April 19, 1932. S. B. NEUHAUSEN 1,854,419

WINDOW CONSTRUCTION

Filed May 5, 1930 3 Sheets-Sheet 1

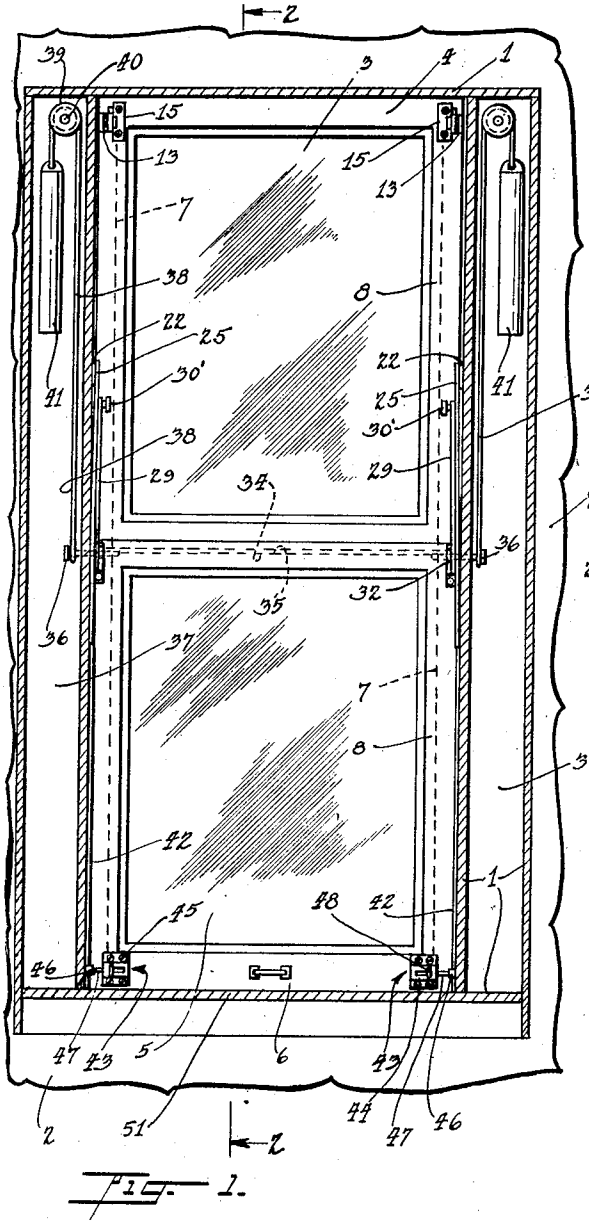

Fig. 1.

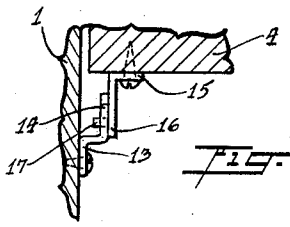

Fig. 6.

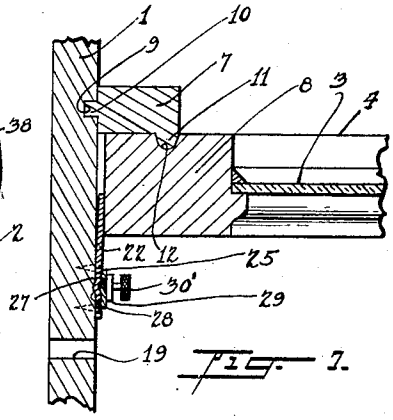

Fig. 7.

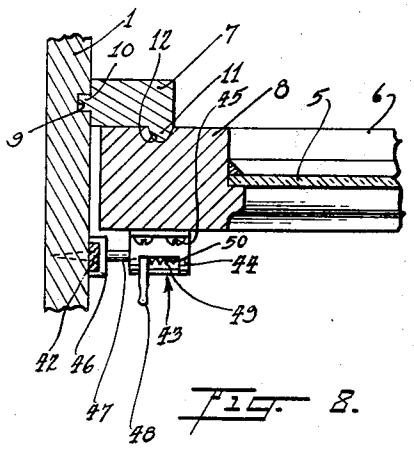

Fig. 8.

