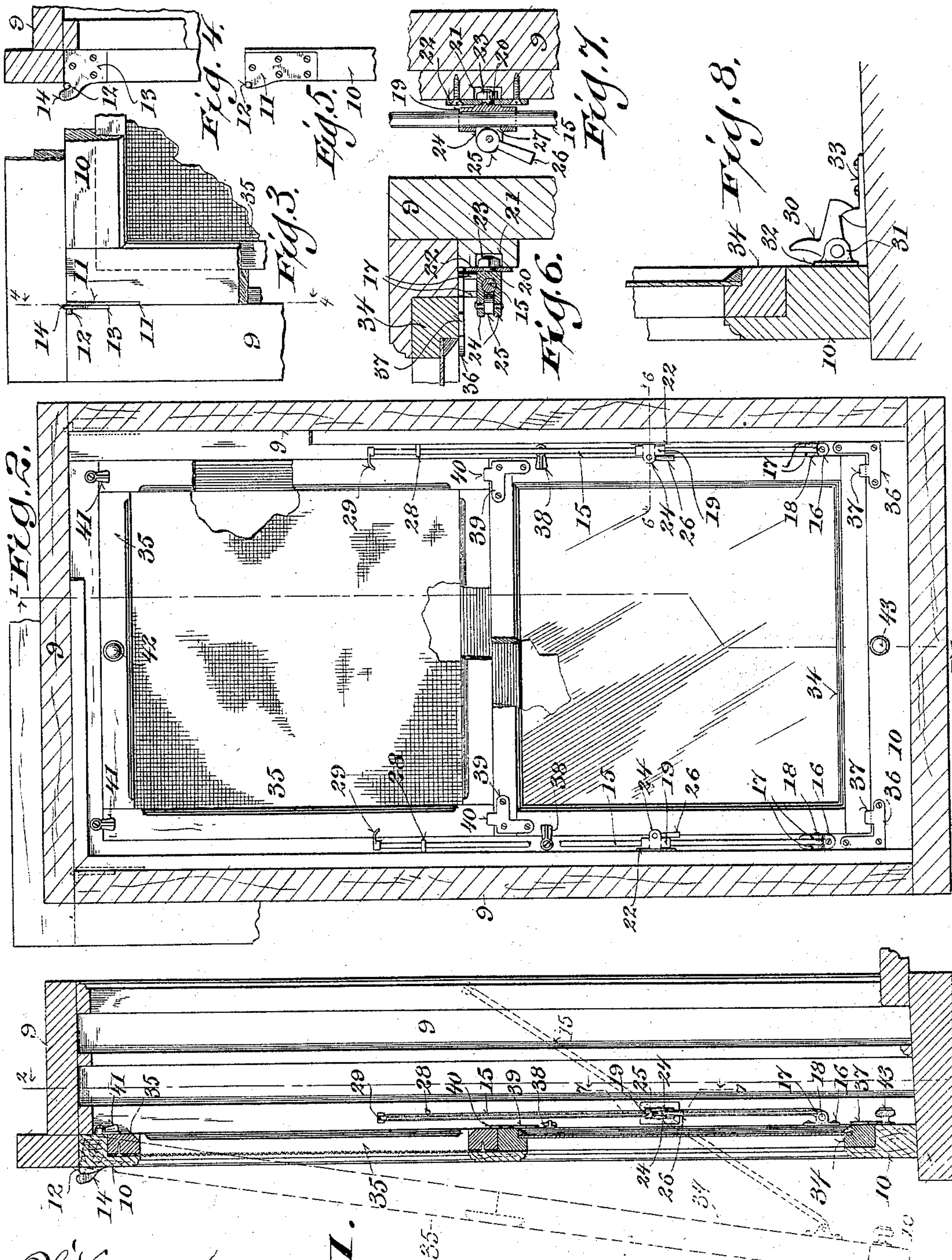


(No Model.)

B. J. DANIELSON.
STORM OR SCREEN FRAME.

No. 590,004.

Patented Sept. 14, 1897.



Witnesses:
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Fig. 1.

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UNITED STATES PATENT OFFICE.

BERNHARD J. DANIELSON, OF MILWAUKEE, WISCONSIN.

STORM OR SCREEN FRAME.

SPECIFICATION forming part of Letters Patent No. 590,004, dated September 14, 1897.

Application filed July 31, 1896. Serial No. 601,172. (No model.)

To all whom it may concern:

Be it known that I, BERNHARD J. DANIELSON, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented
5 a new and useful Improvement in Storm or Screen Frames, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

10 My invention has relation to improvements in storm or screen frames.

The primary object of the invention resides in the readiness and facility with which the frame can be swung open to admit of the
15 proper ventilation without danger of contact of any of the parts with the curtain, and hence preventing tearing of the curtain.

