April 6, 1926. 1,579,848

J. J. VENO

DOUBLE WINDOW AND SCREEN CONSTRUCTION

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Fig. 1.

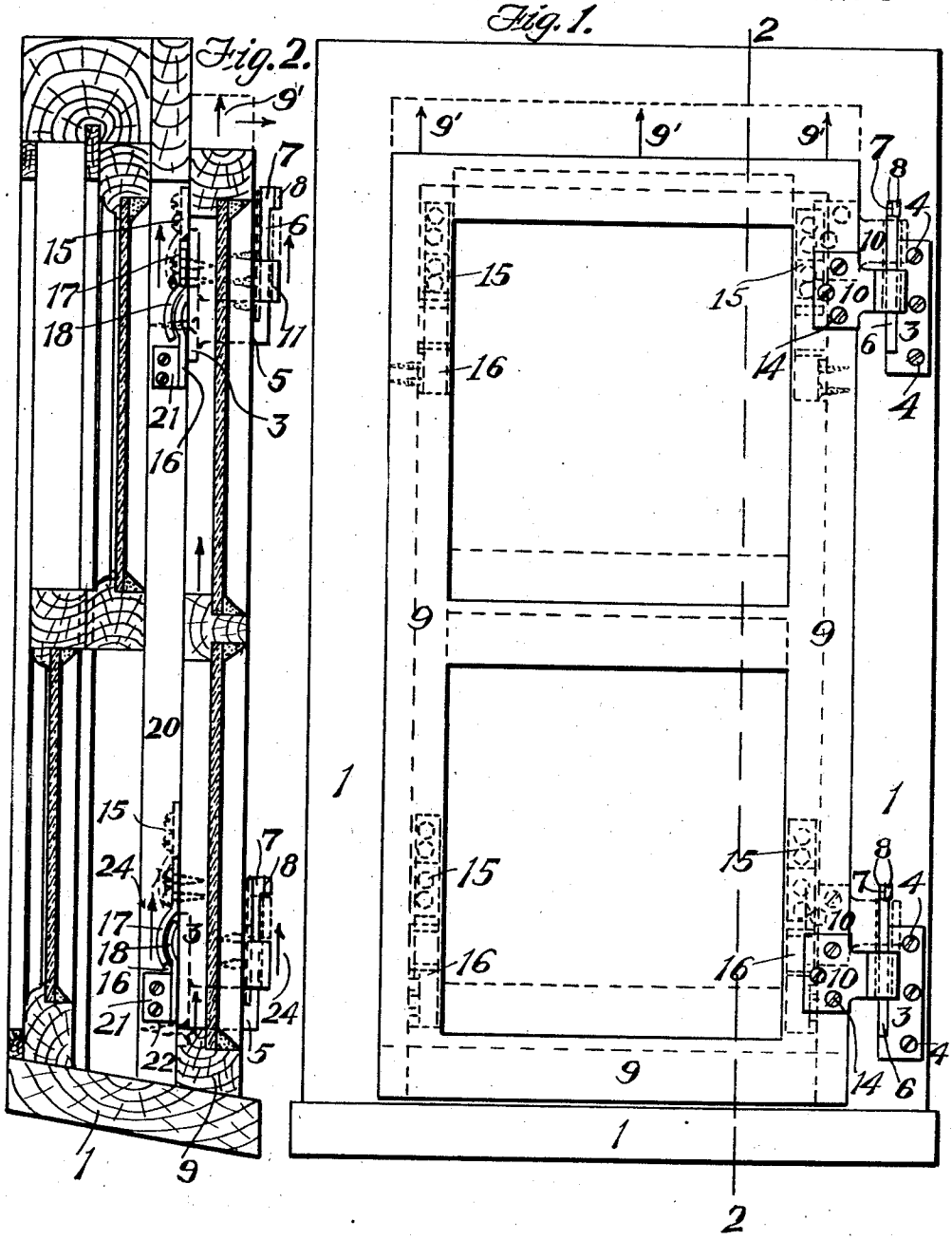


Fig. 2.

