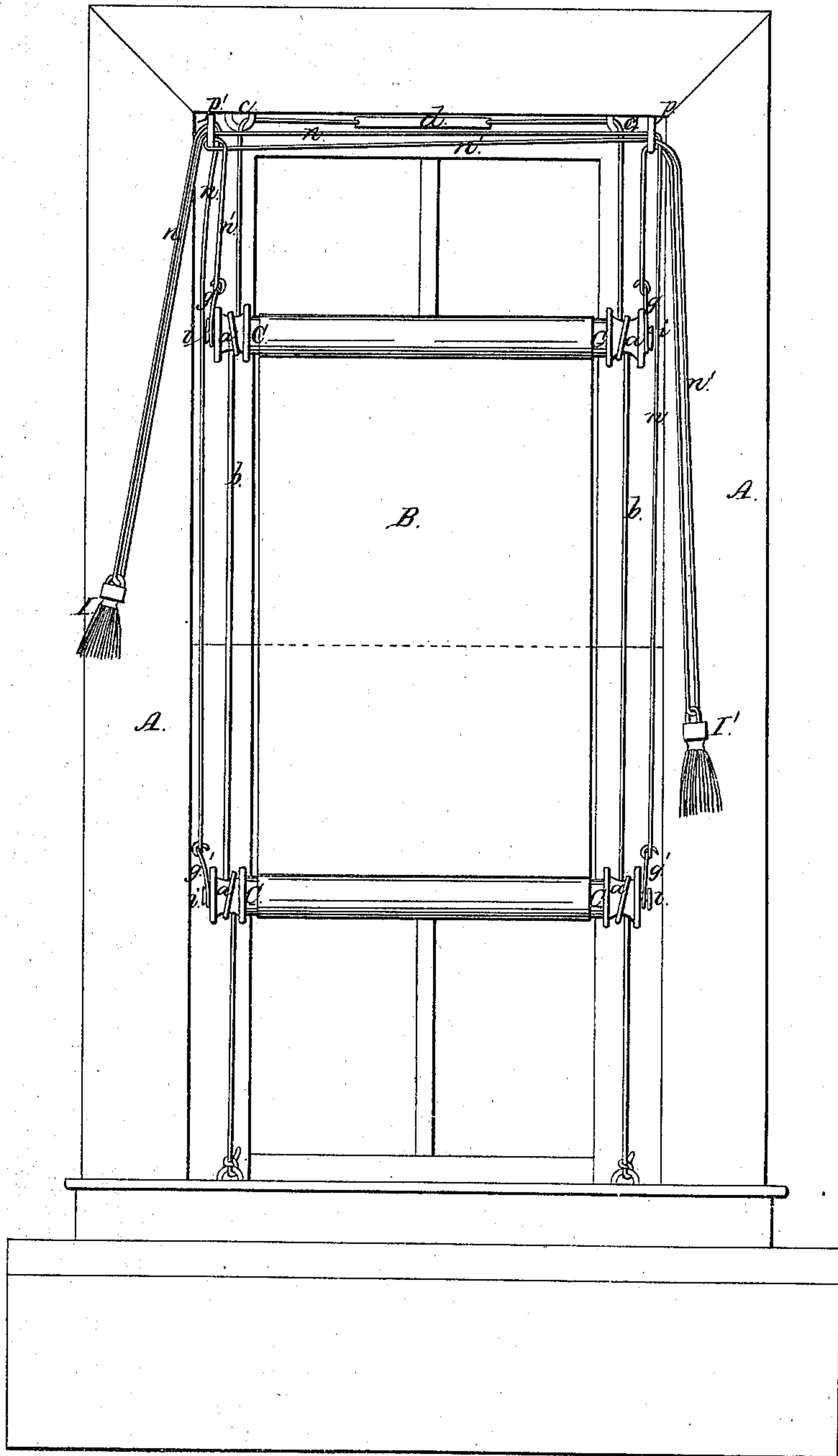


J. I. Tay.

Hanging Window Shades.

N^o 89,813.

Patented May 4, 1869.



Witnesses.
Geo. H. Strong
J. L. Borne

Inventor.
J. I. Tay
By his atty J. S. Jewett

United States Patent Office.

