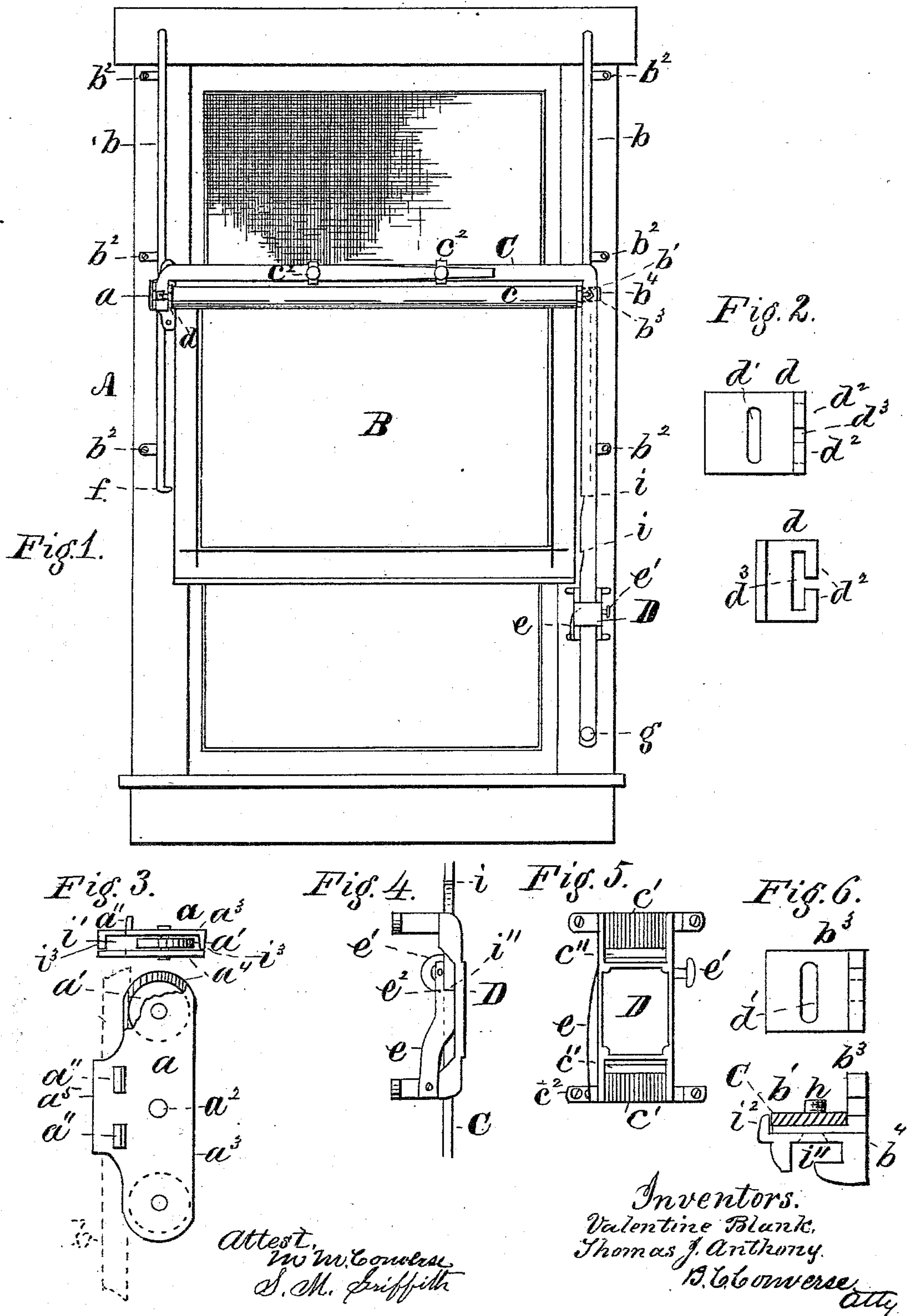


(No Model.)

V. BLANK & T. J. ANTHONY.
DEVICE FOR OPERATING WINDOW SHADES.

No. 301,554.

Patented July 8, 1884.



UNITED STATES PATENT OFFICE.

VALENTINE BLANK AND THOMAS J. ANTHONY, OF SPRINGFIELD, OHIO.

DEVICE FOR OPERATING WINDOW-SHADES.

SPECIFICATION forming part of Letters Patent No. 301,554, dated July 8, 1884.

Application filed May 12, 1884. (No model.)

To all whom it may concern:

Be it known that we, VALENTINE BLANK and THOMAS J. ANTHONY, both citizens of the United States, residing at Springfield, in the county of Clark and State of Ohio, have jointly invented certain new and useful Improvements in Devices for Operating Window-Shades; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to devices for operating window-shades, and is an improvement upon the device used for the same purpose for which Letters Patent No. 295,901, dated April 1, 1884, were granted to Valentine Blank and Thomas J. Anthony. In that device an inverted-L-shaped metal bar extends across the window and down one side of the same, which bar carries the shade-roller, and has pinions attached at the ends of the latter, which engage with the teeth of vertical toothed racks on either side of the window. In this improvement we dispense with the pinions and the toothed rack-bars in order to render the device noiseless, to simplify the construction, and lessen the cost of construction. The guide-way through which the vertical limb of the L-shaped metal bar (which carries the shade) extends and operates is also simplified, and the spring-catch of the same made to operate without a dog, and is more certain and positive in its action.

Figure 1 is a front elevation of a window to which our improved device for operating window-shades is applied. Figs. 2 to 6, inclusive, are details of the same.