With the above primary object and other incidental objects in view the invention consists of the devices and parts or their equivalents, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a vertical sectional view on the line 1 1 of Fig. 2. Fig. 2 is a front elevation, looking
25 from the inner side, with parts broken away. Fig. 3 is an elevation of a fragment of the window-casing and my improved frame, looking from the outside. Fig. 4 is a view taken on a plane indicated by the dotted line 4 4 of
30 Fig. 3. Fig. 5 is a view of the outer edge of the upper portion of the storm or screen frame. Fig. 6 is a horizontal section on the line 6 6 of Fig. 2. Fig. 7 is a section on the line 7 7 of Fig. 1; and Fig. 8 is a sectional view through
35 the lower portion of the storm or screen frame, showing a modified form of fastening device, said device engaging a catch on the sill of the window-casing.

Referring to the drawings, the numeral 9
40 indicates a window-casing of ordinary construction. Fitted within this casing is my improved storm or screen frame, (indicated by the numeral 10,) the upper side edges of this frame having secured thereto plates 11
45 11. These plates at their upper outer edges project outwardly slightly beyond the face of the frame and are formed with lateral outwardly-extending trunnions or pivots 12 12. Secured to opposite points of the inner edges of
50 the window-casing are plates 13 13, which are provided with outwardly-projecting curved lugs 14 14, in which the projecting ends of

the trunnions 12 fit and turn, whereby a pivotal connection between the frame and window-casing is secured.

Pivoted to the opposite side strips of the frame, near the lower ends thereof and upon the inner side of said frame, are rods 15 15. The pivotal connection is advisably formed by means of plates 16 16, secured to the side
60 strips of the frame and provided with projecting lugs 17 17, between which the ends of the rods are received and turn upon bolts 18.

Secured to the inner side edges of the window-jamb are swiveled sleeves 19 19. The
65 swiveling is preferably secured by providing the sleeves with inwardly-projecting stems 20 20, which pass into recesses 21 21, formed in the groove-strips of the window-casing. These recesses are covered by plates 22 22,
70 through which the stems also of course pass in their passage to the recesses. In order to prevent the stems from being pulled out of the recesses, they are provided upon their inner ends within the recesses with enlargements or
75 nuts 23 23.

Fig. 1 of the drawings shows in dotted lines the storm or screen frame as forced outwardly to a partial open position, this being accomplished by pushing the rods through
80 the sleeves. In order to bring the storm or screen frame to the closed position indicated by full lines in Figs. 1 and 2, the rods are pulled inwardly through the sleeves. From the fact that the sleeves are swiveled, and are
85 therefore capable of free turning, the rods are permitted to describe an arc of a circle, which of course is necessary to successful operation in view of the fact that the storm or screen frame is pivoted at its upper end
90 to the window-casing. In order to retain the storm or screen frame in an open position, it is necessary to lock the rods 15 15 in the position to which they have been necessarily adjusted in order to hold the lower end of the
95 frame outwardly. This is preferably accomplished by forming the sleeves with laterally-extending ears 24 24, between which cams 25 25 are eccentrically pivoted. These cams are formed with suitable handles 26 26 for con-
100 venience in operating the same. The sleeves are also formed with openings 27, through which the cams extend when the handles are thrown upwardly, the edges of said cams then

bearing against the rods and firmly wedging them in adjusted position.

When the storm or screen frame is completely closed, the sleeves 19 and the rods 5 passing therethrough are necessarily turned to a vertical position. It is then advisable that some means should be provided for locking the rods in such position. For this purpose I have shown pins 28 28, extending in- 10 wardly from the groove-strips of the window-casing. The rods are simply forced in front of these pins, and are consequently thereby locked in adjusted vertical position. The upper ends of the rods may be provided with 15 handles 29 29 to facilitate the disengagement of the rods from the pins, which handles are preferably removably secured to the upper ends of the rods.

In Fig. 8 of the drawings a modified form 20 of lock is shown. This consists in a spring-actuated latch 30, pivoted between ears 31, extending from a plate 32, secured to the lower end of the storm or screen sash. The latch is preferably in the form of a bell-crank 25 lever, and its horizontal arm is provided with a shoulder which is adapted to normally engage an upwardly-extending lug from a plate 33, secured to the sill of the window-frame. When it is desired to release the latch, all 30 that is necessary is to press outwardly on the upwardly-extending member thereof, against the pressure of the spring, and thereby release the shoulder of the horizontal member from engagement with the lug of the plate 33.

