J. KELSO & W. H. LUDEWIGS.

Shutter-Worker.

No. 212,012. Patented Feb. 4, 1879.

Fig. 1.

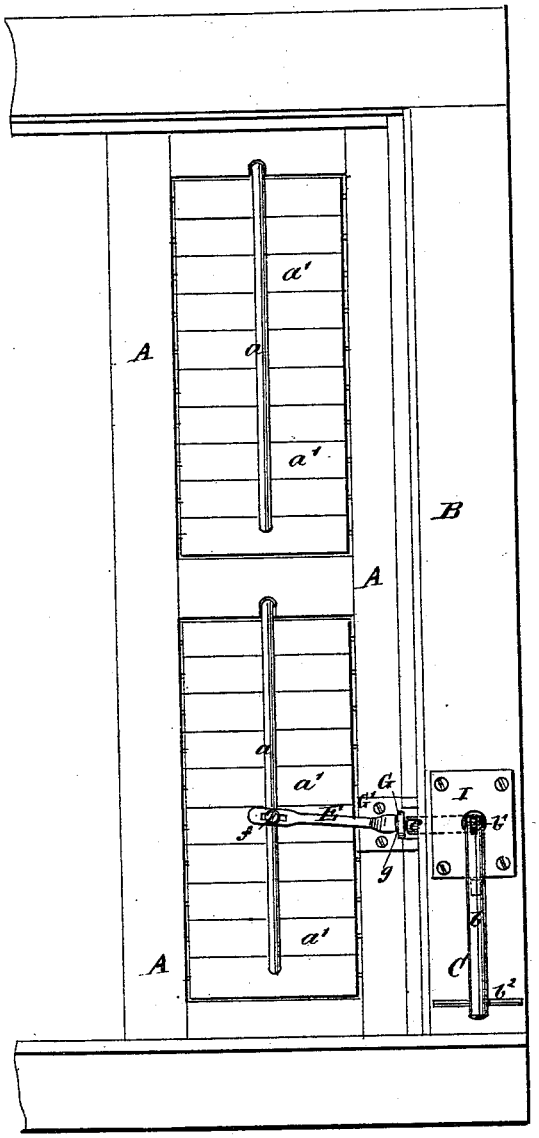


Fig. 2.

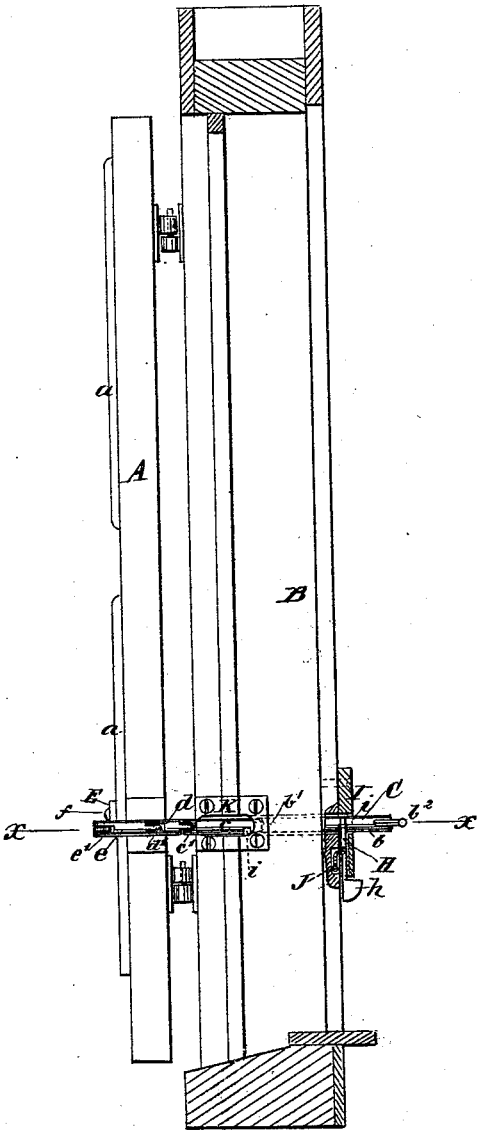


Fig. 4.

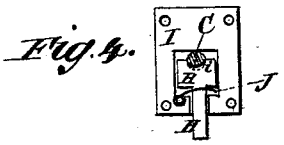
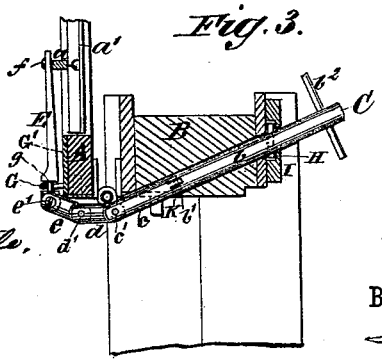


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN KELSO AND WILLIAM H. LUDEWIGS, OF LOWDEN, IOWA.

