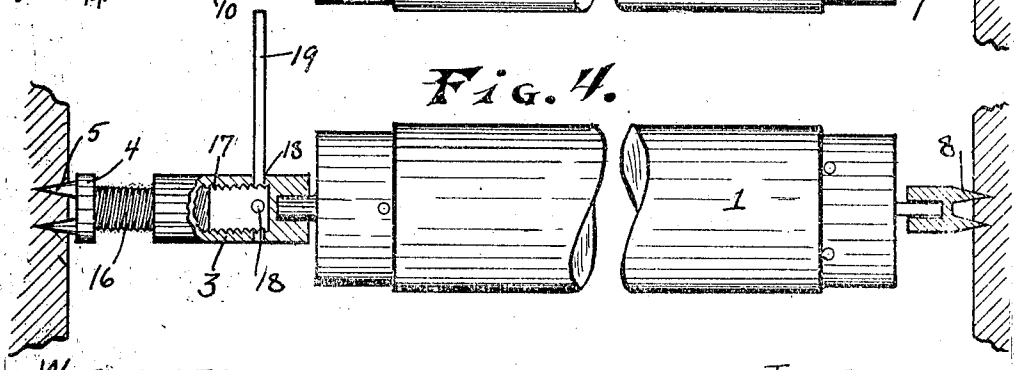


Fig. 4.



WITNESSES:

O. R. Enquist

M. M. O'Leary

INVENTOR

Walter C. Atherton

By Enoch & Kiler

ATTORNEYS.

UNITED STATES PATENT OFFICE

WALTER C. ATHERTON, OF MILWAUKEE, WISCONSIN.

WINDOW-SHADE FIXTURE.

No. 872,322. Specification of Letters Patent. Patented Dec. 3, 1907.

Application filed November 26, 1906. Serial No. 345,011.

To all whom it may concern:

Be it known that I, WALTER C. ATHERTON, a citizen of the United States, residing at the city of Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Window-Shade Fixtures, of which the following is a specification.

My invention relates to improvements in that class of window curtain fixtures in which the curtain is automatically wound upon the roller by the recoil of a spiral spring centrally located within the roller, and it pertains more especially to the mechanism for connecting the respective ends of the roller with the opposing sides of a window frame.

Heretofore it has been common to support the respective ends of a roller from a window frame by a pair of metallic brackets, which brackets are first secured to the window frame by a plurality of screws.

The object of my present improvement is to provide a simple device by which the roller supports at each end of the roller may be simultaneously forced outward and caused to penetrate the opposing sides of the window frame in such a manner so as to support the roller and curtain, and the screws and supporting brackets heretofore used are dispensed with.

The construction of my invention is explained by reference to the accompanying drawings in which,

Figure 1 is a longitudinal section of the device in connection with one end of the roller. Fig. 2 is a top view of the device shown in Fig. 1 showing the position of the mechanism preparatory to forcing the roller supporting barbs into the side of the window frame. Fig. 3 is a top view of the device shown in Fig. 2, showing the roller supporting barbs at the respective ends of the rollers as they appear when penetrated into the side of the window frame in position for use. Fig. 4 is a modified form of the device for forcing the roller supporting barbs into the window frame, or casing.

Like parts are identified by the same reference figures throughout the several views.

1 represents the roller, 2 the roller supporting trunnion by which one end of the operating spring of the roller, not shown, is held as the roller is being revolved by the unwinding or drawing down of the curtain.

3 represents a roller supporting sleeve by which the trunnion 2 is held in place in connection with the window frame 3'.

4 is a sleeve-supporting trunnion, one end of which is inclosed in the sleeve 3, while the opposite end is provided with one or more supporting points or barbs 5 which are adapted to penetrate the side of the window frame 3' and support the trunnion 4.

6 is a revoluble trunnion which is rigidly affixed to the opposite end of the roller 1 and revolves with it.

7 is a trunnion supporting sleeve which is provided with retaining barbs 8, which are adapted to penetrate the opposite side of the window frame 3', and thereby support the opposite end of the roller.

