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2,267,026

ATTACHED SLIDE WINDOW SCREEN

Filed April 17, 1939

2 Sheets-Sheet 1

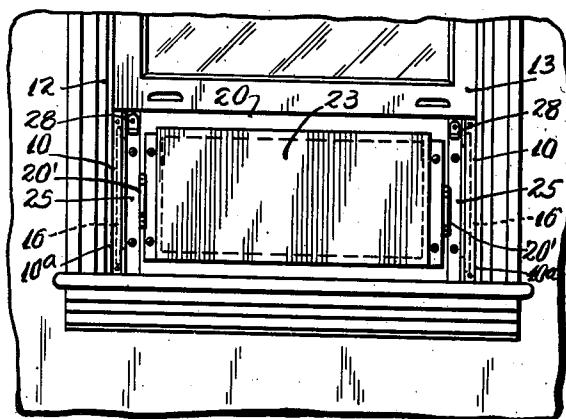


Fig. 1.

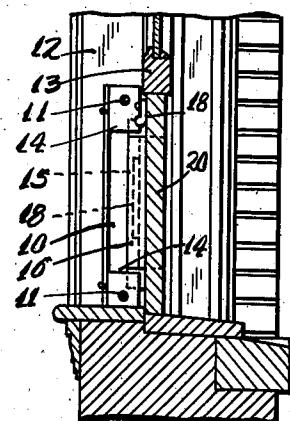


Fig. 3.

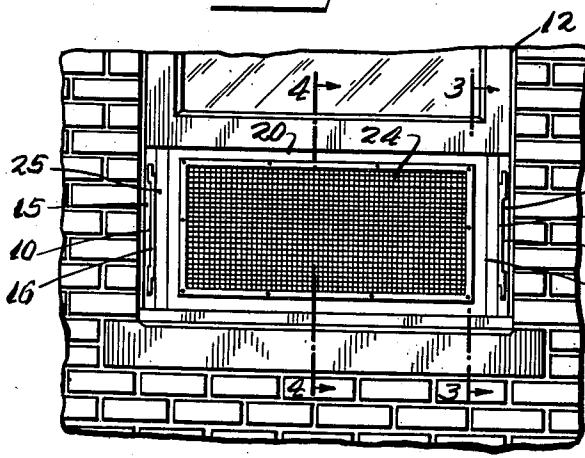


Fig. 2.

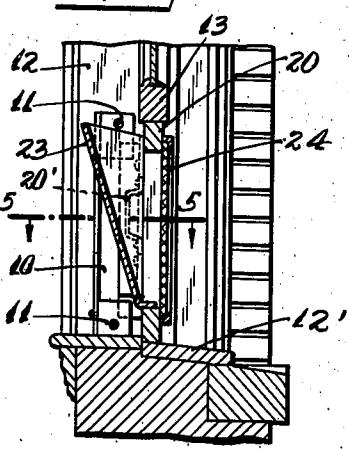


Fig. 4.

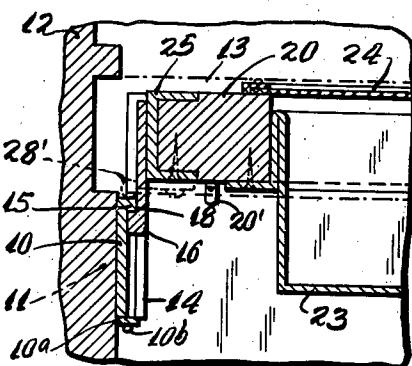


Fig. 5.

