(No Model.) 2 Sheets—Sheet 1.

W. W. BOYINGTON.

WINDOW FRAME.

No. 286,584. Patented Oct. 16, 1883.

Fig. 1.

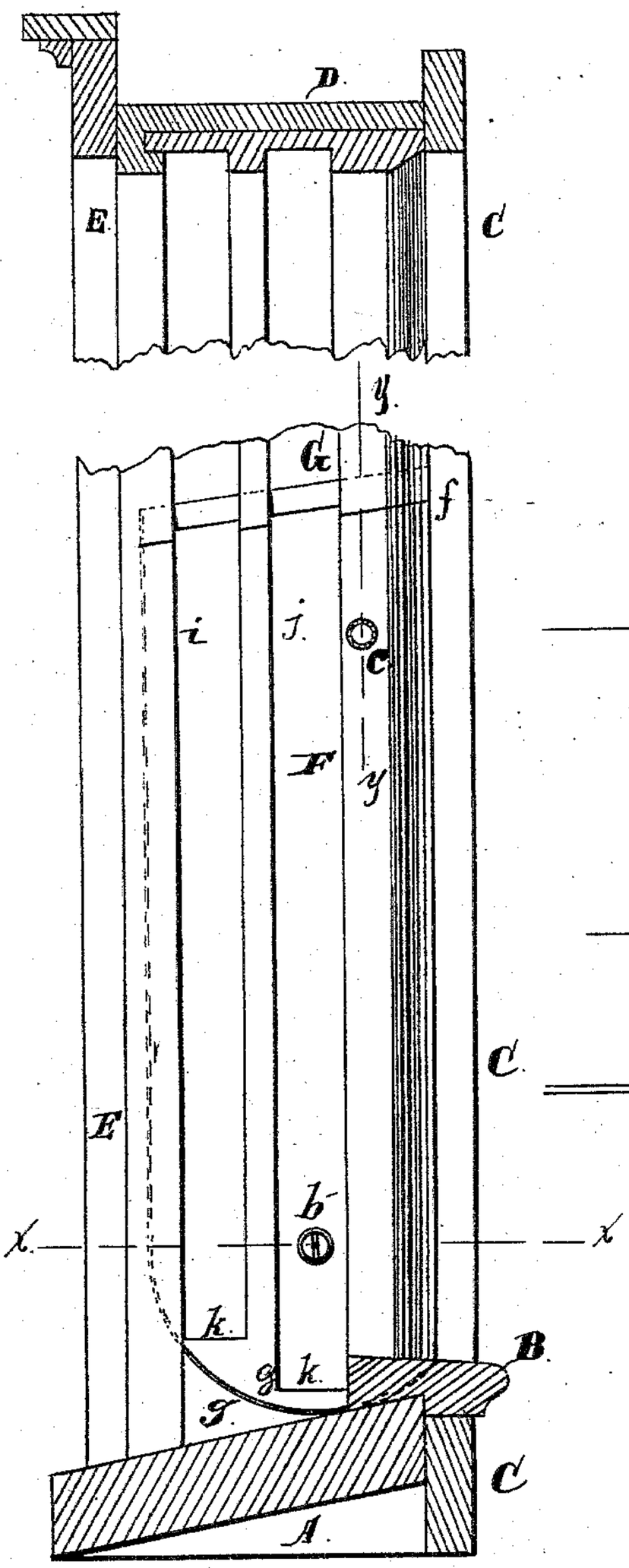
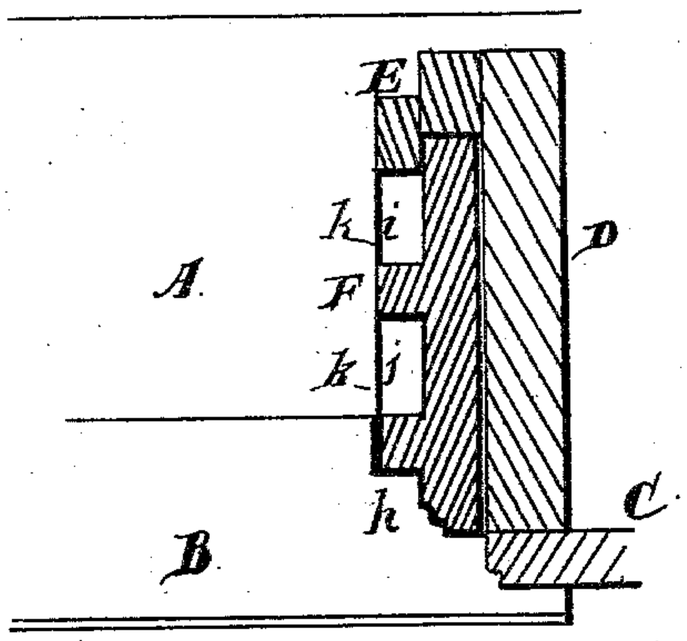