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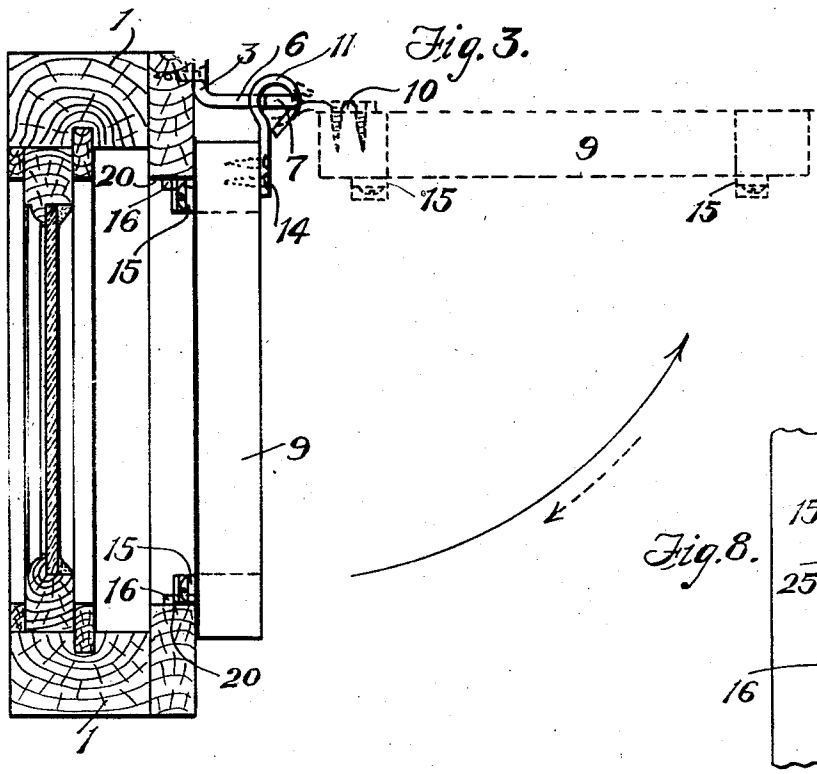


Fig. 3.

Fig. 8.

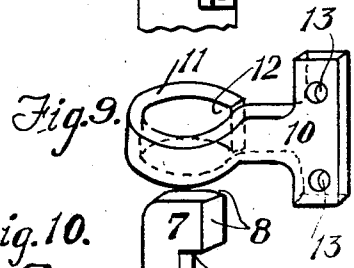


Fig. 9.

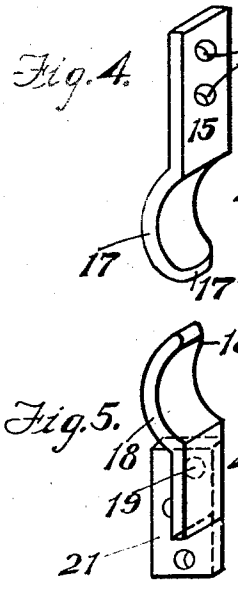


Fig. 4.

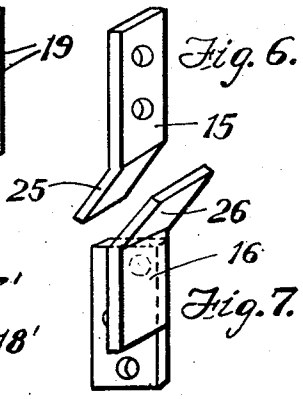


Fig. 6.

Fig. 7.

Fig. 5.

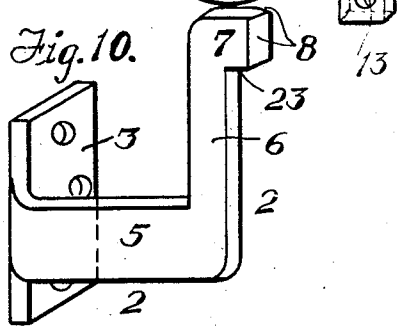


Fig. 10.

