F. BAILEY.

MEANS FOR ARRESTING THE UNWINDING OF AWNINGS AND SHADES.

APPLICATION FILED DEC. 14, 1915.

1,203,840. Patented Nov. 7, 1916.

Fig. 3.

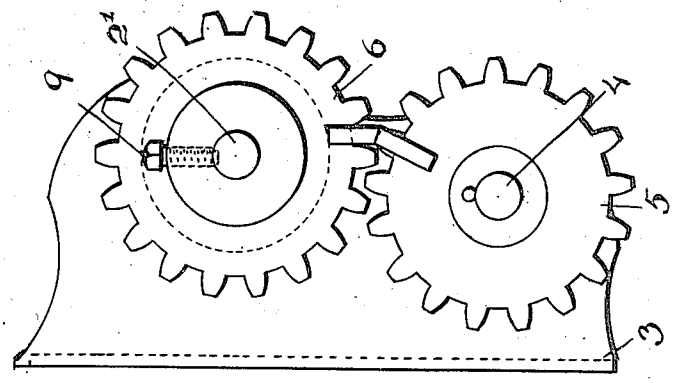


Fig. 2.

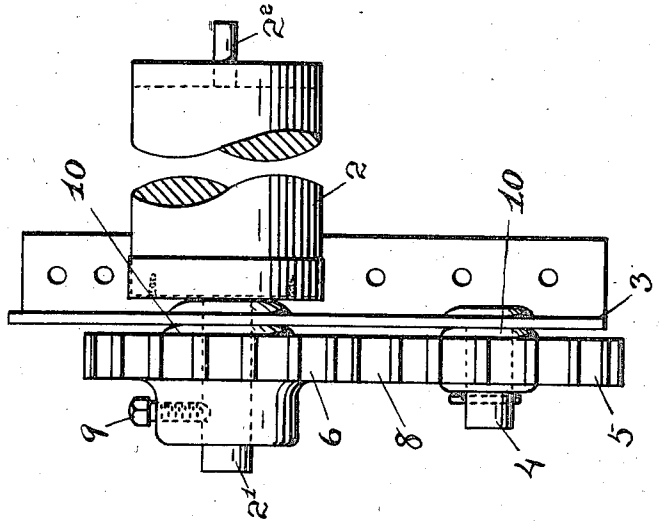
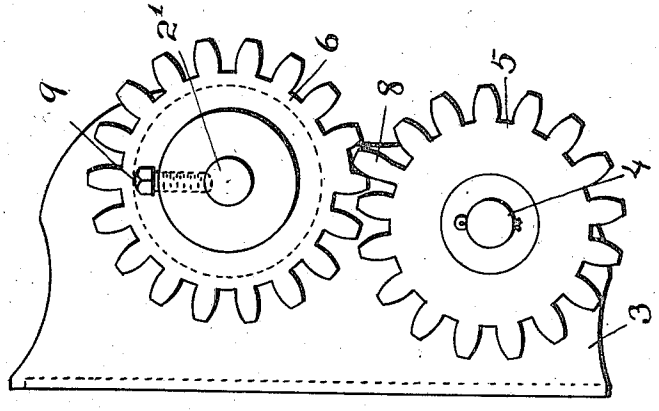


Fig. 1.



Witness

Stuart Hilder

By

Inventor,

Frank Bailey.

E. W. Anderson for his

Attorney.

UNITED STATES PATENT OFFICE.

FRANK BAILEY, OF MUSKEGON, MICHIGAN.

MEANS FOR ARRESTING THE UNWINDING OF AWNINGS AND SHADES.

1,203,840. Specification of Letters Patent. Patented Nov. 7, 1916.

Application filed December 14, 1915. Serial No. 66,813.

To all whom it may concern:

Be it known that I, FRANK BAILEY, a citizen of the United States, resident of Muskegon, in the county of Muskegon and State of Michigan, have made a certain new and useful Invention in Means for Arresting the Unwinding of Awnings and Shades; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a side view of the invention. Fig. 2 is a front view of the same, showing the roller partly broken away. Fig. 3 is a side view of a modification.

The invention has relation to means for arresting the unwinding of spring roller awnings and shades or curtains, adapted to automatically stop the movement of the awning or shade after it has been unwound to a predetermined extent.

The invention consists in the novel construction and combinations of parts, as hereinafter set forth.

