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ROLLER FOR SHADES AND THE LIKE

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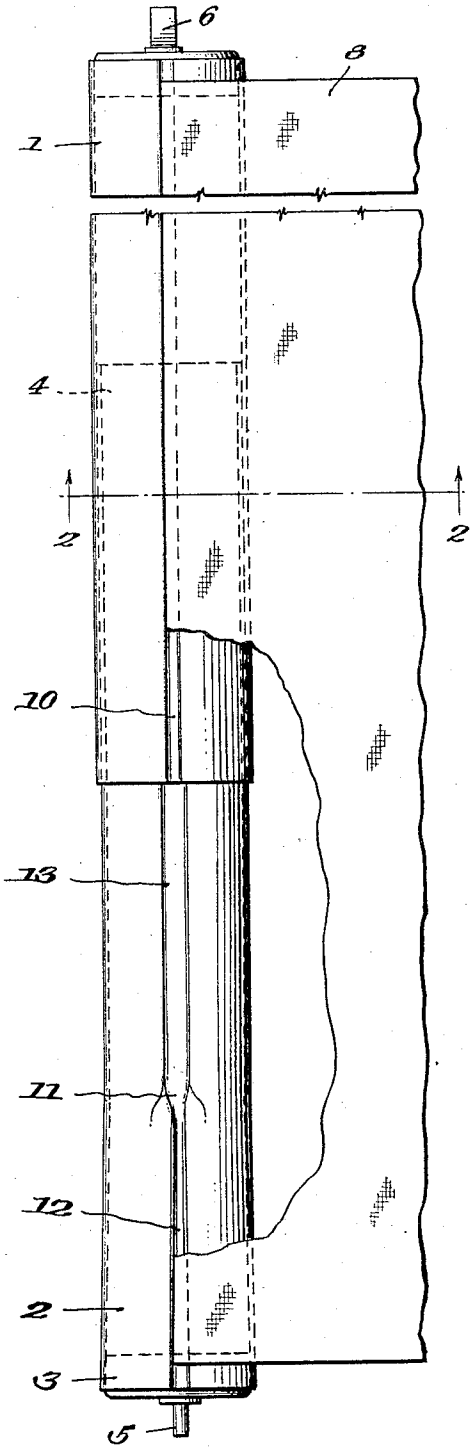
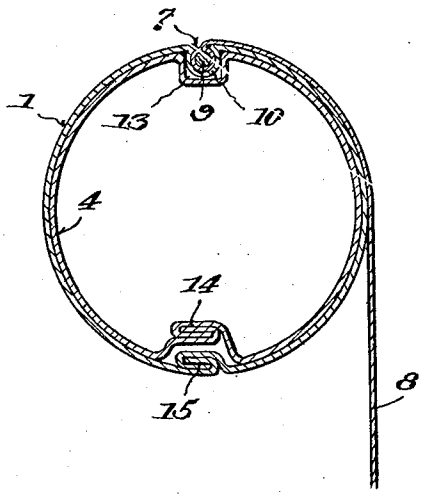


Fig. 1.

Fig. 2.



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ROLLER FOR SHADES AND THE LIKE

Application filed August 28, 1931. Serial No. 559,974.

My invention relates to shade rollers and more particularly to a roller including a plurality of sections or members telescopically associated for varying the length of the roller through a limited range of adjustment.

An object of the invention is to provide a roller, adapted to carry a window shade or the like, the length of which may be adjusted between relatively wide limits to fit different sized windows, or between relatively small limits so as completely to fill the space between supporting brackets associated with different windows of the same size when the brackets of the several windows are not uniformly spaced apart.

Prior to my present invention difficulty has been experienced in fitting extensible rollers to different sized mountings, on account of structural limitations of the extensible rollers which resulted in the window shade web being wound around the roller during actuation thereof, slantingly or spirally. Such winding resulted in a marginal portion of the shade web being wound off the roller, while the opposite edge of the web followed a spiral path around the roller spaced inwardly from the roller edge. This undesirable operation of the web and roller was caused by the difference in diameters of the two end portions of the shade roller, consequent upon the telescoping arrangement of the two sections of the extensible roller.

It is an object of the present invention to provide an extensible roller comprising two telescopically associated sections, in which the outer ends of each of the sections are of uniform diameter.

A further object is to provide a shade roller having the advantages indicated, both sections of which may be produced from originally uniform and similar blank stock.

A further object is to provide a sectional, extensible roller, the several sections of which may be produced from uniform and similar metallic tubing.

A further object of the invention is to provide an extensible roller of the type indicated having a surface channel or groove adapted to receive the beaded edge of a window shade web or the like, in which movement of the sectional parts of the roller through their range of adjustment produces no interference with the bead-receiving capacity of the roller.

Another object is to provide an extensible roller which may be economically manufactured and which will be unusually durable and efficient.

Other and further objects and advantages will be more apparent from the detailed description hereinafter of the invention in one preferred form of embodiment.

In the accompanying drawing which forms part of this application for Letters Patent and in which the same reference numeral designates the same part in the several views,

Figure 1 is a side elevational view of an extensible shade roller formed according to the principles of the present invention, showing a shade web associated therewith; and

Fig. 2 is a cross sectional view of the shade roller taken on the line 2—2 of Fig. 1.

Referring now to the drawing, the reference numeral 1 designates one section or member of a two-part extensible window shade roller, and 2 designates a cooperating section or member adapted to be telescopically associated therewith. Both members are preferably formed of sheet metal tubing normally and originally of constant and uniform diameter, so that both sections may be cut from a single gauge of blank tubing stock.

