Oct. 18, 1932. H. GELFAND 1,883,687

REMOVABLE SCREEN

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Fig. 1.

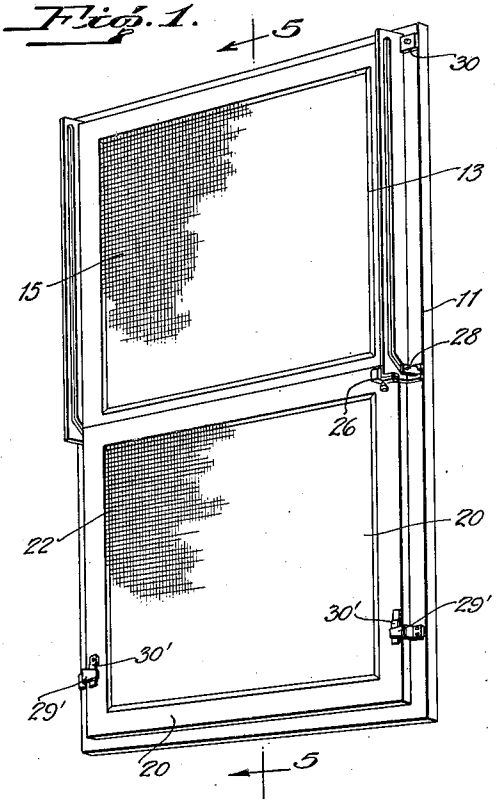


Fig. 2.

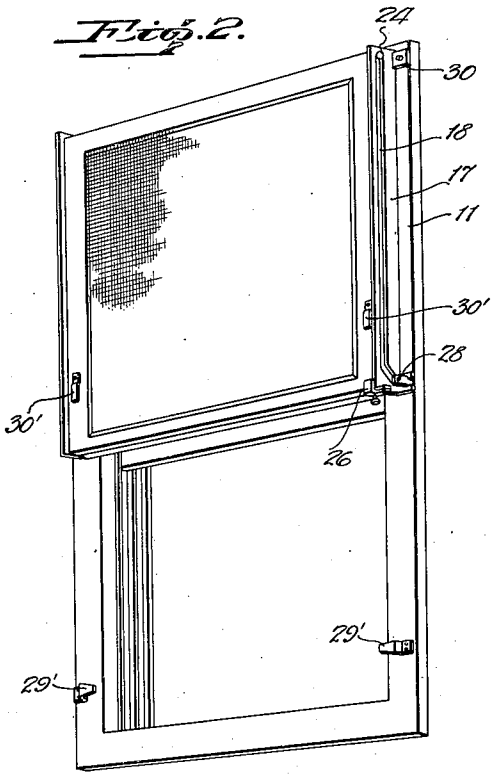
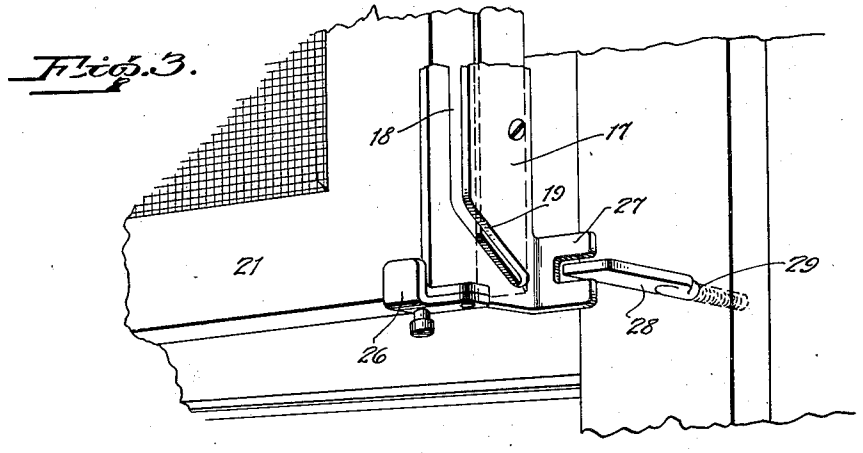


Fig. 3.



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Fig. 4.

