

No. 845,418.

PATENTED FEB. 26, 1907.

A. F. JOHNSON.  
REVERSIBLE FOLDING SASH WINDOW.

APPLICATION FILED JULY 12, 1906.

Fig. 1.

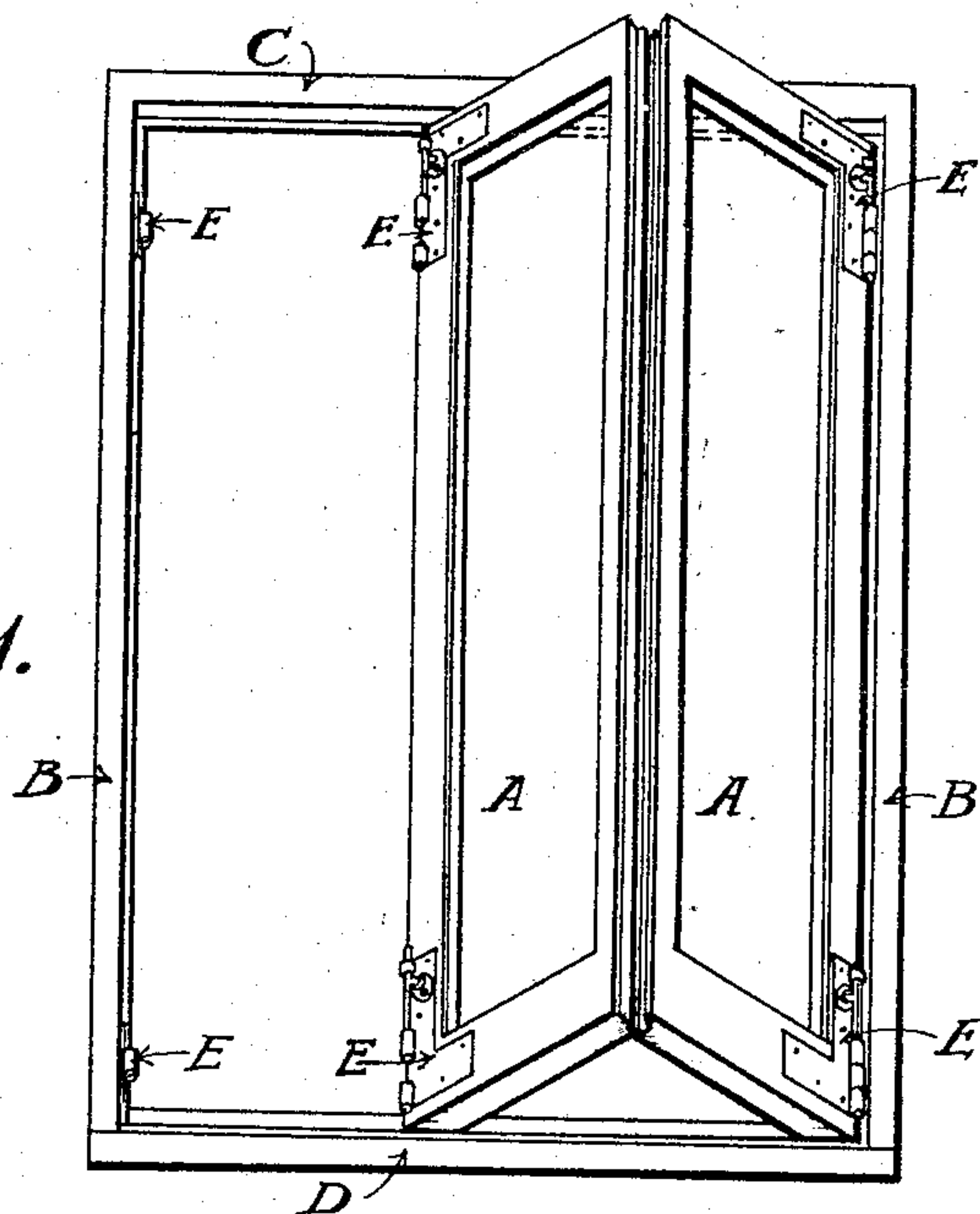


Fig. 2.

