J. I. TAY.

HANGING WINDOW SHADES.

No. 97,726. Patented Dec. 7, 1869.

Fig. 1.

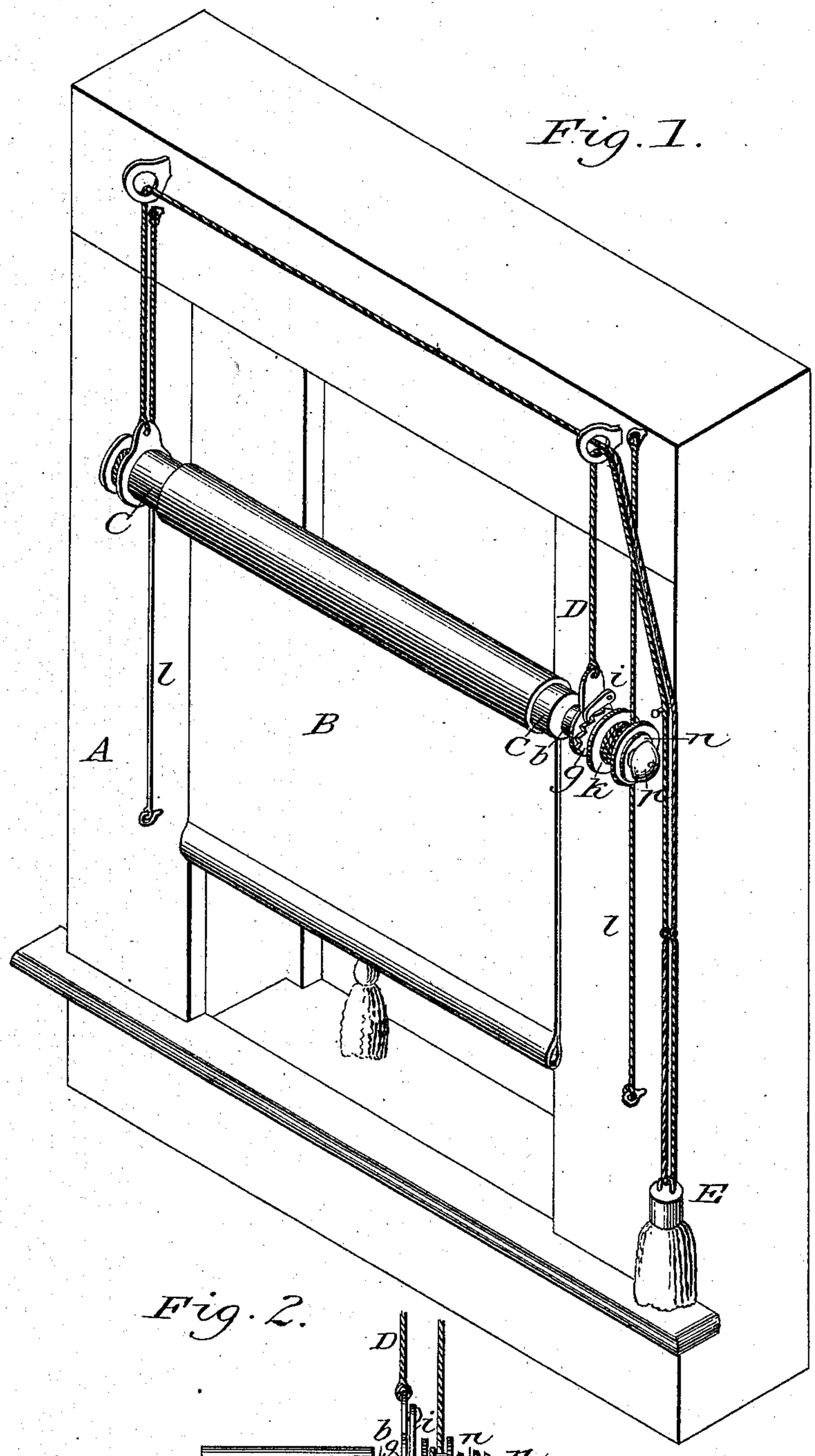
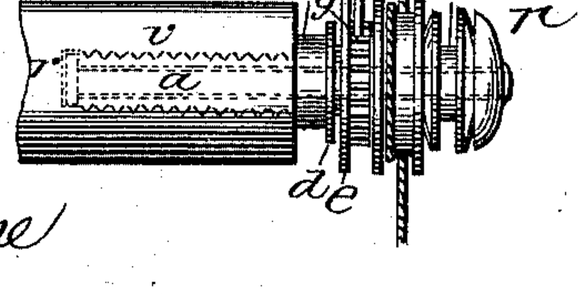


Fig. 2.



