

(No Model.)

J. B. HARTMAN.

FRICTION DEVICE FOR INSIDE BLINDS.

No. 454,349.

Patented June 16, 1891.

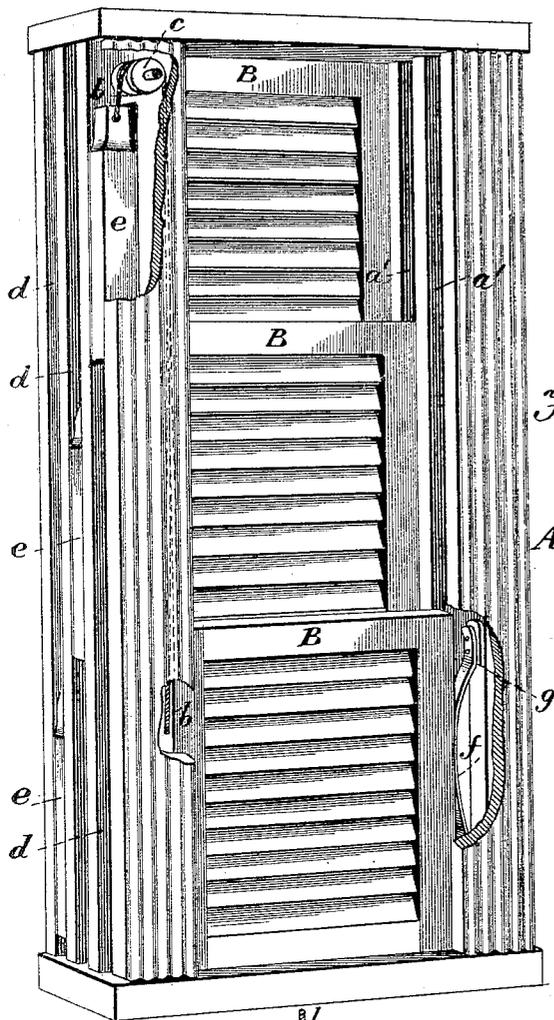


Fig. 1.

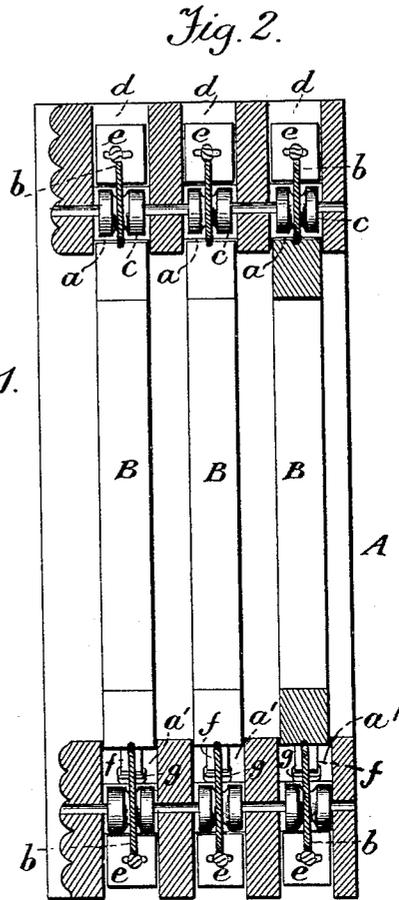


Fig. 2.

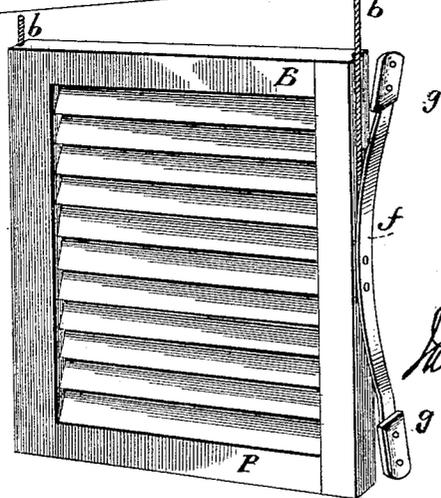


Fig. 3.

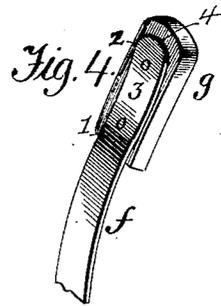


Fig. 4.

Witnesses:
 A. Ruppert.
 E. Cuse.

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UNITED STATES PATENT OFFICE.

JACOB B. HARTMAN, OF WOOSTER, OHIO.

FRICITION DEVICE FOR INSIDE BLINDS.

SPECIFICATION forming part of Letters Patent No. 454,349, dated June 16, 1891.

Application filed March 4, 1890. Serial No. 342,568. (No model.)