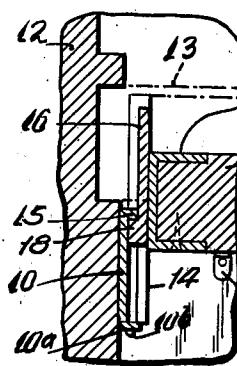
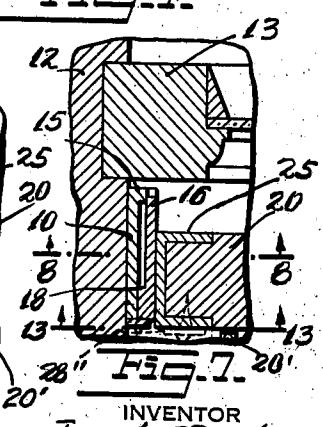


Fig. 6.



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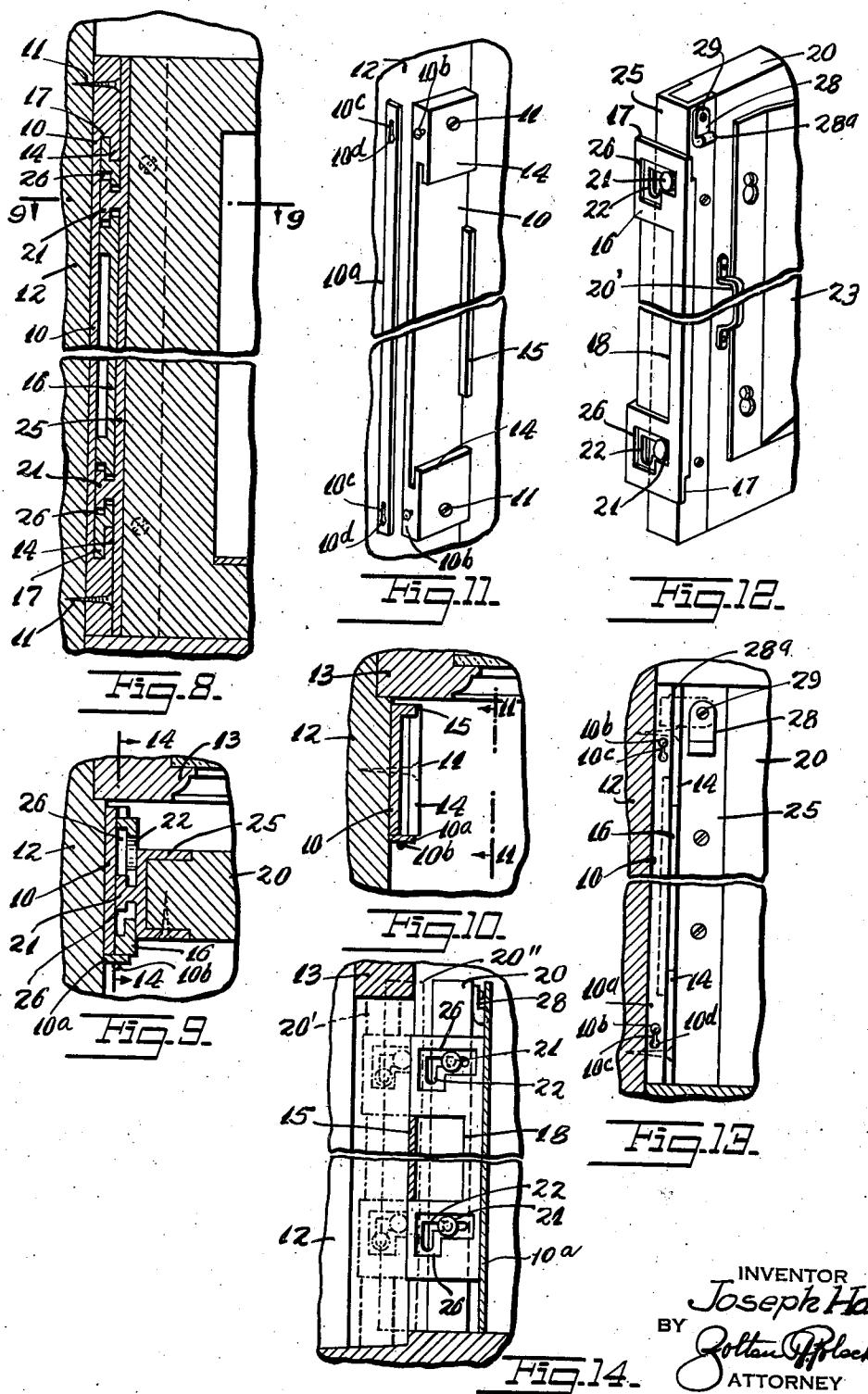
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ATTACHED SLIDE WINDOW SCREEN

