

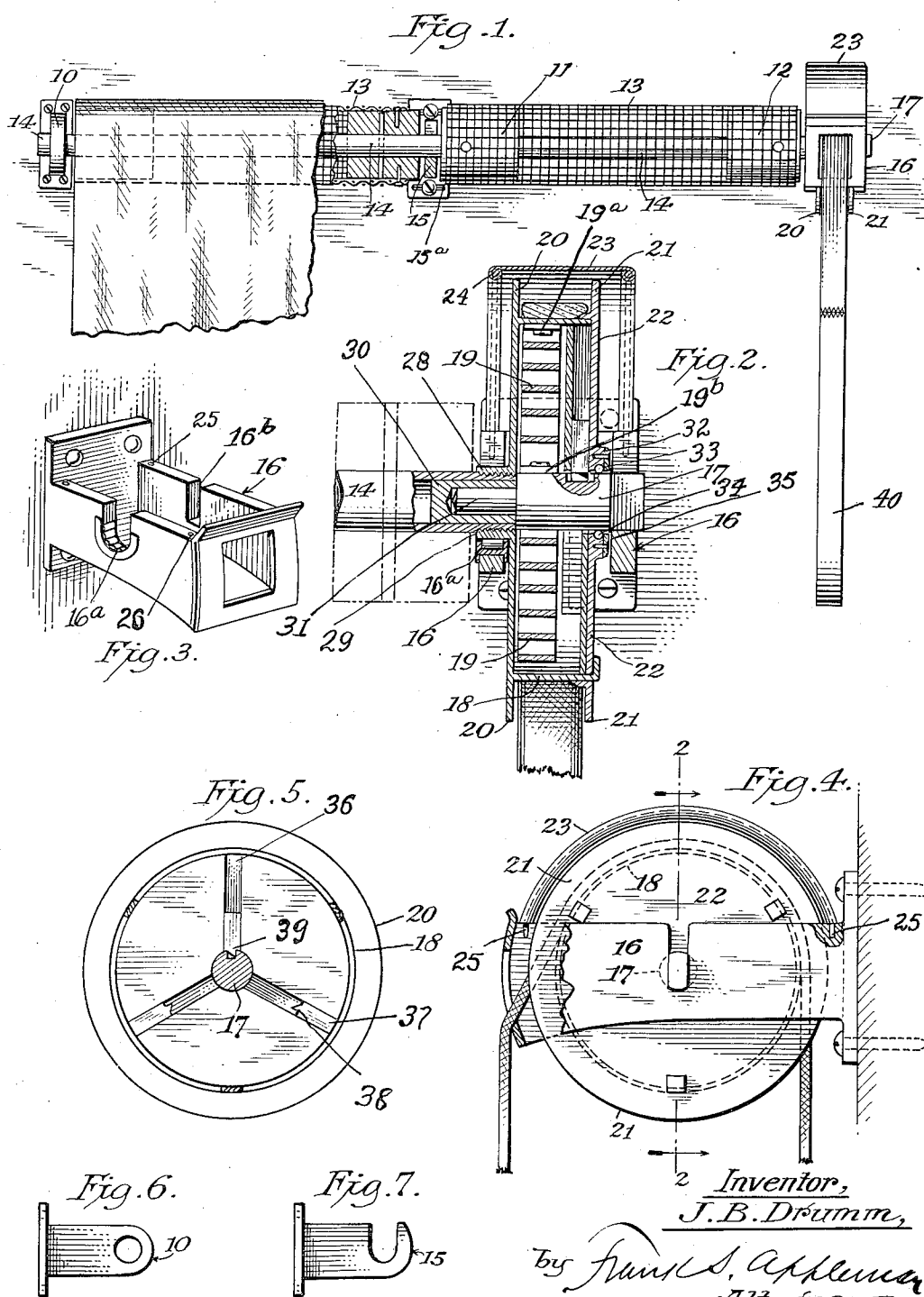
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ROLLER FOR SHADES, AWNINGS, CURTAINS OR THE LIKE

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ROLLER FOR SHADES, AWNINGS, CURTAINS
OR THE LIKE

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4 Claims. (Cl. 156—36)

This invention relates to rollers for shades, curtains, awnings and the like, and an object of the invention is to provide a roller and operating mechanism therefor that will withstand strain and wear due to the winding and storage on the roller of fabrics which are to be used as awnings, curtains or the like, the invention being capable of supporting wide fabrics or curtains regardless of the use to which they are put.

It is well known that devices of this kind have a wide range of uses and to simplify the description, the mechanism will be referred to as a "roller" for said fabric which can be employed in the manner indicated.

It is a further object of this invention to provide a spring roller having bearings capable of withstanding wear without appreciable deterioration and furthermore, it is an object to provide a roller with a support or supports between its ends in addition to those supports or brackets which are located at the ends of the roller, or the shaft thereof.

It is a further object of this invention to provide rollers of special construction wherein drum-like cores are mounted on a shaft and secured thereto to rotate with the shaft.

It is a further object of the invention to provide a bracket with means for encasing a winding drum, the said bracket having dual bearings for the spindle of the drum and the said bearings being preferably of the anti-friction type.