To all whom it may concern:

Be it known that I, JACOB B. HARTMAN, of Wooster, in the county of Wayne and State of Ohio, have invented certain new and useful Improvements in Friction Devices for Inside Blinds, of which the following is a specification, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

My invention relates to means for balancing and facilitating the holding in the desired position of movable blind-sections, as will hereinafter appear.

The invention consists in the features and combinations set forth in the claim.

Figure 1 is a perspective view of a guideway with its blind-sections, showing the incorporation of my invention therewith. Fig. 2 is a horizontal section. Fig. 3 is a perspective view of a blind-section detached from the guideway. Fig. 4 is an enlarged perspective view of a detail.

Similar letters and numerals of reference indicate similar parts in the respective figures.

A is a guideway or frame having a series of blind-sections B moving vertically therein. The number of grooves or guides in each guideway or frame will depend upon the number of blind-sections required to entirely close the opening of the frame. In the drawings three blind-sections are shown and consequently three sets of grooves *a a'*. The grooves *a* at one side of the guideway or frame A are shallow, while the opposite grooves *a'* are deeper. To the blind-sections B are attached, one at each side or edge, cords *b*, which run over sheaves or pulleys *c* at the top of the guideway or frame, said cords being provided outside the guideway or frame, which is provided with ways *d*, with weights *e* in the ordinary way. One side or edge of the blind-section—*i. e.*, that sliding in the deeper groove *a'*—is provided with one or more elliptical steel springs *f*. There is sufficient space between the said side or edge of the blind-section and the inner wall of the groove in which it slides to permit of the compression of the spring or springs and the consequent withdrawal of the opposite side or edge of the blind-section from its shallow groove, whereby the blind-section can be entirely removed from

the guideway or frame at pleasure, except that it is still attached to the cords to which the weights are secured.

I am aware that it is not new, broadly, to use springs for balancing and regulating the ascent and descent of blind-sections, and, also, that it is not new, broadly, to combine a weight or weights with such springs. A difficulty, however, has been found, and as I have myself experienced, of creating the requisite friction between the steel springs and the wooden face of the guideway against which the springs bear, and the result has been that the blind-section has not been properly held up or in place, the operative friction being found almost entirely on the opposite side or edge, where the wood of the blind-section bears upon or against the wood of the guideway. I therefore slightly bend the ends of the elliptical spring, so that when the latter is in operative position the end portions between the points 1 and 2 will assume a substantially vertical position, constituting a seat 3, to which I rivet a block *g*, of leather or equivalent material. The effect of this construction is to insure a flat contact of the blocks *g* with the guideways in which they travel, thus affording the necessary friction. I am enabled by the use of the blocks *g* to employ a somewhat lighter spring than is usual and secure a smooth and comparatively noiseless movement of the blind.

The peculiar construction of the spring is important in view of the fact that if the free ends or points of the spring projected into a friction-block the tendency of said ends during the expansion of the spring would be to draw the outer end of the friction-block out of contact with the guideway and also to strain the ends of the spring out of engagement with the block. In my construction the spring-pressure (owing to the bend at the point 1) is not felt at the point 2, but may be said to exhaust itself at the point 1, whereas if the end of the spring were not bent at the point 1 the spring-pressure would directly affect the point 2.

The seat 3 of my spring is practically no part of the spring in that the strain or pressure is borne mainly by the curved or body portion of the spring, and the effect of such

pressure upon the ends 1 2 tends to force said ends apart longitudinally without affecting the vertical contact of the blocks with their guideways. My improved construction also prevents the spring from buckling when the blind is moved, as would be the case if the curve of the spring terminated in the friction-block.

Figs. 3 and 4 show the normal position of the block *g* before application to the guideway, while in Fig. 1 is shown the position assumed by the spring and block after the blind is in position in the guideway.

The elliptical spring is preferably fastened to the blind-section at the center of the spring, whereby each of its ends exerts an equal pressure, so that no strain is placed upon the nails or screws by which the spring is attached to the blind-section.

My improved spring with its friction-blocks may be used with the blind-section with or without weights; but I prefer that it shall be

employed with a weight at each side of the blind-section, as shown.

I disclaim, broadly, a steel elliptical spring, as also such a spring or springs combined with cords and weights; but,

Having described my invention, I claim—

The combination, with a frame having a shallow groove at one side and a deeper groove at its opposite side, of a blind-section sliding in said grooves, and an elliptical spring bent slightly at its ends to form seats for friction-blocks which are riveted to said seats and are adapted to maintain a vertical contact with the deep groove of the frame, substantially as set forth.

In testimony whereof I hereunto set my hand.

JACOB B. HARTMAN.

Witnesses:

LEMUEL JEFFRIES,
WALTER B. JONES.