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3

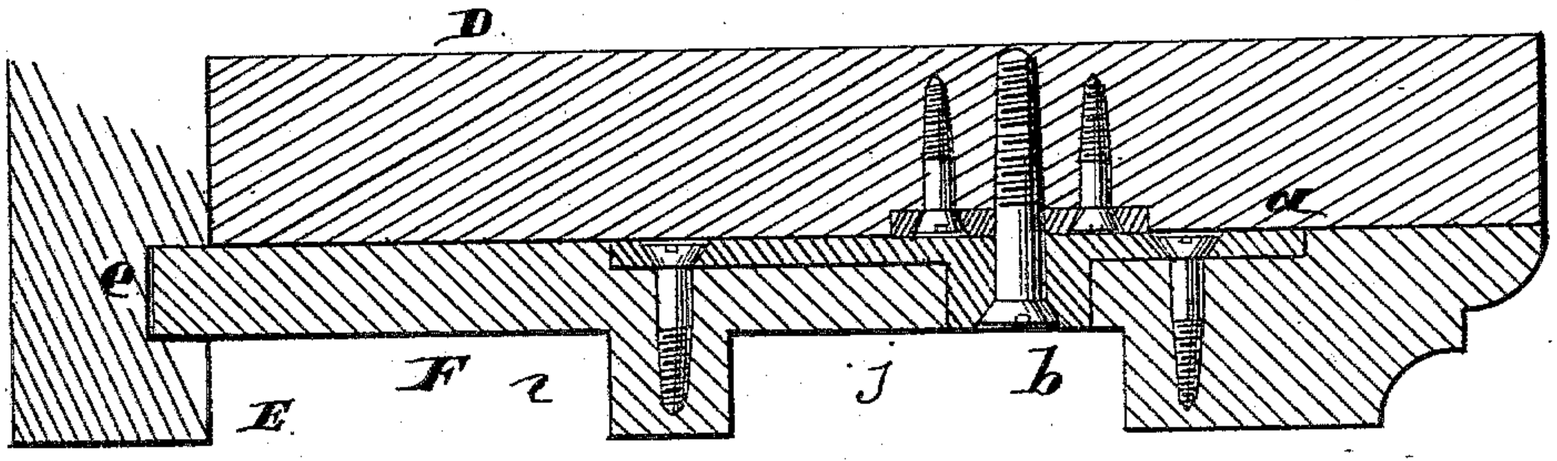


Fig. 4

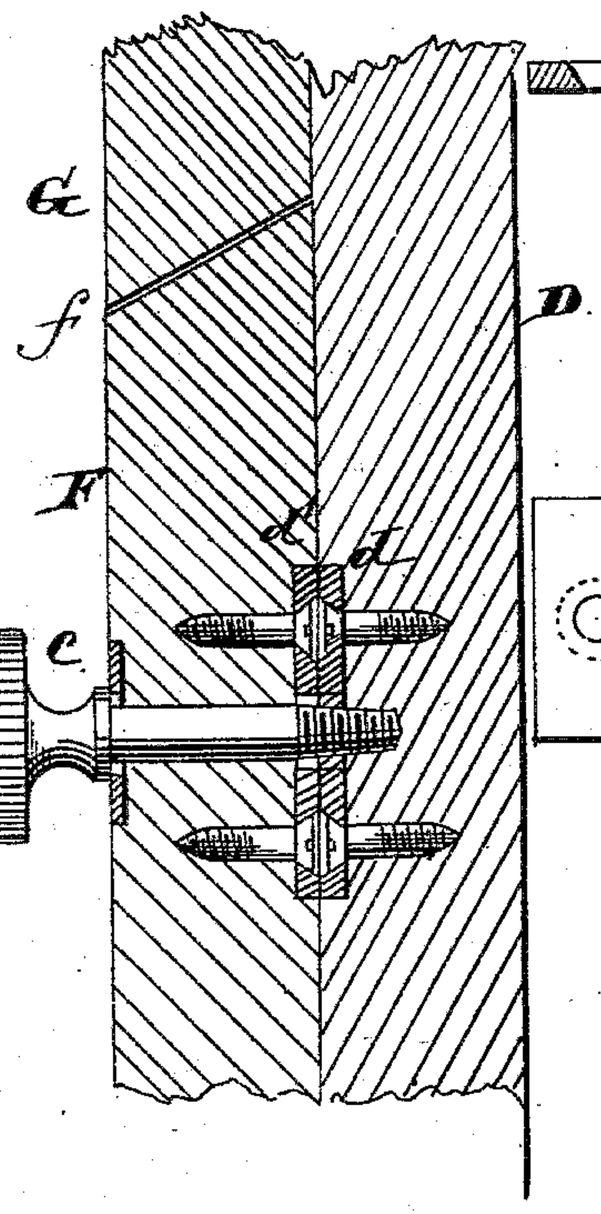


Fig. 5

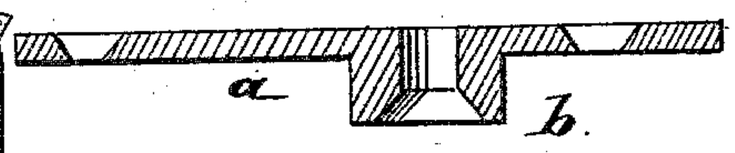
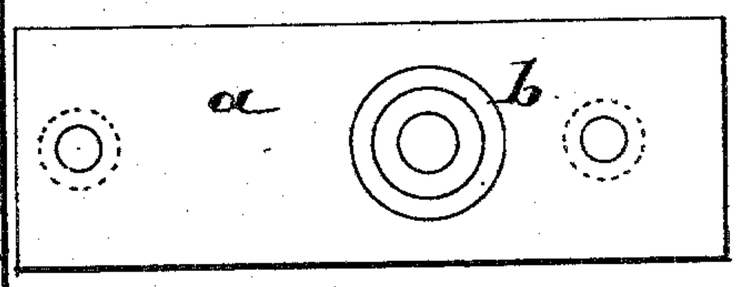


Fig. 6



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UNITED STATES PATENT OFFICE.

WILLIAM W. BOYINGTON, OF HIGHLAND PARK, ILLINOIS.

WINDOW-FRAME.

SPECIFICATION forming part of Letters Patent No. 286,584, dated October 16, 1883.

Application filed January 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. BOYINGTON, residing at Highland Park, in the county of Lake and State of Illinois, and a citizen of the United States, have invented new and useful Improvements in Window-Frames, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of a window-frame; Fig. 2, a horizontal cross-section of one side of the frame; Fig. 3, a cross-section on line *x x* of Fig. 1; Fig. 4, a section on line *y y* of Fig. 1; Figs. 5 and 6, section and side elevation of the strengthening-plate.

The object of this invention is to improve the construction and operation of the window-frame described in Patent No. 245,156; and its nature consists in providing the upper part of the swinging section of the frame with additional securities, and in providing the lower part of the same section with additional securities and an improved operation, as hereinafter more particularly described and claimed.

In the drawings, A indicates the window-sill; B C, casings; D, jambs; E, rear casing or guide-strip; F, swinging section of sash-frame; G, upper and fixed portion of the sash-frame; *a*, metallic plate for strengthening the section F and furnishing a pivotal bearing therefor; *b*, hub or boss forming a pivot upon which the frame F turns; *c*, thumb-screw; *d*, screw nut or plate; *d'*, cross-plate; *e*, groove in the casing E; *f*, double or undercut bevel; *g*, curve of the lower end of the frame F; *h*, notch or groove for the casing B; *i* and *j*, sash-grooves, and *k* stop for sash to rest on when opening.

The window-sill A and the jambs D, with the top plate or soffit, are made in the usual manner, and the casings B, C, and E are also made in the usual manner, except as hereinafter particularly mentioned. The sections of the window-frame proper are provided with the usual sash-grooves, *i j*, and the upper portion of the frame G is permanently attached to the jambs D, while the lower portion is pivoted to the jamb at *b*. The joint *f* is made with the original bevel to prevent the rising of the pivoted part of the sash from locking in turning, and it is also made with an under-cut, as shown, so as to direct and hold the upper end of the pivoted frame against the jamb and give the sash-frame a finished appearance in addition to the improved locking and supporting of its upper end.

