W. D. JANES.

SHADE ROLLER.

APPLICATION FILED JAN. 18, 1908.

938,383. Patented Oct. 26, 1909.

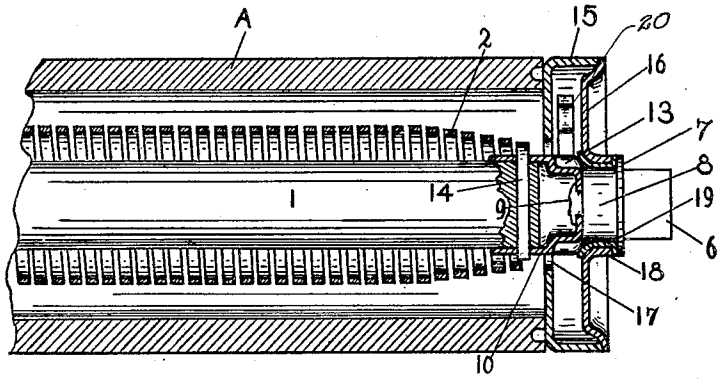

FIG. 1

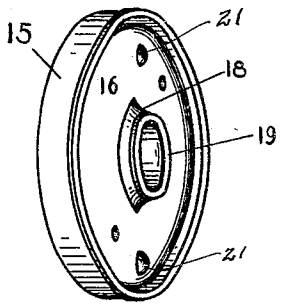

FIG. 2

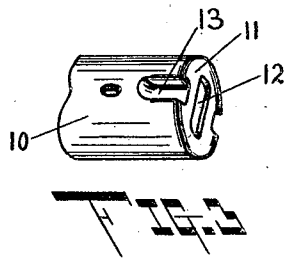

FIG. 3

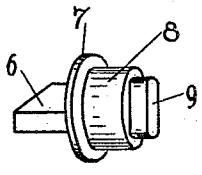

FIG. 4

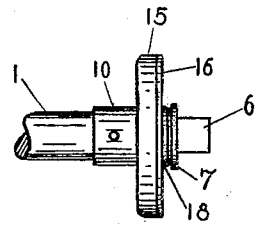

FIG. 5

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SHADE-ROLLER.

938,383. Specification of Letters Patent. **Patented Oct. 26, 1909.**

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To all whom it may concern:

Be it known that I, WILLIAM D. JANES, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Shade-Rollers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to spears for shade rollers.

One object is to provide a spear preferably made in two sections, both capable of being automatically pressed or stamped out by machinery, as distinguished from the old process of casting a spear in a single piece.

Another object is the provision of improved means for connecting the spear to the spindle of a shade roller, whereby the liability of splitting the spindle is eliminated and the use of a reinforcing ferrule heretofore necessary in constructions where the spear has been driven into the end of the spindle, is avoided.

A further object attained is a smoother operation of the shade roller by reason of the hard glossy surface imparted to the spear by the pressing machinery, not present in former constructions.

Further objects are the provision of a spear having a neater appearance than those now on the market, and the saving of labor and material in the manufacture of the spear and its application to a shade roller.

To these and other ends, therefore, my invention consists in certain novel features and combinations of parts, such as will be more fully described hereinafter and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional view showing my invention applied to a roller; Fig. 2 is a detail perspective view of a pawl casing; Fig. 3 is a detail perspective view of the ferrule; Fig. 4 is a similar view of the bracket lug and its connected parts; and Fig. 5 is a side view of the assembled spool.

The complete shade roller, so far as it cooperates with my invention, consists of the roller proper and the assembled spool. The roller proper consists of a roller or barrel A, the hollow end only of which is shown. Within the hollow end of the roller is received a spindle 1, generally of wood, and a coiled spring 2 surrounding the spindle. The spring may be fastened in any suitable manner, one end to the roller and the opposite end connected with the spindle, as is common in shade roller construction.

The roller may be provided with any suitable form of pawl casing constituting a part of the spool. A convenient casing, however, is shown and comprises a cup 15 covered by a cap 16 having pawls 20 pivotally mounted therein on the studs 21. The cup and cap are each centrally apertured, and in the preferred form herein shown, a bushing 19 of brass or other suitable material may be inserted in the aperture in the cap.

My invention consists in the spear construction associated with the pawl casing to form the assembled spool. The spear consists of a ferrule (see Fig. 3) and a bracket lug (see Fig. 4). The bracket lug is provided with a rectangular end piece 6 receivable in any suitable window bracket, (not shown). The opposite end of the bracket lug may be rigidly connected directly to the ferrule. I may, however, provide the bracket lug with a shoulder 7, a cylindrical bearing 8 and a riveting lug 9, or equivalent means by which to fasten the bracket lug and ferrule together. This bracket lug is preferably pressed from a bar of metal fed to a suitable automatic machine. The ferrule 10 is preferably formed by pressing from a single piece of metal. It has a closed end 11 which may be provided with an opening 12. The periphery of the ferrule at or near one end, is equipped with a ratchet which may be of any suitable form, but preferably consists of indentations 13 in the ferrule.

