(No Model.)

E. F. HARTSHORN

ATTACHING WINDOW SHADES TO ROLLERS.

No. 553,407 Patented Jan. 21, 1896.

Fig. 2

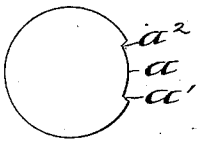


Fig. 1

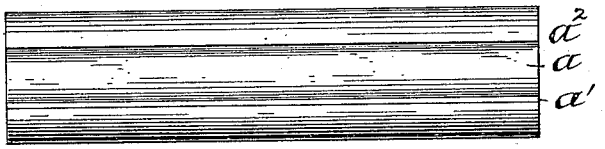


Fig. 3

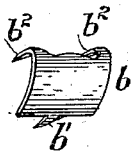


Fig. 5

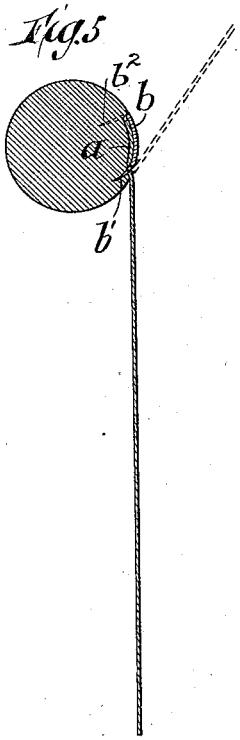
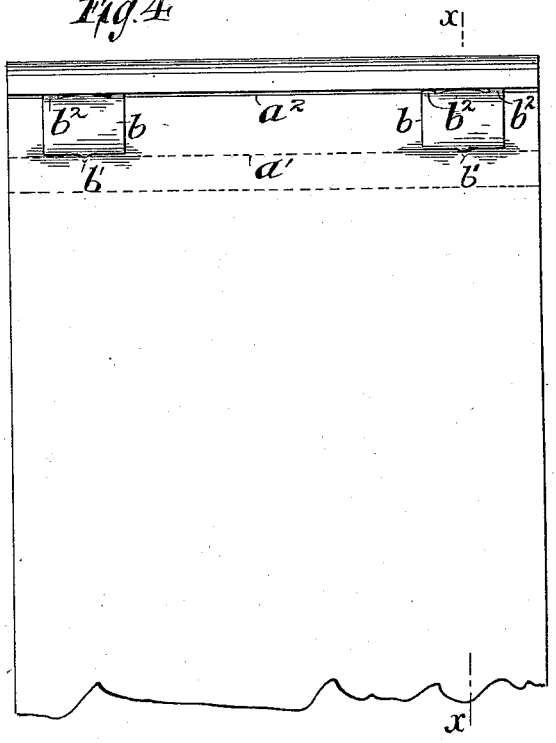
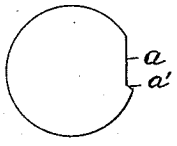


Fig. 4



Witnesses
Geo. Wadman
J. E. Greer.

Fig. 6



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UNITED STATES PATENT OFFICE.

EDMUND F. HARTSHORN, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE STEWART HARTSHORN COMPANY, OF NEW JERSEY.

ATTACHING WINDOW-SHADES TO ROLLERS.

SPECIFICATION forming part of Letters Patent No. 553,407, dated January 21, 1896.

Application filed November 17, 1894. Serial No. 529,086. (No model.)

To all whom it may concern:

Be it known that I, EDMUND F. HARTSHORN, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Attaching Window-Shades to Rollers, of which the following is a specification.

My improvement relates to the novel construction of the fastening device by which the shade is attached to the roller, and also to the formation of the roller itself for use with the fastening device.

In the accompanying drawings, illustrating my improvement, Figure 1 is a side view of the roller as I prefer to construct it. Fig. 2 is an end view of Fig. 1. Fig. 3 is the preferable form of the shade-holder or fastening device. Fig. 4 is a view of the roller with the shade attached by the shade-holder shown in Fig. 3. Fig. 5 is a sectional view through the roller and shade-holder, showing two positions of the shade when pulling against the shade-holder; and Fig. 6 is a modified form of the roller.