INVENTOR
S. B. Neuhausen
BY Munn & Co
ATTORNEYS

April 19, 1932. S. B. NEUHAUSEN 1,854,419

WINDOW CONSTRUCTION

Filed May 5, 1930 3 Sheets-Sheet 2

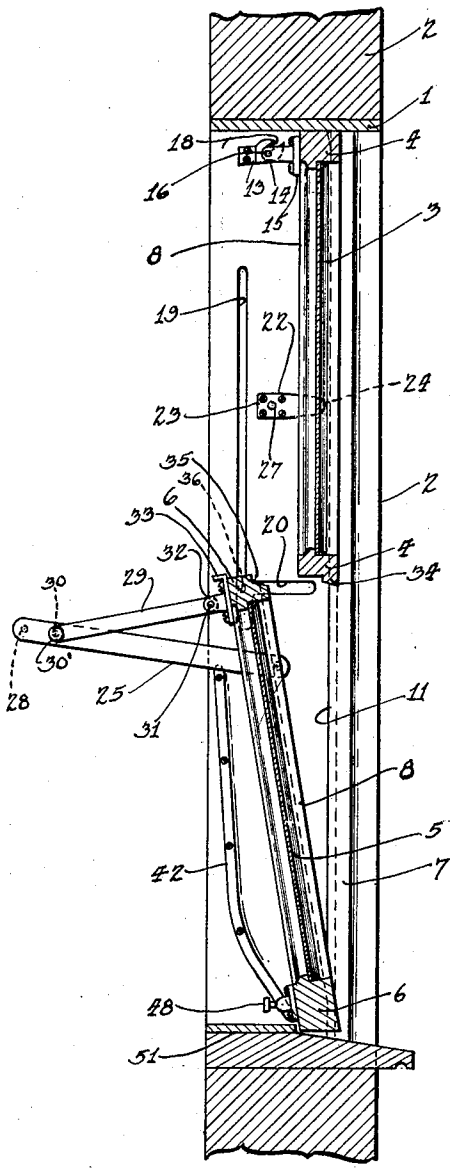

Fig. 3.

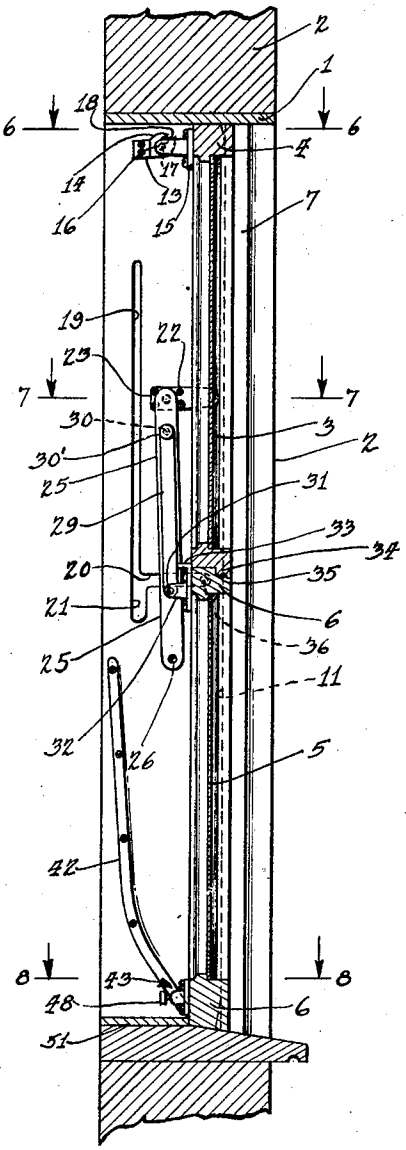

Fig. 2.

