(No Model.)

G. D. PETERS.

SPRING ROLLER FOR WINDOW SHADES.

No. 422,314. Patented Feb. 25, 1890.

Fig. 2.

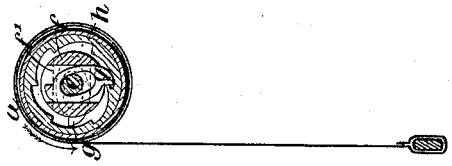


Fig. 1.

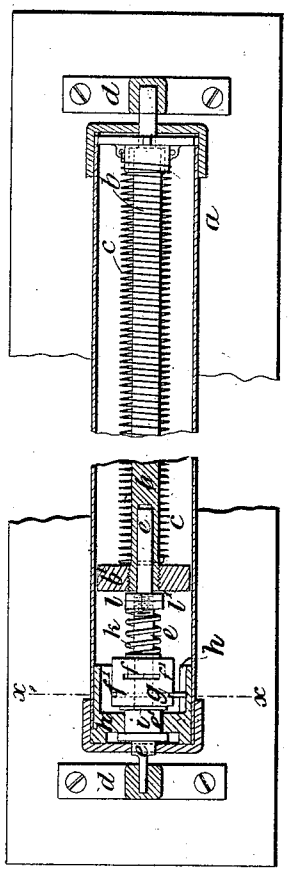


Fig. 3.



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UNITED STATES PATENT OFFICE.

GORDON DONALDSON PETERS, OF LONDON, ENGLAND.

SPRING-ROLLER FOR WINDOW-SHADES.

SPECIFICATION forming part of Letters Patent No. 422,314, dated February 25, 1890.

Application filed August 6, 1889. Serial No. 319,938. (No model.) Patented in England December 14, 1887, No. 17,233; in France March 16, 1888, No. 187,934, and in Italy January 5, 1889.

To all whom it may concern:

Be it known that I, GORDON DONALDSON PETERS, manufacturer, a subject of the Queen of Great Britain, and a resident of London, England, have invented new and useful Improvements relating to Spring-Rollers for Window-Blinds, (for which I have obtained patents in the following countries, viz: Great Britain, No. 17,233, dated December 14, A. D. 1887; France, No. 187,934, dated March 16, 1888, and Italy, dated January 5, 1889,) of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to spring-rollers for window-blinds of the kind or class wherein a friction device is employed for counteracting a balance-weight attached to the blind, so that the blind will remain in any position to which it is adjusted.

My said invention is designed to increase the efficiency of such spring-rollers and to provide for the adjustment of the said friction device to regulate the amount of force required to pull down the blind.

To such ends my invention involves the features of construction, the combination or arrangement of parts, and the principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a longitudinal central section; and Fig. 2, a transverse section on the line *x x*, Fig. 1; and Fig. 3 is a side elevation showing a rod or spindle, hereinafter referred to.

a is a tube or hollow roller, having arranged therein a rod or spindle *b*, around which the spring *c* is wound or coiled, and which is held stationary in suitable brackets *d*, so that the tube or roller may rotate upon it. A short rod or spindle *e* is fixed in one end of the rod or spindle *b*, so that it forms a continuation of the same, and has fitted to rotate upon it a collar *f*, formed with holes or cavities *f'*, in which are placed pins or pawls *g*. These pawls may extend either partly or entirely through the said collar. In the apparatus shown in the drawings they extend through the collar and are made with elongated slots, through which the rod or spindle *e* is passed. A collar *b'* is preferably screwed upon the end of the spindle *b* and fits loosely within the tube or roller *a*. A socketed sleeve *h*, provided internally with ratchet-teeth, is firmly fixed in one end of the tube or roller *a*, and is fitted upon the spindle *e* so that it is free to rotate thereon. The collar *f*, carrying the pawls *g*, is so arranged that it extends within the said socketed sleeve *h*, and as the said collar rotates the pawls *g* will fall by gravitation into engagement with the said teeth.

A washer *i*, of leather or other suitable material, is placed upon the spindle *e* between a collar or shoulder *e'* thereon and the collar *f*, carrying the pawls. The said collar *f* is pressed against this washer *i* by a spring *k*, surrounding the spindle *e* and secured thereon by means of locking-nuts *l l'*, screwed upon the said spindle.

When the blind is pulled down, the ring or socket *h* rotates with the tube or roller *a* in the direction indicated by the arrow in Fig. 2, and, one or other of the pawls *g* engaging with a tooth in the said ring or socket, the collar *f* rotates therewith. It is obvious, therefore, that in pulling down the blind a considerable amount of friction must be overcome between the collar *f* and washer *i*. By turning or adjusting the locking-nuts *l l'* in one or the other direction the friction-spring *k* may be compressed or permitted to expand, and the amount of friction to be overcome in pulling down the blind thus increased or diminished, as desired.

The balance-weight attached to the blind is made sufficiently heavy to resist the tendency of the roller-spring *c* to draw up the blind, but not heavy enough to overcome the friction between the said collar and washer and the tension of the spring *c* combined. To raise the blind it is only necessary to lift the balance-weight. The roller-spring will then draw up the blind, the teeth of the ratchet socketed sleeve *h* sliding over the pawls *g*.

What I claim is—

1. A spring-roller consisting of a tube *a*, a spindle *e* therein, a socketed sleeve *h*, fixed in one end of the tube, adapted to rotate on the spindle, and having internal ratchet-teeth, a friction-washer *i*, secured to the spindle, a

collar *f*, provided with a radially-movable pawl *g* to engage the ratchet-teeth in the socketed sleeve to rotate the collar *f* on the spindle, and a spring *k*, which presses the collar into the sleeve against the friction-washer, substantially as described.

2. The combination, with the roller *a*, provided with the fixed rod or spindle *b* and the spring *c*, of the fixed rod or spindle *e*, the socketed sleeve *h*, provided with internal ratchet-teeth and fixed in the said roller, the collar *f*, fitted to rotate upon the spindle *e*, radially-movable pins or pawls *g*, carried by the said collar and adapted to engage with the said teeth, a washer *i* on the said spindle *e*, and a spring *k*, for holding the said collar in frictional contact with the said washer and provided with the tightening or adjusting nuts *l l'*, substantially as and for the purposes set forth.

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

GORDON DONALDSON PETERS.

Witnesses:
W. McLAREN,
F. C. VENN.