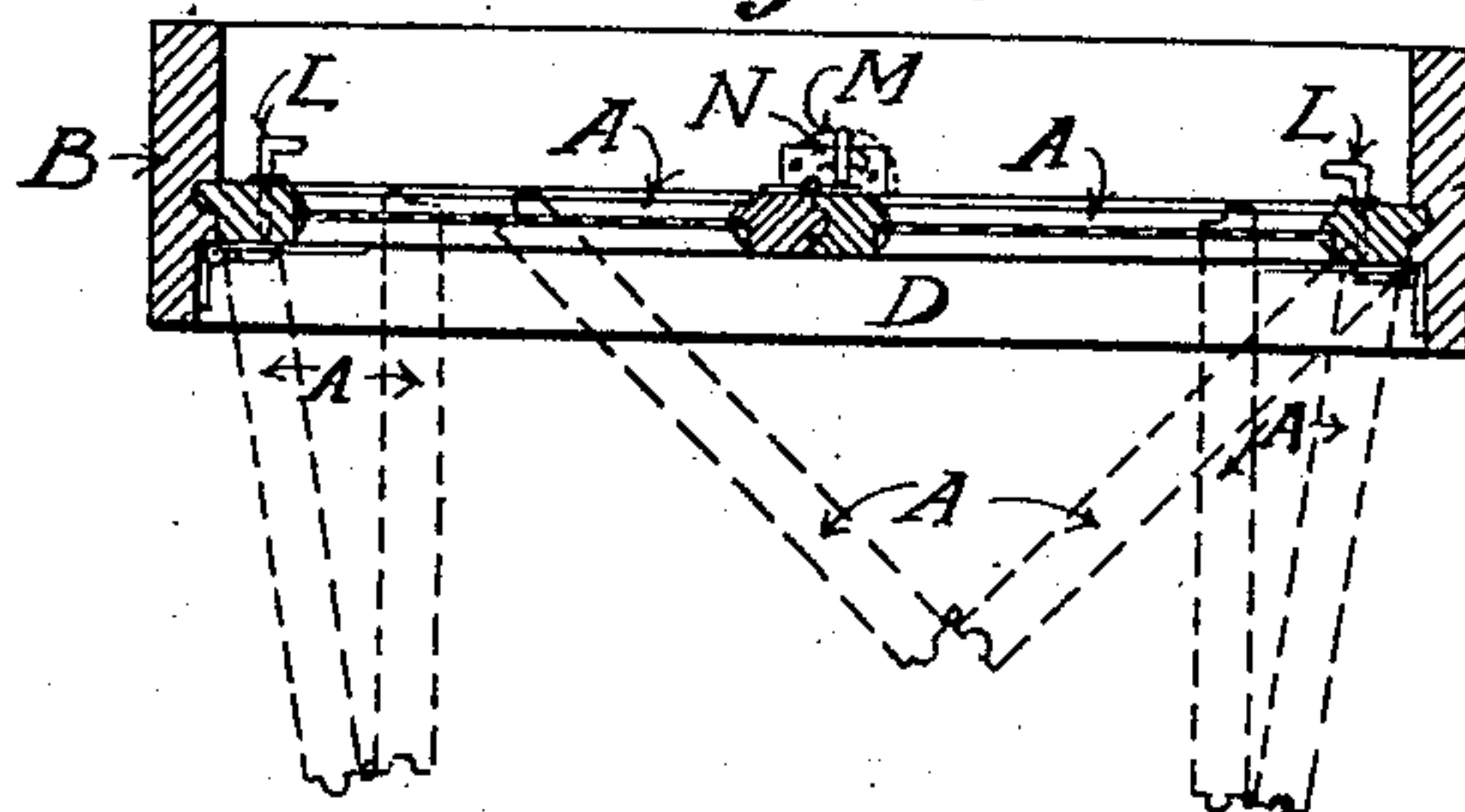


Fig. 3.