JOHN I. TAY, OF SAN FRANCISCO, CALIFORNIA.

Letters Patent No. 89,813, dated May 4, 1869.

IMPROVED MEANS FOR 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 the city and county of San Francisco, State of California, have invented an Improved Mode of 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 and improvements without further invention or experiment.

The nature or essence of my invention consists in a certain arrangement of cords, rollers, pulleys, and weights, hereinafter fully set forth, whereby a curtain may be rolled up from the bottom, and rolled down from the top, and either end supported at any desired height.

To more fully illustrate and explain my invention, reference is had to the accompanying drawings, forming a part of this specification, of which—

Figure 1 is a front view of a window with a shade attached.

Similar letters of reference in each of the figures indicate like parts.

A is the frame of a window.

The curtain, or shade, B, is attached, at each end, to a roller, C, of the proper length to allow the curtain to cover the entire window.

The rollers are made somewhat longer than the width of the shade, and have formed on their ends grooves, *a a*, which serve as pulleys.

To hang the curtain in front of the window, I take strong cords, *b*, and secure them at the lower corners of the window.

These cords pass up, and a turn is taken with them around the pulley on the ends of the lower roller, and then up around the pulleys on the ends of the upper roller, in a similar manner.

The cord may then pass up through staples, *c c*, at the upper corners of the window, and be united together across the top, by means of an elastic or other spring, *d*; or the cords may pass over pulleys behind the casing, and be held by a weight. Or a still more simple device would be to attach the cord to some suitable device, fixed at the upper corners of the casing, and allow it to hang vertically, passing around the rollers, as above described, and through a hole in the lower sill of the window, and attaching the weight to the lower end, the object of the arrangement being to take up the slack of the cords, and keep them continually taut.

These cords are used as guides for the rollers, and to produce the necessary friction to cause them to turn when the proper raising-device is applied.

On the ends of the rollers C are gudgeons, *i i*, around which a link, *g*, is placed loosely, so as to allow the gudgeons to turn in their lower ends.

To this link is attached a cord, *n*, which passes to the upper corner of the window, on the side on which

it is attached to the roller, and passes through a staple, *p*, at the opposite corner.

A weighted tassel, *I*, is then placed on it, by running the cord through an eye, placed in any favorable position, forming a bight, by carrying the cord up and again through the staple *p*, and attaching the end to the link *g*, on the opposite end of the lower roller.

The tassel *I* is weighted sufficiently to balance the weight of the roller, and the roller is heavy enough to descend, when the weight of the tassel is relieved.

The cord which controls the upper roller is attached and arranged in the same manner as the lower one, the bight being formed and the tassel hanging on the opposite side of the window from the lower one.

When the weighted tassel which retains the upper roller in place is raised upward, the roller, by its own weight, will descend, rolling the curtain as it moves, the friction occasioned by the peculiar arrangement of the cord around the pulley causing it to roll as it moves up or down; and when the tassel is released it will balance the weight of the roller, and keep it stationary; and when it is desired to raise or close the shade, a very slight additional weight is all that is necessary to be added to the tassel to cause it to ascend.

The ends of the rollers C may be made hollow, or cup-shaped, when desired to prevent the end of the gudgeon from coming in contact with the side-casing of the window, as it moves up and down.

The lower roller is operated in the same manner, only it rolls the curtain around it as it ascends, and unrolls it when it descends.

A portion of the cords may be concealed, when desired, behind the casing, so as to hide them from sight.

By this means, I have a window-shade, or curtain, which may either be rolled up from the bottom, or down from the top, as desired, the operation of raising and lowering being quite simple, and easily performed by a child; and, should it be desired to leave the window open, either at the top or the bottom, for the purpose of admitting fresh air into the room, the wind cannot disturb the curtain, as it is held firmly to its place by the guide-cords.

Having thus described my invention,

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

The combination and arrangement of the cords *b*, *n*, and *n'*, the tension-spring *d*, and the rollers C, when applied to both ends of a curtain, so that the top may be rolled down, and the bottom rolled up, and each sustained at any desired height, by means of the weights *I I'*, substantially as described.

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

Witnesses:

J. L. BOONE,

GEO. H. STRONG.

JOHN I. TAY. [L. s.]