In assembling the parts, as shown in Fig. 1, the bracket lug 8 is inserted in the bushing 19 and the ferrule is passed through the opening 17 in the cup 15. In the form shown, the opening 12 in the end of the ferrule receives the riveting lug 9 of the bracket lug and the ferrule is secured in position by upsetting the lug 9, or the ferrule and bracket lug may be secured together in any other suitable manner. The pawl casing is held in position and prevented from undue endwise movement on the spear, by making the shoulder 7 and the ferrule end 11 of larger diameter than the aperture in the cap. The ferrule slips over the end of the

spindle 1 and may be fastened to it by passing one end of the spring 2 transversely through the ferrule and spindle, as shown at 14, or the parts may be connected in any other suitable manner.

A great advantage attained is that the weight of the metal is slight and the cost of the material and the manufacturing expense is so small. The expense of making an entire one-piece spear of machined metal would increase the weight and its cost of manufacture would be prohibitive. By drawing the metal in a press to form the ferrules and by inserting one end of a rod in an automatic machine which presses out the bracket lugs, the parts are quickly and accurately manufactured with a minimum of expense. The manufacture of the bracket lug and ferrule in this manner, insures that the dimensions of all pieces will be uniform and no milling, sorting or fitting is necessary in assembling. The machine-made article presents a much neater and more finished appearance than the cast spear heretofore employed. A closer journal fit of the flange 18 is made possible by the manner of manufacturing the parts, with the result that the roller is held steadier and wabbling of the roller is prevented. Furthermore, since in this construction endwise play or lost motion is avoided, the pawls are always in correct alinement with the ratchet, and the pawl action is consequently accurate and reliable.

The invention is labor-saving in that a less number of operations are required in assembling than were heretofore necessary when cast spears were used. Labor is also saved in assembling the spear and spindle, since it is much easier and quicker to slip the ferrule over the end of the spindle, than it was under the old construction, to drive a sharp pointed cast spear into the end of the spindle, which was drilled to receive the spear. No drilling of the spindle end is necessary and consequently the spindle is not weakened. The reinforcing ferrule that was formerly placed on the end of the spindle to prevent splitting when driving in the old-style spear, is done away with.

Having thus fully disclosed my invention, what I claim as new, is:—

1. The combination in a shade roller, with a spindle, of a spear comprising an angular bracket lug suitably supported against rotation, a ferrule to which the spindle is rigidly secured, the ferrule having a substantially closed end, means for rigidly connecting the bracket lug and ferrule together, and a bearing on the lug, the end of which is abutted by the ferrule.

2. A shade roller spear comprising a ferrule and a bracket lug, the ferrule being open at one end to receive the spindle and equipped with a ratchet, one end of the bracket lug being secured to the opposite end of the ferrule.

3. A shade roller spear comprising a ferrule and a bracket lug, the ferrule being open at one end to receive the spindle and equipped with a ratchet, one end of the bracket lug being fixedly secured to the opposite end of the ferrule, a pawl casing journaled on the bracket lug, and pawls in the casing engaging the ratchet in the ferrule.

4. The combination with a shade roller containing a spindle, of a spear comprising a bracket lug, and a ferrule, the bracket lug and ferrule being rigidly connected independently of the spindle, the spindle being rigidly connected to the ferrule.

5. A shade roller spear comprising a bracket lug and a ferrule, the bracket lug having a bearing, a shoulder at one end of the bearing, and a riveting lug, the ferrule having a closed end provided with an opening therein to receive the riveting lug, and a ratchet arranged peripherally of the ferrule.

6. A shade roller spear comprising a spindle, a bracket lug, a ferrule rigidly secured thereto independently of the spindle, a ratchet on the ferrule, a bearing on the bracket lug, and a pawl casing engaging bearing on the bracket lug.

7. The combination with a shade roller having a spindle and a pawl casing, of a bracket lug, the bracket lug provided with a bearing on which the pawl casing is journaled, a shoulder on the bracket lug, a ferrule, one end of which is adapted to receive the end of the spindle, a ratchet on the ferrule coöperating with the pawl casing, and means connecting the ferrule and bracket lug.

8. A shade roller spear comprising a ferrule and a bracket lug, the ferrule being open at one end to receive the spindle and carrying a ratchet, the bracket lug having a shoulder, a bearing and a riveting lug, the riveting lug received in and adapted to rigidly connect the ferrule and the bracket lug, and a spindle rigidly connected to the ferrule.

In testimony whereof, I affix my signature in presence of two witnesses.

WILLIAM D. JANES.

Witnesses:
N. M. Angus,
Ralph S. Warfield.