INVENTOR
S. B. Neuhausen
BY Munn & Co
ATTORNEYS

April 19, 1932. S. B. NEUHAUSEN 1,854,419

WINDOW CONSTRUCTION

Filed May 5, 1930 3 Sheets-Sheet 3

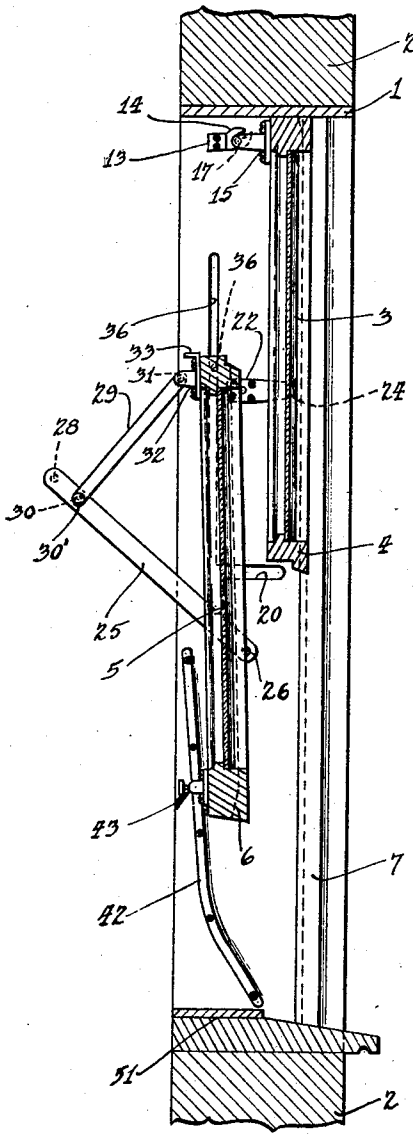

Fig. 4.

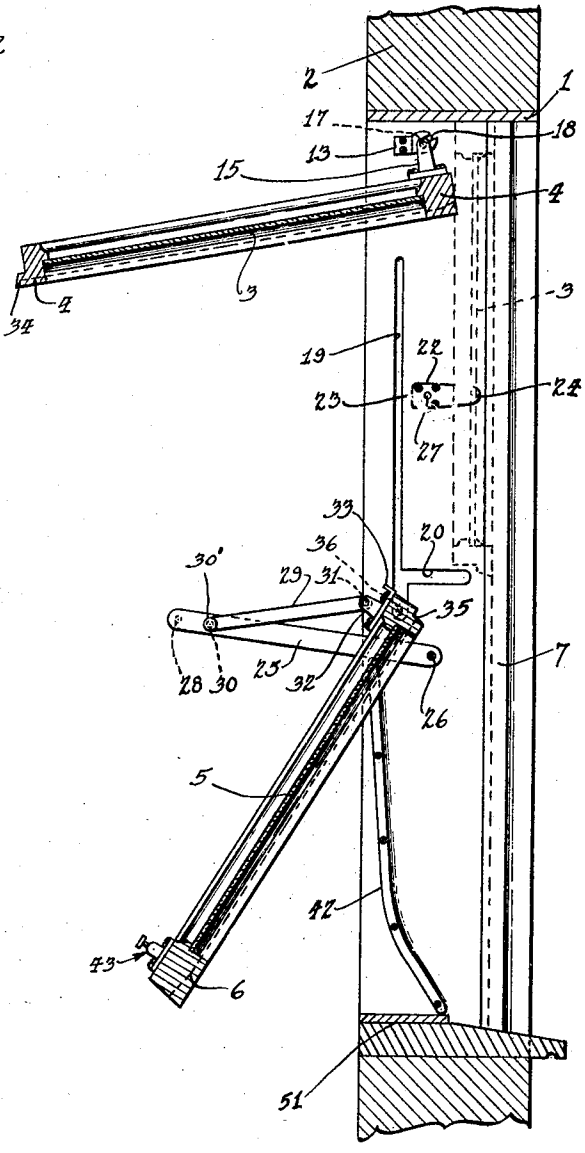

Fig. 5.

INVENTOR
S. B. Neuhausen
BY Munn & Co.
ATTORNEYS

Patented Apr. 19, 1932 1,854,419

UNITED STATES PATENT OFFICE

SEBASTIAN P. NEUHAUSEN, OF LOMBARD, ILLINOIS

WINDOW CONSTRUCTION

Application filed May 5, 1930. Serial No. 449,950.

My invention relates to improvements in window constructions, and it consists in the combinations, constructions, and arrangements herein described and claimed.

An object of my invention is to provide a window construction having novel means for weatherproofing movable windows.

A further object is to provide a window construction having novel means whereby both sides of the windowpanes are made accessible for washing from the inside of the building.

A further object is to provide a window construction having top and bottom windows, the top window being removable from the frame without removing the bottom window.

A further object is to provide a window construction having novel means for swinging the bottom window inwardly or raising the same.

A further object is to provide a device of the type described having novel means for opening aligned windows.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, forming part of this application, in which

Figure 1 is an inside front elevation of the window construction, the window frame being shown in section,

Figure 2 is a section taken along the line 2—2 of Figure 1,

Figure 3 is a view similar to that of Figure 2 showing the bottom window in the first stage of being opened,

Figure 4 is a view similar to that of Figure 2 showing the bottom window in the second stage of being opened,

Figure 5 is a section showing the position of the bottom window for opening the top window, the top window being shown in the open position whereby it may be removed from the window frame,

Figure 6 is a section taken along the line 6—6 of Figure 2,

Figure 7 is a section taken along the line 7—7 of Figure 2, and

Figure 8 is a section taken along the line 8—8 of Figure 2.