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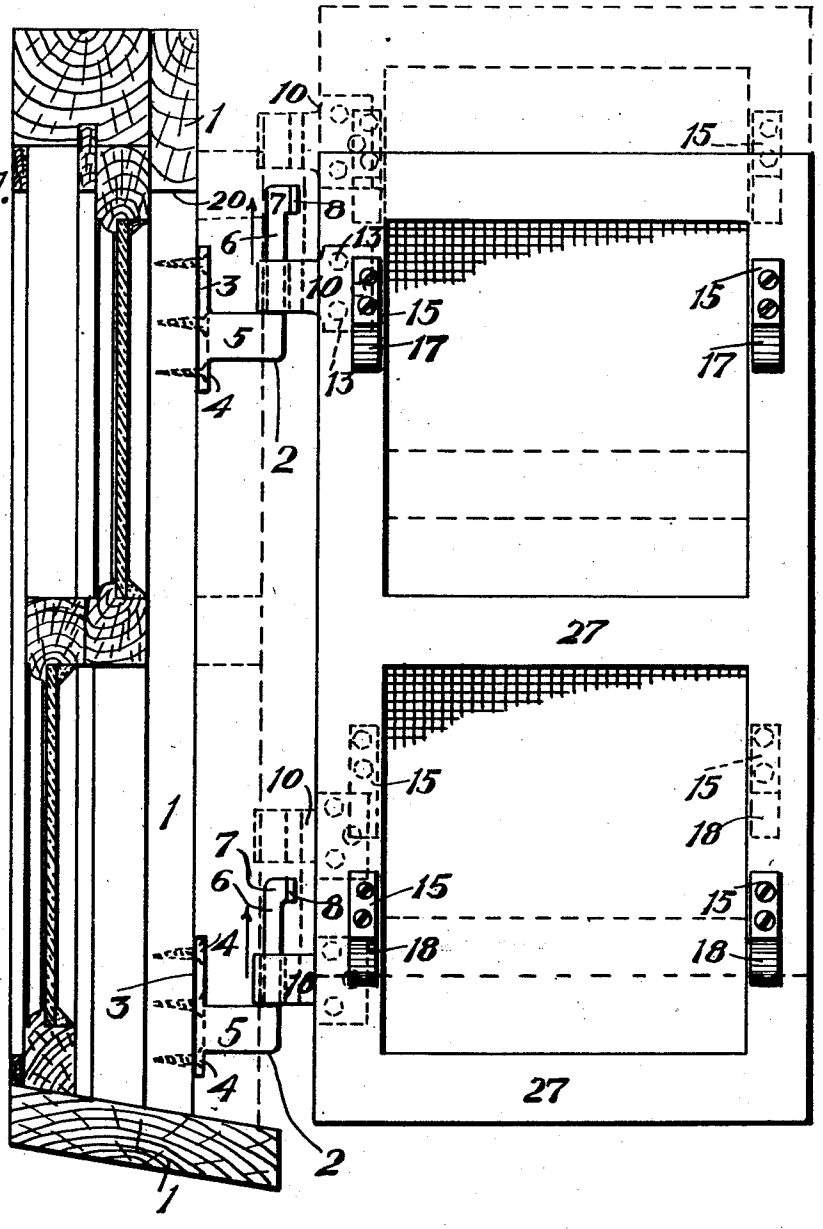
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Fig. 11.



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Patented Apr. 6, 1926. 1,579,848

UNITED STATES PATENT OFFICE.

JAMES J. VENO, OF GREENFIELD, MASSACHUSETTS.

DOUBLE WINDOW AND SCREEN CONSTRUCTION.

Application filed April 7, 1925. Serial No. 21,283,

To all whom it may concern:

Be it known that I, JAMES J. VENO, a citizen of the United States, residing at Greenfield, in the county of Franklin and State of Massachusetts, have invented new and useful Improvements in Double Window and Screen Constructions, of which the following is a specification.

This invention relates to improvements in devices for attaching double or storm windows to window frames; or for attaching window screens to the window frame.

Broadly, it comprises a pair of brackets that are permanently secured to the outside of the window frame, hinges which are permanently attached to the storm window, or screen frame, which are rotatably and slidably mounted on the brackets. The brackets being formed with elongated vertically arranged arm portions and a stop at their upper ends to limit the upper movements of the storm window when they are assembled for attachment or removal. Clip means are permanently secured to the inner surfaces of the storm window and to the vertical inner surfaces of the window frames which interlock to automatically draw the storm frame against the window frame to form an air tight joint, and, to prevent accidental displacement.

