(No Model.)

H. W. SIMMS.

SHADE ROLLER FIXTURE.

No. 406,481. Patented July 9, 1889.

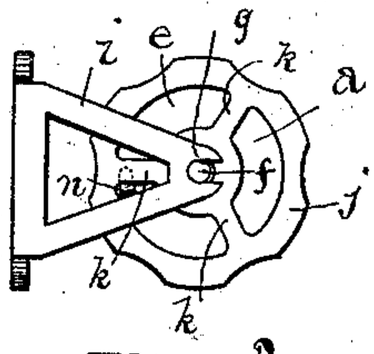

Fig. 2.

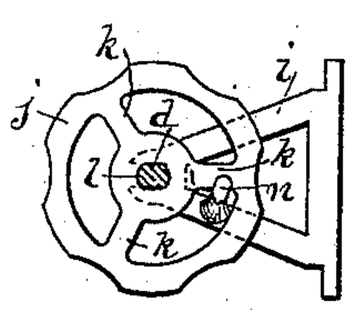

Fig. 3.

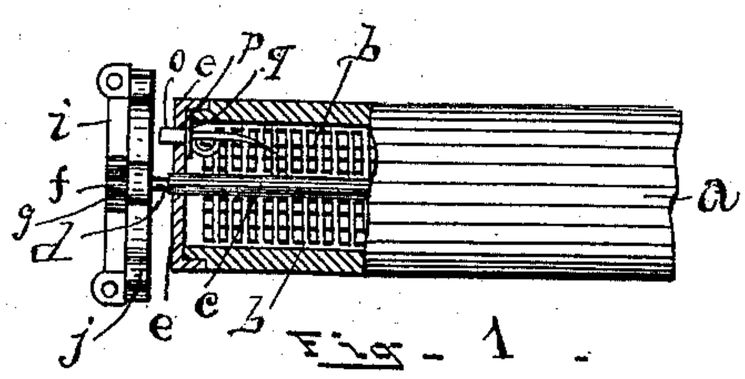

Fig. 1.

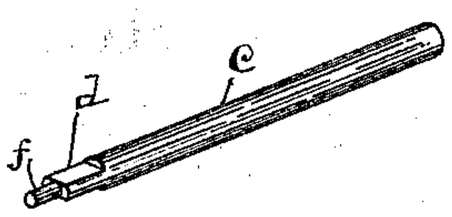

Fig. 4.

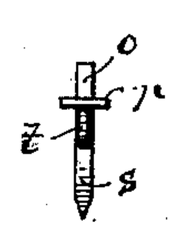

Fig. 5.

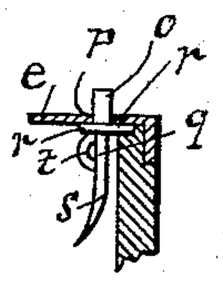

Fig. 6.

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UNITED STATES PATENT OFFICE.

HENRY W. SIMMS, OF BAY CITY, MICHIGAN.

SHADE-ROLLER FIXTURE.

SPECIFICATION forming part of Letters Patent No. 406,481, dated July 9, 1889.

Application filed June 19, 1888. Serial No. 277,541. (No model.) Patented in Canada July 9, 1886, No. 24,528.

To all whom it may concern:

Be it known that I, HENRY W. SIMMS, a citizen of the United States, residing at Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Shade-Roller Fixtures; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

My invention relates to that class of shade-roller fixtures in which an actuating-spring is used to operate the roller for winding the shade thereon; and the invention consists, chiefly, in devices for imparting to the actuating-spring the required tension and for retaining the same, and in the combination and arrangement of the parts or elements which enter into the construction of the device, and which I hereinafter more fully describe, and point out in the claims.

The invention herein described is the subject of Letters Patent granted to me in Canada on July 9, 1886, and numbered 24,528; and the object of my invention is to arrange and construct a device for providing the actuating-spring with the required tension without removing the roller from the brackets, and for retaining the tension therein while the roller is supported by the brackets, and also when the roller is removed from the bracket-supports.

I illustrate in the accompanying drawings the devices I employ to attain these objects, Figure 1 therein being a longitudinal central section of one end portion of a shade-roller with my improvement attached thereto. Fig. 2 is a view of the outside of the supporting-bracket and end of the roller. Fig. 3 shows the inner side of the same bracket and with the spring-spindle in transverse section at the end of the roller. Fig. 4 is a view in perspective of the spring-spindle. Figs. 5 and 6 are views of the spring-securing device with a section of the end of the roller.

