Feb. 5, 1935. J. ROSE 1,990,206

CASEMENT AND OTHER WINDOW SCREEN

Filed July 24, 1933 2 Sheets-Sheet 1

Fig. 1.

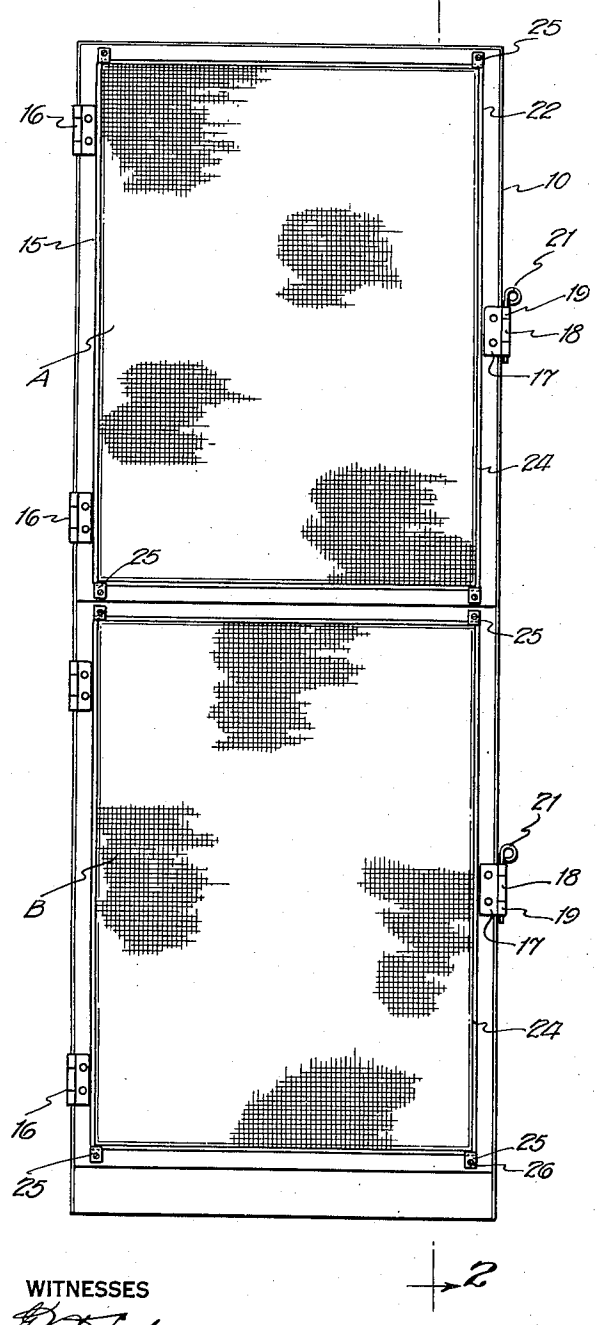
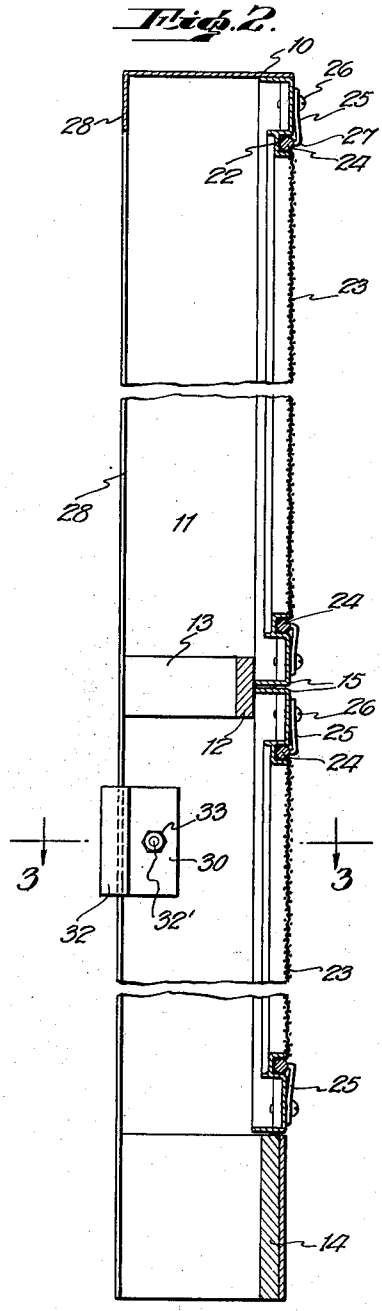


