

(No Model.)

F. W. NEUMANN.
ADJUSTABLE SASH FOR WINDOWS.

No. 436,184.

Patented Sept. 9, 1890.

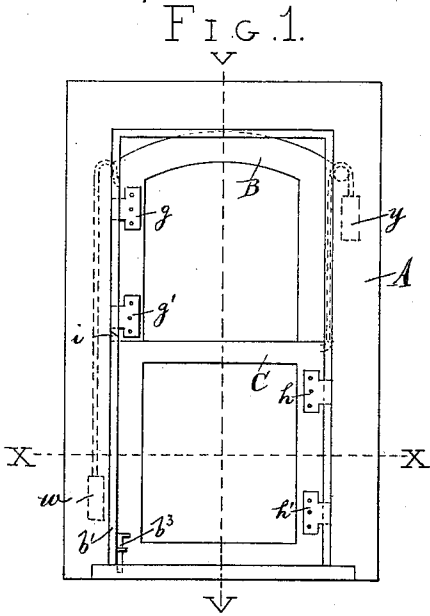


FIG. 2.

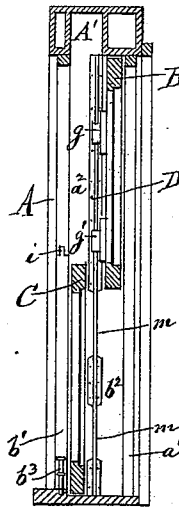


FIG. 3.

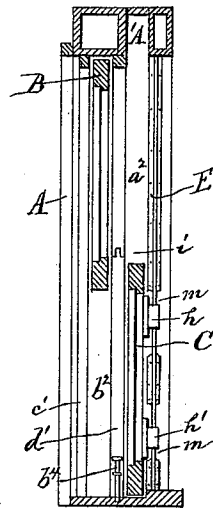


FIG. 5.

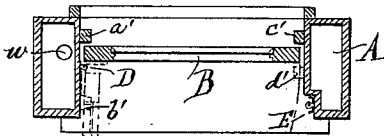
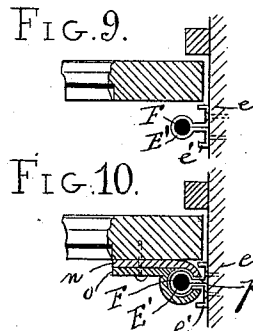
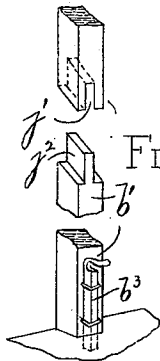
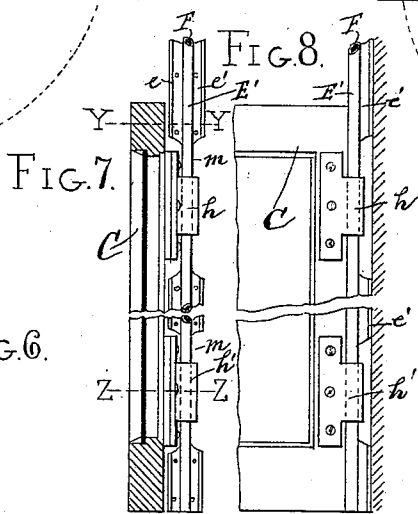
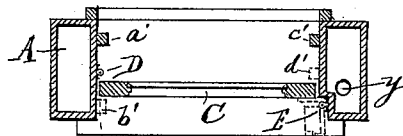


FIG. 4.



Witnesses.
George F. Hoke
Frederick J. Conzall

Inventor.
Frederick William Neumann,
per Herthel & Co. Attys

UNITED STATES PATENT OFFICE.

FREDERICK WILLIAM NEUMANN, OF ST. LOUIS, MISSOURI.

ADJUSTABLE SASH FOR WINDOWS.

SPECIFICATION forming part of Letters Patent No. 436,184, dated September 9, 1890.

Application filed May 9, 1890. Serial No. 351,171. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK WILLIAM NEUMANN, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Adjustable Sashes for Windows, of which the following is a specification.

It is well known that the cleaning of windows as ordinarily constructed is attended with much inconvenience. To clean the glass of a common sash-window from the inside generally requires a ladder, and to clean the same on the outside frequently necessitates a person either standing or sitting on the outer sill of the window, thereby subjecting the person to great danger. This inconvenience and danger applies especially to the ordinarily-constructed boxed window-frames most in use, wherein the sashes are operated by counter-weights, cords, and axle-pulleys, and it is for this class of window-frames that my invention is particularly applicable.

