I. W. HEYSINGER.

CURTAIN-FIXTURES.

No. 183,668. Patented Oct. 24, 1876.

Fig 1.

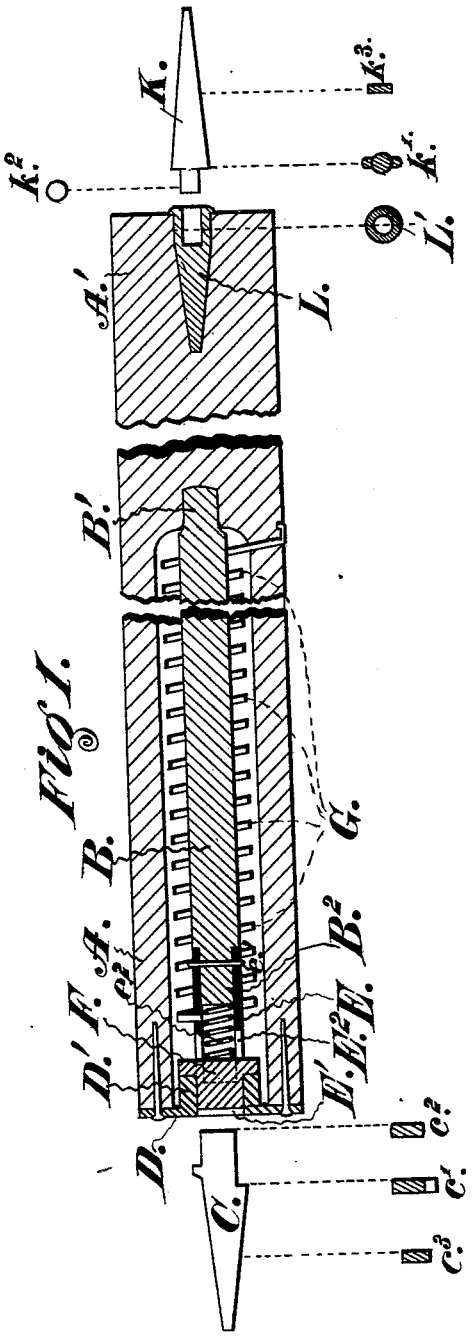


Fig 2.

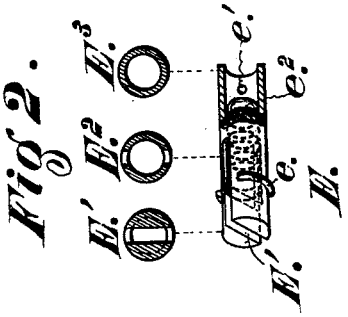
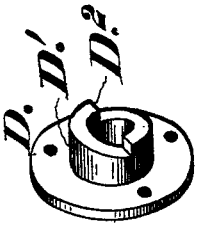


Fig 3.

Fig 4.



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UNITED STATES PATENT OFFICE.

ISAAC W. HEYSINGER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CURTAIN-FIXTURES.

Specification forming part of Letters Patent No. **183,668**, dated October 24, 1876; application filed January 31, 1876.

To all whom it may concern:

Be it known that I, ISAAC W. HEYSINGER, of Philadelphia, in the county of Philadelphia, State of Pennsylvania, have invented certain Improvements in Window-Curtain Fixtures, of which the following is a full, clear, and exact description, reference being had to the drawing accompanying and forming part of this specification.

My invention is in some part an adaptation to the spring-roller of another one—No. 155,614—for which Letters Patent were issued to me October 6, 1874, such modifications having been made as the nature of the case, and, more especially, the objects sought to be accomplished, have suggested.

Referring to the drawing, Figure 1 is a longitudinal vertical section through the center of a spring-roller and its supports embodying my invention. Fig. 2 is a perspective view of the recessed metallic outer end of the rod upon which the spring is coiled, a portion being broken away to show the interior bore. Fig. 3 is a view, in perspective, of the automatic locking-pin removed from its slot. Fig. 4 is a like view of the retaining-cap upon the end of the roller.

Like letters refer to like parts.

It will be seen that the cap D carries a collar, D^1, upon its inner side, which forms a journal-box, upon which the roller turns. This box or collar, upon its inner end, is toothed in the manner of a ratchet upon opposite sides, D^2, Fig. 4. In this journal-box lies the end of the rod or shaft B, around which is coiled the spiral spring G, which balances or actuates the curtain. This shaft end is shown in Fig. 2, where its construction is made manifest. It is made tubular at one end, E^3, for the reception of the end of the wooden shaft B, which is held in place by the small pin e^1, and which, in turn, holds the internal spiral spring e^2, previously inserted, in its place, if such spring be employed. I make, of course, no claim to the use of a supplemental locking-spring, which is as old, at least, as the expired Patents No. 26,824 and No. 31,550, of 1860 and 1861, though I prefer using it; but if a positive motion be preferred for the sliding locking-pin, a claw upon the flat support C may be made to engage with said locking-pin and draw it into place as the roller is drawn from its support. This bore extends outward partly into the space occupied by the recess E^1 E^2. This recess or slot E^1 is formed from the opposite end in preferably a vertical line, and extends inward a considerable distance, as shown. The said recess is made of such shape that the support C adapted thereto, by engaging therein, may prevent the rotation of the rod B, which carries the spring G. I prefer a vertical slot, as above described, for obvious reasons.