Referring to the drawings:

Fig. 1 is a front elevational view showing a storm window in its closed position on the window frame.

Fig. 2 is a vertical sectional view of the storm frame on the line 2—2 of Fig. 1 looking in the direction of the arrows and illustrating the brackets which are permanently secured to the window frame, the hinges that are attached to the storm window and the interlocking clip devices on the inner surface of the storm window and inner vertical surfaces of the window frame, the dotted lines represent the clip devices before the storm frame is pushed downward.

Fig. 3 is a detail view showing the storm window in full line and locked position, the window frame in section, and the dotted line position into which the storm window is swung when it is to be removed from the window frame.

Fig. 4 is a detail view of one of the interlocking clip devices which is permanently attached to the inner surface of the storm window.

Fig. 5 is the cooperating clip device that is permanently secured to the window frame.

Figs. 6 and 7 are corresponding views of a modification in which the cooperating locking clip device instead of being curved at their inner ends are inclined.

Fig. 8 is a detail view illustrating the use of the inclined locking devices.

Fig. 9 is a detail view of the hinge that is attached to the storm window or window screen and formed with an eye.

Fig. 10 is a detail view of one of the brackets that are permanently attached to the outside of the window frame.

Fig. 11 is a view illustrating the usual window frame, and upper and lower sash in section, the brackets which are secured to the outer surface of the window frame and the hinges which are formed with eyes that are attached to a storm window frame, also the cooperating clip devices on the inside of the storm window and window frame.

Referring to the drawings in detail:

1 designates the usual window frame; 2 brackets which are shown in large view in Fig. 10 with the base plate 3 that are attached to the outer uprights of the window frame, as indicated by the screws 4. 5 is an arm that is formed integrally with the base plate 3 that extends outward and at right angles to the plane of the plate 3. This arm has an upwardly extending pivot portion that lies in the same plane as the arm 5 and its upper end is formed with an enlarged end portion which constitutes a stop portion 7 with the tapered or V-shaped surfaces 8.

Attached to the storm window 9 are the hinge members 10 which are formed with the bent eye portion 11. This portion 11 has its inner end as indicated at 12 inclined or of a tapered formation in order to correspond with the tapered or wedge shaped portion 8 of the bracket 2, whereby the storm window member 9 may be placed on the brackets 2, as will be fully described. The hinges 10 are provided with openings 13 for attaching the same to the outer surface of the storm window member 9 by means of the screws 14.

For the purpose of retaining the storm window frames 9 on the outer surface of the window frames 1, there are secured on the inner surface of these frames 9 the four clips 15 and secured to the inner upright surfaces of the window frame 1 are cooperating clips 16 both of which clips are shown

on a large scale in Figs. 4 and 5. These clips are each formed with the curved surfaces 17 and 18 and are attached to the storm window frame 9 and the window frame 1 respectively by means of the openings 19.

It will be observed that the inner surfaces of the storm window member 9 or the window screen frame 27 are provided with four of the clip devices 15 at their respective corners and that the inner upright surfaces 20 of the window frame 1 has attached thereto the clip members 16 by means of the base portions 21 and the screws 22. Each one of these clip members 16 is located immediately below the clip members 15 on the storm window frame 9 or screen frame 27.