It is a further object of the invention to provide a drum with manually operated winding means, which winding means comprises a band frictionally engaging the periphery of the drum and capable of communicating rotary motion thereto when actuated.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawing forming part of this application, wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a view in elevation of a roller and the operating parts associated therewith;

Figure 2 illustrates an enlarged sectional view of the drum and a fragment of the roller taken on the line 2—2 of Fig. 4;

Figure 3 illustrates a perspective view of one of the brackets;

Figure 4 illustrates an end elevation of the automatic roller, partly in section;

Figure 5 illustrates a sectional view of the drum;

Figure 6 illustrates a side elevation of one of the end brackets; and

Figure 7 illustrates a side elevation of the center bracket.

In the drawing 10 denotes one of the end brackets which is more or less conventionally shown as an end support for the spindle or shaft of a roller.

In the present embodiment of the invention, the roller is sectional and each section comprises end cores 11 and 12 which form the support for the cylindrical wire mesh 13 whose ends are anchored to the cores. The cores are pinned or otherwise secured to the shaft 14 and there is a space between the sections of the roller forming a clearance for a central bracket 15 in which the shaft is journaled. The base of the bracket 15 is provided with slots, such as 15^a, to form a clearance which permits the said bracket to be adjusted in order that it may be properly applied between the sections of the roller.

The bracket 16 has an anti-friction bearing 16^a and a slot 16^b to receive a flattened portion of a spindle 17 so that the spindle is held against rotation.

A drum 18 contains a spring 19 and one end 19^a thereof is anchored to the inner surface of the drum and the other end 19^b is secured to the spindle 17 so that as the drum is rotated with relation to the spindle, tension is developed in the spring which unwinds after the power applying means is released. The drum has a flange 20 which with the flange 21 of the plate 22 that encloses one side of the drum, constitutes guides for a belt or flexible band by which the drum is rotated when the belt is manually operated. The operating parts of the drum are protected by a shield or cover 23 which, in the present embodiment of the invention, has marginal reinforcing wires 24 whose ends project beyond the end of the shield to form anchoring pins 25 that enter holes or sockets 26 formed in the upper edges of the sides of the brackets 16.

A hub 28 is rotatable on the anti-friction bearing of the bracket. Internally, the hub is threaded or otherwise connected by a joint to the shaft 14. The shaft has an inner apertured bushing 30 into which a reduced end 31 of the spindle 17 projects and with relation to which the shaft is rotatable. The plate 22 may have a hub 32 with a race way 33 for anti-friction balls 34 that

travel on the spindle, 17, the said balls being retained in place by a guard 35 attached to the outer face of the said hub 32. The inner face of the plate 22 has guides such as 36 in which dogs or detents 37 are slidable, the said dogs having reduced inner ends 38 forming ratchet teeth which may interlock with the spindle 17 by entering a slot 39 in said spindle, which slot may be placed at any appropriate location. When one of the ratchet teeth is in the slot of the spindle and the spring is under stress, the roller will be held against movement, but by quick rotary motion the dog or detent will be displaced from the slot and the roller may turn under the influence of the spring.

As a means for winding the roller to tension the spring, a belt-like hand operated member 40 is applied to the periphery of the drum and it is held between the flanges of the drum and plate. When the member 40 is pulled in one direction it will serve to wind the spring and of course material will be rolled on or unrolled from the roller according to the way in which it is applied to the roller, whereas when the member 40 is manipulated to cause release of the ratchet from the spindle and then freed, the roller will be operated under the influence of the spring.

I claim

1. In an automatic means for operating a roller, a bracket having sides spaced apart, a spindle anchored in one of the sides, an anti-friction journal bearing in the other side, a drum mounted on the spindle and having a hub rotatable on the bearing, a spring within the drum having one end anchored to the drum and the other end anchored to the spindle whereby rotation of the drum tensions the spring, and means cooperating with the drum and spindle for holding the drum at different positions.

2. In an automatic roller operating means, a bracket having sides spaced apart, a spindle anchored in one of the sides, an anti-friction journal bearing in the other side, a drum mounted on the spindle and having a hub rotatable on the bearing, a flexible element embracing the drum and operative to rotate the drum, a spring within the drum having one end anchored to the drum and the other end anchored to the spindle whereby rotation of the drum tensions the spring, and means cooperating with the drum and spindle for holding the drum at different positions.

3. In an automatic roller operating means, a bracket having a bearing and a spindle anchoring instrumentality, a drum having a flange, a plate forming one side of the drum having a flange corresponding to the flange of the drum, a flexible element partially embracing the drum and confined by the said flanges, detents associated with the drum and operative to engage the spindle for holding the drum in different positions, said spindle having a seat for the detents, a spring within the drum connected to the drum and to the spindle, said drum and the end of the spindle being adapted to cooperate with a roller shaft.

4. In an automatic roller operating means, a bracket, a drum rotatably mounted with relation to the bracket, a shield for the drum and its operating parts comprising a curved plate with beaded edges, and wire-like elements forming portions of the beads, the wire-like elements projecting at the ends of the shield and forming anchorages with the bracket for holding the shield in place.

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