Fig. 2.



WITNESSES

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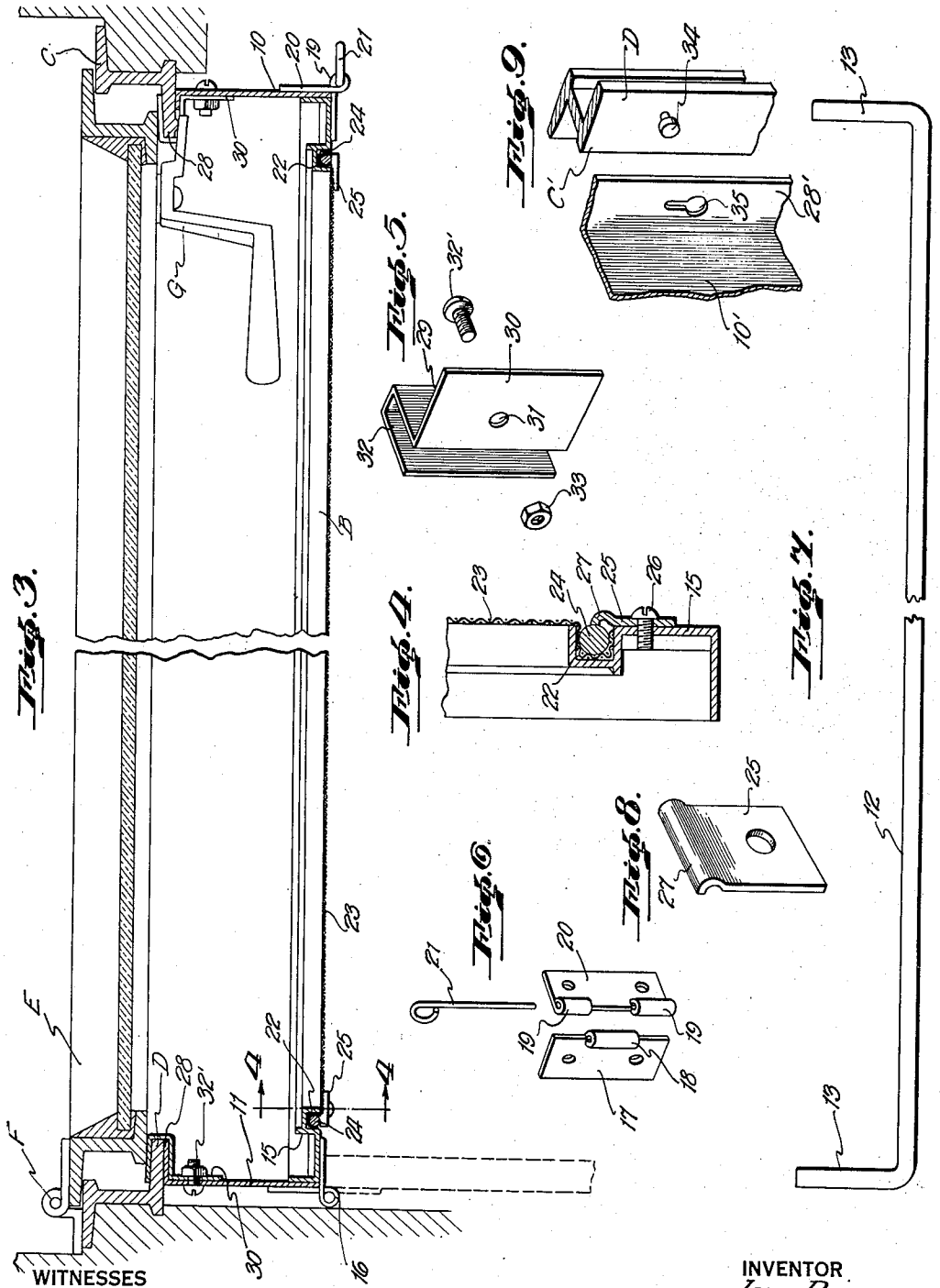

