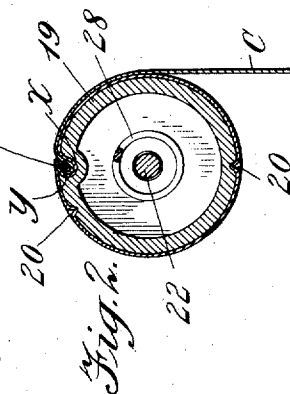
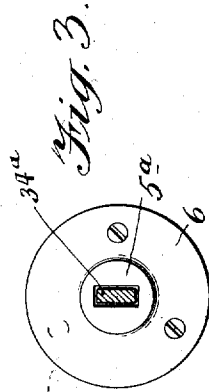
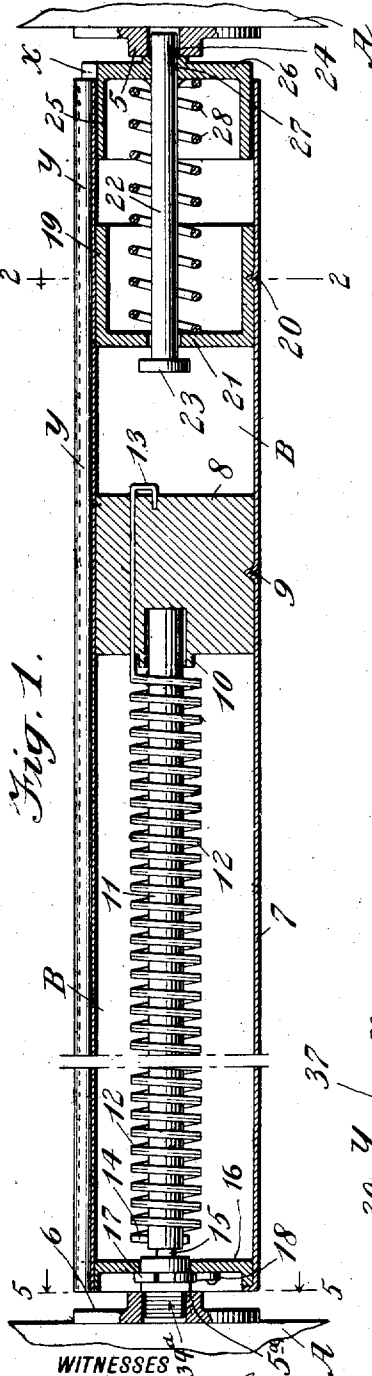


D. HOYT.
SHADE ROLLER AND THE LIKE.
APPLICATION FILED APR. 7, 1909.

Patented Jan. 7, 1913.

1,049,485.



WITNESSES
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UNITED STATES PATENT OFFICE.

DANIEL HOYT, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-HALF TO THE NATIONAL LOCK WASHER COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SHADE-ROLLER AND THE LIKE.

1,049,485.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed April 7, 1909. Serial No. 488,385.

To all whom it may concern:

Be it known that I, DANIEL HOYT, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Shade-Rollers and the Like, of which the following is a specification.

This invention relates to certain novel and useful improvements in rollers of the kind commonly used in connection with curtain shades, sash balances, awnings and the like.

As is well known, the ordinary type of tubular roller employed in connection with curtain shades, and similar articles, comprises a spring-tensioned roller member having a round pintle or stud at one end of the roller and an approximately squared or flattened pintle at the opposite end of the roller, the round pintle being adapted to be inserted within a socket and the squared pintle subsequently being dropped or placed in an open socket carried by a bracket.

To the ordinary curtain roller and the manner of applying and removing the same there are incident numerous disadvantages, and these disadvantages are especially present when the shade or curtain is used in connection, with car windows, as it is customary to mount the supporting brackets and the roller at the side under the heading of the car window. When mounting the ordinary type of roller, it is first necessary to place the round pintle in the socket of its bracket, and then raise the opposite end of the roller carrying the squared or flattened pintle and drop the latter in the open-mouthed bracket. It is the practice when inserting these spring-actuated shade rollers in place to first put the winding spring under tension and lock the flat pintle to the roller by the pawl, and then, after the pintle is in place in the bracket, to release the roller from the pintle by disengaging the pawl. When inserting the ordinary roller in the brackets it often happens that there is not room above the bracket to raise the squared pintle high enough to enter the mouth of the bracket, and furthermore when necessary to remove the roller, especially when used in connection with car window shades, it is necessary to use a pin, wire or other small instrument to put the spring roller pawl in the pintle notch to lock the roller to the

pintle to preserve the tension of the spring and this is always a difficult thing to do, especially when the roller, as stated, is placed in the heading of the car and out of sight.