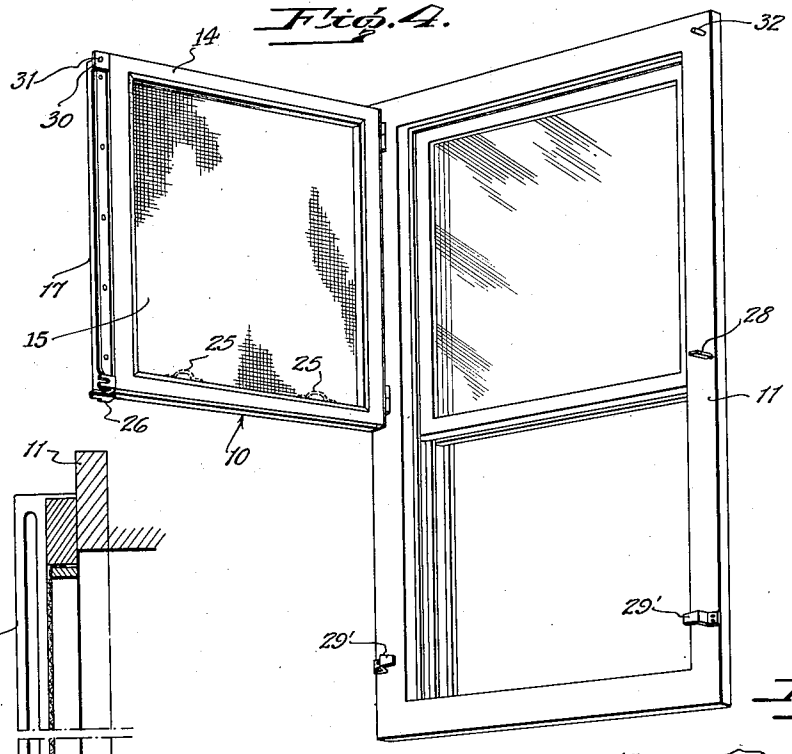


Fig. 5.

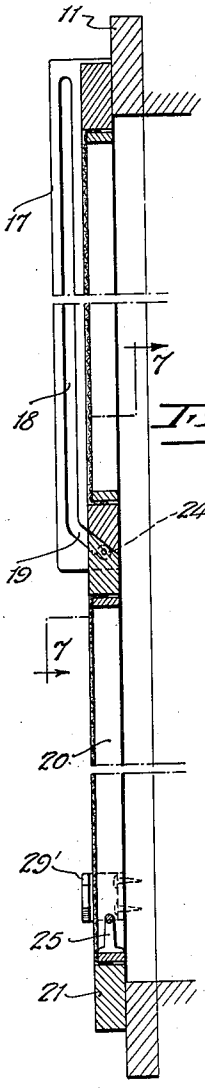


Fig. 6.

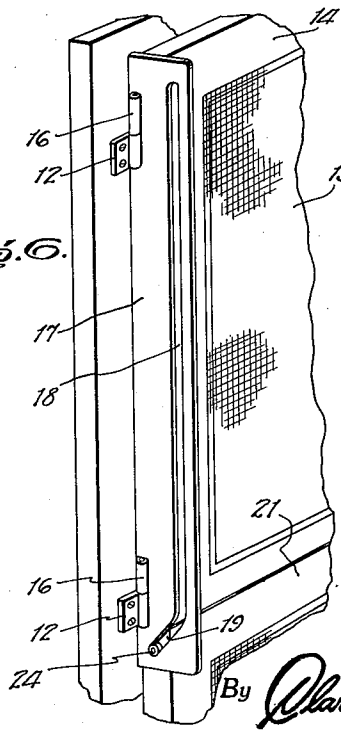
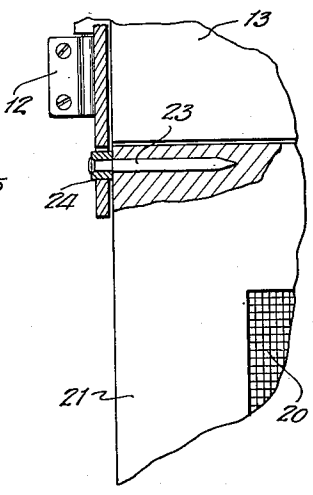


Fig. 7.



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1,883,687

UNITED STATES PATENT OFFICE

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REMOVABLE SCREEN

Application filed April 12, 1932. Serial No. 604,791.

This invention relates to window screens and more particularly to removable screens of the sliding type.

One of the features of the invention resides in a window screen having a vertical sliding lower screen section to enable a person to reach out through the window when necessary without removing the screen from its support, in association with means for securing the sliding screen section in a raised position.

Another feature of the invention is to provide a window screen including a lower slidable screen section and an outward swingable upper screen section, the lower screen section being connected with the upper screen section to swing outward therewith when raised to clear the window opening and permit of the cleaning of the outer surface of the glass panes of the sashes of a window.

A further object of the invention is the provision of a window screen having the above features of construction, and which is easy to attach or remove from a window casing, inexpensive of manufacture, and which is neat in appearance as not to detract from the architectural beauty of a house or building structure when in use thereon.

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 claims, and are illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of my improved screen in a closed position upon a window.

Figure 2 is a similar view but showing the lower screen section in a raised or open position.

Figure 3 is an enlarged detail perspective view showing the manner in which the screen may be locked in closed position, or released to swing to a fully opened position.

Figure 4 is a perspective view showing the lower screen section in a raised position and the upper section swung to a position clear of the window opening.

Figure 5 is a vertical transverse sectional view on the line 5—5 of Figure 1.

Figure 6 is a fragmentary perspective view of the hinged side of the upper screen section.

Figure 7 is an enlarged detail sectional view on the line 7—7 of Figure 6.

Referring to the drawings by reference characters, the numeral 10 designates my improved screen in its entirety which in the drawings is shown applied to a window frame or casing 11 for screening the opening therein. Fixed to one side of the window casing 11 above the plane of the longitudinal center thereof are a pair of spaced vertically alined hinge butts 12—12 having the usual upstanding pivot pins. The screen 10 includes an upper screen section 13 comprising a rectangular frame 14 having a covering of wire mesh screen 15 thereon. Fixed to one side of the frame 14 and suitably spaced are hinge barrels or knuckles 16 which receive the pins of the hinge butts 12 whereby the upper screen section 13 is hingedly supported upon the window casing for outward swinging movement.

