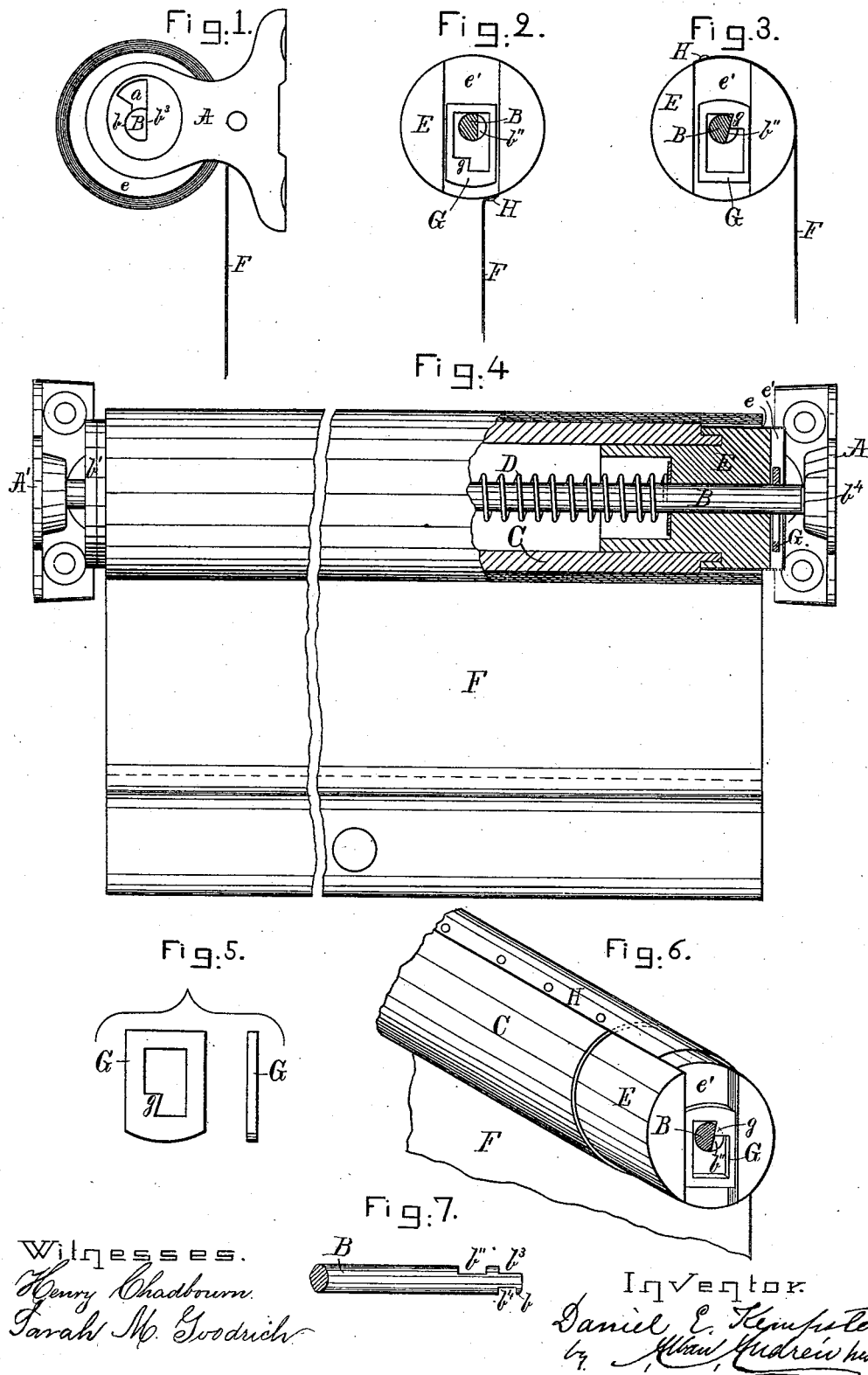


(No Model.)

D. E. KEMPSTER.
SPRING SHADE ROLLER.

No. 261,159.

Patented July 18, 1882.



Witnesses.
Henry Chadborn.
Sarah M. Goodrich.

Inventor.
Daniel E. Kempster
Wm. Andrew his atty.

UNITED STATES PATENT OFFICE.

DANIEL E. KEMPSTER, OF BOSTON, MASSACHUSETTS.

SPRING SHADE-ROLLER.

SPECIFICATION forming part of Letters Patent No. 261,159, dated July 18, 1882.

Application filed March 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, DANIEL E. KEMPSTER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Spring Shade-Rollers; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

My invention relates particularly to spring shade-rollers of that class on which, while a spiral spring in the roller is arranged to raise the shade, the latter is normally held in place by an automatic stop or catch, which does not prevent its being lowered by the hand or raised by the spring if moved rapidly, but which, if the shade is raised slowly, comes into action and prevents its further elevation. Heretofore such automatic locks have been made of pawls, catches, and other devices, which are objectionable on account of their liability to get out of order and the expense of their manufacture, as well as a very great objection they have of being liable to lock when the shade is entirely unwound from the roller, and thus leaving no means of releasing the lock only by removing the roller from its brackets.