WITNESSES

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UNITED STATES PATENT OFFICE

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CASEMENT AND OTHER WINDOW SCREEN

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Application July 24, 1933, Serial No. 681,831

10 Claims. (Cl. 156—14)

This invention relates to improvements in window screens, and more particularly to screens for use upon casement windows.

The main object of the invention resides in a casement window screen which is simple and inexpensive of construction and which may be easily and quickly mounted upon a casement window frame or removed therefrom.

Another feature is to provide a window screen which may be attached to a casement window frame without requiring alterations in the casement frame.

A further object is the provision of a casement window screen which when in position to close the window opening, also houses the hardware of the window, such as the lock handle and stop rod, but which hardware is accessible from the inside of the window through doors provided in the screen to facilitate of the opening and closing of the casement window without disturbing the attachment of the screen to the casement frame.

A still further object of the invention is to provide a novel means for removably securing the wire cloth or screen to the screen frame without the use of tacks, molding strips, and like fastening elements.

A further object of the invention resides in a casement window screen which embodies upper and lower inwardly swinging screen sections or doors, which permits access to the upper and lower portion of the casement window for cleaning purposes without removing the window screen from its attached position upon the casement frame.

A still further object is to provide a casement window screen which is relatively light in weight for convenient handling purposes, and which is rigid and strong of construction to render long service for the purposes intended.

With these and other objects in view, the invention resides in the certain novel construction, combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawings, in which:

Figure 1 is a front elevational view of my casement window screen per se.

Figure 2 is an enlarged vertical sectional view on the line 2—2 of Figure 1.

Figure 3 is a horizontal sectional view on the line 3—3 of Figure 2 but showing the screen mounted upon a casement window.

Figure 4 is an enlarged detail sectional view on the line 4—4 of Figure 3 showing the manner in which the window screen is fastened in the screen door frame.

Figure 5 is a detail perspective view of one of the door fasteners.

Figure 6 is a detail perspective view of the screen door latch.

Figure 7 is a top plan view of the reinforcing bar for the screen frame.

Figure 8 is a detail perspective of one of the screen retaining clips.

Figure 9 is a detail perspective view of a modified form of attaching means between the screen and the casement frame.

Referring to the drawings by reference characters, the numeral 10 designates a metal rectangular frame of a size and shape to fit against the casement frame of the window opening to be screened. The metal frame 10 is provided with parallel vertical side walls 11—11, which walls are of a width sufficient to house the hardware of the casement window when the screen is in position thereover. Extending transversely of the frame 10 intermediate the top and bottom rails thereof is a U-shaped brace or reinforcement bar 12, the legs 13 of which are fixedly secured to the inner faces of the side walls 11. The reinforcing bar 14 extends transversely across the bottom of the frame to strengthen the same at this point.

Hinged to the front side of the frame 10 at one of the side rails 11 are screen doors A and B. The doors A and B are arranged one above the other or above and below the transverse brace bar 12. The bar 12 acts as a stop for limiting the inward swinging movement of the two screen doors. The doors A and B constitute upper and lower screen doors respectively which are opened independently of each other and in view of the fact that they are of identical construction, the description of one will suffice for the other.

