

T. H. RANEY.
WINDOW SCREEN.

APPLICATION FILED DEC. 30, 1911.

Patented May 7, 1912.

2 SHEETS-SHEET 1.

1,025,721.

Fig. 1.

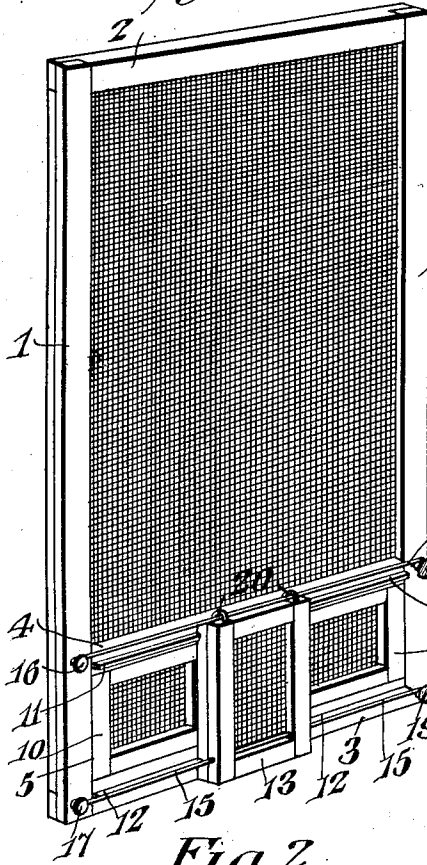
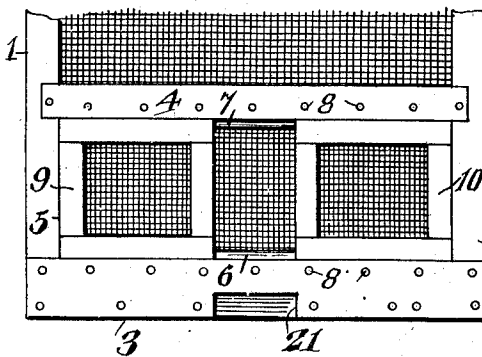


Fig. 2.



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Fig. 3.

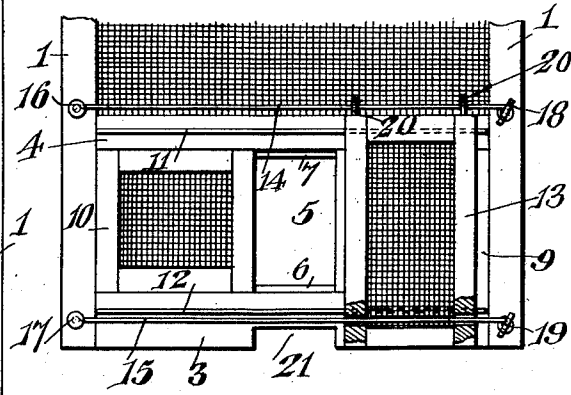


Fig. 4.

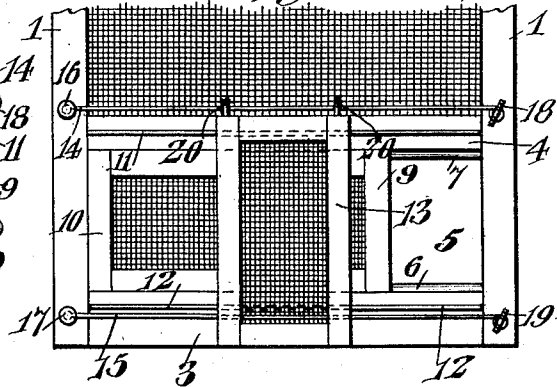
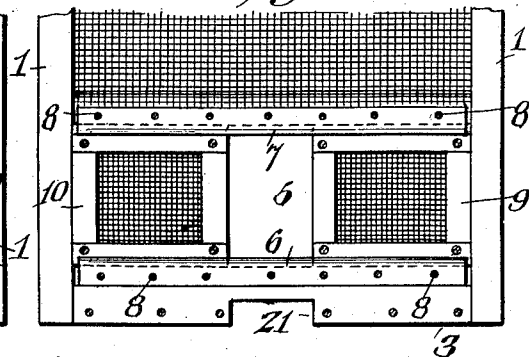


Fig. 5.