Filed April 17, 1939

2 Sheets-Sheet 2



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## UNITED STATES PATENT OFFICE

2,267,026

## ATTACHED SLIDE WINDOW SCREEN

Joseph Haczka, Flushing, N. Y.

Application April 17, 1939, Serial No. 268,185

15 Claims. (Cl. 98—99)

This invention relates to new and useful improvements in an attached slide window screen.

The invention has for an object the construction of a window screen characterized by a novel way of supporting the screen and moving the screen into operative and inoperative positions.

More specifically, the invention makes use of a pair of side members for attachment to the sides of a window frame inwardly adjacent a vertically slidably mounted window sash thereof, and having track elements extending forwards and rearwards along the top and bottom portions thereof. The invention contemplates the use of strips associated with said track elements in a novel fashion and associated with the screen for assisting in supporting the window frame as desired.

Still further the invention proposes the arrangement of certain lips upon the side members cooperative with complementary shoulders upon the strips in a way so as to limit relative movements of these parts.

Another object of this invention resides in a novel provision of latches mounted on the screen in a certain way and engageable with the inner edges of the side members previously mentioned for latching the strips and screens in their inward positions and engageable with the outer edges of the said side members when said strips and screen are outwards for holding these parts in their latter mentioned positions.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a fragmentary elevational view of a window viewed from the inside of a room and equipped with a screen device constructed according to this invention.

Fig. 2 is a fragmentary elevational view of the window shown in Fig. 1 viewed from the outside.

Fig. 3 is a fragmentary vertical sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary vertical sectional view taken on the line 4—4 of Fig. 2.

Fig. 5 is a fragmentary horizontal sectional view taken on the line 5—5 of Fig. 4.

Fig. 6 is a fragmentary view similar to Fig. 5 but illustrating the parts in a slightly different position.

Fig. 7 is another view similar to Fig. 5 but illustrating the parts in still another position.

Fig. 8 is a fragmentary vertical sectional view on the line 8—8 of Fig. 7.

Fig. 9 is a fragmentary horizontal sectional view taken on the line 9—9 of Fig. 8.

Fig. 10 is a view similar to Fig. 7 but shown with certain parts thereof removed.

Fig. 11 is a fragmentary perspective view looking in the direction of the line 11—11 of Fig. 10, showing a portion of the device removed.

Fig. 12 is a fragmentary perspective view of the edge portion of the screen frame and associated parts which have been removed from Fig. 10.

Fig. 13 is a fragmentary sectional view taken on the line 13—13 of Fig. 7.

Fig. 14 is a transverse sectional view taken on the line 14—14 of Fig. 9, this view being provided with dot and dash lines to show the parts thereof in a different indicated position.

The window screen construction, according to this invention, includes a support in the form of a pair of side members 10 which are attached by fastening elements 11 to the sides of the window frame 12 inwardly adjacent the vertically slidable window sash 13. Each side member 10 has track elements 14 extending forwards and

rearwards along the top and bottom portions thereof. Each side member 10 also has a lip 15 on its outer edge portion. A strip 16 is provided for each side member 10 and each strip 16 has top and bottom track elements 17 inter-engaging with the said track elements 14 for supporting the strips to slide inwards and outwards. Each strip 16 is provided with a shoulder 18 engageable with the lips 15 to limit outwardly sliding.