35 In the present illustration of my invention I have shown two sashes arranged within the storm or screen frame. This is the preferable arrangement, although it will be readily understood that one continuous sash may be 40 adjusted to the frame 10. Two separate sashes, however, are preferable, inasmuch as they are much lighter and can therefore be more readily and easily removed than a single or continuous sash.

45 The lower sash is indicated by the numeral 34 and the upper sash by the numeral 35. In Figs. 1 and 2 of the drawings the lower sash is shown as a storm-sash, while the upper is illustrated as a screen-sash. Secured 50 to the lower corners of the storm and screen frame 10 are angular strips 36 36, the horizontal members of which are provided with upwardly-extending lugs 37 37. The lower sash 34 is adapted to fit into the frame 10, its 55 lower strip being received back of the lugs 37. The upper end of the lower sash is held in place by means of turn-buttons 38 38, secured to the side strips of the storm and screen frame 10 and adapted to be turned inwardly, 60 as clearly shown in Fig. 2. The upper corners or angles of the lower frame 34 are also provided with angular strips 39 39, which are formed with upwardly-projecting lugs 40 40. The lower edge of the upper sash 35 is adapted 65 to fit back of these lugs, and the upper edge of said upper sash is held in place by means

of turn-buttons 41 41, adapted to be turned down to the position shown in Fig. 2.

In order to remove the two sashes, it is obvious that all that is necessary to do is to first 70 turn the buttons 41 and then remove the upper sash and finally turn the buttons 38 to permit of the removal of the lower sash. The upper sash may be provided with a knob 42 for convenience in removing the same, and 75 the storm or screen frame 10 may be provided at its lower end with a similar knob 43 for convenience in removing said sash.

If desired, the storm and screen frame may be left permanently in the window-casing 80 without the necessity of removing the same for the purpose of changing a storm-sash to a screen-sash, or vice versa. This latter, as is well known, entails considerable labor, which is obviated by the use of my device, 85 inasmuch as after a winter season the storm sash or sashes can be removed and screen sash or sashes readily substituted without the necessity of disturbing the storm or screen frame. If, however, for any reason it is re- 90 quired to remove said screen or storm frame, it is swung outwardly until the rods 15 are free of the sleeves 19, the handles of said rods having been first removed, when of course the trunnions or pivots 12 can be readily 95 raised out of engagement with the outwardly-extending lugs 14.

Another advantage of my invention to which attention is directed is the fact that as the storm or sash frame is swung inwardly 100 for the purpose of closing the same the rods 15 describe the arc of a circle, and consequently the inner ends thereof will not strike against the curtain, and thereby all danger of tearing the curtain is avoided. 105

When a single storm or screen sash is employed instead of two separate sashes, as shown, the lugs of the angular strips 36 of course hold the lower edge of said sash in place, while the upper turn-buttons 41 hold 110 the upper end of said sash.

What I claim as my invention is—

1. The combination, of a window-casing, a frame for a storm-sash, screen-sash, blind, or analogous device, said frame pivoted at its 115 upper edge to the upper edge of the window-casing, a rod pivoted at or near the free end of the frame and adapted to swing up and down on its pivot, a sleeve having a horizontal pivot or swivel-point, said pivot or point 120 extending into a bearing in the inner side of the side piece of the window-casing, said sleeve adapted to have the rod pass therethrough, and to describe an arc of a circle with the rod as the frame is swung in or out, 125 the sleeve and the rod being disposed at an incline when the frame is swung out, and disposed in a vertical plane adjacent to the inner side of the frame, when said frame is swung in to a closed position, the arc of the 130 circle described by the rod being such that the end of said rod is prevented from contact-

ing with the shade or curtain of the window, and means for holding the rod in adjusted position within the sleeve.

2. The combination, of a window-casing, a frame for a storm-sash, screen-sash, blind, or analogous device, said frame pivoted at its upper edge to the window-casing, rods pivoted at opposite sides of the storm or screen frame at or near the free end of said frame, sleeves having horizontal pivots or swivel-points said pivots or points extending into bearings in the inner sides of the side pieces of the window-casing at opposite points, said sleeves adapted to have the rods pass there-through, and to describe an arc of a circle with the rods as the frame is swung in or out,

the sleeves and their rods being disposed at an incline when the frame is swung out, and disposed in a vertical plane adjacent to the inner side of the frame, when said frame is swung in to a closed position, the arc of the circle described by the rods being such that the ends of the rods are prevented from contacting with the shade or curtain of the window, and means for holding the rods in adjusted position within the sleeves.

In testimony whereof I affix my signature in presence of two witnesses.

BERNHARD J. DANIELSON.

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ANNA V. FAUST.