Fixed to opposite sides of the frame 14 and extending outwardly therefrom are vertical plates 17 having vertical elongated guide slots 18 therein. The lower ends of the slots 18 terminate in inwardly extending downwardly inclined portions or branches 19. Associated with the upper screen section 13 is a lower sliding screen section 20 comprising a rectangular frame 21 covered by a wire mesh screen 22. The upper and lower screen sections are each approximately one half the size of the window frame opening to overlie each other when the lower screen section is raised for a purpose to be hereinafter appreciated.

Extending from opposite sides of the frame 21 adjacent the top rail thereof are guide

pins 23 having heads or anti-friction rollers 24 which extend into and ride in the slots 18. When the lower screen section is in a closed or lowered position the rollers 24 are disposed in the branch portions 19 of the slots so that the lower frame is disposed on the same vertical plane as the upper screen section or coextensive therewith. However, by lifting upward upon the lower section by grasping the hand grip 25 mounted on the bottom rail thereof, the lower screen section will move outwardly beyond the vertical plane of the upper screen section by reason of the guide pins and slots. When fully raised, the lower screen section overlies the upper screen section and is held in such position by swinging the pivoted catch 26 carried by the bottom of a guide plate 17, to a position beneath the lower rail of the lower frame 21 (see Figure 3).

For securing the hinged upper screen section 13 in a closed position, I provide a releasable catch which comprises a bifurcated ear 27 which extends from the lower free corner of the frame 14 which is engageable by a flat head 28 carried by the outer end of a shank or bolt 29 threaded in the casing 10. When the upper screen section is closed, the flat head is turned to bridge the bifurcations which locks the upper screen section against swinging movement, but the same may be released after the lower screen section has been raised by reaching through the window opening and turning the head to the position shown in Figure 3 which causes the flat head 28 to register with the bifurcation and allows the free swinging of the upper screen section.

For the purpose of securely holding the lower screen section down and against outward swinging movement when fully closed, I provide Z-shaped brackets 29′ at opposite sides of the window frame 11 adjacent the bottom thereof which are engaged by flat bowed springs 30′ secured to the side rails of the lower frame 21.

To assist in hingedly hanging or mounting the screen 10 upon the window casing 11, I provide an ear 30 at the top of the free side of the upper screen frame 14 which has an opening 31 therein for hooking engagement upon a pin 32 extending from one of the upper corners of the window frame 11. The screen may first be hung upon the pin 32 to relieve the weight of the same, after which the operator may swing the screen to cause the hinge sections 12 and 16 to engage.

From the foregoing description taken in connection with the accompanying drawings, it will be seen that I have provided an improved window screen construction which permits of the easy raising of the lower screen section to enable a person to reach outwardly through the window opening when desired. Furthermore, by reference to Figure 4 of the drawings, it will be apparent that the screen may be swung to a position clear of the window opening to enable the glass panes of the window sashes to be cleaned without removing the screen from its support.

While I have shown and described what I deem to be the preferred form of my invention, it will 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 is:—

1. In combination with a window frame, an upper screen section hingedly mounted to one side of said frame, a lower screen section slidably supported by said upper screen section for vertical movement, releasable fastening means for securing said lower screen section in a raised position, and releasable means for securing the upper screen section closed.

2. A window screen comprising an upper screen section, a lower screen section, and means for slidably connecting said lower screen section to said upper screen section so that when said lower screen section is in lowered position it is disposed on the same plane as said upper screen section but which causes said lower screen section to slide to one side of and over the said upper screen section when in a raised position.

3. A window screen comprising an upper screen section, a lower screen section, and means for slidably connecting said lower screen section to said upper screen section so that when said lower screen section is in lowered position it is disposed on the same plane as said upper screen section but which causes said lower screen section to slide to one side of and over said upper screen section when in a raised position, and releasable means for securing said lower screen section in a raised position.

4. A window screen comprising an upper screen section, plates extending outwardly beyond the side of said screen section, elongated slots provided in said plates and having inwardly extending offset portions at the lower ends thereof, a lower screen section, and guide pins extending from opposite sides of said lower screen section adjacent the top thereof and slidable in said plates.

5. A window screen comprising an upper screen section, plates extending outwardly beyond the side of said screen section, elongated slots provided in said plates, and having inwardly extending offset portions at the lower ends thereof, a lower screen section, guide pins extending from opposite sides of said lower screen section adjacent the top thereof and slidable in said plates, and releasable fastening means for securing said lower screen section in a position overlying said upper screen section.

6. In combination with a window casing.

an upper screen section supported by said casing, a lower screen section slidably supported upon said upper screen section, and guide means for causing said lower screen section to move to a position overlying said upper screen section when raised and to move to a position in the same plane and coextensive with respect to said upper screen section when lowered.

In testimony whereof I affix my signature.

HYMAN GELFAND.