In carrying out my invention I provide a window frame 1 mounted in a wall 2. Disposed within the frame 1 is a top window 3, having a sash 4, and a bottom window 5, having a sash 6. The sashes 4 and 6 are in alignment when the windows are closed as shown in Figure 2. In referring to Figures 2 and 7, it will be seen that the sides of the window frame are provided with vertically extending weather strips 7 abutting the outside surfaces of the side portions 8 of the top and bottom window sashes. The frame 1 is provided with a vertically extending groove 9 for receiving the tongues 10 of the weather strips 7. This construction provides a weatherproof and positive means for fastening the weather strips to the frame. The weather strips 7 are provided with bead portions 11 which extend throughout their length and which are receivable in beaded recesses 12 of the side portions 8. This bead construction provides a means for positively sealing the joint between the window frame and the weather strip for making it weatherproof.

In referring to Figures 1 and 2, it will be seen that the top window is pivotally connected to the window frame whereby the window may be swung inwardly and removed from the frame. Figure 6 shows a detail of this construction. A Z-shaped catch member 13 is mounted on the frame, a portion 14 thereof being spaced away from the frame. An angle member 15 is secured to the top inside face of the sash 4, its projecting flange 16 being adjacent the portion 14 of the catch member 13. The flange 16 is provided with a projecting lug 17 rotatably receivable in a slot 18 in the portion 14 of the Z-shaped catch member 13. The slot is best shown in Figure 5. This structure is provided at each side of the top window sash for securing the sash to the frame. Thus it will be seen that when the top window sash is released, it may be swung inwardly. It will also be seen by referring to Figure 5, that when the top window is in its raised position, it may be removed from the frame by slid-

ing the projecting lug 17 out of the slot 18.

Each side of the window frame is provided with a vertically extending slot 19, see Figure 2. The lower end of the slot 19 merges with a horizontally extending slot 20. The slot 19 is extended for a short distance beyond the horizontal slot 20 as at 21 for a purpose hereinafter described. Each side of the frame 1 is provided with a resilient member 22 having one end 23 securely fastened thereto, the free end 24 extending between the top window sash and the frame for holding the top window in position when the bottom window is swung inwardly.

Each side of the frame is provided with a lever arm 25 pivotally mounted to the frame at 26, see Figure 2. The resilient member 22 is provided with a small recess 27, as shown in Figures 7 and 3, for receiving a protuberance 28 of the lever arm 25 when it is in the position shown in Figure 2. An arm 29 has one end pivotally connected to the lever arm 25 at 30, and the other end pivotally connected at 31 to a projecting member 32. A knob 30′ is mounted on the arm 29 at its pivotal point 30, whereby the arm may be easily actuated. The projecting member 32 is secured to the top inside face of the bottom window sash at the side adjacent the frame.

The base portion of the projecting member 32 is provided with a secondary projecting portion 33 which extends between the window sash and the lever arm 29, when the same is in the position shown in Figure 2, which serves to keep the window sashes tightly held against the weather strips 7. It will be seen by referring to Figure 1, that this structure is provided on each side of the window frame.

The bottom portion of the sash of the top window has a projecting portion or flange 34, at its outside edge, which extends throughout its length. The outside top edge of the bottom window sash is provided with a longitudinal recess 35 extending throughout its length. This construction makes the juncture of the top and bottom window sashes weatherproof. This construction also serves to keep the top window sash tightly pressed against the weather strips 7 by the action of the arm 29 on the projection 33 when the windows are in the position shown in Figure 2.

In referring to Figures 1 and 2 it will be seen that each side of the bottom window sash adjacent its top edge is provided with a pin 36 which extends through the slot 20 and into the box portion 37 of the window frame 1. A chain, cable, or the like, has one end connected to the pin 36. The cable 38 extends over a pulley 39 mounted to the window frame at 40, and has its other end connected to a window weight 41. Each side of the frame 1 is also provided with a track 42, of the shape shown in Figure 2, which is secured to the frame by any suitable means such as screws or the like.

