W. WEST & J. LORD.
Window.

No. 211,817. Patented Jan. 28, 1879.

FIG 1

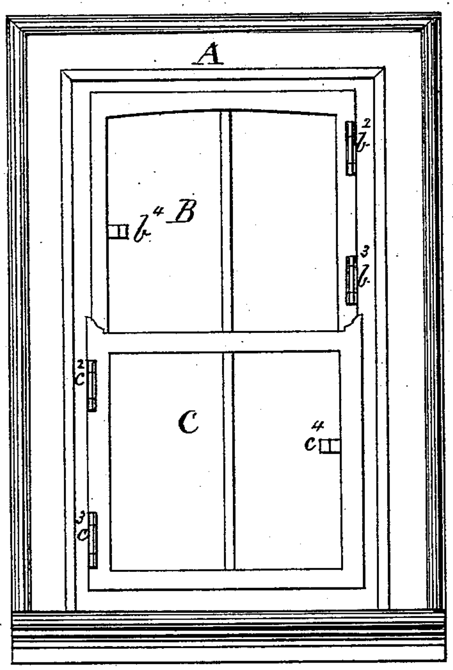


FIG 2

FIG 3

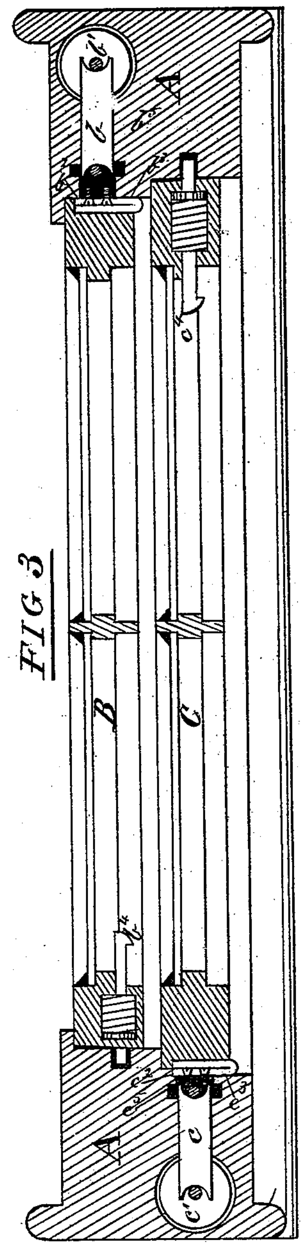


FIG 4

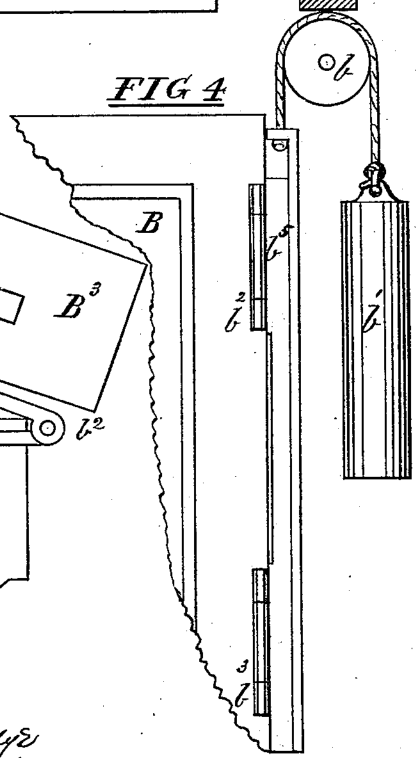
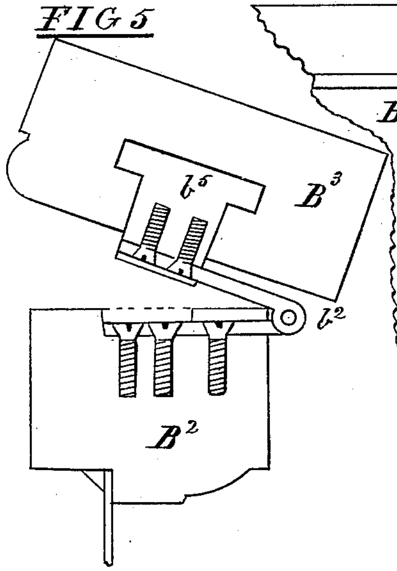


FIG 5



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UNITED STATES PATENT OFFICE.