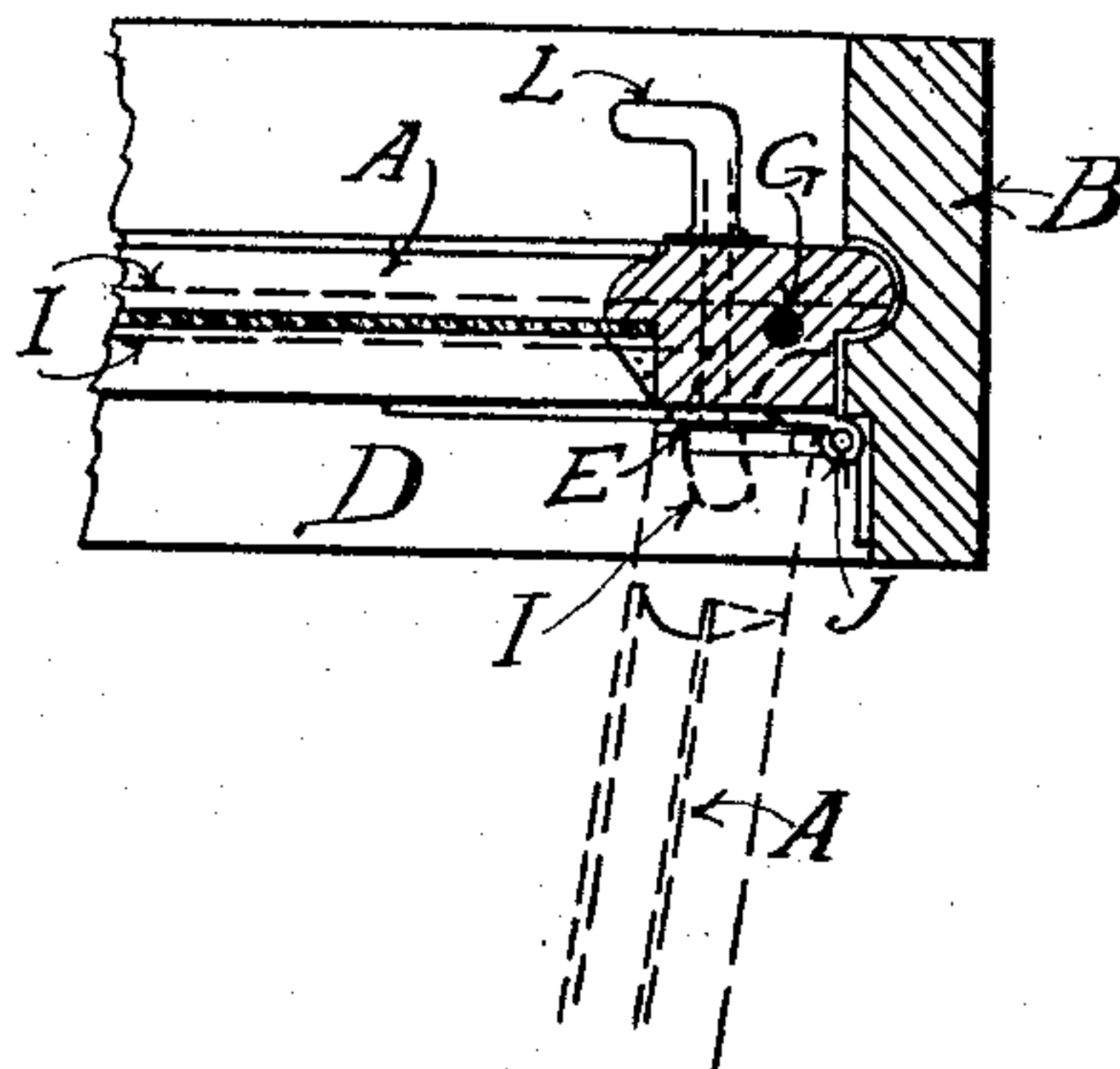


Fig. 4.