An L-shaped metal bar, C, which is inverted and made adjustable in length, and extends horizontally across the window and down one side of the same through a guide-way, is used to operate the shade. This bar slides up and down upon smooth vertical rods *b*, attached by feet *b*² to the casing of the window A. To retain the bar C in position, and allow it to operate freely on the rods *b*, an open keeper, having a vertical L-shaped slot therein to allow it to slide over legs *b*², is

used to inclose the rod *b* on the right side, Fig. 1. On this is placed the small angular bracket-plate *b*³, in which the right end of the roller is pivoted. On this bracket-plate the metal bar C is placed, and the whole secured together by a bolt, *h*, the upturned lugs *i*² of the keeper *b*⁴ preventing any lateral movement of the latter on the bar, as seen in the detail, Fig. 6, which shows a top view of bracket and keeper, with a cross-section of bar C as attached, also a separate view of the bracket-plate.

The end of bar C, which is turned downwardly at right angles, as seen on the left in Fig. 1, has attached thereto the bracket *d*, in which this end of the shade-roller *c* is pivoted, and under this, with two guide-rollers, *a*'—one pivoted in each end—is a flat case, *a*. This latter consists of two plates, *a*³ and *a*⁴, the former of which has its edges turned inwardly at right angles, while *a*⁴ is a plain flat plate, lugs or edges *i*³ resting thereon, so as to form an opening between the two plates for the horizontal rollers *a*', as well as for the rod *b*. The case is cut away at each end on the outside edge, so as to leave the inclosed part about one-third the length of the case, through which rod *b* extends. The case is oblong, and a roller is pivoted in each end, so as to have a bearing on the inner edge of rod *b* above and below the axial line of the shade-roller. The bracket-plate *d* is intermediate between bar C and the case *a*, and a single bolt secures the three pieces together, similar to the fastening on the opposite side of the window. The end of bar C lies between lugs *a*² *a*² and the projecting or bearing part of the plate *d*, in which the roller *c* is pivoted, (at the left end, Fig. 1,) and lateral movement of the parts thereby prevented. The rollers *a*' being upon either side of the plane of the bracket-fastenings, tend to keep the bar C and its attached shade-roller in a horizontal plane while being operated, and prevent binding between either of the rods *b* and the sliding members. As the power is applied to the vertical limb of C, a simple slide-plate or keeper, *b*⁴, can be used on that side. Being in the same vertical plane above the point *g*', it is easily moved either up or down; but without the aid of rollers at the end of the horizontal arm of the bar C on the opposite side of the window to ease the move-

ment of the bar upward on the rod *b*, it would be liable to bind at this end. The case *a* and keeper *b*¹ are slipped onto bars *b* at the top ends, while a hook, *f*, at the lower ends of the latter prevents danger of the device slipping off in case of disengagement of the spring *e*, or the breaking of the same by accident.

The guideway *D* consists of a single plate of oblong shape, having an elevated middle part and depressed ends *c*¹, with openings *c*² between the two parts for the operation of the bar *C* therein. It is provided with feet on each side at the ends, by which it is attached to the casing of the window, and has a flat curved spring, *e*, with its lower end fastened to the foot *c*². This spring extends upward under the middle part, and has a notch, *i*¹, which engages with notches *i* in the edge of bar *C*. By reference to Figs. 4 and 5 the construction of the guideway and its spring *e* can be seen. In the edge view, Fig. 4, the engagement of spring *e* with the notch *i* in the bar can be noticed. Above the right-angled notch *i*¹, cut in the same, its end is attached to the shank of the knob *e*¹. The top of the spring is cut half away to form the notch or shoulder *i*². The shank of the knob extends under the bar *C* across the guideway, and is operated by pressure upon knob *e*¹, (on the right side of the latter,) which pushes the spring out of the notch. The spring operates automatically in its engagement with notches *i* (which latter are sloped in from below for that purpose) as the bar *C* descends in lowering the shade.

In Fig. 2 two views of the right-angled bracket-plate *d*, used in connection with the end of the bar *C* at the left end of shade-roller *c* in Fig. 1, are shown. It will be noticed that this plate is reversible, and can be used on either side of the window, lugs *d*² on either side of the opening *d*³ allowing it to be changed to either end of the shade-roller. Both this plate and *b*³ are provided with long holes *d*¹ to permit of their adjustment.

The shade is operated, in changing the loca-

tion of its roller, by the movement of bar *C* up or down, as in the device referred to in our former patent, said bar being similar in its construction.

We claim as our invention—

1. In a device for operating window-shades, the combination of the L-shaped bar, the shade-roller pivoted thereon, a sliding keeper at one end of said shade-roller, and a pair of pivoted rollers at the opposite end, both attached to said L-shaped bar, and the smooth vertical rods each side of the window, on which said rollers and keeper operate, substantially as set forth.

2. In a device for operating window-shades of the class described, the combination, with the vertical rods, the inverted-L-shaped bar, with keeper and roller devices thereon, upon either side of the window, adapted to slide upon said rods, of the guideway formed of a single plate with openings therein, and having the flat bent spring with knob attachment, as set forth.

3. The combination, with the end of bar *C* and the rod *b* on the same side of the window, of the roller-case *a*, having the vertically-pivoted rollers *a*¹ therein adapted to engage said rod on the edge of the same when operated, as set forth.

4. In a device for operating window-shades of the class described, the combination, with the L-shaped bar having notches therein, the vertical rods, the case provided with rollers, and the keeper operating thereon, the angular bracket-plates, and the pivoted shade-roller, of the guideway, with its spring and knob attachment, constructed and operated as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

VALENTINE BLANK.
THOMAS J. ANTHONY.

Witnesses:

B. C. CONVERSE,
S. M. GRIFFITH.