WILLIAM WEST AND JOHN LORD, OF TORONTO, ONTARIO, CANADA.

IMPROVEMENT IN WINDOWS.

Specification forming part of Letters Patent No. **211,817**, dated January 28, 1879; application filed June 3, 1878.

To all whom it may concern:

Be it known that we, WILLIAM WEST, of the city of Toronto, in the county of York, in the Province of Ontario, and JOHN LORD, of the same place, have jointly invented certain new and useful Improvements in Windows; and we do hereby declare that the following is a full, clear, and exact description of the same.

Our invention relates to windows, such as are generally used in dwelling-houses, but is applicable to windows which are and may be used in other descriptions of buildings.

Other inventions for the same purpose have been patented, and notably that of Levi Till, dated November 2, 1869, and No. 96,507, in which four counter-weights are used, two of which are to be taken off before the sashes can be opened on their hinges. The sashes of our invention will open on their hinges without disconnecting any portion of their device.

Our invention consists in the construction of the frame and the sashes in such a manner that the said sashes will be what are known as "balanced sashes"—that is, they will, on being moved up or down, remain stationary at any point required; and in addition to the said sashes being balanced sashes, they are provided with hinges, so that they will open inward, for the purposes of cleaning and of repairing the same when so required, and to obviate the necessity of domestic servants or others having to go outside on the window-sill for this purpose, and in consequence of which numerous and serious accidents are frequently resulting.

In the accompanying drawings the same letters of reference indicate the same parts in all the views and in this specification.

Figure 1 is an inside elevation of a window, showing frame and sashes, with the hinges hereinbefore referred to. Fig. 2 is a sectional view through the top and lower bars of the frame, and showing the sashes hereinbefore referred to. Fig. 3 is a cross-section on an enlarged scale, showing the grooves in the frame and the tongued strips which slide in said grooves, showing also the position of the hinges upon the tongued strips, by which the sashes are attached thereto; also the spring-tongues, the pulleys, and counter-weights by which the said sashes are balanced and operated.

A represents the frame; B, the upper sash, with pulley *b*, counter-weight b^1, hinges b^2 b^3, attached to a tongued sliding strip, b^5, sliding in a groove, and to which the counter-weight b^1 is secured by a cord over the pulley *b*. b^4 is the spring-tongue.

C represents the lower sash, with pulley *c*, counter-weight c^1, hinges c^2 c^3, attached to a tongued sliding strip, c^5, sliding in a groove, and to which the counter-weight c^1 is secured by a cord over the pulley *c*. c^4 is the spring-tongue in the lower sash.

Fig. 4 is an elevation, to the same scale as Fig. 3, showing a portion of the sash B, with pulley *b* and counter-weight b^1, also the tongued sliding strip b^5, with the hinges b^2 b^3 attached thereto. Fig. 5 is a cross-section, to a still further enlarged scale, of the sash-stile B^2 and the sash-pulley stile B^3, with the tongued sliding strip b^5 in position therein; also the hinge b^2, attached to the sliding strip b^5, and to the sash-stile B^2, showing clearly the arrangement and operation thereof.

It will be observed that, when the lower spring-tongue, c^4, is drawn back and the sash C is raised about one inch, until it will clear the stop-bead, it will be free to move inward on its hinges c^2 c^3, and can be folded closely back to the wall of the room; and to open the upper sash, B, it is first moved downward about one inch until it will clear the parting-slip at top of window, and when the spring-tongue b^4 is drawn back the said sash B is then free to be moved inward on its hinges b^2 b^3, and so moved until reaching a position at right angles to the wall of the room.

In closing the sashes, take sash B, folding it into its position in the window, keeping the spring-tongue back until the sash is in that position, then move up the sash into its usual stationary position; and sash C is closed in the same manner as the sash D, but moved down into its stationary position instead of up, as in the case of sash B.

Having thus described our invention, we claim—

The balanced sashes B and C, hinged at one side to tongued strips moving in grooves, and counterbalanced by weights b^1 and c^1 by means of a cord over the pulleys b and c, and confined at the other side by spring-tongues b^4 c^4, moving also in grooves, so that said sashes B and C will remain in any desired position vertically, while capable of being opened laterally on the hinges b^2 c^3 and c^2 c^3, substantially as specified.

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