The object of my improvements is therefore to obviate this discomfort in the cleaning of windows, and provide means in the construction of my adjustable sashes, so that both the upper and lower sashes of the window-frame may be swung inwardly within the room of a building, thereby permitting access by the person standing on the floor of the room to both sides of the glasses of the sash, and which at the same time may be operated as ordinarily by counter-weights, cords, and axle-pulleys. I attain these objects by the mechanism illustrated in the accompanying drawings, of which—

Figure 1 is an inside elevation of a window-frame, showing my adjustable sashes hinged therein, also in dotted lines the method of hanging or balancing the sashes. Fig. 2 is a vertical section on line V V of Fig. 1 through window-frame and sashes, showing the pulley-stiles of the left inside face of the window-frame, also my upper adjustable sash hinged therein. Fig. 3 is a similar vertical section on line V V of Fig. 1 through window-frame and sashes, showing the pulley-stiles of the right inside face of the window-frame, also my lower adjustable sash similarly hinged therein. Fig. 4 is a horizontal section on line X X of Fig. 1 through window-frame and lower adjustable sash, also showing in dotted

lines the inward swinging of the sash to the right. Fig. 5 is a similar horizontal section on line X X of Fig. 1 through window-frame and upper adjustable sash, the upper adjustable sash having been brought down in the frame and the lower adjustable sash having been raised therein, also showing in dotted lines the inward swinging of the sash to the left. Fig. 6 is a perspective view of the upper and lower pieces of the inside parting strip *b'*, showing the cut on bevel by mortise and tenon by which the pieces are joined and fixed in the window-frame, also bolt at bottom for locking the same in place. Figs. 7, 8, 9, and 10 are enlarged views to better show the mechanism of the parts, Fig. 7 showing a side sectional view through broken parts of the lower adjustable sash as hinged to the central rod of the metal parting-strip at its clearance, showing end view of the hinges and face view of the parting-strip and its side flanges, Fig. 8 being a face view of broken parts of lower adjustable sash as hinged to the central rod of the metal parting-strip at its clearance, also side view of the parting-strip and its flanges. Fig. 9 is a horizontal section on line Y Y of Fig. 7 to more particularly show the relation of the central rod with the metal parting-strip and side flanges of same. Fig. 10 is a similar horizontal section on line Z Z of Fig. 7, through sash, hinge, central rod, and metal parting-strip, to more particularly show the construction of the hinges and their relation to the central rod and parting-strip.

Similar letters refer to similar parts throughout the several views.

In the drawings, A represents the window-frame.

B represents my upper adjustable and C my lower adjustable sash.

The window-frame A, I make as ordinarily, with the exception that I make the box with a slight recess on the right-hand side, in which the metal parting-strip E is placed, so that the swinging sash may clear it, and also provide the same with a boxed head A' to permit my lower adjustable sash to partly pass therein, as will hereinafter be explained. I also provide the said window-frame A with the usual side boxes, also parting-strips to form the pulley-stiles *a*² *b*². Of these parting-strips I make those marked *a'*, *b'*, *c'*, and *d'* (see Figs.

2, 3, 4, and 5) of wood, and the parting strips marked D and E, to which both my sashes are hinged, of metal. Further, to permit the passing of both my upper and lower sashes for their inward swinging, I make the parting-strips b' and d' , respectively, (see Figs. 4 and 5,) in two pieces, so that the lower pieces of each are removable, while the upper pieces of each are fixed within the frames. This I accomplish by dividing them at the point i just above the meeting rails of the sashes (see Figs. 1, 2, and 3) by mortise-and-tenon joints $j' j^2$, cut on bevel, which is more particularly shown in Fig. 6, where the parting-strip b' is shown in perspective, this view likewise applying to the parting-strip d' , which is made in similar manner, the mortise-and-tenon joints $j' j^2$ allowing the said lower pieces to be disengaged and also holding the same in place at that point. Further, the said removable pieces are each provided with bolts to secure them in place, the said parting-strip b' having the bolt b^3 and the said parting-strip d' having the bolt b^4 . (See Figs. 1, 2, 3, and 6.)