Each screen door includes a metal rectangular shaped frame 15 hinged to one of the side walls 11 of the frame as at 16 whereas the opposite side of the frame 15 carries a hinge butt 17, the barrel 18 of which is adapted to be brought into alinement with the barrels 19 of the hinge butt 20 fixedly mounted on the side wall 11 of the frame opposite to that side on which the door is hinged. When the barrels 18 and 19 are in alinement with the screen door in closed position, a pin 21 is dropped therethrough to secure the doors in such closed position.

Each of the door frames 15 is formed with a channel or groove 22 extending parallel to the

four sides of the door frame and adjacent the inner edges of the frame. Stretched across the frame 15 and having its side edges seated in the respective channels or grooves is a covering of wire screen or cloth 23. The screening 23 spans the frame 15 and is stretched taut thereacross and secured in such taut condition in a manner to be now explained.

As above mentioned, the edges of the wire screening 23 extend into the channels or grooves 22 and inserted into the channels or grooves is a wire frame 24 of a shape corresponding to the shape of the screen and of a size to snugly fit within the channels. The wire frame 24 clamps the edges of the edges of the wire screening 23 against the walls of the channel 22 and the said wire frame is held in position by resilient clips 25 fastened at the corners of the frame 15 by screws or like fastening elements 26. The inner edges of the clips 25 are provided with inwardly extending flanges 27 which directly bear upon the wire frame 24 to set up the desired pressure for maintaining the frame 24 in clamped position within the channels 22.

In Figure 3 of the drawings I have illustrated my invention in position upon a casement window and which window includes the usual type of casement frame C having inwardly extending flanges D against which the frame of the casement window E abuts when the casement window is in closed position. The window E is hinged to one side of the casement frame C as at F and is secured in a locked position by a handle operated latch G, which latch extends inwardly of the casement frame C. The latch G engages one of the sides of the casement frame C when in locked position to prevent outward swinging of the casement window E. The screen may be said to embody a front side, namely that on which the screen doors are mounted, and a rear side, which is that side opposite to that on which the doors are mounted. Extending inwardly from the top of the frame 10 and from the side walls 11 of the frame at the inside thereof are flanges 28 and when the screen is in position these flanges 28 flatly engage the inner faces of the flanges D of the casement frame C. For securing the screen in position upon the casement frame C, I employ resilient attaching clips 29 fixedly secured to the side walls 11 of the frame at opposite points and substantially midway between the top and bottom ends of the frame as best seen in Figure 2 of the drawings. Each of the attaching clips 29 comprises an attaching flange 30 having an opening 31 therein. The clip is constructed of a single piece of resilient bendable metal and after forming the attaching flange 30 the material is bent along one edge into a U-shaped portion 32. The attaching flange 30 of each clip fits against a side wall 11 of the screen frame and a bolt 32 passes through an opening in the side wall 11 and through the opening 31 in the attaching flange 30, after which a nut 33 is screwed onto the threaded shank of the bolt 32. The U-shaped portion 32 of each clip embraces one of the flanges 28 and the outer side of the flange D of the casement frame C as best illustrated in Figure 3 of the drawings. Thus it will be seen that by clipping the screen frame 10 to the casement frame C at opposite sides, the screen is rigidly held in position flat against the casement frame C to prevent insects from entering the inside of a dwelling through the joints between the casement frame and the screen frame.

A portion of one flange 28 is cut away to enable the engagement of the latch G with one side of the casement frame C to prevent any interference of the screen in the locking and unlocking of the casement window E.

By reference to Figure 3 of the drawings, it will be seen that the front screen portion of the screen frame is disposed in spaced relation to the casement window E and which space is sufficient to house all of the hardware usually associated with casement windows, such as the stop rods for limiting the extent of outward swinging movement of the casement window, the latch member G, and other similar accessories.

