(No Model.)

J. B. MONTAGUE, J. T. BOOKER & E. C. DINNING.

WINDOW.

No. 300,105. Patented June 10, 1884.

Fig. 1.

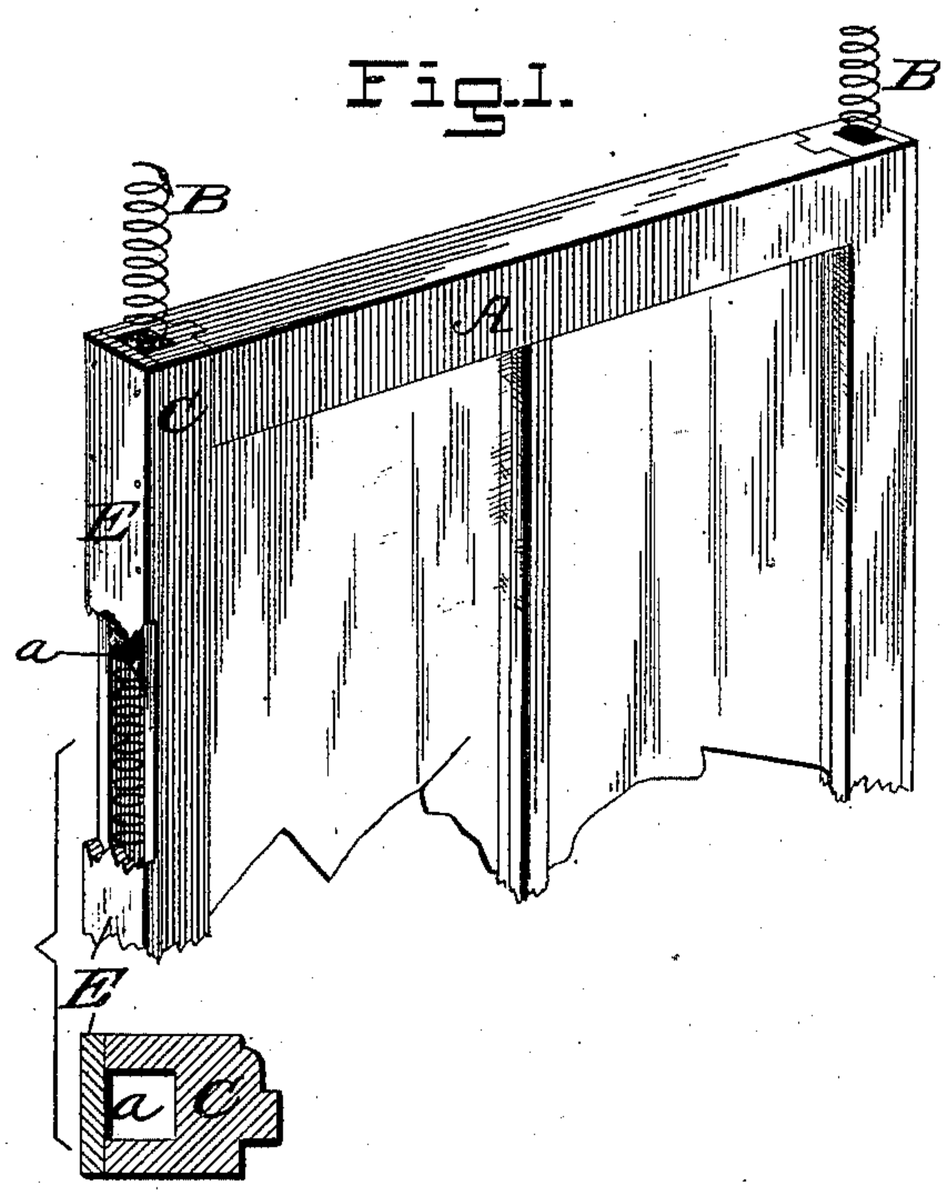


Fig. 2.