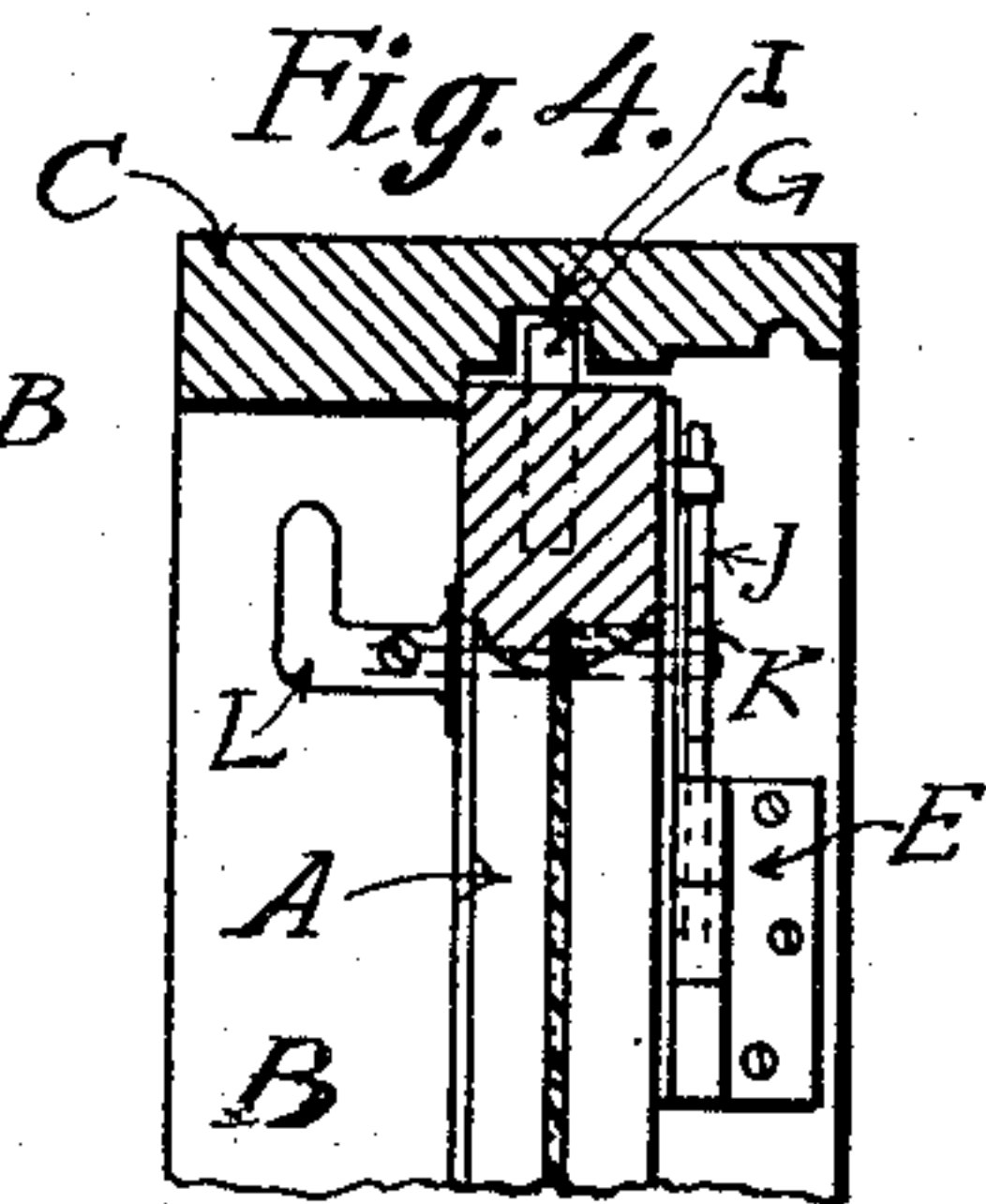


Fig. 5.

