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ADJUSTABLE SHADE ROLLER.

APPLICATION FILED JUNE 14, 1916.

1,220,567.

Patented Mar. 27, 1917.

2 SHEETS—SHEET 1.

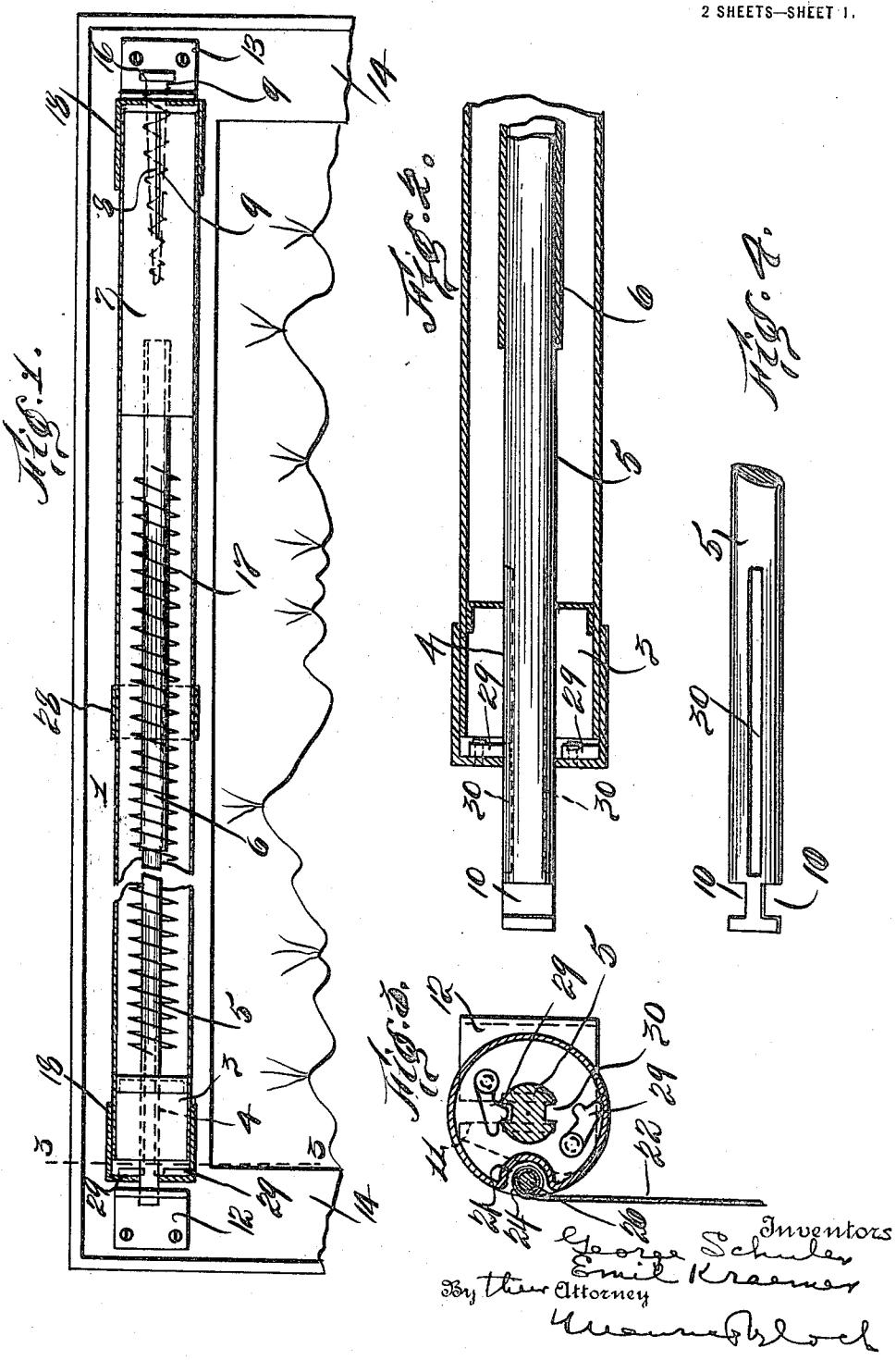


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

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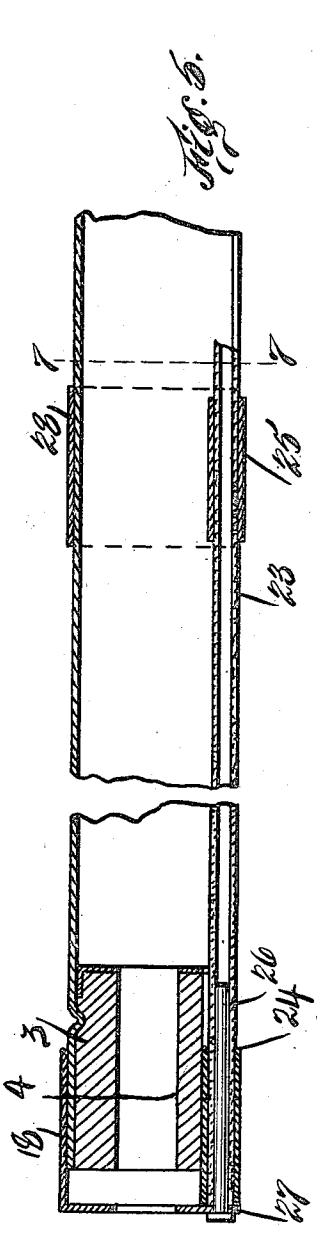
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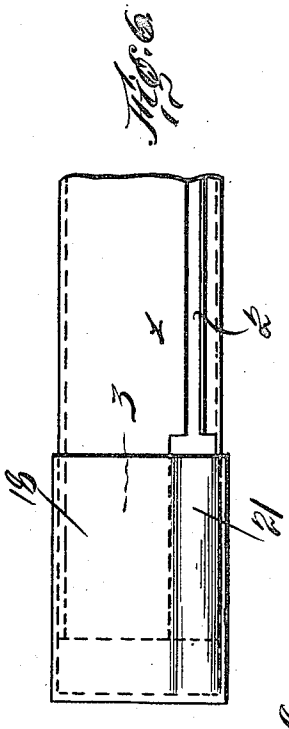
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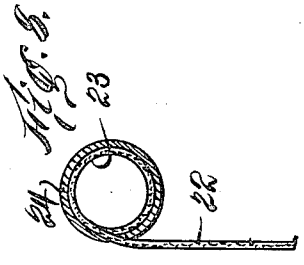
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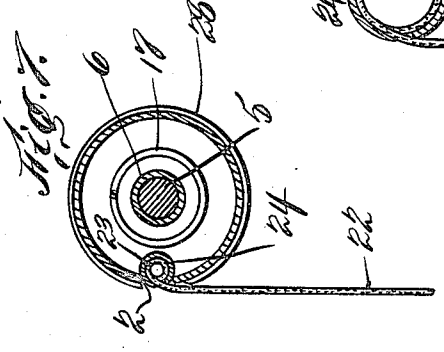
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2 SHEETS—SHEET 2.









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# UNITED STATES PATENT OFFICE.

GEORGE SCHULER AND EMIL KRAEMER, OF WOODSIDE, NEW YORK.

## ADJUSTABLE SHADE-ROLLER.

1,220,567. Specification of Letters Patent. Patented Mar. 27, 1917.

Application filed June 14, 1916. Serial No. 103,632.

*To all whom it may concern:*

Be it known that we, GEORGE SCHULER and EMIL KRAEMER, both citizens of the United States of America, residing at Woodside, Queens county, and State of New York, have invented certain new and useful Improvements in Adjustable Shade-Rollers, of which the following is a full, clear, and exact description.

This invention relates to improvements in shade or screen rollers, one of the objects being to provide such a roller, the spindle of which is extensible and carries a spring for the purpose of winding up the shade.

