(No Model.)

J. E. PHILLIPS.

WINDOW SHUTTER.

No. 377,771. Patented Feb. 14, 1888.

FIG _ II _

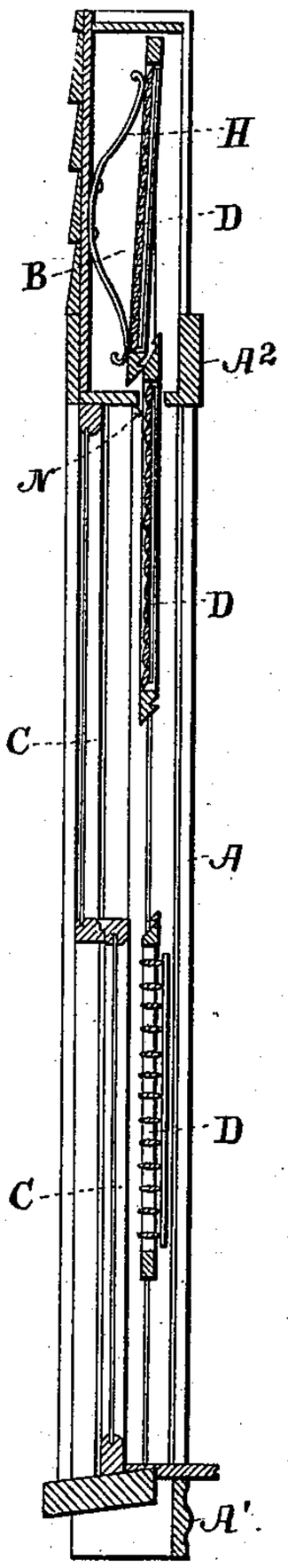


FIG _ I _

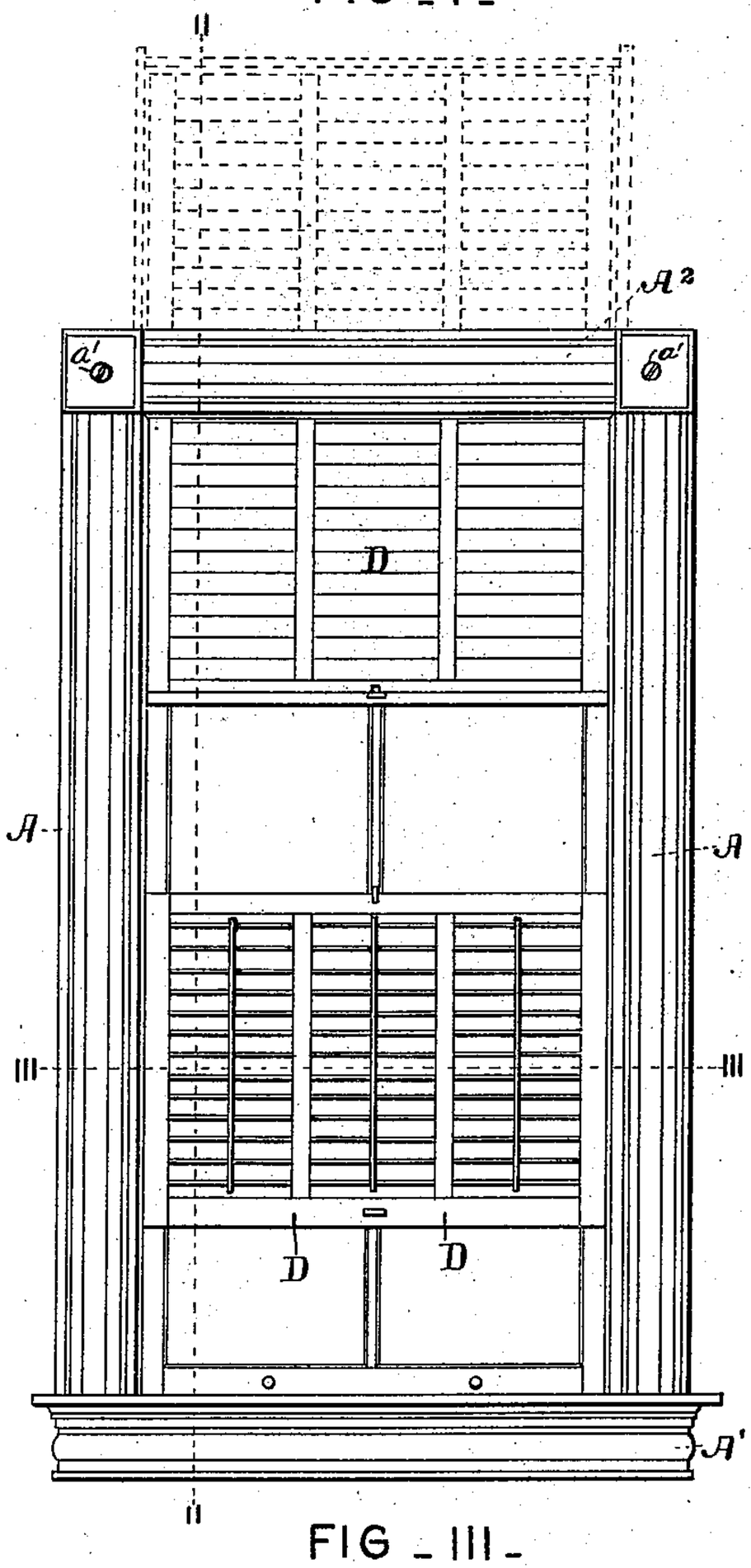


FIG _ IV _

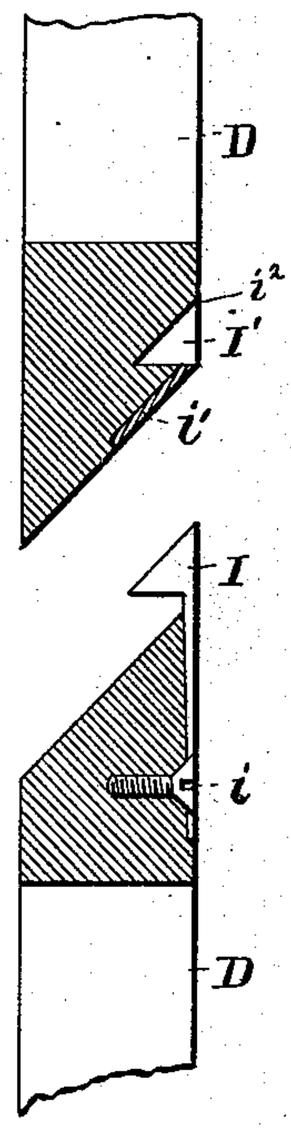


FIG _ III _

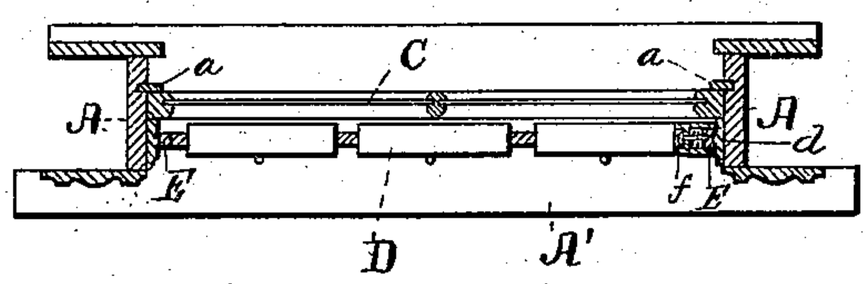
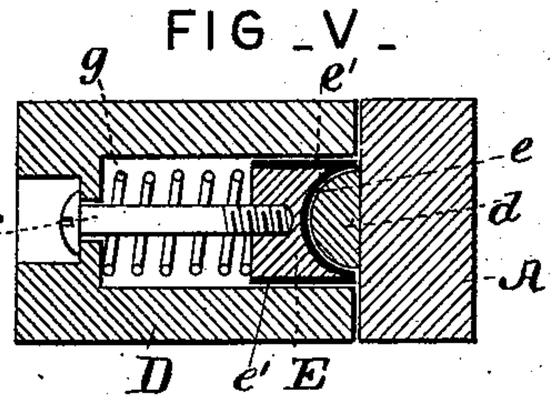


FIG _ V _



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UNITED STATES PATENT OFFICE.

JOSEPH E. PHILLIPS, OF WEST ASHFORD, CONNECTICUT.

WINDOW-SHUTTER.

SPECIFICATION forming part of Letters Patent No. 377,771, dated February 14, 1888.

Application filed July 15, 1887. Serial No. 244,367. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. PHILLIPS, of West Ashford, county of Windham, State of Connecticut, have invented a new and useful Improvement in Window-Shutters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to movable sectional shutters for the windows of houses, &c.; and the object is to produce an arrangement whereby the shutters may be completely concealed from view when not in use, and by means of which the shutter-sections are adapted to automatically and positively engage each other when operated for closing the shutter, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure I is an inner side view of a window-frame constructed in accordance with my invention and with my improved shutters applied thereto, the box or extended recess for receiving the shutter-sections being omitted. Fig. II is a transverse vertical section of the same on the line II II of Fig. I. Fig. III is a horizontal cross-section of the same on the line III III of Fig. I. Fig. IV is a sectional view of two adjacent ends of the shutter-sections, showing the manner of engaging one with the other; and Fig. V is a sectional view on the line III III of Fig. I, showing the yielding blocks of the shutter-sections in detail.