Where a metal plug and pintle is employed in connection with the roller the latter is always made of an exact, given length and if the widths between the window posts differ slightly, as is frequently the case, the roller is not adjustable so as to be lengthened or shortened, so that the posts must be cut away where they are too close together or blocked out where they are too far apart. Sometimes, the roller is made in parts or sections by employing a wooden plug, so that when the operator is hanging the curtain he may adjust the length of the curtain roller by pulling out the plug to the desired length and then driving in a small tack to fasten the tin casing of the roller to the plug, or by prick-punching the tin into the wooden plug so as to prevent the plug from accidentally slipping or yielding in the tin casing of the roller. Furthermore, where the rollers are used in positions where gravity does not hold the roller in an open-mouthed bracket, a special bracket must be employed and placed on the roller before such bracket is screwed to the post and in order to remove the roller from the window the bracket must also be removed. Furthermore, where it is necessary to have the roller longer than the distance between the face of the posts a boring is ordinarily made in the posts to allow the seating of the roller, in which case an adjustable wooden plug is necessarily employed, the roller being made too short, and after the roller is placed in position, is extended lengthwise into the bracket and the tin casing of cylinder of the roller then fastened to the plug, as before recited. These are some of the disadvantages incident to the ordinary construction of a spring-roller and to the manner of mounting and dismounting the same, and in the present instance it is my purpose to provide a shade or curtain roller, especially designed for use in car service, which will overcome these disadvantages and inconveniences. Further, it is my purpose to provide a roller of such construction that it can easily and quickly be inserted into its brackets without the necessity of raising the same above the brackets and may be as easily and

quickly removed without catching the pawl in the pintle notch of the roller. Furthermore, the roller will be automatically adjusted to its proper length so as to compensate for variations in the width between the posts of the window, a construction especially useful, as it avoids the use of the open-mouthed bracket and the roller will not have end movement to shorten under use, or through careless work on the part of the operator, and thus fall from the bracket.

The invention consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claims.

Referring to the accompanying drawings, in detail, Figure 1 is a longitudinal sectional view of a roller embracing my improvements, said view illustrating the roller in its mounted position of use; Fig. 2 is a cross sectional view on the line 2-2 of Fig. 1, a shade being shown in position mounted on the roller; Fig. 3 is a view on the line 5-5 of Fig. 1 looking in the direction of the arrows.

Referring now to the accompanying drawings in detail, A, A indicate the side posts or frame of a window, preferably a car window, and 5 indicates a socketed bracket for receiving the round pintle or stud of the shade roller B, while 6 designates a closed bracket having a socket for receiving the squared or flattened pintle or stud of the roller B.

Referring to the roller B shown in Fig. 1, such roller comprises preferably a metallic cylinder 7 having therein the wooden plug 8 held in position by prick-punching the tin as at 9. This plug 8 is provided with a socket 10 for the reception of the rod 11 of the roller tensioning spring 12, one end of the latter being fastened as at 13 to the wooden plug while the opposite end 14 is secured to the rod 11, said rod at its outer end being socketed as at 15 in the rear of the ratchet 17 rotatable in the end wall 16 of the roller.

The numeral 17 designates the ordinary ratchet for the spring and 18 indicates the pawl therefor, the pawl and ratchet being, as is usual, at the end of the roller carrying the squared or flattened pintle or stud.

It is to the opposite end of the roller that my invention particularly relates. A thrust plug 19 of any suitable material, and preferably of a diameter and contour to conform to the shape of the inner side of the cylinder, is inserted within the cylinder and is held in position by prick-punching, as at 20, or by any other suitable means. Through the wall 21 of the plug 19 I project the rod 22 carrying at its inner end a head 23, the outer end of said rod, as at 24, forming the round end or pintle adapted to lie in the socket of the bracket 5. Within the

end of the cylinder of the roller I insert the cylindrical plug or cap 25, the outer wall 26 thereof facing the bracket and having the pintle 27 secured to the cylindrical plug 25, and projecting beyond the end of the plug. A spring 28 is provided, preferably coiled around the rod 22, one end of said spring bearing against the inner surface of wall 26 of said plug 25, while the opposite end bears against wall 21 of thrust plug 19. From this construction it will be seen that by compressing or forcing the cylindrical cap or plug 25 within the tube or cylinder, the pintle 24 is also moved inward, thereby shortening the normal distance between it and the flat pintle and permitting the roller to be inserted between the posts. As soon as the round pintle 24 has been placed in its bracket 5 the flat pintle may be placed in alinement with the socket in the bracket 6 and then the pressure on the plug 25 released, so that the expansion spring 28, returning to its normal or expanded position, carries with it the plug 25 and the rod 22, thereby seating the roller in position. It will thus be noted that this roller compensates for the varying distances liable to be incurred in various windows; that is to say, if the cylinder be manufactured of a length to normally fit a given window or set of windows the distance between the flat and round pintles may be shortened or lengthened as desired, to suit the condition at hand.

