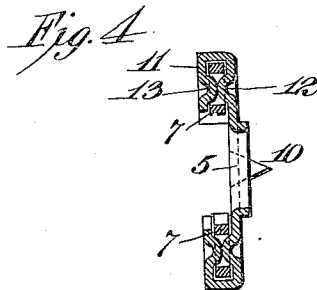
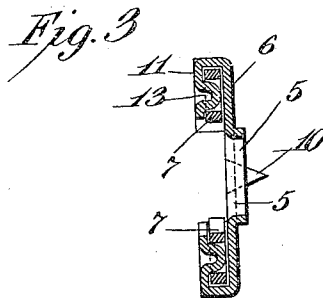
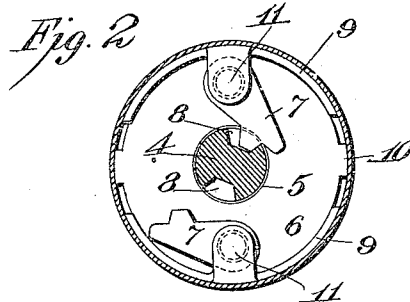
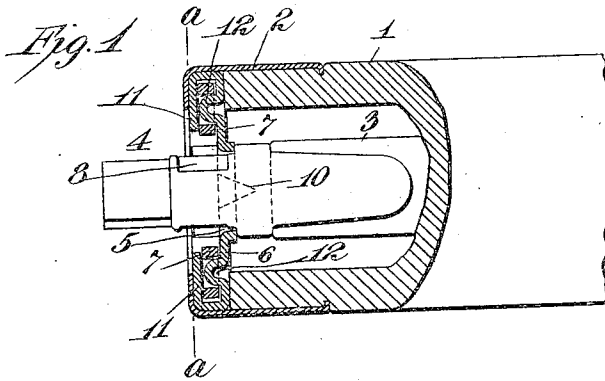


E. F. HARTSHORN.
 SPRING SHADE ROLLER.
 APPLICATION FILED DEC. 10, 1906.

Patented Feb. 22, 1910.

949,893.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDMUND F. HARTSHORN, OF NEWARK, NEW JERSEY, ASSIGNOR TO STEWART HARTSHORN COMPANY, OF EAST NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SPRING SHADE-ROLLER.

949,893.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed December 10, 1906. Serial No. 347,095.

To all whom it may concern:

Be it known that I, EDMUND F. HARTSHORN, a citizen of the United States of America, residing in Newark, in the county of Essex, State of New Jersey, have invented Improvements in Spring Shade-Rollers, of which the following is a specification.

The object I have in view is the production of an improved spring shade roller, and particularly the end plate thereof with the attached pawls.

I seek by this invention to reduce the expense of manufacture and produce a device which is equal to those heretofore made.

The accompanying drawings illustrate several modifications of my invention, Figure 1 being a view, partly in section, of the end of a shade roller embodying my invention, Fig. 2 a section on the line *a-a* of Fig. 1, and Figs. 3 and 4 longitudinal sections of modified forms of caps.

In all of the views, like parts are designated by the same reference characters.

In carrying out my invention I provide the usual shade roller 1, with the thin metal ferrule 2 thereon. The inner rod 3 and spear 4 are of the usual type, the latter passing through the center opening 5 in the end cap 6. The usual pawls 7 are arranged to drop into the notches 8 in the spear. The end cap 6 is provided with an interrupted flange 9 and integral prongs 10 which are driven into the roller 1 to prevent rotation of the cap. The pawls 7 are secured to the cap 6 so that they may engage or disengage with the notches 8 by pivoting upon axles which constitute fixed axes. These axles are made by striking up a protuberance or projection in the cap 6 or in a projection 11 which is integral with the flange 9 and is bent over the outside of the pawl to hold the latter in place. In Fig. 1, the projections or protuberances 12 are struck up from the base of the cap. They may extend outward to engage with the turned-over projection 11 of the flange 9, or not so far, but a sufficient distance to form a pivotal support for the pawls. The shape of the protuberances or projections 12 where they lie within the center openings of the pawls 7, is round, so that the pawls can freely turn upon them.

Instead of making the projections or

protuberances by striking up the bottom of the end cap, the projections 11 may carry protuberances 13, as shown in Fig. 3.

As shown in Fig. 4, two protuberances 12 and 13 are made for each pawl, the protuberance 12 being on the outer face of the base and the protuberance 13 being on the inner face of the projection 12, the pawl being supported by both protuberances.

The protuberances can be made in any manner, but preferably by a die and they may be made simultaneously with the operation which turns up the flange 9 and turns down the projecting spikes 10. The pawls may then be placed upon the protuberances as in Figs. 1 and 4 or rested upon the plate within the flanges in the construction shown in Fig. 3, and the projections 11 turned down at right angles and parallel to the base of the cap so as to imprison the pawls and keep them seated upon their axles. The end cap thus made constitutes a separate and independent article of manufacture. It may be shipped and sold in that form and afterward applied to shade rollers. The cost to manufacture is very much less than that of shade rollers having pawls supported upon pins or other separate pivots, as is now the case. Such pivots must be inserted by hand, and owing to the small size of the parts, they must be assembled by children. By this invention I avoid the expense and the requirement of child labor, which has hitherto been the case with shade rollers having pivoted pawls.

In accordance with the provisions of the patent statutes, I have described the principle of my invention, together with the apparatus which I now consider to represent the best embodiment thereof; but I desire to have it understood that the apparatus shown is merely illustrative, and that the invention can be carried out in other ways.

Having now particularly described and ascertained the nature of my invention, what I claim and desire to secure by Letters Patent is:—

1. A cap for a shade roller having a pivoted pawl the axle passing through the pawl, the said axle being a protuberance struck up from the cap.

2. A cap for a shade roller having a piv-

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oted pawl and an inclosing projection therefor, the axle passing through the pawl, the said axle being integral with the cap.

3. A cap for a shade roller having a piv-
5 oted pawl and an integral projection im-
prisoning the pawl, the axle of the pawl
being a protuberance struck up from the
back of the plate.

4. A shade roller having a cap with an
10 opening in the center for the spear, and a

pivoted pawl on the cap, the cap having a
flange, a projection thereon imprisoning
the pawl, the axle of the pawl being a protu-
berance struck up from the base of the cap.

This specification signed and witnessed 15
this fourth day of December, 1906.

EDMUND F. HARTSHORN.

Witnesses:

E. S. DURGIN,

GEO. E. GUNTHER.