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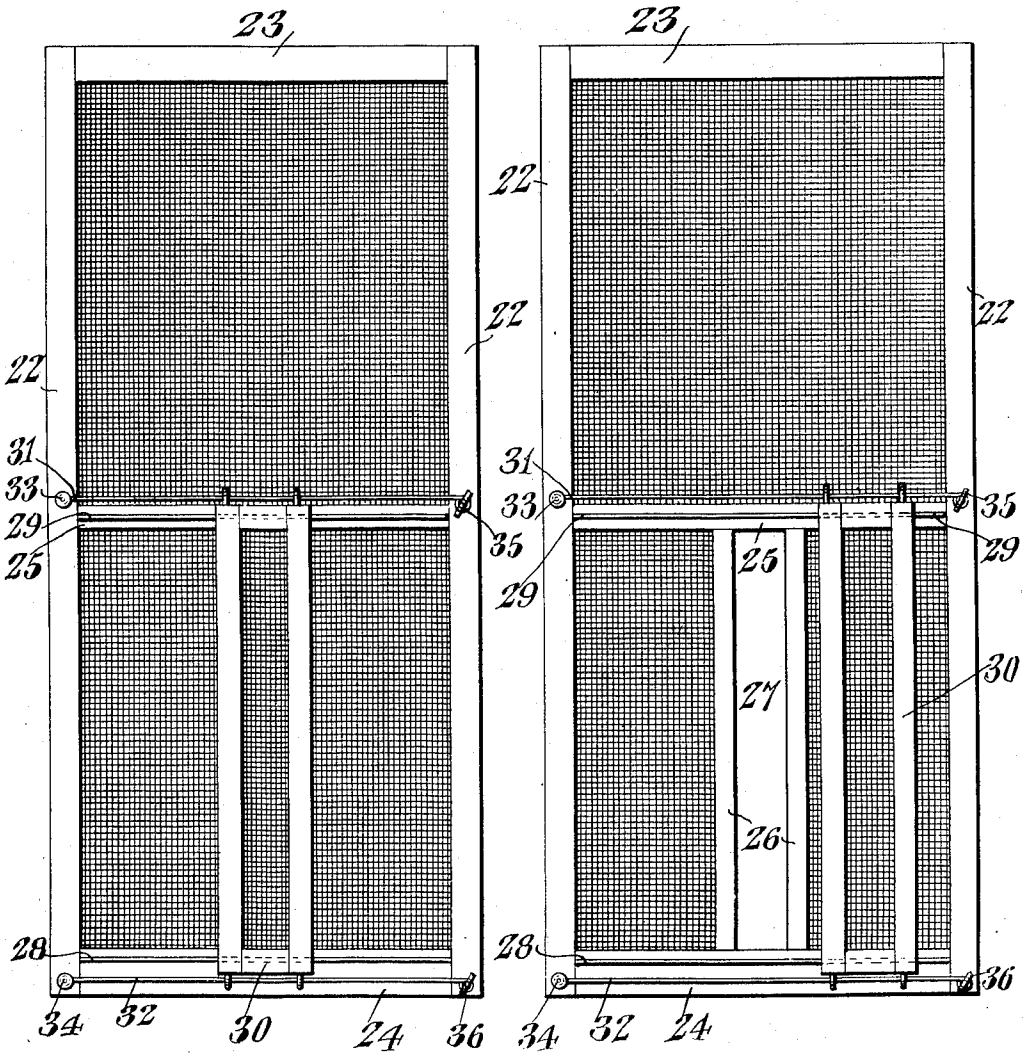
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2 SHEETS-SHEET 2.