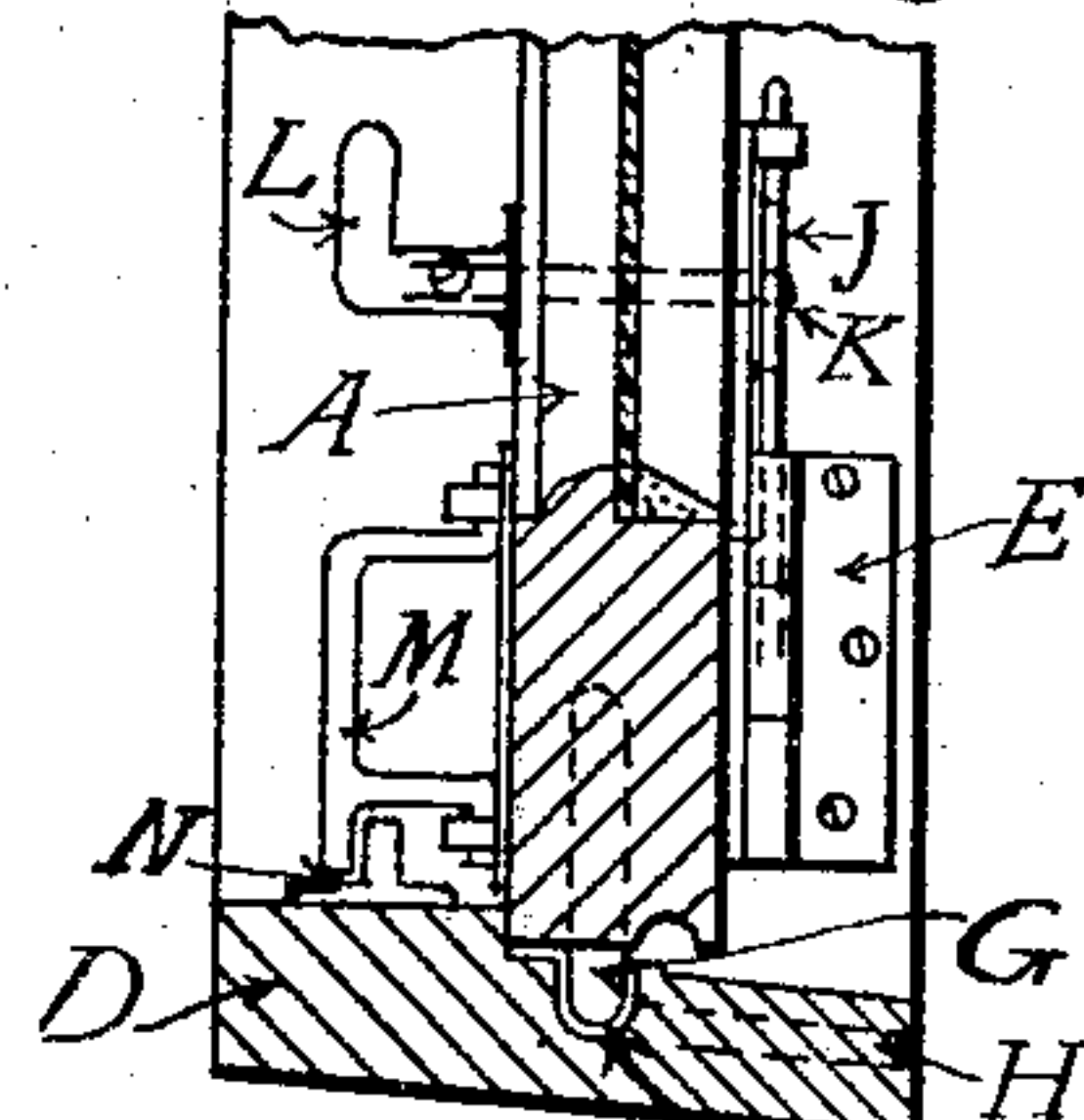
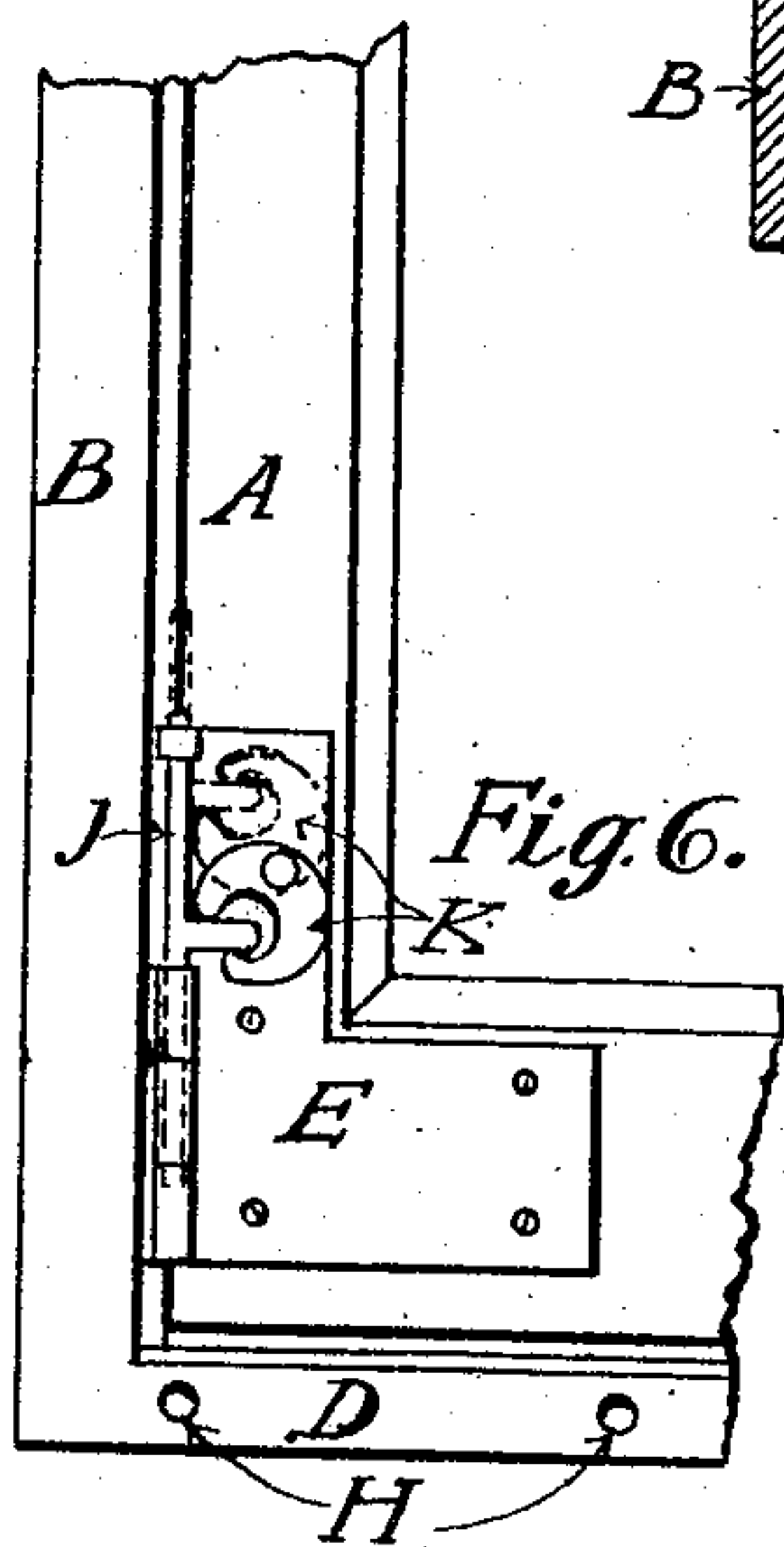