Further features of our invention relate to the improved manner of fastening the shade to the roller and to the construction of the caps or ferrules at the ends of the roller. Our invention also comprises other points of improvement which will hereinafter appear.

The object of making the shade-spindle extensible is to accommodate windows of different widths. In combination with the extensible spindle, we provide the roller at one end with an adjustable plug or block, said block carrying one of the trunnions for the roller.

We will now proceed to describe our invention in detail, the essential features of which will be summarized in the appended claims, reference being had to the accompanying drawings, forming part hereof; wherein—

Figure 1 is a face view of the upper end of a window-sash, our improved roller being shown partly in section;

Fig. 2 is an enlarged sectional view, partly in elevation, of that end of the roller from which one of the members of the extensible spindle projects;

Fig. 3 is an enlarged cross sectional view, the section being taken on a line 3—3 in Fig. 1;

Fig. 4 is a detail plan view of the trunnion end of one of the members of the adjustable spindle;

Fig. 5 is an enlarged fragmentary detail view of the shade-roller casing, showing a shade in position therein, certain parts being omitted.

Fig. 6 is an enlarged fragmentary plan view of one end of the spindle casing, certain parts being omitted.

Fig. 7 is an enlarged cross-sectional view, the section being taken on a line 7—7 in Fig. 5; and

Fig. 8 is an enlarged cross-sectional view of the shade, showing the manner of preparing the inner end for attachment to the roller.