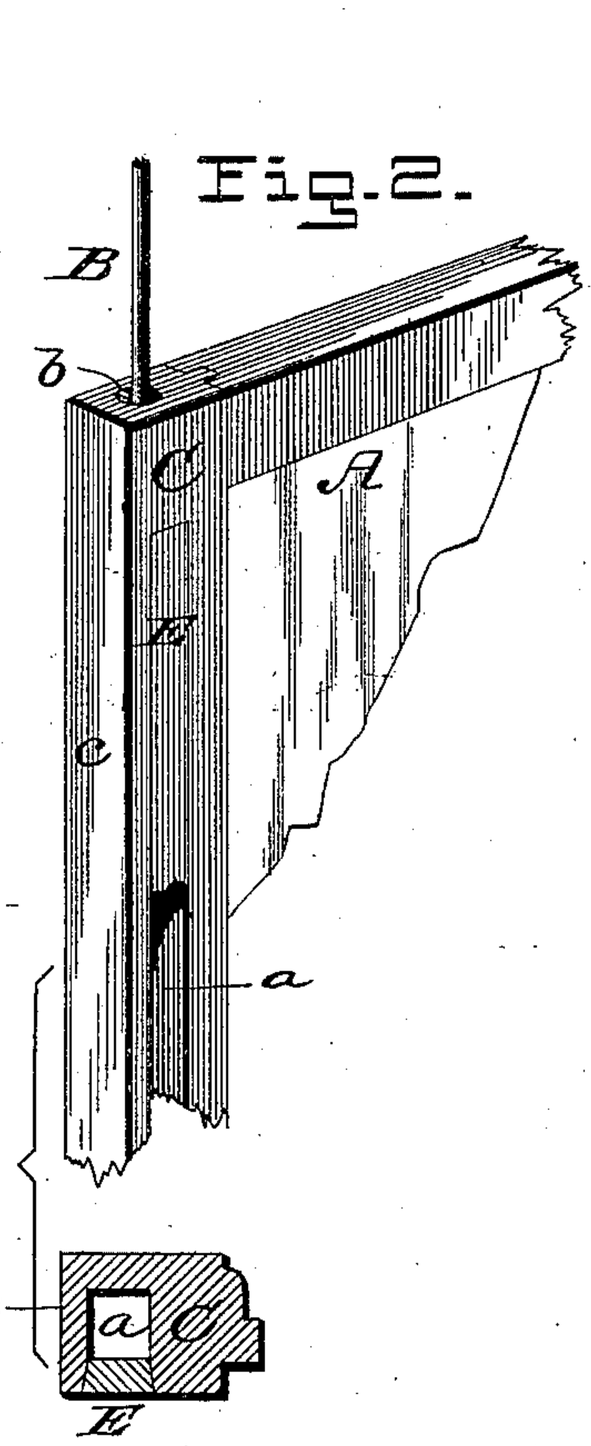


Fig. 3.

