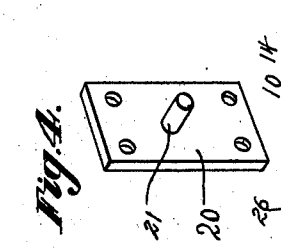
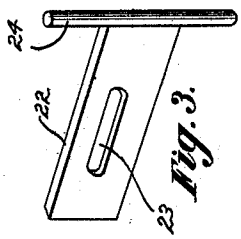
T. E. BARTON.

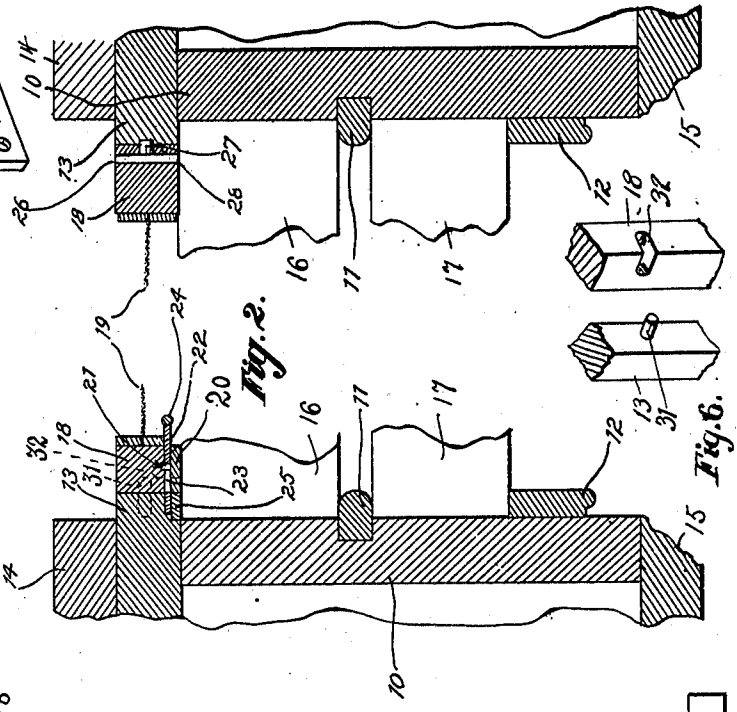
WINDOW SCREEN.

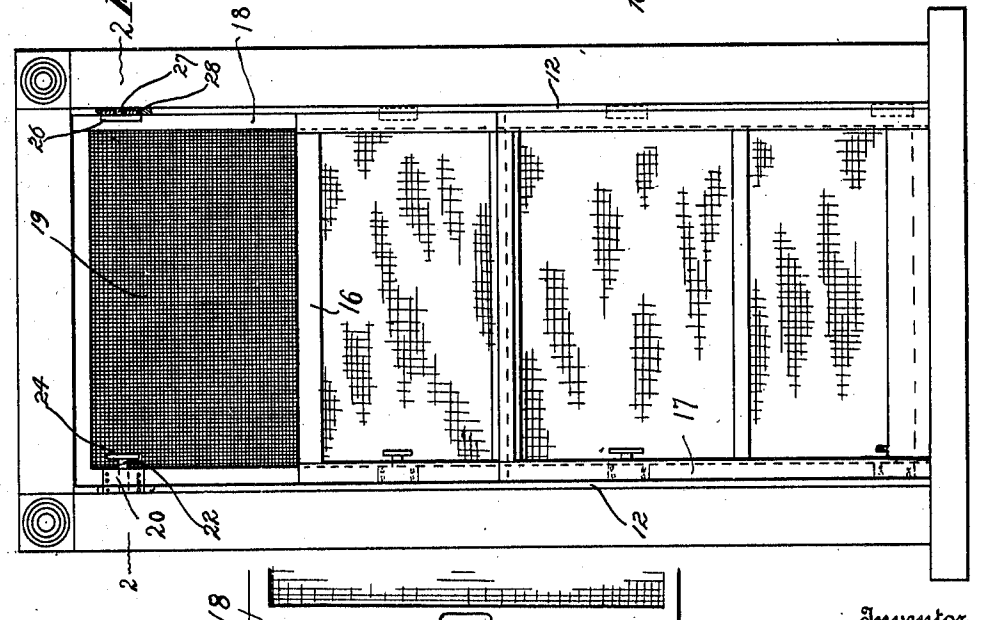
APPLICATION FILED OCT. 6, 1909.

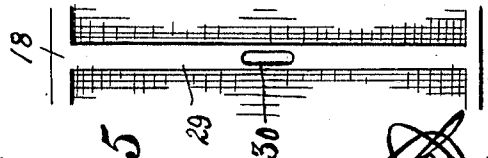
988,540. Patented Apr. 4, 1911.











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UNITED STATES PATENT OFFICE.

THOMAS E. BARTON, OF WASHINGTON, DISTRICT OF COLUMBIA.

WINDOW-SCREEN.

988,540. Specification of Letters Patent. Patented Apr. 4, 1911.

Application filed October 6, 1909. Serial No. 521,192.

To all whom it may concern:

Be it known that I, THOMAS E. BARTON, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Window-Screens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in window screens and has for one of its objects to provide a simply constructed device of this character which may be applied to window frames of various forms without interfering with the ordinary outside or inside blinds or the usual operations of the sashes.

Another object of the invention is to provide a simply constructed device of this character which is readily attachable to or detachable from a window without interfering with the ordinary outside or inside blinds or the sash, and which may be arranged in sections to correspond to the sash, so that the screen may be removed from opposite either of the sashes and thus render the sashes independently accessible.