Fig. 6.

Fig. 7.



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WINDOW-SCREEN.

1,025,721.

Specification of Letters Patent.

Patented May 7, 1912.

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To all whom it may concern:

Be it known that I, THOMAS H. RANNEY, a citizen of the United States, residing at Chapel Hill, in the county of Orange and State of North Carolina, have invented a new and useful Window-Screen, of which the following is a specification.

This invention relates to window screens, using the term in a generic sense as including screens for windows, transoms, doors and the like adapted to the exclusion of flies, mosquitoes and other insect pests.

A particular object of the invention is the provision in such a screen of means for affording access therethrough to outside shutters, awning cords and other exterior equipment for the operation of the same without the necessity of removing the screen bodily, or raising the same and thus leaving a large opening for the entrance of insects.

The invention as thus outlined and hereinafter particularly claimed will be readily understood from the following detailed description, taken in connection with the accompanying illustrative drawings, showing a preferred embodiment of the same and also one modification.

In these drawings:—Figure 1 is a perspective view representing the inside of a full-length window screen embodying the invention. Fig. 2 is a partial outside elevation of the same. Fig. 3 is a similar inside view partly in section, showing the panels in one position of adjustment. Fig. 4 is an inside elevation with the panels otherwise adjusted. Fig. 5 is a vertical section, taken between the two sides of the sliding panels. Figs. 6 and 7 are elevations showing the inside of the screen embodying a modification of the invention.

Referring first to Figs. 1 to 5 of the drawings, these figures show a full-length window screen especially adapted to be mounted outside the sash upon the blind stops. The frame proper comprises the usual stiles 1 and top and bottom rails 2 and 3. The lower portion of the frame is also provided with a spacing rail 4, arranged at a slight distance above the bottom rail and forming therebetween a panel opening 5. The upper face of the bottom rail is provided in the median plane of the screen with a track member 6 and the bottom face of the spacing rail with a similar track 7, arranged in opposition to the track 6. These track mem-

bers 6 and 7 may comprise sheet metal strips let into the space between the two parts of the bottom rail and spacing rail, as shown in Fig. 5, such strips being secured to the rails by tacks, brads, or screws 8. Screen panels 9 and 10 are provided on their upper and lower edges with grooves engaging the tracks 6 and 7, whereby they are mounted for horizontal sliding movement within the plane of the screen and between the bottom rail and the spacing rail. The aggregate width of the two screen panels 9 and 10 is less than the width of the screen frame proper, and preferably they have a combined width equal to substantially two-thirds of the total width of the screen frame, so that when the screen panels 9 and 10 occupy a position at the opposite sides of the panel opening, as shown in Fig. 5, there is left a space between such panels.

The bottom and spacing rails are provided in their side faces with track members 11 and 12, projecting from the plane of the screen frame at substantially right angles, and a third panel 13 is provided in its rear face with grooves adapted to engage the said track members 11 and 12 to guide the same for sliding horizontal movement over the full width of the screen frame and in a plane parallel thereto, the front faces of the bottom and spacing rails and of the screen panels 9 and 10 being in close contiguous relation to the rear face of the screen panel 13.

Spanning the screen frame and preferably at points immediately above and below the screen panels 9 and 10 are supporting wires 14 and 15. These wires are fixed at one end to suitable studs 16 and 17 and at the opposite end are wound upon thumb screws 18 and 19. The said thumb screws are threaded into the screen frame and by means of their connection with the said supporting wires, the said screws may be adjusted to maintain the same under the proper degree of tension. These supporting wires are slidably connected with the third screen panel, the upper wire 14 being preferably threaded through eyelets 20, affixed in the upper edge of the panel while the lower wire 15 is preferably threaded through the stiles of said panel. It will thus be seen that the panels 9 and 10 are independently slidable in the plane of the screen so as to leave an opening in the center of the screen,

as shown in Figs. 3 and 5, or, at either side of said frame, while the third panel 13 is slidable in a plane parallel to the frame to control the opening left by the panels 9 and 10.