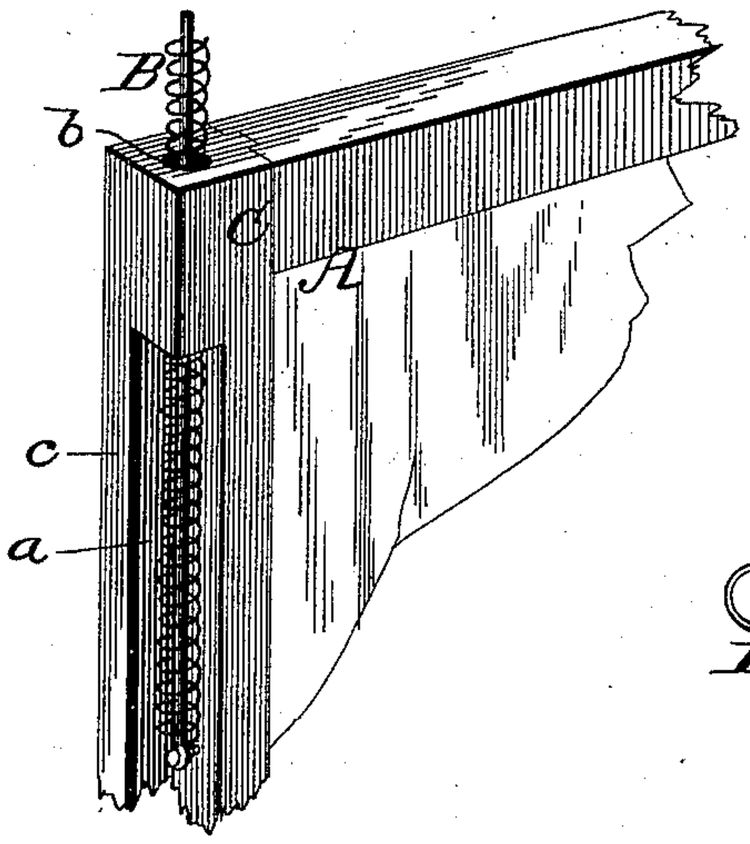
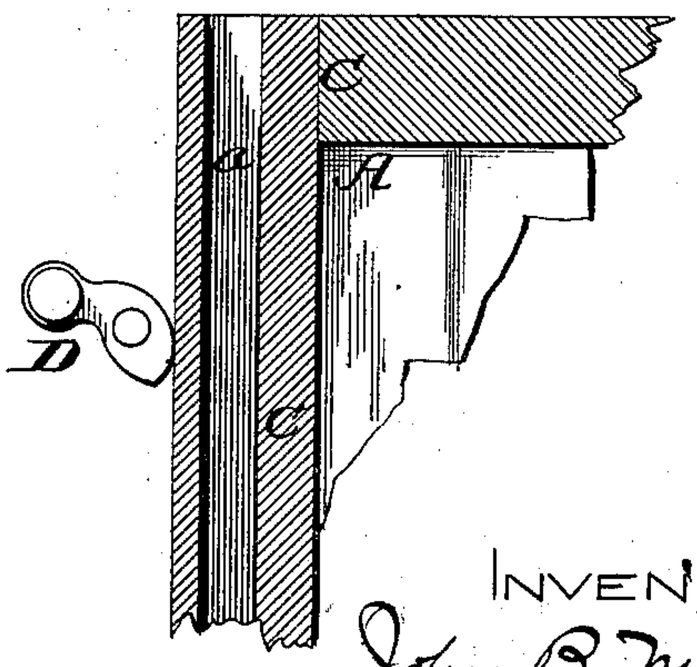


Fig. 4.



WITNESSES:

Jas. F. Duhamel.
Walter S. Dodge.

INVENTORS:

John B. Montague,
James T. Booker,
Enoch C. Dinning,
by Dodger Son,
Attys.

UNITED STATES PATENT OFFICE.

JOHN BARTLETT MONTAGUE, JAMES THOMAS BOOKER, AND ENOCH CASS DINNING, OF FRANKLIN, KENTUCKY.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 300,105, dated June 10, 1884.

Application filed January 29, 1884. (No model.)

To all whom it may concern:

Be it known that we, JOHN BARTLETT MONTAGUE, JAMES THOMAS BOOKER, and ENOCH CASS DINNING, of Franklin, in the county of Simpson and State of Kentucky, have invented certain Improvements in Sash-Balances, of which the following is a specification.

This invention relates to window-sashes, and particularly to such as are designed to be suspended by spiral springs, elastic cords, or equivalent springs, as set forth in an application filed in the name of Montague, Booker, and Dinning, July 13, 1883, Serial No. 100,768.

The present invention consists in removing a portion of the stiles between the upper and lower ends to afford space for the suspending-springs, and to obviate the necessity of boring a hole throughout the length of said stiles.

In the accompanying drawings, Figures 1, 2, and 3 are perspective views of slightly-varying forms of our improvements, and Fig. 4 a sectional view showing the locking device.