Fig. 6.



Witnesses  
Joseph K. Kerner  
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Inventor.  
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# UNITED STATES PATENT OFFICE.

AXEL F. JOHNSON, OF NEW YORK, N. Y.

## REVERSIBLE FOLDING-SASH WINDOW.

No. 845,418.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed July 12, 1906. Serial No. 325,891.

*To all whom it may concern:*

Be it known that I, AXEL F. JOHNSON, a citizen of the United States, residing at No. 3523 Avenue J, borough of Brooklyn, county of Kings, city and State of New York, have invented a new and useful Reversible Folding-Sash Window, of which the following is a specification.

My invention relates to improvements in windows hung and operated on hinges.

The objects of my improvement are, first, to provide an easily-operated window which when open and in a regular position is accessible for cleaning on both sides to a person standing inside of the window-opening; second, to provide a window wherein nearly the entire area, or a desired fraction thereof, may be opened, so constituted that the sashes during ordinary wind force will remain in whatever position placed without slamming or movement of any kind, except by direct human interference, and, third, to provide a window with sashes that may be readily forced into proper position during the closing of the window if the material of the sashes or frame is swelled or otherwise varying from proper shape. I attain these objects by the arrangement of frame, sashes, and mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an exterior view of the entire window, showing same partly open. Fig. 2 is a horizontal section showing the position of sashes in the frame when the window is closed. The dotted lines show different positions of the sashes when the window is open. Fig. 3 is a horizontal section through one side of sash and frame, showing a top view of the type of hinge adaptable for releasing the sash from either side of the frame, as may be desired. Fig. 4 is a vertical section through the top or lintel of the window, showing a groove in the frame and a guide-pin in sash, also a side view of the top hinge. Fig. 5 is a vertical section through the bottom or sill of the window, showing a groove in the sill, a guide-pin in the bottom of the sash, a side view of the bottom hinge, and an interior locking device. Fig. 6 is an exterior view of one lower corner of the frame and sash, showing front view of the bottom hinge and indicating manner of raising the pin in the knuckle of the hinge, so as to release the sash from the side stile of the frame when so desired.