A combination ventilator and screen is mounted upon a frame 20 and extends between the strips 16. Headed elements 21 are mounted on the sides of the frame 20 and engage bayonet slots 22 formed upon the strips 16 for limiting movement of the screen to a certain amount forwards and downwards.

Suitable handles 20' are secured to the frame 20 for gripping and moving the said frame. This frame may be left all year around in the window sash.

The combination screen and ventilator includes the said frame 20 and an air directing housing 23 mounted on the inner face of the frame and adapted to direct incoming air upwards. A screen 24 is mounted across the outer face of the frame 20. Channel members 25 are mounted along the ends of the frame 20. The headed elements 21 are mounted indirectly on the ends of the frame 20 and more specifically upon the edges of these channels 25. Each strip 16 is formed with recesses 26 surrounding the bayonet slots 22 and arranged to house the heads of the headed elements 21. Because of these recesses the strips 16 may be in intimate face contact with the side members 10 (see Fig. 8) without interference. The bayonet slots 22 are ar-

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ranged to be substantially of L-shape with horizontal portions extending outwards and vertical portions continuing from the outer ends of the horizontal portions and extending downwards.

Latches 28 are mounted upon the inner face of the channels 25. Each latch 28 comprises merely a strip of material pivotally mounted at one of its ends by a pintle 29 and their other ends being provided with enlarged beaded portions 28a. The pintles 29 are adapted to frictionally hold the latches 28 either in inoperative vertical depending positions or in laterally extended horizontal positions. These latter positions represent the operative positions of the latches. The widths of the side members 10 and the strips 16 and the channels 25, upon which the latches 28 are mounted (see Fig. 12) bear a certain relationship to each other. This relationship is such that when the frame 20 is fully extended outwards as illustrated by the full lines in Fig. 5, the latches 28 may be moved to their laterally extended positions indicated by the dot and dash lines 28' in Fig. 5, to engage behind the outer edges of the side members 10 for latching the frame 20 in its extended position.

The parts are so arranged in relation to the window frame that in the extended position of the frame 20 it is disposed directly below the window sash 13. Moreover, in the extended position the frame 20 is lowered on the window sill 12' of the window frame (see Fig. 4) by reason of the headed elements 21 being disposed in the vertical portions of the bayonet slots 22. The sash 13 normally rests upon the top edge of the frame 20 (see Fig. 4). In this condition the ventilator is operating. Fresh air may enter through the screen 24 and be deflected upwards into the room by the deflecting member 23.

A safety plate 10a is secured to each side member 10 by a pair of headed pins 10b which are adapted to engage the corresponding slots 10c in the safety plate 10a, through the enlarged portions 10d of the slots 10c. Then the safety strip 10a is lowered into locking position to prevent the frame 20 from disengaging the window frame 12, toward the inside of the room.

When it is desired to close the window sash 13 so that the ventilator is not operating it is necessary that the sash 13 be first moved slightly upwards. Then the latches 28 are moved to their inoperative downward depending positions. The frame 20 is lifted so that the headed elements 21 move upwards in the vertical arms of the bayonet slots 22. When the headed elements reach the positions of the horizontal arms of the bayonet slots the frame 20 is pulled inwards. This will cause the headed elements 21 to move inwards along the horizontal arms of the bayonet slots 22 until the frame 20 reaches the position shown by the full lines in Fig. 6.

Further inward pulling on the frame 20 will cause the strips 16 to slide inwards relative to the members 10 to which they are connected by the inter-engaging tracks 14 and 17. Soon the element 20 will reach the position shown by the full lines in Fig. 7 and this represents the normal inoperative position of the screen device. When the strips 16 are being moved rearwardly relative to the members 10 such rearward movement is possible until the shoulders 18 strike the adjacent faces of the strips 10a arresting the strips 16 against further rearward movement and preventing the strips 16 from being disengaged from the members 10. In this position the latches 28 may be pivoted outwards as indicated by the

dot and dash lines 28" in Fig. 7, and this latches the frame 20 against being again moved outwards. In order to move the frame 20 outwards it is required that the latches 28 be first moved to their inoperative position. The window sash 13 may now be moved down to completely close the window.