The spring e^2 having been inserted from behind, the shaft B driven in and pinned against it at e^1, the locking-pin F, Fig. 3, is then dropped into the slot E from the opposite end, where its peculiar shape F′ retains it, and prevents lateral motion, while allowing it to play backward and forward. The cap D is now nailed or screwed onto the roller, when the cross-pin F will find lodgment in the ratchet D^2, while, as shown in Fig. 1, no part of the mechanism will extend out beyond the face of the cap D, which presents a plain surface, while the locking-pin F can only be reached and pushed from its place by a suitable key inserted into the slot E^1 and pressed inward. This removes entirely the locking device from accidental disengagement, and is, in itself, of paramount importance.

The support C, upon which this end of the roller is hung, conforms in general shape and principle of construction to that shown in the Patent No. 155,614, above alluded to, except that if a spring, e^2, be used of considerable power, the upper shoulder C′ may be, perhaps, omitted, and the roller be held in place by the end pressure of the spring e^2 alone, though I consider this a less desirable and less secure construction. As is shown in the small sectional views c^2 c^1 c^3, the support is made flat in its entire extent, so that, while the shaft or drive is more suitable for fastening in the window-casing, the opposite or journal end c^2, by entering the slot E^1 of the roller end and interdigitating with the two sides thereof, completes the cylindrical journal, and prevents the rod B, and with it the spring G, from turning upon its axis, while at the same time it acts as a key, which, by its insertion into the body of the roller, pushes back the lock-

ing-pin F and releases the ratchet. This support C may be driven more or less deeply into the wood, as circumstances require.

At A′ the opposite or tail end of the roller is shown. Instead of the cap attached to the wooden roller with nails or screws, it consists of a spike-shaped shank, which is driven directly into the center of the end of the roller. This shank carries upon its outer end a journal-box, L′, for the reception of the fixed journal k^2. The obvious advantage of this part of my invention consists in the fact that the spike L can be driven into the cut end of the roller without previous preparation, and to a greater or less depth, as may be required.

Where it is desired to have the curtain stand out from the face of the window, as is sometimes necessary, it is evident that the drives c^3 and k^3 should be bent off at right angles, or formed in that manner. This in no wise changes the mode of construction, but is a mere matter of detail.

Among the advantages secured by this invention, a prominent one is that window-curtains may be made at least a full inch wider for the same window than is possible in those of ordinary construction. It is also much more easily put up or taken down, no nails or screws being required, the supports being driven into the window-casing directly, and thus forming their own support, which can be withdrawn by a tack-claw, leaving no unsightly scars. The tendency to draw is also much less than where the journals are at the extremity of an arm which acts as a lever, as in the ordinary way. Also, the supports, if driven a little too high or too low, may be tapped up or down into level, while, if the roller be cut a little too short, the supports may be driven less deeply. In like manner its simplicity is a useful element, it is cheaper to make, fewer parts are required, and it presents a better appearance when put up, from the absence of external parts or brackets. Its security against accidental unlocking of the mainspring, which is accomplished by placing the entire locking mechanism within the body of the roller, is of very great advantage, as this accident is very liable to occur in stores and during the operations of house-cleaning; and in the hands of unskillful persons it is not always easily rectified.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the spiral spring G, shaft B, and recessed journal E with a curtain roller, provided with cylindrical journal-boxes in the ends thereof, and with fixed journals adapted to fit therein, which said journals are provided with shanks, by which they may be directly attached to the window-casing, substantially as described.

2. In combination with the recessed journal E E^1 of a spring-shaft, B, the transverse locking-pin F, extending through the recess E^1, and capable of longitudinal motion therein, and the ratchet D^2, together with the fixed support C, having the journal c^2, adapted to enter the recess E^1 and act against the locking-pin F therein, within the body of the roller, the whole constructed to operate substantially as and for the purpose described.

3. In a spring curtain-roller, a locking device, all the parts of which are concealed within the body of the roller, and which is adapted to be thrown out of gear by means of a key-shaped support, constructed to enter the end of the roller when the curtain is placed in position for use, the whole arranged to operate substantially as set forth.

4. The combination, in a curtain-fixture, of the parts D^1 and D^2, the spiral mainspring G, the internal guide-rod B, the tubular recessed journal end thereof, E, having the parts E^1 E^2 E^3, the small internal spring c^2, the cross locking-bolt F F′, together with a fixed support, C, the whole constructed substantially as described.

5. A curtain-roller having the journal-box D^1, in combination with a recessed journal permanently fixed therein, no part of which extends out beyond the external surface of the cap D, together with a support adapted to lock into the end of said recessed journal and support the same, substantially as described.

6. In combination with a curtain-roller, A A′, a bearing-piece, L, having a recess formed at one end to furnish a bearing for the roller, and having a spike-shaped shank to adapt it to be driven directly into the end of the roller, in the manner substantially as set forth.

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