It will now be understood that when desirous to support a roller from the sides of a window frame, it is necessary simply to place the respective barbs 5 and 8 against the opposing walls of the window frame when the trunnion 4 is forced outwardly, whereby by the re-action, the barbs 5 and 8 are simultaneously caused to penetrate the respective sides of the window frame a sufficient depth to support the roller and the curtain which is suspended therefrom. To accomplish this object I have shown two different devices for forcing the trunnion 4 outward and away from the sleeve 3. By the devices illustrated in Figs. 1 to 3 inclusive, the trunnion 4 is thus forced outwardly from the inclosing sleeve 3 by turning the eccentric disk 9 a partial revolution upon the retaining screw 10, by which screw the disk is revolubly secured to the side of the sleeve 3. The lower side of the disk 9 is provided with an annular groove 11 formed eccentric to said screw, which groove engages the laterally projecting lug 12, which is rigidly connected to the trunnion 4. It is obvious that as said disk 9 is revolved around its retaining screw 10, the trunnion 4 will be forced outwardly by the action of said disk from the position shown in Figs. 1 and 2 to that shown in Fig. 3, whereby the points or barbs, 5 and 8, will be caused to penetrate the respective sides of the window frame, as stated. 13 is a recess formed in the face of the disk for the reception of a screw driver or other instrument by which said disk 9 is revolved around its supporting screw.

14 is a projecting lug formed on the periphery of the disk 9 and is adapted as said disk is revolved to be brought in contact

with the laterally projecting lug 15, whereby the movement of said disk is stopped at the desired point of adjustment. When, however, it is desirous to remove a curtain fixture, it is necessary simply to revolve said disk 9 in the opposite direction, whereby the trunnion 4 will be drawn inward and out of engagement of the window frame by the action of the walls of the groove 11 upon said projection 12 when it is obvious that the roller may be readily removed from the window frame.

In the modified form of device shown in Fig. 4, the trunnion 4 is provided with a screw thread 16, while the sleeve 3 is provided with an internal thread 17. Thus it is obvious when the window curtain is in place with the barbs 5 and 8 in contact with the respective sides of the window frame, said barbs may be forced outwardly into the sides of the window frame by revolving said sleeve, it being obvious that when said sleeve is being turned upon said screw thread 16 of the trunnion, said trunnion will be forced outwardly by the action of the sleeve and the barbs 5 and 8 caused to penetrate the sides of the window frame as stated. The sleeve 3 is provided with a plurality of apertures 18 for the reception of the operating lever 19 which is adapted to be inserted in said apertures and used as a means of revolving the sleeve for forcing the trunnions outwardly into engagement with the sides of the window frame.

While it is obvious that by reversing the movement of the sleeve 3, said trunnion 4 will be moved in the opposite direction and the barbs 5 and 8 disengage from the window frame when the curtain roller may be removed.

Referring to Figs. 1 to 3 inclusive, it will be understood that the sleeve 3 is prevented from turning on the trunnion 4 by contact of the lower end of the screw 10 which impinges against the surface of said trunnion and serves the two-fold purpose of securing the disk 9 to the sleeve 3 and securing said sleeve 3 in place upon said trunnion 4.

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

1. The combination of a curtain roller, a sleeve provided with one or more barbs connected with one end of said roller, a sleeve connected with the opposite end of said roller, a trunnion provided with one or more barbs supported in said last named sleeve, a disk revolubly connected with the side of said last named sleeve, a lateral contact bearing formed in connection with said trunnion against which said disk is adapted to bear, said disk being adapted as it is revolved against the lateral contact bearing of said trunnion to force the latter outwardly and cause the barbs to penetrate the opposing sides of a window frame.

2. The combination of a curtain roller, a sleeve provided with one or more barbs connected with one end of said roller, a second sleeve connected with the opposite end of said roller, a trunnion also provided with one or more barbs supported in said last named sleeve, a disk provided with an annular groove, means for revolubly connecting said disk with said last named sleeve eccentric to said groove, a lateral projection connected with said trunnion and adapted to engage in the groove of said disk, said disk being provided with means for attaching an operating tool to said disk, whereby said disk may be revolved and said trunnion forced outwardly, thereby causing said barbs to penetrate the opposing sides of said window frame.

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

WALTER C. ATHERTON.

Witnesses:
JAS. B. ERWIN,
O. R. ERWIN.