In order that the end plug 25 may not rotate within, but may rotate with the body portion of the roller or cylinder 7, a groove *x* is formed longitudinally of the end plug 25, and a tongue *y* is formed longitudinally and extending inwardly of cylinder 7 and adapted to lie in the groove *x*. The tongue *y* is preferably formed by bending in the metal of which the cylinder 7 is formed thus providing an open groove or slot in the surface of the cylinder, and by extending this slot the entire length of the cylinder, as shown in the drawings, a curtain or belt C may be mounted thereon by means of a rod, cord or other suitable member 37 positioned longitudinally in the slot. It will thus be seen that the end plug 25 will rotate with the body of the roller or cylinder 7, the free adjustment or movement of the end plug 25 longitudinally in either direction within the cylinder 7 being in no way interfered with.

The elements 19 and 26, with their associated parts, constructed and so related as above described, constitute in an entirety an extension device which is adapted to be inserted bodily in the open end of a hollow shade roller, the same being applicable generally to any of the hollow shade rollers now on the market.

It will be noted that a type of roller of

this character may be speedily and quickly placed in position and always securely mounted or held in brackets by the tension means, tending to force the pintles outward.

5 Where I have herein used the term "roller" I do not mean to be necessarily limited to a cylindrical or tubular body, nor to a support for a curtain, shade or the like, formed of metal, such as tin or other suitable material, but I use this term in its
10 broad sense, that is, as indicating a rod, stick or the like, for supporting the curtain, shade, window, window sash, awning, or similar article, and therefore I do not wish
15 to be understood as limiting myself to the shape of the support nor to the material of which it is constructed.

While I have herein shown and described one embodiment of my invention, I wish it
20 to be understood that I do not confine myself to the precise form of construction herein delineated, but that modification and variation may be made without departing from the spirit of my invention or exceeding
25 the scope of the claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. A shade roller having a pintle at one
30 end and a socket at the other end, a cylindrical member slidable in said socket and carrying a pintle at its outer end, a rod secured to the cylindrical member and having a stop at its free end portion, a thrust plug
35 fixed in the said socket and having an opening through which said rod slides, and a spring between the said cylindrical member and said thrust plug tending to thrust said cylindrical member outward.

40 2. A shade roller made in two parts, the main part having a pintle at one end and a socket at the other end, a thrust plug secured in the socket and having an opening, the other roller section consisting of a cylindrical member slidable in the socket and carrying
45 a pintle, an inwardly projecting rod

carried by the cylindrical member and projecting through the opening in said thrust plug and having a stop, and a spring on the rod and between the cylindrical member and
50 thrust plug exerting its force thereon to move the cylindrical member outward.

3. A shade roller comprising a cylindrical metal shell having a pintle at one end and an open socket at the opposite end, a
55 cylindrical thrust plug seated in the socket remote from the open end thereof and having an opening, a cylindrical member arranged in the open end of the socket and projecting therefrom and carrying a pintle
60 on its outer end, a rod carried by said cylindrical member and projecting inwardly therefrom through the opening in said plug, said rod having a stop cooperating with the
65 plug to limit outward movement of the cylinder, and a spring surrounding said rod and exerting its force to move the cylindrical member outward.

4. A shade roller having a pintle at one end and a socket at the other end, a cup-
70 shaped thrust plug fitted in the socket and having an opening, the interior of said plug facing the open end of the socket, a cylindrical member slidable within the socket and having a pintle on the outer end thereof,
75 a rod carried by the cylinder and extending through the opening in the thrust plug, said cylinder being cup-shaped and having its recess turned toward said thrust plug, a stop on said rod cooperating with
80 the plug to limit outward movement of cylindrical member, and a spring between said plug and cylindrical member and housed therein, said spring exerting its force to
85 thrust said cylinder outward.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

DANIEL HOYT.

Witnesses:

PAUL H. FRANK,
T. E. HARDENBERGH, Jr.

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

It is hereby certified that in Letters Patent No. 1,049,485, granted January 7, 1913, upon the application of Daniel Hoyt, of Newark, New Jersey, for an improvement in "Shade-Rollers and the Like," an error appears in the printed specification requiring correction as follows: Page 1, line 96, first occurrence, for the word "of" read *or*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 28th day of January, A. D., 1913.

[SEAL.]

C. C. BILLINGS.

Acting Commissioner of Patents.

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C. C. BILLINGS.

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Correction in Letters Patent No. 1,049,485.