Catch members 43 are attached to the bottom portion of the bottom window sash adjacent the sides thereof. Each catch member 43 comprises a housing 44 which may be secured to the window sash 8 by any suitable means such as screws 45. A shoe 46 is provided which rides on the track 42. The shoe 46 is rigidly connected to a slidable pin 47 which extends within the housing 44 and is connected to an actuating lever 48. The actuating lever 48 extends without the housing whereby the lever may be grasped for disconnecting the shoe 46 from the track 42. A spring 49 is disposed within the housing for normally holding the shoe 46 in engagement with the track 42.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. Figure 2 shows the windows in their normal closed position. For opening the bottom window 5, the knobs 30′ are grasped and the levers 25 are swung inwardly to the position shown in Figure 3. This swings the bottom window inwardly, the pins 36 becoming positioned for entering the slots 19. The bottom portion of the window sash pivots about the pins 47, see Figure 8, by reason of the housings 44 secured to said sash.

It will be noted that sufficient space 50 should be left between the levers 48 and the housings 44 for enabling the housings to rotate with respect to the levers. However, if so desired, the shoes 46 may be pivotally connected with the pins 47, thereby changing the pivot points from the housings to the shoes, whereby only slots in the housings large enough for accommodating the levers 48 will be necessary.

If it is desired to raise the bottom window to the position shown in Figure 4, the window may be raised by grasping any suitable means such as the levers 48. As the window is raised, the pins 36 move upwardly in the slots 19, the shoes 46 slide on the tracks 42, and the arms 25 and 29 assume the positions shown in Figure 4. As the pins 36 move upwardly in the slots 19, the weights 41 are lowered for holding the window in its open position.

Let it be desired that the top window be swung inwardly for either opening or removing the same from the frame. The bottom window is first moved to a position similar to that shown in Figure 4. The shoes 46 are then disconnected from the tracks 42 whereby the bottom portion of the sash may be swung inwardly, the pins 36 serving as pivot points. When the bottom portion has been swung inwardly so that it will not engage the sill 51, the window may then be lowered to the position shown in Figure 5, the pins 36 entering the extension slots 21.

When the bottom window is in this position, it will not prevent the top window from being swung inwardly.

Thus it will be seen that both windows may be easily opened and closed, and that both sides of the windowpanes may be made accessible from the inside for being washed. The top window is easily removable from the frame, and the bottom window might easily be constructed for making it removable also. The construction as shown also enables screens to be put in place from the inside of the building.

Even though the windows are movable away from the weather strips, the construction is such that when they are in their closed positions, they are weatherproof.

I claim:

1. A device of the type described comprising a window frame, a top and bottom window disposed in said frame, means whereby said windows may be swung inwardly, means for permitting one of said windows to be moved upwardly, and means whereby one of said windows may be removed from the frame.

2. A device of the type described comprising a window frame, a top and bottom window disposed in said frame, means whereby said windows may be swung inwardly, means for permitting said bottom window to be moved upwardly, and means whereby said top window may be removed from the frame.

3. A device of the type described comprising a window frame, aligned top and bottom windows disposed in said frame, means for permitting one of said windows to be moved upwardly, and means whereby one of said windows may be removed from the frame.

4. A device of the type described comprising a frame, vertically aligned windows disposed in said frame, a vertically extending weather strip carried by each side of said frame for abutting the aligned windows, lever means carried by one of said windows and the frame whereby the windows may be swung inwardly, and means connected with said lever means for holding the closed windows in engagement with the weather strips.

5. A device of the type described comprising a frame, aligned windows disposed in said frame, and lever means connected with said windows whereby the same may be opened.

6. A device of the type described comprising a frame, aligned windows disposed in said frame, weather strips carried by said frame for abutting the aligned windows, and lever means connected with said windows whereby the same may be opened.

7. A device of the type described comprising a frame, aligned windows disposed in said frame, weather strips carried by said frame for abutting the aligned windows, lever means connected with said windows whereby the same may be opened, and means connected with the lever means for holding the windows in engagement with the weather strips.

8. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, means whereby the bottom window may be moved upwardly, and means whereby said bottom window may be held in a suspended position.

9. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, said bottom window being provided with pins extending through slots in the sides of said window frame, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, the slots in the sides of said window frame being adapted for permitting the bottom window to be moved upwardly, and weight means operatively connected with said pins whereby the bottom window may be held in a suspended position.

10. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, said bottom window being provided with pins extending through slots in the sides of said window frame, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, the slots in the sides of said window frame being adapted for permitting the bottom window to be moved upwardly, track members connected with the sides of said window frame, and catch means mounted on the bottom window and in operative engagement with said track members whereby said bottom window may be properly positioned within the frame.

11. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, said bottom window being provided with pins extending through slots in the sides of said window frame, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, the slots in the sides of said window frame being adapted for permitting the bottom window to be moved upwardly, track members connected with the sides of said window frame, catch means mounted on the bottom window and in operative engagement with said track members whereby said bottom window may be properly positioned

within the frame, and weight means operatively connected with said pins whereby the bottom window may be held in a suspended position.

12. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, said bottom window being provided with pins extending through slots in the sides of said window frame, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, the slots in the sides of said window frame being adapted for permitting the bottom window to be moved upwardly, track members connected with the sides of said window frame, and catch means mounted on the bottom window and in operative engagement with said track members whereby said bottom window may be properly positioned within the frame, said catch members being adapted for disengagement with said track members whereby said bottom window may be swung inwardly.

13. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, means whereby the bottom window may be moved upwardly, and means whereby said bottom window may be held in a suspended position, said top window being movably connected with the frame and adapted for being swung inwardly when said bottom window is moved out of alignment therewith.

14. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, said bottom window being provided with pins extending through slots in the sides of said window frame, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, the slots in the sides of said window frame being adapted for permitting the bottom window to be moved upwardly, and weight means operatively connected with said pins whereby the bottom window may be held in a suspended position, said top window being movably connected with the frame and adapted for being swung inwardly when said bottom window is moved out of alignment therewith.

15. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, said bottom window being provided with pins extending through slots in the sides of said window frame, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, the slots in the sides of said window frame being adapted for permitting the bottom window to be moved upwardly, track members connected with the sides of said window frame, and catch means mounted on the bottom window and in operative engagement with said track members whereby said bottom window may be properly positioned within the frame, said top window being movably connected with the frame and adapted for being swung inwardly when said bottom window is moved out of alignment therewith.

16. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, said bottom window being provided with pins extending through slots in the sides of said window frame, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, the slots in the sides of said window frame being adapted for permitting the bottom window to be moved upwardly, track members connected with the sides of said window frame, catch means mounted on the bottom window and in operative engagement with said track members whereby said bottom window may be properly positioned within the frame, and weight means operatively connected with said pins whereby the bottom window may be held in a suspended position, said top window being movably connected with the frame and adapted for being swung inwardly when said bottom window is moved out of alignment therewith.

17. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, said bottom window being provided with pins extending through slots in the sides of said window frame, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, the slots in the sides of said window frame being adapted for permitting the bottom window to be moved upwardly, track members connected with the sides of said window frame, and catch means mounted on the bottom window and in operative engagement with said track members whereby said bottom window may be properly positioned within the frame, said catch members being adapted for disengagement with said track members whereby said bottom window may be swung inwardly, said top window being movably connected with the frame and adapted for being swung inwardly when said bottom window is moved out of alignment therewith.

18. The combination of a window frame, a top and a bottom window disposed in said

frame and normally positioned in alignment, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, means whereby the bottom window may be moved upwardly, means whereby said bottom window may be held in a suspended position, said top window being movably connected with the frame and adapted for being swung inwardly when said bottom window is moved out of alignment therewith, and means whereby said top window may be removed from the frame.

19. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, said bottom window being provided with pins extending through slots in the sides of said window frame, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, the slots in the sides of said window frame being adapted for permitting the bottom window to be moved upwardly, weight means operatively connected with said pins whereby the bottom window may be held in a suspended position, said top window being movably connected with the frame and adapted for being swung inwardly when said bottom window is moved out of alignment therewith, and means whereby said top window may be removed from the frame.

20. The combination of a window frame, a top and a bottom window disposed in said frame and normally positioned in alignment, said bottom window being provided with pins extending through slots in the sides of said window frame, means operatively connected with the bottom window and said frame whereby said bottom window may be moved out of alignment with said top window, the slots in the sides of said window frame being adapted for permitting the bottom window to be moved upwardly, track members connected with the sides of said window frame, catch means mounted on the bottom window and in operative engagement with said track members whereby said bottom window may be properly positioned within the frame, said top window being movably connected with the frame and adapted for being swung inwardly when said bottom window is moved out of alignment therewith, and means whereby said top window may be removed from the frame.

Signed at Lombard, in the county of Du Page and State of Illinois, this 1st day of May, A. D. 1930.

SEBASTIAN P. NEUHAUSEN.