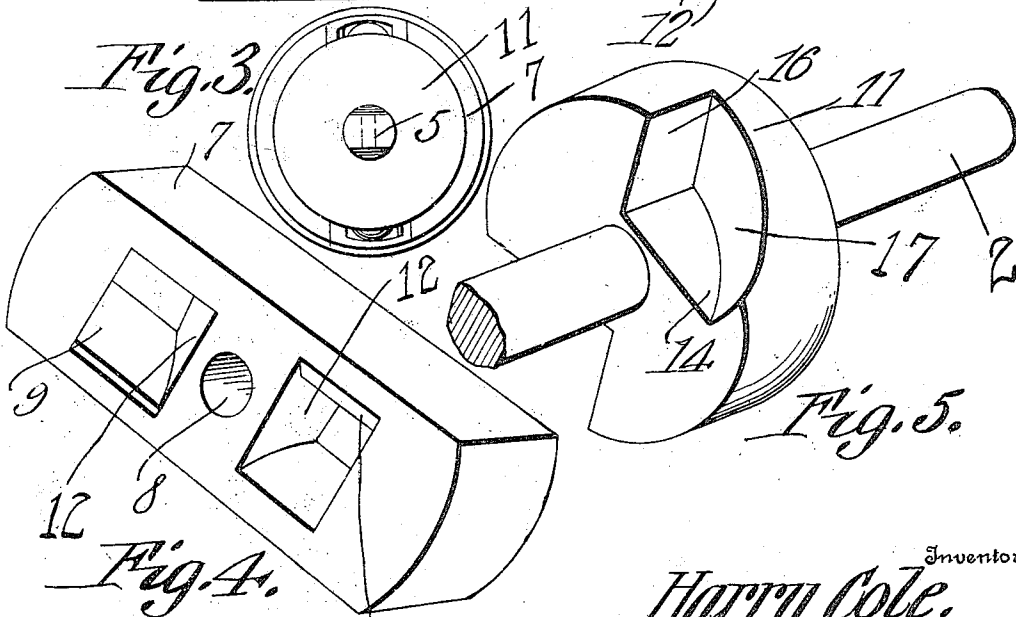
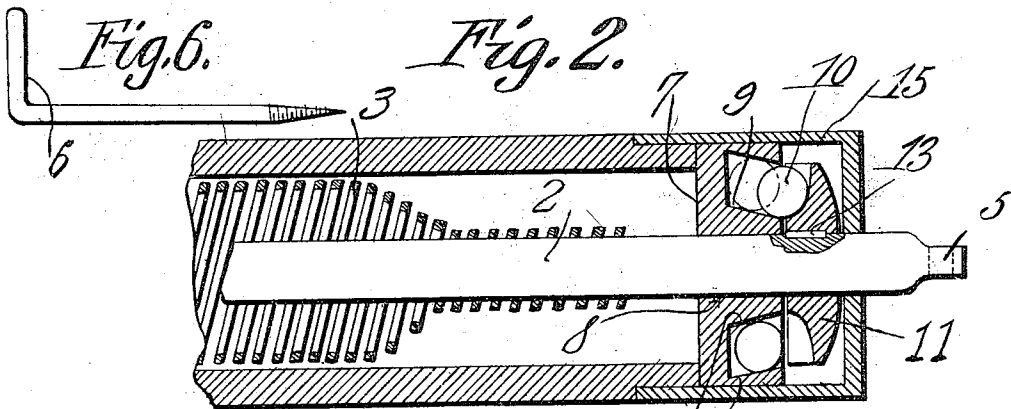
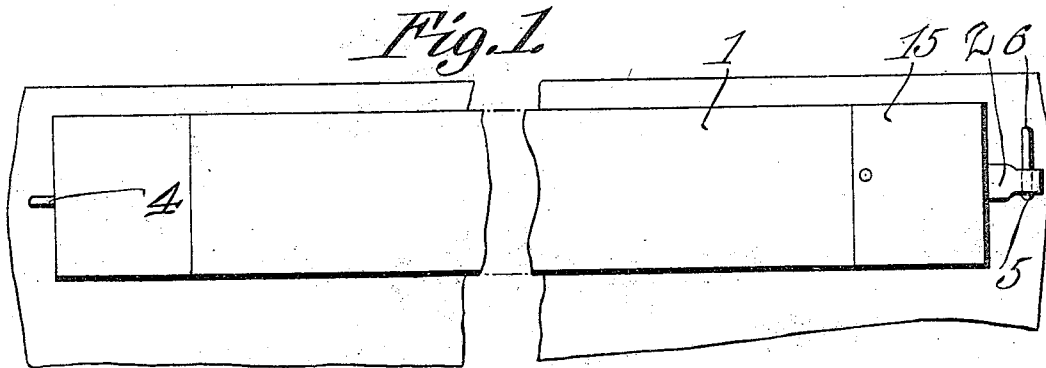