When the screen is in position upon the casement frame, access to the lower portion of the casement window may be reached by the opening of the lower screen door B. Thus the latch G may be actuated to lock and unlock the window E and the stop rods may be adjusted depending upon the degree of movement to which the casement window E is to be opened. By opening both screen doors A and B, the entire inside of the casement window may be exposed and reached from the inside of the dwelling for the cleaning or washing of the window.

In Figure 9 of the drawings I have illustrated a slightly modified construction of attaching means between the screen frame and the casement frame. In this form the casement frame is designated at C' and the flange D' is provided with an inwardly extending headed stud 34. Opposite sides of the screen frame 10' are formed with inwardly extending flanges 28' having keyhole shaped slots 35 provided therein. The enlarged portions of the slots 35 initially receive the enlarged heads of the studs 34, after which the screen frame is lowered so that the restricted portion of the keyhole shaped slots 35 receive the shank of the headed studs 34. It may be desired to embody this particular construction of attaching means in cases where the attaching means shown in the preferred form is not suitable.

While I have shown and described what I deem to be the most desirable embodiment of my invention, I wish it to be understood that such changes as come within the scope of the appended claims may be resorted to if desired.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent of the United States, is:—

1. A window screen including a frame having side flanges adapted to fit flat against the side flanges of a casement window frame, and means carried by the sides of the screen frame for securely clamping the side flanges of the screen frame, and the side flanges of said casement window frame together, said means comprising a clip removably secured to said screen frame and formed with a U-shaped portion which embraces the meeting flanges of said casement frame and screen frame.

2. A casement screen including a box like frame adapted to fit against the inside of a casement frame, fastening means for removably securing said box like frame to said casement frame, and screen door means swingably mounted in said box like frame to facilitate access to an associated window.

3. A casement window screen comprising a frame having opposed inwardly extending flanges, screen door means mounted in said frame for swinging movement, and attaching clips mounted on said opposed flanges and adapted to engage

a portion of a casement window frame for securing the window screen thereto.

4. A casement window screen comprising a rectangular shaped metal frame, the side walls of said frame being relatively wide to give depth thereto, the outer side of said frame being screened and having door means therein, and attaching means on the inner side of said frame.

5. A casement window screen comprising a metal box-like frame adapted to have its rear side fit against a window casement frame, screen doors hinged to one of the sides of said frame at the front thereof for closing said frame, and attaching means at the rear of said frame by which the window screen may be supported upon a window casement frame.

6. A casement window screen comprising a frame adapted to fit against the weather flanges of a casement window frame, screen door means mounted within said frame for swinging movement, and fastening devices associated with said frame for detachable engagement with the weather flanges of a casement window frame.

7. A screen device for casement windows comprising a box-like frame of light metal as compared to the heavy metal of the casement and having hinged to it the framework of the screen proper, said box-like frame projecting inward from the casement window so as to space the screen proper from the window to provide room for the window fastenings and the like, the construction being such that the screen proper may be swung open to permit manipulation and cleaning of the window without disturbing the box-like frame.

8. A screen device for casement windows comprising a box-like frame of light metal having hinged to it the framework of the screen proper, said box-like frame being attachable to the casement frame and projecting inward from the casement window so as to space the screen proper from the window to provide room for the window fastenings and the like, the construction being such that the screen proper may be swung open to permit manipulation and cleaning of the window without disturbing the box-like frame.

9. A screen device for casement windows comprising a box-like frame of light metal having hinged to it the framework of the screen proper, said framework being also of light metal flanged at its edges to fit closely in its opening in said box-like frame, said box-like frame being attachable to the casement frame so as to extend inward away from the casement window leaving a space between the window and the screen proper for window fastenings and the like, the construction being such that the screen proper may be swung open to permit manipulation and cleaning of the window without disturbing the box-like frame.

10. A casement screen including a box-like frame adapted to fit against the inside of the casement frame, means for securing said box-like frame to said casement frame and screen door means swingably mounted in said box-like frame to facilitate access to an associated window.

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