Witnesses:

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JOHN I. TAY, OF OAKLAND, CALIFORNIA.

Letters Patent No. 97,726, *dated December* 7, 1869.

IMPROVEMENT IN HANGING WINDOW-SHADES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN I. TAY, of Oakland, county of Alameda, State of California, have invented Improvements in Hanging Window-Shades; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains, to make and use my said invention or improvements, without further invention or experiment.

My invention relates to an improved arrangement of the cords and pulleys, employed in hanging window-shades, and is an improvement upon Letters Patent No. 89,813, which were issued to me on the 4th day of May, A. D. 1869.

My improvements consist in an arrangement, whereby I accomplish the same object, by means of a less number of cords, doing away, also, with the lower roller, to which the curtain is attached.

The object of my former patent was to so arrange the shade that it could be lowered from the top or rolled up from the bottom.

In this arrangement the one roller serves to roll the shade up, while, by a simple device, the roller itself can be moved up and down, at pleasure.

In order to illustrate with clearness the said improvements, reference is had to the accompanying drawings, forming a part of this specification, in which—

A represents a window-frame, and

B, the shade.

In this arrangement the shade is simply attached to the roller C, at its upper end, and is provided with a slight weight, which is usually a thin strip of wood, at the lower end, in the usual manner of hanging window-shades.

In one end of the roller C a metallic bush, V, is screwed, inside of which a journal, *a*, revolves, being held in place by a nut, *r*, which prevents it from passing out through the bushing.

This journal extends outward from the end of the roller a short distance, as shown by the dotted lines at Figure 2.

A rubber, or other elastic band, *b*, is first placed upon this journal, close up against the end of the roller, and a metallic washer, *d*, is then slipped over the journal, against the band *b*.

A circular plate, *e*, having an upward-projecting lug, is then slipped over the journal, next to the washer *d*, after which a ratchet-wheel, *g*, is firmly secured upon the journal, next to the circular plate *e*.

A pawl, *i*, is pivoted to the lug on the plate *e*, and engages with the ratchet, when the roller is turned in one direction, while it allows it to revolve freely in the opposite direction.

The devices thus far described serve in elevating and lowering the roller, a cord, D, being attached to the lug on the plate *e*, while the opposite end of the same cord is attached to a lug upon a similar plate on the opposite end of the roller, both cords passing over pulleys, and uniting directly over the ratchet end of the roller, after which they are attached to a weighted tassel, E, as described in my former patent.

By pulling down upon the tassel E, the pawl is caused to engage with the ratchet, and thus lift the roller, but when the weight of the tassel is relieved, the weight of the curtain will cause it to descend.

Upon the journal, and outside of the ratchet, is placed a loose pulley, *k*, which has its counterpart upon the opposite end of the roller, and around which the guide-cords *l* are given one turn, in order that when the roller is lowered, the friction produced by the cords will give it a rotary motion.

An elastic band, *n*, having washers upon each side, in order to prevent too great friction on the moving-parts, is then placed upon the journal, and the whole is secured in place by a cap or nut, *p*.

By tightening the nut or cap *p* upon the end of the journal, the friction on the pulley can be increased, should the pulley move too freely, while, in order to regulate the tension of the parts between the ratchet and end of the roller, the bushing must be screwed farther in or out, as occasion requires.

By this arrangement I do away with a number of the cords and pulleys employed in the device covered by my former patent, lessening the cost of hanging the shades, and giving a neater appearance to the window, while the adjustment of the curtain to any position, either up or down, or both, is secured with equal facility and ease.

What I claim as my improvement, and desire to secure by Letters Patent, is—

The combination of the plate *e*, pawl *i*, ratchet-wheel *g*, loose pulleys *k*, cords D and *l*, and weighted tassel E, when arranged to operate as herein set forth.

In witness whereof, I have hereunto set my hand and seal.

JOHN I. TAY. [L. S.]

Witnesses.

JOHN L. BOONE,

WM. GERLACH.