R. T. AXE.

WINDING ROLLER.

APPLICATION FILED JULY 2, 1912.

1,047,606. Patented Dec. 17, 1912.

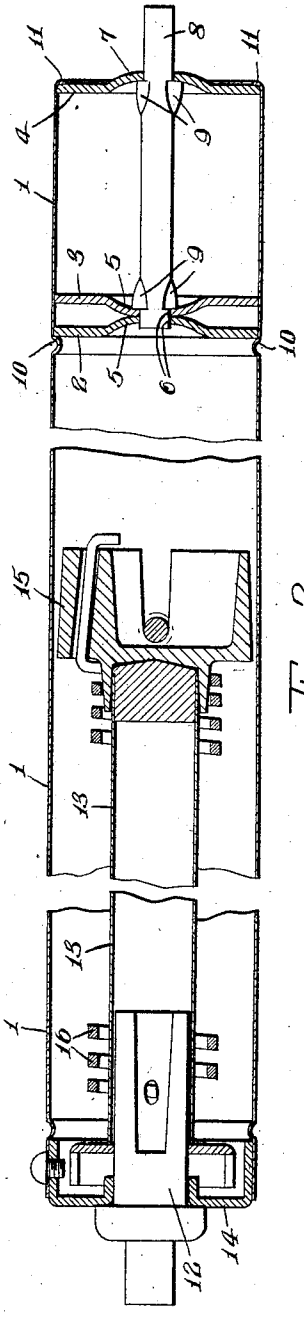

Fig. 1.

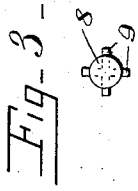

Fig. 3.

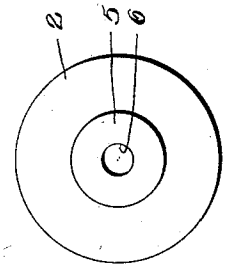

Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

ROY T. AXE, OF SYRACUSE, NEW YORK, ASSIGNOR TO OLIVER M. EDWARDS, OF SYRACUSE, NEW YORK.

WINDING-ROLLER.

1,047,606. Specification of Letters Patent. Patented Dec. 17, 1912.

Application filed July 2, 1912. Serial No. 707,157.

To all whom it may concern:

Be it known that I, ROY T. AXE, of Syracuse, in the county of Onondaga and State of New York, a citizen of the United States, have invented a certain new and useful Winding-Roller, of which the following is a specification.

This invention relates to winding or spring rollers for windows, window shades and the like, and has for its object means for supporting the fixed axle of the roller; and the invention consists in the combinations and constructions hereinafter set forth and claimed.

In describing this invention reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is a longitudinal sectional view, partly broken away, of a roller embodying my invention. Fig. 2 is a face view of one of the discoidal sheet metal heads. Fig. 3 is an end view of the axle.

1 is the body of the roller, the same being a sheet metal shell rolled cylindrical in form.

2 and 3 are the members of a pair of heads located within one end portion of the shell, the heads being here shown as located some distance from one end of the shell, and 4 is an additional head located at the extreme end of the shell.

Each of the heads 2, 3 are sheet metal disks having central offset bosses 5 projecting toward and preferably engaging each other, the flange portions of the disks 2, 3 being spaced apart. The bosses 5 are here shown as spherical and as engaging each other at their centers and provided with openings as 6 at their centers.

The head 4 located at the extreme end of the shell 1 is also a sheet metal disk formed with a central offset boss 7 similar to the bosses 5, and provided with a central opening, the boss 7 projecting outwardly.

8 is an axle or trunnion supported by the heads 2, 3, 4, the axle extending through the openings 6 of the heads 2, 3 and the opening of the head 4 and the portion thereof between the heads 3 and 4 being provided with integral peripheral shoulders 9 for engaging opposing faces of the bosses of the disks 3, 4.

The head 2 abuts against an internal circumferential shoulder 10 with which the shell 1 is provided, and the head 4 is held in position by the inturned margin 11 at one end of the shell 1, said margin 11 engaging the outer face of the disk 4. Hence the disks are held from axial movement by the shoulder 10 and inturned margin 11, and the disk 3 is held spaced apart from the disk 2 by reason of the fact that the bosses 5 are engaged with each other, and the disks are held from inward movement toward each other or from inward displacement by the shoulders 9 of the axle 8.

The described construction of the axle support is particularly advantageous in that the axle and the disks supporting the same are rigidly held in position in the shell 1, and owing to the fact that the bosses 5 of the disks 2, 3 engage each other, a maximum rigidity of the disks 2, 3 is provided for.

12 and 13 are sections of an axle journaled in a head 14 at one end of the shell and an anchor 15 located within the shell 1, the axle being acted upon by a spring 16 coiled about the axle sections 12, 13 and connected at one end to said axle sections and at its other end to the anchor 12.

The construction and operation of the parts 12 to 16 inclusive form no part of this invention but form the subject matter of another application.

What I claim is:

1. A winding roller comprising a hollow metallic shell, a pair of heads located within the shell and having offset bosses projecting toward each other and having central openings, and an axle extending into said openings, substantially as and for the purpose described.

2. A winding roller comprising a hollow metallic shell, a pair of heads located in one end portion of the shell and having central offset bosses projecting toward and engaging each other, the flange portions of the heads being spaced apart, and the bosses being formed with axial openings, and an axle extending into said openings, substantially as and for the purpose specified.

3. A winding roller comprising a hollow metallic shell, a pair of heads located in one end portion of the shell, and a head located at the extreme end of the shell and having a central opening, the pair of heads being formed with central offset bosses projecting toward each other, and the bosses having central openings, and an axle extending through the openings of the heads and having peripheral shoulders engaging the op-

posing faces of the outer head, and one of the heads of the pair, substantially as and for the purpose set forth.

4. A winding roller comprising a hollow metallic shell formed with an internal shoulder spaced apart from one end thereof, a pair of discoidal sheet metal heads located within the shell, the heads being formed with central offset bosses projecting toward and engaging each other, the flange portions of the heads being spaced apart and one of said heads engaging said shoulder, a discoidal sheet metal head located at the extreme end of the shell, the margin at one end of the shell being turned inwardly onto the outer face of the last-mentioned head, an axle supported by the heads and having peripheral shoulders engaging opposing faces of the outer head and of one of said pair of heads, substantially as and for the purpose described.

5. A winding roller comprising a metallic shell formed with an internal shoulder spaced apart from one end thereof, a pair of discoidal sheet metal heads located within the shell, the heads being formed with central offset bosses projecting toward and engaging each other, the bosses having central openings, the flange portions of the heads being spaced apart and one of said heads engaging said shoulder, a discoidal sheet metal head located at the extreme end of the shell, and having a central offset boss formed with a central opening, and an axle extending through the openings of the bosses of the heads and having peripheral shoulders engaging opposing faces of the bosses of the outer head and one of the inner heads, substantially as and for the purpose specified.

6. A winding roller comprising a metallic shell, heads located in one end portion of the shell and spaced apart, the heads having central offset bosses substantially spherical, the bosses projecting toward and engaging each other and being formed with central openings, and an axle extending into said openings, substantially as and for the purpose set forth.

In testimony whereof, I have hereunto signed my name in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 27th day of June 1912.

ROY T. AXE.

Witnesses:
S. DAVIS,
L. M. DAVIS.