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SHADE ROLLER ATTACHMENT.
APPLICATION FILED OCT. 7, 1909.

961,680.

Patented June 14, 1910.



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UNITED STATES PATENT OFFICE.

HARRY COLE, OF TYRRELL, OHIO.

SHADE-ROLLER ATTACHMENT.

961,680.

Specification of Letters Patent. Patented June 14, 1910.

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To all whom it may concern:

Be it known that I, HARRY COLE, a citizen of the United States, residing at Tyrrell, in the county of Trumbull and State of Ohio, have invented a new and useful Shade-Roller Attachment, of which the following is a specification.

This invention relates to shade fixtures and is designed more particularly to provide a device of this type and character that will eliminate the ratchet mechanism used heretofore.

It further contemplates the construction of a shade roller attachment that will operate quickly, effectively and noiselessly; and will be easily attached to and detached from the window frame.

With the above and other objects in view, this invention consists in the construction, combinations and arrangement of parts as hereinafter more fully described, specifically claimed, and illustrated in the accompanying drawings, wherein:—

Figure 1 is a front elevation of my invention, parts being broken away. Fig. 2 is a central longitudinal section of one end of the device; Fig. 3 is an end elevation of the same, the ferrule being removed better to illustrate the mechanism; Fig. 4 is a detail perspective of the ball-receiving member; Fig. 5 is a detail perspective of the head and a portion of the spindle; and Fig. 6 is a side elevation of one of the supporting hooks.

In the drawings, there is shown a spindle 2 mounted within a shell 1, actuated in the usual manner, by a spring 3. One end of the spindle 2 extends beyond the end of the shell 1, and is provided with an upright opening 5 adapted to be seated upon a hook 6, the vertically disposed portion of which is adapted to engage the opening 5. A rectangular hook 4 similar to the hook 6 is provided, the same being horizontally disposed, its extremity being adapted to be inserted in one end of the shell 1, to constitute a bearing for the shell. It is obvious that by disposing the hook 4 in vertical position, the device may be reversed or turned end for end, by simply changing the relative positions of the hooks 4 and 6.

From the foregoing, it will be seen that one end of the shell is rotatably mounted upon the hook 4, the other end of the shell

being rotatably carried by the spindle 2, the protruding end of which is held against rotation by the hook 6.

Mounted upon the spindle 2 and arranged to rotate thereon with the shell 1, is a ball receiving member shown in detail in Fig. 4. The ball receiving member 7 is oblong in form and is provided with a centrally disposed opening 8 adapted to receive the spindle 2. The outer end face of the member 7 is provided with diametrically opposed chambers 9, the side walls 12 of which, as shown in Fig. 2, are inclined inwardly toward the axis of the spindle 5. These chambers 9 are adapted to receive rolling elements, shown in the form of balls 10, and the construction is such that when the ball receiving member 7 is at rest, the balls 10 tend to roll toward the extended end of the spindle 2.