Fig. 14 illustrates the different positions of the frame 20 as illustrated in Figs. 5, 6 and 7, respectively. In Fig. 14 the reference numeral 20' illustrates the frame 20 disposed beneath the window sash 13 and representing the positions shown in Figs. 4 and 5. The dot and dash lines 20" correspond to the position of the frame 20 shown in Fig. 6. These dotted lines 20" show the frame 20 lifted and moved inwards. The full lines of the window frame 20 in Fig. 14 represent the position of the parts shown in Fig. 9. In Fig. 13 one of the latches 28 is illustrated in a depending inoperative position. The dot and dash lines 28a illustrate the latch 28 pivoted to its horizontal operative position. It maintains this position frictionally due to the friction of the pintle 29.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slidable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby said vertical strips may be moved outwards relative to said support and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open position thereof.

2. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slidable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby said vertical strips may be moved outwards relative to said support

and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open position thereof, 5 said support, comprising a pair of vertical side members attached to the sides of said window frame.

3. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slidable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped 10 bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of 15 said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby 20 said vertical strips may be moved outwards relative to said support and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open 25 position thereof, said support, comprising a pair of vertical side members attached to the sides of said window frame, and means for preventing said vertical strips from disengaging said side members when moved outwards relative thereto.

4. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slidable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of 30 said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby 35 said vertical strips may be moved outwards relative to said support and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open 40 position thereof, said support, comprising a pair of vertical side members attached to the sides of said window frame, and means for preventing said vertical strips from disengaging said side members when moved outwards relative thereto.

5. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slidable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of 45 said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby 50 said vertical strips may be moved outwards relative to said support and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open 55 position thereof, said support, comprising a pair of vertical side members attached to the sides of said window frame, and means for preventing said vertical strips from disengaging said side members when moved outwards relative thereto, comprising a lip formed on the outer edge portion of each of said side members, and a complementary shoulder formed on the inner edge portion of each of said vertical strips and which are adapted to strike said lips in the fully outward position of said vertical strips to 60 prevent further movement.

7. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slidable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots 70

having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby said vertical strips may be moved outwards relative to said support and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open position thereof, said support, comprising a pair of vertical side members attached to the sides of said window frame, and means for preventing said vertical strips from disengaging said side members when moved inwards relative thereto.

8. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slideable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby said vertical strips may be moved outwards relative to said support and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open position thereof, said support, comprising a pair of vertical side members attached to the sides of said window frame, and means for preventing said vertical strips from disengaging said side members when moved inwards relative thereto, comprising a shoulder formed on the inner edge portion of each of said vertical strips, and a plate mounted on the inner edge portion of each of said side members and against which said shoulders are adapted to strike in the fully in position of said vertical strips to limit further inward movement.

9. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slideable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby said vertical strips may be moved outwards relative to said support and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open position thereof,

12. A window screen construction, comprising

said support, comprising a pair of vertical side members attached to the sides of said window frame, and means for preventing said vertical strips from disengaging said side members when moved inwards relative thereto, comprising a shoulder formed on the inner edge portion of each of said vertical strips, and a plate mounted on the inner edge portion of each of said side members and against which said shoulders are adapted to strike in the fully in position of said vertical strips to limit further inward movement, each of said plates being removably mounted so that they may be removed when it is desired to disengage said vertical strips from said side members.

10. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slideable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby said vertical strips may be moved outwards relative to said support and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open position thereof, said support, comprising a pair of vertical side members attached to the sides of said window frame, said vertical strips having recessed areas surrounding said bayonet slots in which the heads of said headed elements engage for permitting said vertical strips and side members to be in face contact.

11. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slideable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby said vertical strips may be moved outwards relative to said support and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open position thereof, said support, comprising a pair of vertical side members attached to the sides of said window frame, and channel-shaped members mounted on the ends of said window screen frame and having their arms extending along the sides thereof.

a support for location inside of a window frame adjacent a vertical slidable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby said vertical strips may be moved outwards relative to said support and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open position thereof, said support, comprising a pair of vertical side members attached to the sides of said window frame, and channel-shaped members mounted on the ends of said window screen frame and having their arms extending along the sides thereof, said headed elements being formed on said channel-shaped members.

13. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slidable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move inwards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby said vertical strips may be moved outwards relative to said support and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open position thereof, said support, comprising a pair of vertical side members attached to the sides of said window frame, and channel-shaped members mounted on the ends of said window screen frame and having their arms extending along the sides thereof, plates mounted on the inner edges of said side members, and latches mounted on said channel-shaped members and engageable over the inner faces of said plates for latching said vertical strips and window screen frame in their inward inoperative position.

14. A window screen construction, comprising a support for location inside of a window frame adjacent a vertical slidable sash of said frame, said window frame having a horizontal strip behind which the bottom edge of said sash is disposed in the closed position thereof, a pair of vertical strips formed with inverted L-shaped bayonet slots and located adjacent said support and slidably mounted so that they may move in-

wards and outwards, said L-shaped bayonet slots having their horizontal arms extending inwards and outwards and their vertical arms extending downwards from the outer ends of said horizontal arms, a window screen frame, and headed elements mounted on the ends of said frame and engaged in the inner ends of the horizontal arms of said bayonet slots, whereby said vertical strips may be moved outwards relative to said support 10 and said screen frame may be moved outwards and downwards relative to said vertical strips to cause said screen frame to pass over said horizontal strip and therebehind beneath the bottom edge of said sash in the open position thereof, 15 said support, comprising a pair of vertical side members attached to the sides of said window frame, and channel-shaped members mounted on the ends of said window screen frame and having their arms extending along the sides thereof, 20 plates mounted on the inner edges of said side members, and latches mounted on said channel-shaped members and engageable over the inner faces of said plates for latching said vertical strips and window screen frame in their inward inoperative position, said latches also being engageable behind the back edge portion of said side members for latching said vertical strips and window screen frame in their outward operative 25 position.

30 15. A window screen construction, comprising  
a support for location inside of a window frame  
adjacent a vertical slidable sash of said frame,  
said window frame having a horizontal strip be-  
hind which the bottom edge of said sash is dis-  
posed in the closed position thereof, a pair of ver-  
tical strips formed with inverted L-shaped bayo-  
net slots and located adjacent said support and  
slidably mounted so that they may move inwards  
and outwards, said L-shaped bayonet slots hav-  
ing their horizontal arms extending inwards and  
outwards and their vertical arms extending down-  
wards from the outer ends of said horizontal  
arms, a window screen frame, and headed ele-  
ments mounted on the ends of said frame and  
engaged in the inner ends of the horizontal arms  
of said bayonet slots, whereby said vertical strips  
may be moved outwards relative to said support  
and said screen frame may be moved outwards  
and downwards relative to said vertical strips to  
cause said screen frame to pass over said hori-  
zontal strip and therebehind beneath the bottom  
edge of said sash in the open position thereof,  
said support comprising a pair of vertical side  
members attached to the sides of said window  
frame, and channel-shaped members mounted  
on the ends of said window screen frame and  
having their arms extending along the sides  
thereof, plates mounted on the inner edges of said  
side members, and latches mounted on said chan-  
nel-shaped members and engageable over the  
inner faces of said plates for latching said verti-  
cal strips and window screen frame in their in-  
ward inoperative position, said latches also being  
engageable behind the back edge portion of said  
side members for latching said vertical strips and  
window screen frame in their outward operative  
position, said latches comprising pivotally mount-  
ed strips normally depending downwards and ca-  
pable of assuming and frictionally maintaining  
laterally extended operative positions.

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