No. 648,643. Patented May 1, 1900.

A. F. TEMPLE.

SPRING SHADE ROLLER.

(Application filed Jan. 9, 1900.)

(No Model.)

Fig. 1

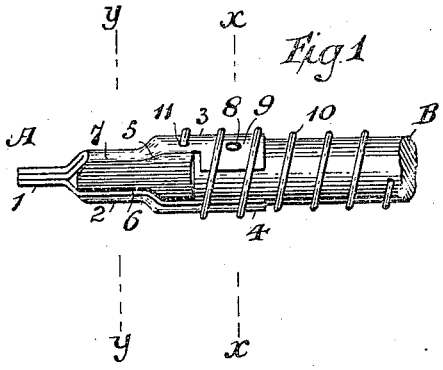


Fig. 2

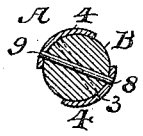


Fig. 3

Fig. 4

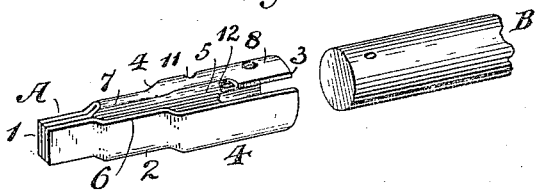


Fig. 5

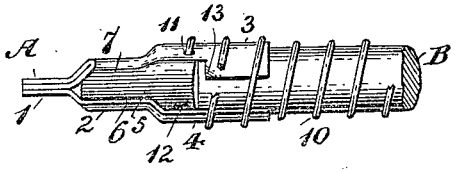
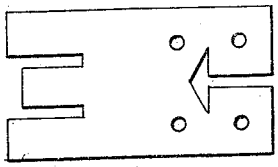


Fig. 6



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SPRING SHADE-ROLLER.

SPECIFICATION forming part of Letters Patent No. 648,643, dated May 1, 1900.

Application filed January 9, 1900. Serial No. 816. (No model.)

To all whom it may concern:

Be it known that I, ANSEL F. TEMPLE, a citizen of the United States of America, and a resident of Muskegon, county of Muskegon, State of Michigan, have invented certain new and useful Improvements in Spring Shade-Rollers, of which the following is a specification.

This improvement relates to the metallic "spindle-tip" or "spear" which is attached to the outer end of the spindle or "stick" within the roller on which the spring is coiled; and it consists of a novel method of forming the tip from sheet metal, as set forth and pointed out in the claims.

In the accompanying drawings, illustrating this invention, Figure 1 is a side view of the spindle-tip mounted on the spindle. Fig. 2 is a transverse sectional view of Fig. 1 through the line $x\ x$, and Fig. 3 is a transverse sectional view through the line $y\ y$. Fig. 4 is a detached view of the spindle-tip and the end of the spindle. Fig. 5 is a view of a modified construction of the spindle-tip mounted on the spindle, and Fig. 6 is a view of the blank before it is folded and bent to form the spindle-tip.

The spindle-tips used with spring shade-rollers consist of an outer flat end 1, adapted to fit into and engage with the elongated opening in one of the supporting-brackets by which the spindle is held stationary as the roller revolves around it, a middle portion 2, consisting of recesses or notches with which the pawls on the roller engage, and an inner portion 3, by which the tip is attached to the spindle B. Heretofore these spindle-tips have usually been cast from metal and as thus made are apt to be imperfect and to cause an imperfect operation of the roller. In this invention the spindle-tip is made of sheet metal folded in a novel manner, so as to form a tip of an improved and more perfect construction and shape. As will be seen from the drawings, the sheet-metal blank, Fig. 6, from which the tip is made is folded longitudinally upon itself by means of suitable dies in three folds or parts in such manner that a cross-section through the center of the tip will show, Figs. 2 and 3, two outer folds 4 4, connected by a transverse interior web 5. At the outer end of the tip these three folds are brought close together and united to form a solid flat end 1, which engages with the bracket. Beyond this flat end the folds open out or widen to form the ratchet-section 2 of the tip. In this section the ratchet or notch with which the toe of the pawl engages is formed by the edge 6 of the outer folds 4, Fig. 3. In the operation of the roller the pawl slides over the rounded edge 7 of the fold 4 where it joins the web 5 and dropping into the recess formed by the fold strikes against and engages with the outer edge 6. As the transverse connecting-web 5 is diagonal in cross-section, and hence as the recesses formed by the folds open in opposite directions, one is always up and in a position to engage with the pawls with each half-revolution of the roller. The inner or attaching end 3 of the tip beyond the ratchet-section 2 widens or opens sufficiently to receive the end of the spindle B and fit over the circumference of the latter. As will thus be seen in this improvement, the spindle-tip is attached to the outside of the wooden spindle, the outer folds 4 being curved to conform to the circumference of the spindle, and the necessity of boring a hole in the end of the spindle or preparing the spindle in any manner to receive the tip is done away with. The inner ends of the curved folds 4 project beyond the connecting transverse web 5, and in the construction shown in Figs. 1 to 4 are provided with holes 8, through which a pin or rivet 9 passes to secure the tip on the end of the spindle. To place the tip on the spindle, it is only necessary to insert the end of the spindle within the outer folds 4 of the tip, which project beyond the web 5, until the end of the spindle rests against the edge 12 of the web. A pin or rivet is then driven through the holes 8 in the tip and through the end of the spindle, when the parts are securely attached to each other. To secure or tie the end of the spring 10 to the spindle, it is passed through a hole 11 in or near the edge 7 of the fold 4 of the tip and bent around the latter, so as to be securely fastened. In place of securing the tip by a pin 9 any other suitable method of

attachment may be used, as the edge 13 of the fold 4 may be driven into the wood of the spindle, as shown in Fig. 5.

As will be readily understood, a spindle-tip made as described herein can be more accurately and perfectly constructed than when cast, as the parts are bent and shaped by dies, and when attached to the spindle on the outside of the end of the latter it is unnecessary to make any hole in the end of the spindle to receive the tip, and the attachment of the tip on the spindle is more perfect and always in alinement with the spindle itself, and, further, the outer member 1, being formed of three folds united into a solid flat end, is firm and strong for the purpose desired.

What I claim is—

1. A spindle-tip for spring shade-rollers composed of sheet metal folded sidewise in longitudinal folds and bent into form, comprising an outer flat section, adapted to engage with the bracket; a ratchet-section adapted to receive and engage with the pawls on the roller; and an inner section arranged to fit over the spindle, substantially as described.

2. A spindle-tip for spring shade-rollers composed of sheet metal folded longitudinally; and bent into form, comprising an outer flat section 1 adapted to engage with the bracket; a ratchet-section, consisting of the outer folds 4 joined by the transverse web 5, and adapted to engage with the pawls on the roller; and an inner section formed by the folds 4 arranged to fit over the spindle, substantially as described.

3. In spring shade-rollers, in combination, a spindle-tip formed of sheet metal folded longitudinally and bent into form, consisting of a flat, outer end, adapted to engage with the bracket; and outer folds 4 joined by a transverse web 5 arranged and adapted to engage with the pawls, and to receive the end of the spindle; and the spindle B connected to the spindle-tip within the folds 4, substantially as described.

Signed by me this 27th day of December, 1899.

ANSEL F. TEMPLE.

Witnesses:
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