a represents a shade-roller, inclosed in one end of which is an actuating-spring *b*. This spring is coiled around the spindle *c*, one end of the spring being secured to the spindle, while the opposite end thereof is secured to the shade-roller in a suitable manner, so that when the spindle is revolved the required tension or power is imparted to the spring, and which operates by its recoil, when the spindle is retained against revolution, to revolve the roller and wind the shade thereon. A portion *d* of the end of the spindle projects beyond the end *e* of the roller, and is of a flattened or square form, while a round portion *f* projects still farther and forms a journal, which rests in the slot *g* of the supporting-bracket *i*. A wheel *j*, provided with spokes *k*, and with a central opening *l*, of a suitable form to fit over the part *d*, is passed upon the spindle, so that the revolution of the wheel then revolves the spindle and imparts to the spring the requisite tension or power. The wheel, when the parts are in position, is located between the end *e* of the roller and the bracket *i*, suitable space being left between the end of the roller and the bracket to allow the wheel to be moved to a position against the end of the roller, or to a position against the bracket, and projecting inwardly from the bracket *i* is a lug *n*, which, when the wheel is moved to a position against the bracket, engages with one of the spokes of the wheel and retains the wheel and also the spindle against revolution, and the recoil of the spring then operates to revolve the roller for winding the shade thereon.

A lug *o* is arranged to project outwardly from the end of the roller, and when the wheel is disengaged from the lug *n* and removed upon the part *d* of the spindle to a position against the end of the roller the lug *o* engages with one of the spokes thereof and retains the tension in the actuating-spring when the roller is removed from the bracket. The space between the lugs *n* and *o* is sufficient to permit the wheel *j* to be revolved without engagement with either lug, which arrangement allows the tension of the spring to be adjusted as desired without removing the roller from the supporting-brackets.

As shown in Figs. 5 and 6, in order to properly and conveniently secure the outer end of the actuating-spring to the roller, as before

stated, and to form the lug *o*, the end piece *e* is provided with an opening *p;* and *q* is a retaining-piece, with the portion *o*, which forms the lug, passed through the opening *p;* and *r* is a flange or shoulder which projects outwardly and bears against the inner side of the piece *e*, and is held in position by the end of the roller, which, when the end piece is secured in position on the end of the roller, bears against the inner side of the said flange or shoulder *r;* and *s* is a portion of the piece *q*, which projects inwardly from the flange *r* and is provided on one side with the loop *t*, into which the bent end of the spring is hooked. This forms a convenient and easy means of securing the end of the spring to the roller, as the hook may be formed upon the end of the spring before the parts are in position, so that when the hook is engaged with the loop *t* the parts may then be affixed to the end of the roller by passing screws through the end piece *e* into the end of the roller in the ordinary way, and the parts are in position for operation without extra trouble of securing the spring after the parts are in position, as is the common mode with devices of this class.

In operating the device the journal end *f* of the spindle is placed in position in the slot *g*, which supports its end of the roller, the opposite end being also supported in any suitable manner or device, and the wheel *j* is then revolved between the lugs *n* and *o* until the required tension is placed in the actuating-spring, and the wheel is then moved to a position against the bracket and one of the spokes thereof brought into engagement with the lug *n* by the action of the actuating-spring, which position retains the tension in the spring by preventing a revolution of the spindle and also retains the journal within the slot *g* by preventing a forward movement of the journal, and should it be necessary to remove the roller from the brackets the wheel *j* is moved to the end of the roller and one of the spokes thereof is engaged with the lug *o*, which retains the tension in the spring while the roller is removed from its supports.

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

1. In a shade-roller fixture, the shade-roller having an inclosed actuating-spring, a spindle *c*, passed into the end of the roller and connected to one end of the spring and provided with a flattened portion *d*, and a journal *f*, projecting beyond the roller, and a bracket *i*, having a slot supporting the journal and provided with an inwardly-projecting lug *n*, in combination with a wheel *j*, having a central opening fitted to and passed upon the part *d* between the end of the roller and the bracket and provided with spokes *k* engaging with the said lug *n*, substantially as set forth.

2. In a shade-roller fixture, the combination, with a shade-roller having an inclosed actuating-spring and a rod *c*, passed into the end of the roller and secured to the spring and provided with a flattened portion *d*, and a journal *f*, extending from the roller, of a wheel *j*, having a central opening fitted to and passed upon the said portion *d*, and a lug *o*, projecting from the end of the roller and engaging with the spokes of the wheel, substantially as and for the purpose set forth.

3. In a shade-roller fixture, the combination, with the roller having an end piece *e* and an inclosed actuating-spring *b*, a spindle *c*, placed within the coils of and secured to one end of the spring and having a journal extending beyond the said end piece, of a retaining-piece *q*, having a loop *t* attached to the opposite end of the spring and provided with a lug *o*, passed through an opening in the said end piece *e*, and having a flange *r* between the end of the roller and the end piece *e*, substantially as and for the purpose set forth.

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

HENRY W. SIMMS.

Witnesses:
JAS. E. THOMAS,
W. H. POWER.