Similar letters refer to similar parts throughout the several views.

The sashes A, which must be in one or more pairs, are hinged to the stiles B of the frame on a special type of hinges E, adapted to be released on either side of the window, as may be desired, by turning the handle L on the inner side of the sash and penetrating directly through the sash and carrying the curved plate K or a cog arrangement of similar principle, thereby raising the pin in the knuckle of the hinge until the sash is released from the frame. This arrangement is required for access to the outer side of both sashes for cleaning from the position of a person standing on the inner side of the window. In special cases where the access to the outer side of both sashes in the manner and for the purpose heretofore described is not considered of special value a simpler method may be adopted—i. e., the hinging of one sash only to the corresponding stile of the frame, using any adaptable type of hinge now in public use, but otherwise arranging the sashes and frame substantially as shown.

The meeting stiles of the sashes must be hinged together, substantially as indicated on the drawings, by means of any adaptable type of hinges now in public use.

The lintel C and sill D have grooves, as indicated at I, to engage the guide-pins G of the sashes in order to maintain that edge of the sash which is not secured by hinges in proper position when the window is open. The holes H in sill D are for the purpose of draining away any water that may lodge in the groove I.

To adjust the sash, it is required to force the edge of the one sash which is released from the hinges or the meeting-stiles, or both, in desired direction.

On the inner side, secured to the bottom of one of the meeting-stiles of one sash, a locking device is provided, the handle M being adapted to swing around and engage the fixed catch N on the sill or stool of the window, the handle M being also adapted as means of pulling or forcing the sash into proper position. A hook and eye or any other adaptable device now in public use may be adopted in place of the special locking device shown and described.

The window is so constructed as to be opened by the act of swinging or forcing the sashes in outward direction.



I am aware that prior to my invention windows have been made with a pair of sashes hinged together and the window opened by forcing the connected meeting edges of the sashes outward and folding one sash on the other by bringing the outer edge of the sashes close together. I therefore do not claim such combination, broadly; but

I claim—

10 1. The combination in a window, of a pair of sashes hinged together to fold one upon the other and open when the window is opened and closed, and detachable hinges at the outer edge of each sash, affording fixed  
15 pivoting centers for the sashes at both edges of the window, and projections at the outer corners of the sashes, fitting into grooves in the sill and lintel of the frame, for maintaining the detached edge of either sash in the  
20 same vertical plane with the edge which remains hinged to the frame.

2. In a window the combination of a pair of sashes hinged to fold one upon the other and a detachable pivoting device at fixed  
25 points or axes near both the vertical joints between the sashes and the frame, adapted to swing or adjust the two combined sashes from either pivoting point or axis, as may be desired, in conjunction with projections near  
30 the outer corners of the sashes, fitting into a groove in either the sill or the lintel of the frame, adapted to form a sliding connection between the detached edge of either sash and the frame, for maintaining said detached  
35 edge in the same vertical plane with the edge which remains attached to the corresponding side of the frame by means of the pivoting device.

3. A window containing a pair of sashes connected together by means of hinges at the  
40 joining edges and also connected to the frame at both the opposite edges by means of a detachable pivoting device adapted to release either sash from the corresponding side of the frame, so that the one sash thus released  
45 may be folded upon the one sash attached to the frame when said attached sash is swung or pivoted until the window is fully opened, and a sliding connection between the detached edge of either sash and the frame, for  
50 maintaining said detached edge in the same vertical plane with the edge which remains connected to the frame by means of the pivoting device.

4. In a window, the combination of a pair  
55 of sashes attached together by means of a hinge connection, and detachable pivotal connections to the frame near the four corners or angles of the window, affording a  
60 fixed pivoting point or axis at both the opposite edges of the combined sashes, adapted to transfer the combined weight of the pair of sashes to one or the other pivotal axis as may be desired in opening and closing the  
65 window, and an adjustable connection between the sashes and the frame, adapted to maintain the detached edge of either sash in the same vertical plane with the edge which remains connected to the frame by means of the pivoting device.

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Witnesses:

ELWYN E. RICE,  
JOHN GASSIDE.