It is an object of the invention to provide a pair of telescoping members the outer ends of which are of substantially the same diameter, in order to cause the window shade web to be wound around the roller in a straight and uniform roll. To achieve this object, one end of one of the sections and a portion adjacent to that end are constricted or decreased in diameter, in order to be telescopically received in an end of the other section or member, which latter section or member is of uniform diameter throughout its entire length. In the drawing 1 designates the outer member, uniform in diameter throughout its entire length, and 2 designates the inner member, having its outer end 3 equal in diameter to that of the section 1 and its inner end 4 and a portion adjacent there-

to constricted in diameter so as to be received within the inner end of the member 1.

As is customary in window shade rollers and the like, one end of the roller is provided with a pintle 5 of circular cross section and the opposite end carries a pintle 6 of polygonal cross section. Within the section 1 of the roller adjacent the polygonal pintle 6 the customary spring motor (not shown) may be mounted for operating the roller.

For securing the shade web to the roller I form in each section of the roller a channel or trough having undercut sides adapted to have inserted endwise and securely to retain the beaded top edge 7 of a window shade web 8. The beaded edge 7 may be formed on the window shade in any convenient manner, such as by folding and stitching a margin of the web around a cord or filler 9 of twisted paper or the like.

The bead-receiving channel provided in the outer member 1, designated 10 in the drawing, is relatively small, uniform in dimensions throughout its entire length, and adapted snugly to contain the beaded edge 7 of the shade web 8. As shown in Fig. 2, the channel 10 produces a complementary ridge on the interior of the tube 1. A channel, designated generally 11 in the drawing, is provided in the member 2. This channel 11 is, at the outer end of the member 2, and through an adjacent portion of the member as shown at 12, uniform in size with the channel 10 of the member 1. At the inner end of the member 2, and through a portion adjacent thereto, the channel 11 is deepened and enlarged in cross section, as shown at 13, in order to receive the internal rib produced in the member 1 by the channel 10, and for a further important purpose now to be explained.

The enlarged channel 13 of the member 2 serves to remove metal from the periphery of that portion of the member 2 in which the enlarged channel 13 is provided, thus operating to constrict or reduce the diameter of that portion of the member 2.

Additional constriction of the inner end of the member 2 is attained by depressing the seam 14 where the margins of the sheet metal strip are united to provide the tube. This depression serves to accommodate the internal rib formed in the member 1 by its corresponding seam 15.

The area of the metal removed from the periphery of the member 2 by the depressed seam 14 and the deepened bead-receiving channel 13, operates to constrict the diameter of that portion of the member 2 sufficiently to permit the member 2 to be telescopically received within the member 1. I prefer to make the fit of the two members sufficiently tight to cause the members to be retained frictionally in any adjusted relative positions.

The two members are associated as has been explained, and the beaded edge 7 of a shade web 8 is inserted endwise in either direction. It will be evident that the beaded edge of the shade will be snugly retained at opposite ends of the roller assembly by the channel 10 of member 1 and by the portion 12 of the channel 11 of member 2. The internal portion 13 of the channel 11 is more than large enough to contain the beaded edge 7, and it is immaterial that the dimensions of this portion of the channel may be too great snugly to retain the adjacent portion of the beaded edge 7, since any stress applied to the shade web is transmitted to and received by the end portions of the channels 10 and 12.

It is to be understood that I have shown and described the present invention in one preferred form of embodiment only merely by way of exemplification. The invention is capable of embodiment in other and further modified forms, but all such modifications, to the extent that they embody the principles of the invention as pointed out in the appended claims are to be deemed within the scope and purview thereof.

I claim:

1. An extensible shade roller including a pair of tubular metallic members, the outer ends of which are of substantially the same diameter, each member being provided with a longitudinal surface channel adapted to receive the beaded edge of a shade wed, the channel of one of the members being of increased depth along a portion of the length of the member to constrict the diameter of said member along said portion and adapt said portion to be telescoped into an end of the other member.

2. An extensible shade roller including a tubular metallic member of uniform diameter throughout its entire length, and another tubular metallic member having one end of a diameter equal to that of the first member, both of said members being provided with a longitudinal surface channel adapted to receive the beaded edge of a shade web, the channel in the second member being formed of increased depth along a portion of the member adjacent its other end whereby the diameter of said portion is reduced and is adapted to be telescopically received in an end of the first member.

3. An extensible shade roller including a tubular metallic member of substantially uniform diameter throughout its entire length provided with a longitudinal surface channel adapted snugly to contain the beaded edge of a shade web, and a second tubular metallic member having one end and a portion adjacent thereto of substantially the same diameter as that of the first member and provided with a bead-containing channel similar to that of the first member, the second member having its opposite end and a portion adjacent thereto provided with a con-

tinuation of the channel of increased depth, whereby said end and adjacent portion of the member are of decreased diameter adapted to be telescopically received in an end of the first member.

4. An extensible shade roller including a tubular metallic member of substantially uniform diameter throughout its entire length provided with a relatively small longitudinal surface channel adapted snugly to contain the beaded edge of a shade web, a second member provided with a continuous channel having at one end a portion adapted snugly to contain the beaded edge of a shade web and at its other end a relatively large portion adapted to contain the channel of the first member, whereby the last mentioned end of the second member is constricted in diameter and adapted to be telescopically received in an end of the first member.

In testimony whereof I affix my signature.

CHARLES WESLEY RICE.