In the said drawings, A A designate the uprights or jambs of a window-frame, A′ the sill, and A^2 the lintel or top piece of the same. At the upper end of the window-frame is formed a box or extended recess, B, the jambs A of the window-frame being suitably extended for the purpose. The lintel or top cross-piece, A^2, is preferably secured by screws *a′* or similar means, so as to permit of its ready removal, for a purpose to be hereinafter explained.

C C designate the two window-sashes, which work on either side of the central parting strips or beads, *a*, in the usual manner.

D D D designate the sections of the shutter, there being three such sections shown. On the inner side of each of the jambs A is placed a vertical strip or bead, *d*, which is preferably of semi-cylindrical form in cross-section, as shown in Figs. 3 and 5, but which may be of angular or other suitable shape without departing from the spirit of my invention. Upon each side of each shutter-section D are mounted one or more blocks, E, which are covered either wholly or partially with felt, leather, rubber, or other equivalent material, *e′*, and the working-faces of which are grooved or recessed, as at *e*, to fit upon the bead *d*. The blocks E upon one side of each of the shutter-sections are preferably secured rigidly to the same, while those upon the opposite side are attached by inwardly-extending adjusting-screws *f*, which are surrounded by bearing-springs *g*, as shown. By virtue of this arrangement all marring of the window casing or frame is avoided and the shutter-sections are caused to work smoothly and noiselessly.

Within the box or recess B are located one or more U-shaped springs, H, which are secured to the outer side of the said recess, so that their ends shall extend within the same, as shown.

Upon the upper rail of each shutter-section D, which is beveled on its upper edge, as shown in Fig. 4, are secured by a screw, *i*, or other equivalent device one or more spring-hooks, I, while upon the lower rails of said sections, which are also beveled on their lower edges, as shown in Fig. 4, are formed a corresponding number of notches or recesses, I′, having their lower edges protected by slanting metal plates *i′*, as shown. By virtue of this arrangement, when the shutter-sections are all within the box or recess B, the upper part of the lower section will engage with the lower part of the next succeeding section, and the upper part of the latter will engage with the lower part of the third section, so that all of said sections will be successively drawn out of the recess in lowering the shutters. When the shutters are raised, the upper ends of the hooks I will engage the upper parts, i^2, of the grooves or notches I′, and thus carry the shutter-sections upward into the recess or box B. As the shutter-sections D are raised and enter the box B, the upper section is brought into contact with the spring or springs H, and as soon as it leaves the track or bead *d* it is forced against

said spring by the next succeeding section, to make room for the same, and the latter is likewise forced still farther toward the spring by the last section, so that all of said sections are compactly stored within the recess B entirely out of sight. When the shutter-sections are drawn down, the lower ends of the middle and upper sections are forced by the spring successively into engagement with the upper ends of the lower and middle sections, so that the hooks and notches properly engage each other.

N designates a curved metal lug or stop which is attached to the under side of the top lintel, A^2, of the window-frame, and which serves to automatically tilt the blind-slats as the blind-sections are moved into the recess B, so as to avoid any obstruction to the withdrawal of said blind-sections.

From the above description it will be seen that the arrangement is simple in construction and effective in operation, and that the shutters are compactly concealed from view when not in use.

The extension recess or box B may be located at the lower instead of at the upper end of the window-casing, which would simply necessitate the transposition of the spring H, hooks I, notches I′, and lug K, without departing from my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An improved shutter having one or both of its end rails beveled and provided with a notch, I′, bearing-plate *i′*, and a spring catch or hook, substantially as and for the purpose described.

2. The combination, with a window-frame having an extended recess or box, of a spring located within said recess, and a series of sliding shutter-sections provided with beveled rails and with catch hooks and notches, as described, whereby they are adapted to automatically and positively engage each other for insuring their proper withdrawal from said recess, substantially as set forth.

3. An improved shutter-section having one or both of its end rails beveled and provided with a notch, I′, bearing-plate *i′*, spring catch or hook, and the spring-pressed bearing-blocks covered with a cushioning material and adapted to yield relatively to said shutter-section, substantially as specified.

4. The combination, with the window-frame and its extension recess or box and the vertical tracks or beads, of the shutter-sections provided with the beveled rails, catch hooks and notches, the cushion-blocks with their backing-springs, adjusting screws and grooves, the pressure-spring located within the extension-recess, and the bearing-plates for protecting the catch-notches, all substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand this 13th day of July, A. D. 1887.

JOSEPH E. PHILLIPS.

Witnesses:
NATHANIEL L. KNOWLTON,
CLIFFORD W. THOMAS.