A head 11 is secured to the spindle 2 by means of a key 13 or the like, and its inner face is disposed in close relation to the outer end face of the ball-receiving member 7. The inner face of the head 11 is provided with notches 14, arranged to be brought into alignment with the chambers 9 in the ball-receiving member, these notches 14 being determined by a wall 16 parallel to the axis of the spindle 2, and by a curved wall 17. The ball-receiving member 7 and the head 11 are inclosed by a ferrule 15, through the outer end of which passes the fixed spindle 2.

The chambers 9 in the ball-receiving member 7 are of sufficient depth to house the balls 10, and, as soon as one of the chambers 9 rises, upon the rotation of the shell 1, above the horizontal plane, and comes to rest, the ball 10 which is housed in said chamber will tend to roll toward the end of the device. Owing to the form of the notches 14 in the head 11, it is obvious that when the shell 1 rotates, the balls will not interfere with the said rotation but that, when the rotation is stopped, one of the balls 10 will roll from the end of the member 7 and be engaged by the wall 16 of the notch 14 in the head 11, locking the shell against rotation.

The shade which is wound upon the shell 1 may be drawn downward freely, and when the shade is raised, and wound upon the shell 1, owing to the inclination of the faces 12 of the chambers 9, when the shell

- 1 is rotated rapidly to reel up the shade, the balls 10, by their inertia, will retire into the chambers 9. When, however, the rotation of the shell 1 is stopped, the curtain having been raised to its desired position, one or both of the balls 10 will gravitate from the end of the ball-receiving member and be engaged by the face 16 of the notch 14, holding the curtain in position.
- It is obvious, that in order to cause one or more of the balls 10 to gravitate from the end of the member 7, it is not necessary that the chambers 9 should be alined vertically as shown in Fig. 2. As soon as one of the chambers 9, rises, upon the rotation of the member 7, above the horizontal plane, and comes to rest, owing to the fact that the walls 12 of the chambers 9 are inclined toward the axis of the spindle, there will be a component tending to cause one of the balls 10 to roll beyond the end of the member 7, in which protruding position, it may readily be engaged by the wall 16 of the notch 14.
- As shown most clearly in Fig. 4 of the drawings, oppositely disposed walls of each of the chambers 9 are beveled as denoted by the numeral 20, adjacent the inner face of the member 7. By this construction, the ball is held more securely in place, and the ball will exercise its function as a locking element, when but a small portion of the ball is in protrusion beyond the ball-receiving member.
- Having thus described the invention, what is claimed is:—
1. A device of the class described comprising a fixed spindle; a casing rotatably mounted thereon; a head secured to the spindle adjacent the end of the casing; and a rolling element normally housed in the casing and movable longitudinally of the

spindle to engage the head to hold the casing against rotation.

2. A device of the class described comprising a fixed spindle, a casing rotatably mounted upon the spindle and terminally provided with a chamber inclined longitudinally of the spindle toward the axis of the spindle; a head secured to the spindle adjacent the end of the casing; and a ball housed in the chamber and engageable by the head to limit the rotation of the casing.

3. A device of the class described comprising a fixed spindle; a casing rotatably mounted upon the spindle and terminally provided with a chamber inclined longitudinally of the spindle toward the axis of the spindle; a ball normally housed within the contour of the chamber; a head secured to the spindle adjacent the end of the casing and arranged to receive the ball to limit the rotation of the casing upon the spindle; the ball being movable longitudinally of the spindle to project beyond the end face of the casing.

4. A device of the class described comprising a fixed spindle; a ball-receiving member rotatably mounted upon the spindle; a head secured to the spindle adjacent the end of the ball-receiving member; and balls carried by the ball-receiving member and arranged to be projected from the end of the ball-receiving member to engage the head to limit the rotation of the ball-receiving member.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HARRY COLE.

Witnesses:

CHARLIE COLE,
A. F. GAIL.