The operation of attaching the storm window to the window frame 1, is as follows: The operator places the storm window frame 9 in the position shown in dotted lines shown in Fig. 3 so that the conical shaped portion 12 of the loop hinges 10 coincides with the conical or V-shaped end 8 of the part 7 of the brackets 2. This permits the hinges 10 to slide over the enlarged part 7 and down onto the horizontal member 5. The operator then turns the storm window frame 9 into its full line position as shown in Fig. 3. Next he lifts the frame upward until the hinges 10 engage the under side or edges 23 (see Fig. 10) of the enlarged head portion 7 which prevents the window frame 9 from being removed from the brackets. This operation brings the lower edges 17′ of the curved portions 17 of the clips 15 above the upper edges 18′ of the curved portions 18 of the clips 16 as shown in dotted lines in Fig. 2, whereby when the frame 9 is moved downward, the curved members 17 and 18 will be interlocked as shown in this figure. The upward movement of the frame 9 is indicated by the arrows 9′. The shape of these curved surfaces is such that the frame 9 is automatically moved tightly against the outer surfaces of the window frame 1. It is understood that in order to remove the storm frame 9 completely from the window frame it is only necessary to lift the same upward as is indicated by the arrows 24, in Fig. 2, the large end portions 7 of the brackets 5 will, as before, act as a stop for the upward movement of the frame 9. The curved portions 17 and 18 are now free from each other as shown by the dotted position in Fig. 2. The operator may now swing the frame 9 outward as shown in Fig. 3 when it may be taken or removed from the brackets 2.

As a modification of the construction of the clips is shown in Figs. 4 and 5, reference is made to the structures shown in Figs. 6 and 7 in which the upper clips 15 instead of being formed with a curved portion 17 is formed with an inclined part 25, and the lower member 16 instead of being formed with the curved part 18 is formed with the inclined part 26. The inclined parts 25 and 26 will operate in the same manner as the curved members 17 and 18 with the possible exception that the curved members operate to lock or retain the window frame 9 in its downward position against displacement since these curved members are more or less elastic and slide over each other in placing the frame 9 on and off of the window frame.

Referring to Fig. 11 in which a window screen frame 27 is shown in place of the storm window frame 9 in Fig. 1, in which the window screen 27 is equipped for attachment to the window frame 1. The bracket members 2 are utilized, as before, and the screen 27 is provided with hinges 10 and the upper and lower located clip members 15 and 16 are attached to the inside of the screen 27, whereby when this member is swung into the corresponding position shown in Fig. 3, the clip members 15 and 16 will interlock and retain the screen attached to the outside of the window frame. If it is desired to temporarily open the screen 27 or the storm window 9 for the purpose of ventilation or for other purposes, it may be readily opened by simply lifting upward on these frames and swinging the same outward, as shown in Fig. 3. The stops 7 on the bracket arms 6 will prevent the frame being disconnected accidentally, from the supporting bracket 2.

The screen frame may be readily moved to their closed positions on the window frames by swinging them inward and then lifting them upward so that the curved edges 17 and 18 are free, then pushing the same downward as already described.

It will be seen from this description that I have provided a very simple and inexpensive construction for attaching a storm window or window screen to the window frame.

When not in use, the brackets 2 are permanently located on the window frame. It may also be stated that in the event that the frames 9 or 27 are slightly different in thickness the hinges 10 may be bent accordingly in order to compensate for the thickness.

What I claim is:

1. A device for attaching a storm window frame or the like to a window frame comprising in combination, supporting brackets attached to the window frame, each bracket having outwardly extending arm portions, an upwardly extending pivot bar portion formed with a stop part on its upper end, the frame having hinges attached thereto that is formed with an eye to receive the stop part of the bracket, the storm frame member and the window frame having cooperating clip members for locking the storm frame member to the window frame,

said clip members having interengaging portions that slide on the other in attaching and detaching the same to the window frame.

2. A bracket for the purpose described comprising a base portion, an arm portion at right angles thereto, an upright part integral with the arm portion, and having an enlarged end portion which is formed with beveled edges, a cooperating hinge member having an eye, one part of the eye having inclined surfaces corresponding in formation with the beveled edges of the enlarged end portion, whereby the eye part may be placed over the other for the purpose described, and locked on the bracket.

3. A cooperating clip construction for the purpose described, comprising, in combination, with a window frame and a storm window frame or the like, the window frame having brackets attached to its vertical outer surface at one side thereof, and hinges on the storm frame which are formed with eyes to fit the brackets, the inner surface of the storm frame having clip members attached thereto and formed with off-set portions, the vertical inner edges of the window frame having cooperating clip members attached thereto and formed with correspondingly shaped off-set portions which engage the off-set portions when the storm frame is moved downward to draw the frame against the window frame, the eyes of the hinges being slidably mounted on the brackets for vertical movement.

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