That portion of the screen above the spacing rail is covered with screen cloth in the usual manner, while the portion below the spacing rail is left uncovered. Each of the screen panels is also covered with screen cloth, and when the panels occupy the position, shown in Fig. 1, the entire screen frame is covered and in this normal position the admission of insects is effectually prevented. If it is desired to reach the shutter or blind on the right hand side, the panel 9 is shoved to the center, as shown in Fig. 4, leaving an opening on that side sufficient only to accommodate the hand or arm. To reach the left hand shutter, the panel 10 is restored to its normal position and the panel 9 shoved to the right thus making an opening on the left hand side of the screen. If it is desired to reach the shutters at the meeting edges, the center panel 13 is shoved to one side, as shown in Fig. 3.

It will be observed that the lower rail 3 is provided with a notch 21 to accommodate the catches of the shutter, so that the shutter can close tightly against the screen, as the keepers for the shutter catches are usually arranged in the plane containing the blind stops. When the blinds are closed, the catches occupy a position in this notch beneath the screen frame, and the screen panel 13 is for this reason made of sufficient height to extend to the bottom of the bottom rail 3, and thus control the opening of the said notch. When the panel 13 is shoved to one side, as shown in Fig. 3, access is thereby afforded to the catches in order to disengage them from their keepers, while through the central opening 5 the blinds may be reached to push the same outward or draw them inward in the closing operation.

In Figs. 6 and 7 are shown a full-length screen frame adapted to be mounted on the stops inside the sash, under which circumstances, it is necessary to afford access therethrough to the sash in order to raise and lower the same. In this case it is not only desirable to be able to operate the lower sash, but also to be able to reach the upper sash to draw it downward for top ventilation. In this modification of the invention I have shown the stiles 22, the top rail 23, and the bottom rail 24 and the spacing rail 25 arranged midway of the height of the screen. Also middle stiles 26 forming therebetween a vertical panel opening 27. The middle stiles 26 are spaced apart a distance nearly sufficient to accommodate the hand or arm. In this case, as before, the screen frame proper is covered with cloth with the exception of the panel opening 27. The

front faces of the spacing rail 25 and the bottom rail 24 are provided with inset track members 28 and 29, which cooperate with grooves formed on the inside of a vertical panel 30 to guide the same for horizontal movement in a plane parallel to that of the screen frame, and with the opposing faces of said panel and the middle stiles 26 in contiguous relation. In this case also guide wires 31 and 32 are secured at one end to the studs 33 and 34 and at the other end wound upon thumb screws 35 and 36. Under normal conditions the panel 30 occupies the position shown in Fig. 6. When it is desired to adjust the height of the sash, the panel 30 is shoved to one side affording access thereto through the opening 27.

I am aware that window screens heretofore have been provided with panels affording access to the blinds and the like, but in the constructions known to me, the arrangement has been such as to leave exposed a large opening during the manipulation of the blinds and sash, which permits the entrance of insects, and it has been my particular effort to minimize this disadvantage as much as possible, by providing in the preferred embodiment shown cooperating panels having such slidable overlapping relation one to the other as to reduce the necessary opening as much as possible, and in the modified form by providing a very narrow opening, extending one half the height of the window in a central line to likewise enable the adjustment of the sash to be accomplished with the least exposure.

What is claimed is:—

1. A window screen having an opening therethrough, a track spanning the screen frame and projecting laterally from the plane of the screen, a screen panel disposed against the face of the screen over the opening and sliding on the track, supporting wires spanning the screen adjacent the rails of the track and slidably connected to the screen panel, a fixed connection between one end of the wires and the screen, and a tensioning connection between the other end and the opposite side of the screen.