In my improvement I form the roller with a groove or channel a extending along its side for the reception of the shade-holder or fastener. This channel may be of various forms of construction, but the form I deem most preferable is shown in Figs. 1 and 2. As there seen, the channel in the middle partakes of the general contour of the roller, and has on each side the inclined walls a' a^2. With this grooved or channeled roller I employ a shade holder or fastener. This is constructed of suitable thin metal, as steel, and provided with teeth or spurs which penetrate into the roller. Fig. 3 shows one and the preferable form for this shade-holder, but various forms of shade-holders may be used.

As shown, the shade holder or fastener consists of a broad central portion b slightly rounded to conform to the contour of the roller, and of a width to lie within the channel when holding the shade on the roller. On one side of this shade-holder is the spur b' and on the other and opposite side two spurs b^2 b^2. As will be observed, all these spurs point in the same direction but at different angles. The spur b' is nearly in the same line with the curve of the shade-holder, while the angle of the spurs b^2 b^2 approaches nearer to the perpendicular.

In attaching the shade-holder to the roller the spurs b^2 b^2 are driven into the roller, and their formation and direction is such with reference to the spur b' that as the spurs b^2 b^2 enter the roller they thrust or force forward the spur b' into the roller at a different angle, and thus securely attach the shade-holder to the roller. When the shade is fastened to the roller by this device, the edge of the shade is first placed along the edge a^2 of the groove. This insures the shade being mounted evenly on the roller.

The shade-holder is placed in the channel and the spur b' of the holder forced through the shade into the wood under the edge a' of the channel. The spurs b^2 b^2 then come down alongside the opposite channel-edge a^2, when they are driven down into the roller, and by the same operation the spur b' forced home under the edge of the channel. As will be seen from Fig. 5, the spur b' enters the roller at such an angle that when the shade is pulled against the shade-holder, as shown in full lines, the spur securely holds the shade on the roller and the shade-holder cannot be detached; and when the pull of the shade on the shade-holder is in the opposite direction, as indicated in dotted lines, the spurs b^2 b^2 prevent the shade-holder being pulled off the roller and the shade loosened.

It will be observed from Fig. 4 that the shade-holder lies within the groove or channel a, and the curve of the shade-holder is such that the roller and shade-holder form a complete circle, and the shade-holder produces the effect of a round roller. While this is a very desirable feature and contributes to the perfectness of the roller, it is not absolutely essential, and the shade-holder may have any other curve, and even may be flat, if desired, without destroying the effective operation of the device.

In the modification shown in Fig. 6 the channel has a wall or inclined edge a' only on one side, the other edge meeting the curve of the roller. In applying the shade-holder to this form of roller the spurs b^2 b^2 are driven into the smooth edge of the channel and the

spurs b' under the wall a', as before, and the shade attached as described above.

The drawings show a roller formed of wood, but it will be evident that this shade-holder can be used equally well on a metal roller constructed with the groove or channel a and provided with holes for the reception of the spurs b' and b^2 b^2.

With my particular shade-holder, and the projection and arrangement of the spurs on the same, the holder is securely held in the channel by its own spurs without separate additional means, and cannot be pulled out by the manipulation of the shade.

I claim—

1. In a fastening for attaching shades to rollers, the combination with the roller having a channel a along its side, of the shade-holder b provided with the spur b' adapted to enter under the edge of the channel, and with the spurs b^2 b^2, substantially as described.

2. In a fastening for attaching shades to rollers, the shade-holder b having the teeth b' and b^2, b^2 arranged at different angles to enter the roller in a direction oblique to the circumference, whereby as the teeth b^2, b^2 are driven into the roller, they cause the tooth b' to penetrate the roller, substantially as described.

Signed at East Newark, in the county of Essex and State of New Jersey, this 14th day of November, A. D. 1894.

EDMUND F. HARTSHORN.

Witnesses:

H. E. BULLIVANT,

F. E. HEATH.