As pointed out in the application above mentioned, it is necessary that a broad and solid face be left upon the side or edge of the stile for the friction device to lock against—an object that cannot be attained where the edge of the sash is grooved or "plowed," as has been proposed in some cases. The most satisfactory way of preparing the stiles to receive the suspending-springs is to bore them vertically, thereby affording a seat or cavity for the spring without cutting away any portion of the outer faces; but it is found difficult to thus bore the stile, and hence the present invention is designed to overcome the difficulties attending the preparation of the stiles to receive the springs. The present plan consists in cutting a seat or recess in the side of the stile to receive the spring from or nearly from end to end, and covering such recess, if necessary, with a strip or plate to conceal the opening or take the bearing of the friction device. If the recess or seat be made in the edge of the stile, it should be covered; if in the corner or front face, the question of covering is not important, because the sash-frame will hide the opening, though if covered there will be no possibility of the springs becoming caught or clogged.

Referring again to the drawings, A indicates a sash, and B the suspending-springs therefor, which latter may be of rubber, coiled wire, a combination of coiled wire and rubber, or any other common form of spring capable of material elongation and contraction. The stiles C are each provided with a seat or recess, *a*, to receive the springs, which recess may be in the form of a groove in the edge or side face of the stile, as in Fig. 1, or in the front or rear face thereof, as in Fig. 2, or it may be produced by cutting away the corner of the stile, as in Fig. 3.

D indicates a frictional locking device, which is held against the edge or side face of the stile by gravity, as plainly indicated in the drawings. When the groove or recess is formed in the edge of the stile, as in Fig. 1, the portion of the stiles remaining at either side of the groove will be too narrow to receive and form a proper bearing-face for the locking device; hence it is necessary to cover the groove by means of a strip, E, which is most conveniently carried entirely across the edge face of the stile, as in Fig. 1. This strip should be rigidly secured in place and made flush with the faces of the sash. If the groove or recess be made in the front or rear face, as in Fig. 2, the edge or side face of the stile remains complete, and affords an ample bearing-surface, *c*, for the locking device; but, if desired, the covering-strip E may be employed therewith also, to give a finish to the sash. When the sash is in its frame, however, the opening *a* will be covered by the retaining strip or frame. When the corner is cut away, as in Fig. 3, the recess or seat may be covered or not, as desired; but as the uncut portion of the stile is all at one side, (the seat being thrown to one side,) sufficient thickness is left for the locking device to get a firm bearing, as at *c*. When the forms represented in Figs. 2 and 3 are adopted, it is preferred to leave the upper and lower ends of the stiles uncut, and to bore a vertical hole, *b*, through such uncut portion to permit the passage of the spring through the same to the main portion of the seat or recess *a*.

It will be seen from the foregoing that the essential feature of this invention consists in removing a portion of the stile between the upper and lower ends to form a seat or recess for suspending-springs, and at the same time

leaving sufficient material at the edges for the locking device to act upon, and this result may be accomplished in various ways, differing slightly in appearance, but the same in principle, with those set forth—as, for instance, by cutting into the corner diagonally; hence the present invention is not confined to the precise forms shown.

Having thus described our invention, what we claim is—

1. A window-sash having its upper and lower ends bored vertically and the intermediate portion cut away, substantially as shown and described, to receive suspending-springs.

2. A window-sash provided with longitudinal grooves or recesses in its sides, and with covering-strips applied to said grooves and rigidly secured in place, their outer faces being made flush with the faces of the sash, as and for the purpose explained.

3. In combination with a sash having grooves or recesses *a* in its stiles and a broad bearing-face, *c*, at its ends, suspending-springs B, seated in the recesses *a*, and a frictional locking device bearing against face *c*, as and for the purpose set forth.

JOHN BARTLETT MONTAGUE.
JAMES THOMAS BOOKER.
ENOCH CASS DINNING.

Witnesses:
A. E. McGLOTHLIN,
L. J. JONES.

Witnesses as to Enoch Cass Dinning's signature:
J. D. GUIGER,
C. S. SEAMAN.