IMPROVEMENT IN SHUTTER-WORKERS.

Specification forming part of Letters Patent No. **212,012**, dated February 4, 1879; application filed April 27, 1878.

To all whom it may concern:

Be it known that we, JOHN KELSO and WILLIAM H. LUDEWIGS, of Lowden, in the county of Cedar and State of Iowa, have invented a new and Improved Device for Operating Window-Blinds, of which the following is a specification:

The object of our invention is to furnish a simple and effective device whereby window-blinds may be opened and closed, locked and unlocked, and the blind-slats turned in any desired position from the inside of the window-frame or wall without making it necessary to open the window.

The invention consists in a flexible jointed bar fitted to slide and turn in a hole running diagonally through the wall or window-casing, and connected by an arm to the slat-rod of the window-blind, in combination with an inside spring-bolt engaging in notches in the bar to lock the blind in position, as will be hereinafter described.

In the accompanying drawings, Figure 1 represents an inside face view of a window and blind provided with my operating device, and locked in the position of being closed. Fig. 2 is an edge view of the same with the blind open, the window-casing being shown in vertical section. Fig. 3 is a horizontal section on the line *x x* of Fig. 2, the blind being fully open and locked. Fig. 4 is a detail view of the locking device.

Similar letters of reference indicate corresponding parts.

A is the window-blind, and *a* the rod which connects together the blind-slats *a'*. B is the side or casing of the window. C is a metallic bar fitted to slide in a hole through the window-casing, and made flexible by being composed of horizontal joints or pieces *b c d e*, hinged together by the horizontal pin b^1 and the vertical pins *c' d'*, and its inner end, on the inside of the wall, is provided with a handle, b^2, for pushing, pulling, and turning the bar C. The outer end of the bar C issues from the hole in the window-casing between the blind-hinge and the window-sash, and the last outer joint, *e*, is hinged by a vertical pin, *e'*, to one end of an arm, E, the other end of which is slotted and connected to the slat-rod *a* by a pin or screw, *f*, going through the slot into the rod *a*, the said pin *f* being headed to prevent the arm E from slipping off. Near the hinge or pivot *e'* the arm E is reduced in size, forming a neck, *g*, over which a staple, G, is inserted in the frame of the blind, or attached to a plate, G', fastened to the said frame, to hold the arm E to the latter, while allowing for sufficient oscillating motion of the neck *g* in the staple G to open and close the blind-slats *a'*, when the blind is in either of the positions shown in the drawings, by turning the bar C on its axis by the handle b^2.

The length of the joints *b c* of the flexible bar C is so adjusted in proportion to the length of its sliding motion and to the length of the other joints, *d e*, that when the blind A is closed the joint *b* may be turned down on its hinge b^1, so as to be pendent against the wall, (or casing B,) as shown in Fig. 1, and thus be out of the way. When the blind A is fully closed, and when it is fully opened, it is firmly locked in either of the said positions by a flat bolt, H, fitted to slide in a suitable recess in the plate I, through which the bar C enters on the inside of the wall or casing B, said bolt H being thrown into a notch, *i*, in the bar C by the action of a spring, J. If it be desired to lock the blind in any other positions than those indicated, other notches *i* may be cut in the bar C in suitable places for that purpose. When it is desired to unlock the blind the bolt H is withdrawn from the notch *i* by the handle *h* against the pressure of the spring J. At the point of the casing through which the bar C issues a metal plate, K, is attached for the bar to slide through, so as to better resist wear. If desired, the hole in the casing through which the bar C slides may be lined with metal.

From the foregoing description it will be seen that by this invention not only is the blind opened and closed, and automatically locked in either position, but the blind-slats are turned to admit or shut out the light, all by simply pushing or pulling or turning the bar C by the handle b^2, without making it necessary to raise the window-sash.

We do not limit or confine ourselves to the exact form or arrangement of any of the parts shown in the drawings, as they may be varied or modified to suit the constructer and the

different applications for which the device may be used without departing from our invention.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

The flexible jointed bar C, fitted to slide and turn in a hole running diagonally through the wall or window-casing B, and connected by the arm E to the slat-rod *a* of the window-blind A, in combination with the inside spring-bolt, H, engaging in notches *i* in the bar C, substantially as shown and described, and for the purpose set forth.

JOHN KELSO.
WILLIAM H. LUDEWIGS.

Witnesses:
M. L. BANKS,
W. C. HOSKINS.