2. A window screen having an opening therethrough, a track spanning the screen frame above and below the opening and projecting laterally from the plane of the screen at right angles, a screen panel disposed against the face of the screen over the opening and provided in its rear face with grooves sliding on the track, supporting wires spanning the screen adjacent the rails of the track and slidably connected to the screen panel by being threaded therethrough, a fixed connection between one end of the wires and the screen, and a tensioning connection between the other end and the opposite side of the screen comprising

screws threaded into the frame and having the terminals of the wires wrapped therearound.

3. A window screen having an opening extending horizontally in the lower portion thereof, a track comprising oppositely disposed rails spanning the screen frame in the plane thereof, and screen panels of an aggregate width less than the total width of the opening mounted within said opening for horizontal slidable movement upon said track, in combination with a track spanning the screen frame above and below the opening, a screen panel slidably mounted upon the track for horizontal movement with its rear face in contiguous relation to the front face of the first-named panels and having a width sufficient to cover the space left by the first panels.

4. A window screen having an opening extending horizontally in the lower portion thereof, a track comprising oppositely disposed rails spanning the screen frame in the plane thereof, and screen panels of an aggregate width less than the total width of the opening mounted within said opening for horizontal slidable movement upon said track, in combination with a track spanning the screen frame above and below the opening and comprising rails projecting laterally from the plane of the screen at right angles, a screen panel having its rear face provided with grooves sliding on the laterally extending rails with its rear face in contiguous relation to the front face of the first-named panels, the last-named panel having a width sufficient to cover the space left by the first panels, supporting wires spanning the screen frame adjacent the laterally extending rails and slidably connected to the last-named panel, a fixed connection between one end of the wires and the screen frame, and a tensioning connection between the other end of the wires and the opposite side of the screen frame comprising thumb screws threaded into the frame and having the terminals of the wires wrapped therearound.

5. In a window screen, the combination with the stiles and the top and bottom rails of the frame, of a spacing rail arranged at a slight distance above the bottom rail to form a panel opening therebetween, screen cloth disposed over the frame above the spacing rail, a pair of screen panels having an aggregate width less than the total width of the opening and of an individual height corresponding to the height of the opening, said screen panels slidably mounted between the spacing rail and the bottom rail for horizontal movement within the plane of the frame, a third screen panel of a size to cover

the remainder of the panel opening, said third panel slidably mounted for horizontal movement in a plane parallel to the plane of the other panels and with its rear face in contiguous relation to the front face of the said first-named panels, and means for supporting and guiding the third panel.

6. In a window screen, the combination with the stiles and the top and bottom rails of the frame, of a spacing rail arranged at a slight distance above the bottom rail to form a panel opening therebetween, screen cloth disposed over the frame above the spacing rail, metal strips projecting in the median plane of the frame from the lower face of the spacing rail and the upper face of the bottom rail to form a track, a pair of screen panels having their upper and lower edges provided with grooves engaging the track for slidable horizontal movement between the spacing rail and bottom rail in the plane of the frame, said panels having an aggregate width less than the total width of the panel opening and of an individual height corresponding to the height of said opening, metal strips extending laterally from the front face of the spacing rail and bottom rail at right angles to the frame, a third panel having its rear face provided with grooves arranged for slidable engagement with the laterally extending rails, said third panel of a size to cover the remainder of the panel opening, supporting wires spanning the screen above and below the panel opening and slidably connected to the third screen panel by being threaded therethrough, a fixed connection between one end of the wires and the screen frame, and a tensioning connection between the other end and the opposite side of the frame and comprising a thumb screw threaded into the frame and having the terminals of the wires wrapped therearound.

7. A window screen having an opening therethrough, a track spanning the screen frame and projecting laterally from the plane of the screen, a screen panel disposed against the face of the screen over the opening and sliding on the track, and supporting wires spanning the screen adjacent the rails of the track and slidably connected to the screen panel, said supporting wires being connected at the ends to the opposite stiles of the screen frame.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

THOMAS H. RANEY.

Witnesses:

W. E. HEARN,

C. B. GRIFFIN.