The object of my invention is to provide a more simple and efficient catch, which can be manufactured at less expense, will be more durable and less liable to get out of order, and also which can be released when the shade has been entirely unwound from the roller and allowed to catch or lock. I attain these objects by means of the simple mechanism shown in the accompanying drawings, in which—

Figure 1 is an end elevation of the fixture. Figs. 2 and 3 are a similar view with the roller removed from its supporting-brackets, its metallic cap *e* removed, and its spindle being in section on the line *x x* in Fig. 4, and shows the shape of that portion of the spindle which engages with the locking-plate, also shows the shape of the locking-plate and the grooved roller end *e'*. Fig. 2 shows the position of the sliding locking-plate when the roller is unlocked and the shade entirely unwound from the roller. Fig. 3 shows the position of the locking-plate when the roller is locked. Fig. 4 is a front elevation, partly in section. Fig. 5 represents the locking-plate G in side and

end elevation. Fig. 6 is a perspective view of the roller, showing the metallic end cap removed. Fig. 7 is a plan view of the spindle end B.

Let A A' represent the brackets for supporting the shade-roller, the latter of which is a closed bracket with a round pivot-hole, and the former an open bracket formed with a notch, *a*, for the reception of the roller-spindle B. This spindle is flattened near the end, and is also provided with a lip, *b*, on one side of the flattened portion. This lip fits into one side of the notch *a* and insures the roller being placed right side up in the bracket.

C is the shade-roller, supported at one end by the spindle B, which projects into it, and at the other by a pivot-plate, *b'*, engaging the hole in the bracket A'. The spindle B enters the roller far enough to have coiled around it a helical spring, D, of sufficient length to give the shade the necessary play. This spring is fixed at one end to the roller and at the other to the spindle, so that as the roller is rotated on the spindle when the shade is being lowered the spring is wound up.

The construction thus far described is common to spring shade-rollers and forms no part of my present invention.

E is the shade-roller-end cap, and *e* its outer metallic cap.

F is the shade. The point of attachment of the latter to the roller is shown in Figs. 2, 3, and 6 at H.

The spindle end of the roller-end cap E is grooved, *e'*, as shown in Figs. 2, 3, 4, and 6, which also shows locking-plate G formed with a slot, and with a notch, *g*, in one end of said slot, and arranged to slide vertically in said grooved roller end and lock the roller when the shade is caused to ascend slowly, but will not so lock when ascending rapidly, as shown in Figs. 2 and 3. The portion of the spindle B which comes within the slotted locking-plate is flattened on the side *b''* next to the notch *g* in plate G. The effect of this construction is as follows: When the shade is drawn down sufficiently to allow the sliding plate G to gravitate into the position shown in Fig. 2 the roller will be unlocked. The shade may now be allowed to ascend rapidly to any desired height, as the locking-plate G will not have sufficient

time to change its position and lock the roller under a rapid revolution of the same. If it is desired to lock the roller at any point, it is merely necessary to slow up the revolution of the same, when the locking-plate will by gravitation reverse its position and the notch *g* will engage the flat side *b''* of the spindle B, and thus lock the roller, as shown in Fig. 3. When the shade is fully unwound the parts will occupy the position shown in Fig. 2, the notched portion of the locking-plate G being under the spindle B. In this position, it will be observed, the roller must revolve a half-revolution before the plate G will be reversed and the notch *g* engage with the flattened portion *b''* of the spindle, as shown in Fig. 3. Now, the line of attachment of the shade to the roller is coincident, or nearly so, with the notched end of the locking-plate G. Hence when the shade is drawn down its entire length and allowed to lock there is always a sufficient amount of the shade rewound upon the roller to admit of drawing down the former and revolving the latter sufficient to bring the parts into the position shown in Fig. 2 and unlock the roller. The advantage of this is the inconvenience can never occur of having to remove the roller from its brackets and rewind an amount of shade sufficient to draw down to release the lock, as is frequently the case with certain rollers. To insure the proper attachment of the shade to the roller the tacking-line of the roller should be marked on the latter coincident with the notched end of the locking-plate G, as shown in Figs. 2, 3, and 6 at H.

The locking portion *b''* of the spindle B is made parallel with the bracket-notches *b³ b⁴*, (shown in Fig. 7,) by which arrangement I am able to cut or mill all the said notches or flattened surfaces *b'' b³ b⁴* at one single operation.

Heretofore shade-rollers of this class have occasioned considerable trouble by the lock jarring out in the packing or transportation and allowing the spring to become unwound. This liability I have entirely overcome by making that portion of the notch *g* in the plate G

which comes in contact with the flat side *b''* of the spindle B a little hooking. By so doing the tension of the spring tends to hold the locking-plate accurately in position, as shown in Figs. 3 and 6.

I am aware of United States Patents Nos. 203,404 and 185,549, and I wish to state that I do not claim such construction and arrangement as shown in said patents as my invention; but

What I claim as my invention is—

1. The slotted roller end *e'*, with metallic cap *e*, in combination with a sliding plate, G, having a slot, with a single notch, *g*, in one end only of said slot, and the flat-sided portion *b''* of the spindle B, substantially as shown and described.

2. The spindle B, formed with the flat side *b''* for preventing the slow rotation of the roller in one direction, in combination with the single notched slotted sliding plate G *g*, substantially as shown and described.

3. The combination of the spindle B, having the flat side *b''*, the roller C, having end cap, B, with slotted end *e'*, metallic cap *e*, and the slotted plate G, having a notch, *g*, in one end only of said slot, the several parts being constructed and arranged for conjoint operation, substantially as shown and described.

4. In combination, the roller C and its sliding locking-plate G, and spindle B, with a marked tacking-line, H, on the outside of the roller, coinciding with the notched end of said locking-plate G, as set forth.

5. In a curtain-fixture or shade-roller, the spindle B, with its flat portion *b''*, arranged parallel with the bracket-notches *b³ b⁴*, in combination with the lip *b* for holding said spindle right side up when the roller is in its brackets, as set forth.

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

DANIEL E. KEMPSTER.

Witnesses:

ALBAN ANDRÉN,
HENRY CHADBOURN.