As herein embodied our invention consists of a casing 1 split throughout its length, as at 2, Fig. 6. One end of the casing 1 is provided with a block 3 having a central bore 4 through which a longitudinally movable trunnion 5 loosely passes. The trunnion 5 constitutes one of the members of an extensible spindle, the other member being a tubular support 6 secured at one end to a block 7 frictionally or otherwise held in the casing 1. The block 7 is preferably split, as at 8 (Fig. 1) and receives a screw or threaded trunnion 9, the split portion 8 preferably bisecting the opening for the threaded trunnion 9; hence, when the said trunnion is screwed in, the block, at the split portion, will expand and grip the casing 1. The outer end of the trunnion 5 carries vertically disposed grooves, such as are indicated at 10, Fig. 4, to engage the jaw 11 of a bracket 12 (Figs. 1 and 3) said bracket being secured to the sash 14 of a window. The trunnion 9 is cylindrical to rotatably engage the jaws of the bracket 13. The trunnion 9 is provided with a head 16 for a purpose to be hereinafter described.

Within the casing, we mount a spring 17, one end of which is secured to the longitudinally movable spindle member 5, the other end of said spring being secured to the fixed spindle member 6.

When the casing 1 is rotated, the spindle-member 6 will also rotate and wind up the spring 17 and place it under an increased tension, the same as in the usual form of shade-roller.

Each end of the casing 1 carries a cap or ferrule 18 which may be secured to the casing 1 in any desired manner. Each ferrule is provided with a longitudinally disposed recess or pocket 21 pressed into the wall thereof (Figs. 3 and 6) to receive the inner end of a shade or screen 22, as will be presently explained.

To prepare a shade or screen for securement to the roller, we turn over the inner edge of the same to form a loop 23 (Figs. 5 and 8) and over the outer ends of said loop we slip a ferrule 24. We also locate

a similar ferrule 25 intermediate the end ferrules 24. To secure the shade or screen to the casing 1, we slip the ferruled end of said shade into the casing 1, before the end caps 18 and blocks are inserted, the shade or screen passing through the opening 2 in the casing, the ferruled looped over end of the shade being located within the casing 1. After placing the blocks in the casing, and also the spring 17 and its extensible spindle, we apply the caps 18, causing the pockets 21 to receive the end ferrules 24 on the shade or screen. After having positioned the caps 18, we insert pins 26 (one only being shown) through openings 27 in the caps 18 and through the end ferrules 24 on the shade or screen (see Fig. 5). To prevent the center of the casing from bulging, we may apply a clamp 28 (Fig. 7) to said casing 1 at the point where the ferrule 25 is located (see also Fig. 5).

To adjust the roller to fit a window wider (for instance) than that for which the roller was designed, it is but necessary to draw out the trunnion-member 5 the necessary distance. To locate the roller centrally of the window, we can slip the block 7 inwardly, after having unscrewed the trunnion member 9 to permit the block 7 to slightly contract, or the screw or trunnion 9 employed may be of sufficient length or one substituted to permit of its withdrawal outwardly to allow of centralizing the roller to a certain extent, it being understood that the usual adjustments needed do not exceed about an inch at each end of the roller.

To permit the trunnion member 5 to be adjusted longitudinally without destroying the function of the ratchet dogs 29, we provide the said trunnion member with elongated ratchet slots 30. After the trunnions 5 and 9 have been adjusted outwardly, they will be caused to engage the slots or jaws in the brackets intended to receive the same. In other words, the trunnions 5 and 9 will be moved outwardly until they will engage the brackets prepared for them. When the trunnion 5 is extended, the spring 17 will be also extended, but this will not in any way impair its action. In fact, after adjustment, the heads of the trunnions 5 and 9 are held in their respective brackets under a slight tension, because of the tendency of the spring 17 to pull the members of the extensible spindle inwardly. Hence, besides having the functions and advantages hereinbefore set forth, our improved roller when operated will not rattle and will automatically accommodate itself to the expansion and contraction of the window-frames caused by changes of temperature or by warping or sagging.

Having now described our invention what we claim and desire to secure by Letters Patent is:

1. A roller having a tubular end, in combination with a longitudinally split block inserted in said end and a trunnion, the inner part of which is tapered and screw-threaded for screwing into said block to force the latter outward against the inner face of the roller.

2. A split tubular roller-casing, in combination with a split block fitting into one end thereof, a trunnion having its inner part tapered and screw-threaded for screwing into the split end of said block to force the latter outward against said casing and bracing means external to said casing for holding said casing against yielding to this pressure.

3. A split tubular roller casing in combination with a split block fitting into one end thereof, a cap fitting on said end, and a trunnion having its inner end tapered and screw-threaded for screwing into and expanding said block substantially as set forth.

4. The combination of a fixed bracket and the casing of a rotatable spring roller with an extensible spindle within said casing, the protruding end of which spindle constitutes one of the trunnions of the roller, said spindle consisting of two telescopic parts, the inner of which slides freely outward and inward, and being provided with a helical spring fixed at one end to one of said parts and at the other end to the other part, the said spring serving to wind the roller and also to retract said trunnion into tight contact with said bracket.

Signed at New York city, N. Y., this 9th day of June, 1916.

GEORGE SCHULER.
EMIL KRAEMER.

Witnesses:
EDWARD A. JARVIS,
MAURICE BLOCK.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."**