In the accompanying drawings, illustrating the invention, the numeral 2 designates a spring roller, having the gudgeons 2′, 2², and 3 is a bracket secured to the wall or window casing in the usual way, and carrying a lower cylindrical stud or shaft 4, whereon is loosely mounted a spur gear wheel 5, an upper gear wheel 6 having its teeth in mesh with those of the lower gear and being mounted fast upon the gudgeon 2′ of said roller.

As the roller is turned in unwinding the awning or shade, the gear wheels will turn therewith, and means are provided upon the gear wheels whereby, when the unwinding has taken place to a certain extent, the further movement of the gear wheels and awning will be automatically stopped, said means consisting preferably of a long tooth 8 of the lower gear wheel engaging a shallow space of the upper gear wheel, between adjacent teeth thereof, said space being filled in to the pitch circle, the upper gear having one tooth more than the lower gear, the lower and upper gears having usually 15 and 16 teeth respectively, and the gears being set sufficiently far apart so that all of the teeth of the lower gear will mesh in the shallow space, except the long tooth, which will wedge therein and stop further movement of the gears, said long tooth being the only tooth of the lower gear that will fully mesh within the spaces between the teeth of the upper gear. The gears will in this way turn freely until the long tooth strikes within the shallow space or depression.

In setting up the device, the brackets are screwed to the wall or casing, the lower gear secured in position upon the stud of the bracket 3 and the spring roller with the awning wound thereon having its gudgeons engaged with the perforations of the brackets, the awning or shade being then pulled down to the desired degree, after which the upper gear is placed in position upon the gudgeon 2′ and turned around until its long tooth is engaged with the shallow depression or space of the lower gear, after which the upper gear is clamped fast upon the gudgeon by suitable means, as a set screw 9. The awning may then be rolled up, and the long tooth will roll away from the shallow depression, the gears being of such size that when the awning or shade is completely rolled up the teeth of the gears will (if the shade is long enough) have meshed for fifteen revolutions, after which the long tooth will engage in the shallow depression and check the winding of the awning or curtain when it has been wound up to the proper extent.

Upon the unwinding of the awning the long tooth will, by its engagement in the shallow depression, arrest the unwinding when it has proceeded to the proper predetermined extent.

The gear wheels are usually provided with hub extensions 10, engaging the outer side of the bracket 2, to cause them to rotate in a true vertical plane.

The gears may be made with any desired number of teeth, provided one gear has more teeth than the other gear. Either gear may have the long tooth, the other gear having the shallow depression.

A modification of the invention is shown in Fig. 3 of the drawings, wherein radial lateral lugs 11, 11′ upon the two gears will, in the winding and unwinding, engage with each other and stop further movement of the gears and awning.

I claim:

1. Means for arresting the unwinding of awnings, and shades having a spring roller,

consisting of a gear wheel fast upon the spring roller, a loose gear wheel in mesh therewith, and coöperating means the elements of which are carried by and movable with the respective gear wheels whereby the rotation thereof will be stopped when the awning has been unwound to a predetermined extent.

2. Means for arresting the unwinding of awnings, and shades having a spring roller, consisting of a gear wheel fast upon the spring roller, a loose gear wheel in mesh therewith, one of the gear wheels having a long tooth and more teeth than the other gear wheel, said other gear wheel having a shallow space between two of its teeth, the gear wheels being spaced apart and said long tooth meshing properly with the teeth of the other gear for a certain number of revolutions of the gears, and upon the last revolution of the gears engaging and binding in said shallow space, to stop further movement of the gears and of the roller.

3. Means for arresting the unwinding of awnings, and shades having a spring roller, consisting of a gear wheel rotatably adjustable upon a pivot of the spring roller and having a set screw engaging said pivot for fast connection therewith, a loose gear wheel in mesh with said first-named gear wheel, and coöperating means the elements of which are carried by and movable with the respective gear wheels whereby the rotation thereof will be stopped when the awning has been unwound to a predetermined extent.

4. Means for arresting the unwinding of awnings, and shades having a spring roller, consisting of a gear wheel rotatably adjustable upon a pivot of the spring roller and having a set screw engaging said pivot for fast connection therewith, a loose gear wheel in mesh with said first-named gear wheel, one of the gears having a long tooth and more teeth than the other gear, said other gear having a shallow space between two of its teeth, the gears being spaced apart and said long tooth meshing properly with the teeth of the other gear for a certain number of revolutions of the gears, and upon the last revolution of the gears engaging and binding in said shallow space, to stop further movement of the gears and of the roller.

In testimony whereof I affix my signature, in presence of two witnesses.

FRANK BAILEY.

Witnesses:

ETHEL H. DOANE,

HENRIETTA COOPER.