Within the pulley-stiles $a^2 b^2$, I counterbalance the said sashes by one weight each instead of two, as ordinarily, the said upper sash being counterbalanced on the left-hand side by the weight W (see Figs. 1 and 5) and the said lower sash C being counterbalanced on the right-hand side by the weight Y, (see Figs. 1 and 4,) thus allowing a free swinging of the sashes inwardly from the sides on which they are unbalanced.

D and E represent the metal parting-strips, to which both my upper and lower sashes B and C, respectively, are hinged, the said upper sash B being hinged thereto within the pulley-stile b^2 on the left of the frame by the hinges $g g'$ (see Figs. 1, 2, and 5) and the lower sash C being hinged thereto within the pulley-stile a^2 on the right of the frame by the hinges $h h'$. (See Figs. 1, 3, and 4.) The said parting-strips D and E, (see Figs. 7, 8, 9, and 10,) consisting each of a central rod F, having an outer metal sleeve E' , said metal sleeve E' having the side flanges $e e'$ and also the clearances $m m$ —i. e., the said side flanges $e e'$ are omitted at the lower parts of the said metal parting-strips D and E, so as to expose the said outer metal sleeve E' , containing the central rod F, (see Figs. 2, 3, 7, and 8,) in order to form an axis for the hinges of the sashes, the said central rod F, with its outer sleeve E' , then being the axis for the hinges to swing in at the clearances $m m$. Further, to allow the passing of the hinges over the outer sleeve E' of the central rod F on the upper parts of the metal parting-strips D and E, having the side flanges $e e'$, (see Figs. 7, 8, 9, and 10,) I construct the hinges with the double straps n and o , placed over each other, (see Fig. 10,) and provide the knuckle of the hinges with a clearance or division, as shown at p , thus permitting by the clearance p the passing of the hinges, and consequently, also, the upward and downward movement of the sashes,

the hinges sliding over the metal sleeves E' at the same time preventing the binding of the sashes in the frame consequent upon my employment of only one weight to counterbalance each sash.

The operation of my adjustable sashes is as follows: When it is desired to clean the glass of the lower sash, the lower piece of the parting-strip b' is removed by releasing the bolt b^3 (see Figs. 1 and 4) and withdrawing it from the mortise j' , (see Fig. 6,) thereby permitting the inward swinging of the sash, as shown in dotted lines, Fig. 4. When it is desired to clean the glass of the upper sash, the lower sash is first thrown upward, so as to partly pass within the boxed head A' to give the requisite clearance. The upper sash is then brought down in the frame, and the lower removable piece of the parting-strip d' is likewise removed by releasing the bolt b^4 (see Figs. 3 and 5) and withdrawing it from the mortise, like j' in Fig. 6, thereby permitting the inward swinging of the sash, as shown in dotted lines, Fig. 5. When the cleaning has been performed, the said sashes and parting-strips are readjusted within the pulley-stiles of the frame, so that the sashes can then be operated as ordinarily.

What I claim, and desire to secure, is—

1. In adjustable sashes for windows, the combination of the counterhung sashes B and C, hinged to the metal parting-strips D and E by the hinges $g g'$ and $h h'$, with the parting-strips b' and d' , having the bolts b^3 and b^4 , beveled mortise-and-tenon joints $j' j^2$ at i , by which the lower pieces are removable and by means of which the passing of the sashes B and C respectively are permitted, as and for the purposes set forth.

2. In adjustable sashes for windows, the combination of the metal parting-strips D and E, having the central rod F, outer sleeve E' , and side flanges $e e'$, also clearances of the central rod at $m m$, with the hinges $g g'$ of the upper counterbalanced sash B, and also the hinges $h h'$ of the lower counterbalanced sash C, by means of which the said sashes are hung so that they may swing inwardly at the clearances $m m$, as and for the purposes set forth.

3. In adjustable sashes for windows, the metal parting-strips D and E, having the central rod F, outer sleeve E' , and side flanges $e e'$, and also clearances of the central rod at $m m$, in combination with the hinges $g g'$ of the upper counterbalanced sash B and hinges $h h'$ of the lower counterbalanced sash C, said hinges consisting of the double straps n and o , having the clearance p at the knuckle of the hinge, by means of which the said counterhung and swinging sashes may both be moved upwardly and downwardly, as and for the purposes set forth.

FREDERICK WILLIAM NEUMANN.

Witnesses:

LOUIS NEUMANN,
JOHN W. HERTHEL.