In order to prevent the upper end from splitting or warping, a metallic plate running nearly or quite its width is screwed or otherwise permanently attached thereto, and the thumb-screw *c* passes through this plate and also into a plate or nut, *d*, fastened in the jamb D. By the arrangement of this thumb-nut or set-screw *c*, I avoid the inconvenience and use of a screw-driver or wrench, together with the liability of marring the frame by the use of such tools, and in combination with the under-cut *f*, I am able to give the upper end of the pivoted frame F a firm support and a firm locking in position by means of a single set-screw. It will be understood that a similar set-screw may be used on the opposite side; but if not used it will be desirable to apply the plate to prevent swinging and warping. Ordinarily a screw, *c*, will be used on both sides. The screw *c* may be made ornamental and in the form of a small knob, if desired, and it may also be furnished with a cap to prevent the marring of the wood when screwed down, as shown in Fig. 4.

At the lower end of the frame F the cross-plate *a* is placed, and fastened with screws or otherwise, and its length is sufficient to prevent the warping of the frame. The hub *b* projects through the frame F, and is left even therewith, so as not to interfere with the moving of the sash. This hub is provided with an opening, through which a common screw is passed. By this construction of the pivot, by means of the plate *a* and hub *b*, the frame is given a strong support at this point, and the turning of the screw tight does not affect the turning of the frame or lock it to the jamb, and by this arrangement the frame is not liable to be split if, by any mischance, it should be dropped or partly dropped while its upper end was being lowered, and by curving the lower end, as at *g*, and cutting out the casing B, as at *h*, a complete finish can be given to the frame and casing without cutting so as to

weaken either, and without making any unusual fitting of the sash against the casing B necessary. The frame F is also made to set into the groove *e* in the casing E, as shown.

The casing E may be made as shown, or it may be made in two parts by making the inner edge in the form of a guide-strip. By this construction of the lower part, the sash-frame has an easy movement and a fine finish, suitable for application to first-class buildings. The double-bevel cut *f* is to be made high enough in the sash-frame, so that when it is desired to turn the pivoted portion down, the upper sash can be run down in the groove *i*, and be turned down with the lower one for the purpose of cleaning, repairs, or such other purpose as may be desired, and by this arrangement, when the weights are made detachable, either sash can be readily removed from the sash-frame when it is turned out of position, and be replaced and returned to position without difficulty or delay, and by this arrangement of the supporting-plates, locks, pivots, and undercut top the sections F do not need to be connected together by cross-bar or otherwise.

I am aware that a sash-frame has been composed of two sections beveled at their adjoining edges, and the lower section pivoted at its lower end to the jamb, to swing back for the purpose of cleaning the outsides of the sashes and panes; and I am also aware that a window-sash has been pivoted to strips arranged to slide vertically on the jambs, the pivots comprising centrally-perforated plates fixed in the sash and the sliding strips, respectively, and a screw-bolt passed through the plates from the sides of the sliding strips which are next to the jambs, the end of the bolt being screwed into the plates which are set in the sash. Such features, therefore, I do not claim.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. The combination, with a window-frame provided with the fixed section G, having its lower end inclined downward and undercut, as described, of the pivoted swinging section F, having its upper end double-beveled to fit the inclined and undercut lower end of the fixed sections, substantially as described.

2. The combination, with a window-frame having the fixed sections G, swinging sections F, and the plates *a*, having the hubs *b*, and secured to the back sides of the swinging sections, of the screws *b*, passing through the hubs of the plates from the outsides of the swinging sections, and the swinging sections with the hubs having loose bearings on the screws, to turn thereon independent of any movement of such screws, substantially as described.

3. The combination of the pivoted sections F, having the curved corner *g*, with the casing B, having the notch *h*, substantially as specified.

4. The combination and arrangement of the pivoted frame F, having its upper end beveled and its lower end rounded, as described, with the section G, jamb D, casing or strip E, having the groove *e*, and the casing B, having the notch or notches *h*, all constructed and operated substantially as described.

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Witnesses:

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