With these and other objects in view, the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims.

The improved device may be applied to windows of various forms and to sashes of various sizes, but for the purpose of illustration the improved device is shown applied to a conventional window frame, and in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is a front elevation of a window frame and its sashes with the improvement applied, the frame being shown partly in section to illustrate the application of the improved device. Fig. 2 is a section, enlarged, on the line 2—2 of Fig. 1. Figs. 3 and 4 represent perspective views of the catch portion of the improved device disconnected. Fig. 5 is a detail view representing the construction which will be employed for the larger forms of screen frames. Fig. 6 represents perspective views of a portion of one of the outside stops and the portion of one of the screen frame members illustrating the construction of one of the holding devices.

In the drawings is shown a conventional window frame and its casing, in which 10 represents the main side members of the frame having the parting stops 11, the inside stops 12, the outside stops 13, the outer casings 14, the inner casings 15, the upper sash represented as a whole at 16, and the lower sash represented as a whole at 17. In windows as ordinarily constructed the outside blinds are hinged to the outer casing 14 and swing inwardly against the outside stops 13, thus leaving a relatively large space between the inside blinds and the pathway of the upper sash, and the device which embraces the improvement herein described is located within this space which is usually occupied by the outside blinds and the sash. By this means the presence of the improved device does not interfere with the operations of either the outside blinds or the sash, as will be obvious.

The frame work of the screens is represented as a whole at 18, and is of the usual form and covered by the usual screen material 19. In windows having two sashes arranged in the ordinary manner two of the screen frames will preferably be employed, one frame located opposite the lower sash and the other frame located opposite the upper sash when the sashes are in closed position, and each frame is independently attachable to or detachable from the window, so that the space opposite each of the sashes may be independently uncovered to render the sashes independently accessible. While the two-part screen frame is the preferable arrangement, it will be understood that it is not desired to limit the invention to the employment of two of the screens as a greater or lesser number of the frames may be employed, as required. Each of the screen frames is provided with one or more catches upon one side and one or more pins upon the opposite side, the pins designed to enter the sockets in the stop member 13 at one side and the catches designed to engage with the stop member 13 at the opposite side. Any required number of the catches may be employed upon each screen frame, but preferably two will be employed upon each frame, as shown, and as the catches are precisely alike, the description of one will suffice for all.

Each catch device comprises a base plate 20 preferably embedded in the inner face of the screen frame and attached thereto, and each plate is provided with a central pin 21

extending into a cavity formed in the screen frame opposite the central portion of the plate. Slidably disposed in the recess and bearing against the inner face of the plate is a bar 22 having a longitudinal slot 23 through which the pin 21 extends, and by means of which the plate is limited in its movements, so that it cannot be wholly withdrawn from the plate. The plate 22 thus operates close to the inner face of the screen frame and is likewise spaced from the screen material 19, and is provided with a finger rod 24 upon its inner end to facilitate its operation. The stop 13 is provided with a recess in its adjacent face to receive the inner end of the bar 22 when moved into its inward position, and the cavity in the stop is protected by a cover plate 25 which is attached thereto and preferably embedded in the face of the stop, so that it does not interfere with the operation of the upper sash 16. The bar 22 is arranged to move closely upon the pin 20 so that it will remain in either of the two positions in which it is placed, and will not rattle loose when in use. Embedded in the outer edge of the frame 18 at points preferably opposite the catches are other plates 26, each plate having a pin 27 extending therefrom and fitting in an aperture in a wear plate 28 embedded in the face of the stop 13. The plates 26 and their pins 27 together with the wear plates 28 are equal in number to the catches, and one of the pin plates will preferably be located opposite each of the catches, as shown.

It will thus be obvious that a simply constructed window screen device is produced which may be readily adapted without material structural changes to the outside stops of window frames, and may be so located as not to interfere with the usual operations of the outside blinds or the sashes, and are readily attachable and detachable without interfering with the sashes or the blinds. It will be understood that there will necessarily be sufficient play between the side members 18 of the screen frame and the inner faces of the outside stops 13 to permit of the insertion of the screen frames. The presence of the relatively small plates 25—28 does not interfere with the operations of the window, or detract from its appearance when the screens are detached. The catch devices may be constructed from any suitable material, and may be plated or otherwise coated or treated to ornament or improve them, or they may be painted of the same color as the frames and thus practically conceal their presence.

When the improved screen device is applied to abnormally large windows a central strengthening bar will be employed to connect the upper and lower members of the screen frame as shown at 29, and this central supporting bar will preferably be provided with a recess 30 to enable the operator to hold the sash firmly while inserting or removing the same from its seat in the window frame.

The outside stop 13 to which the plates 25 are connected is provided with one or more pins 31 projecting inwardly thereof, and the screen frame member 18 which contains the locking plates 22 is provided with a recess indicated at 32 which engages over the pin 31 when the screen frame is inserted to limit the inward movement thereof, so that no danger exists of forcing the screen frame beyond the inner face of the stops 13, and thus cause the same to interfere with the operation of the sash.

With a device thus constructed the screens may be attached by first inserting the side which contains the pins 27 and locating the pins in their sockets in the plates 28 and then withdrawing the catches 22 and inserting the opposite side of the screen frame until the recesses 32 pass over the pins 31, the pins thus limiting the inward movement of the screen frames and preventing them from passing into the path of the sash, this being the function of the pins 31. The catch 32 is then moved outwardly by pressure applied to its terminal 24 to cause the outer ends of the catches to engage in the sockets in the rear of the plates 25. The catches 22, it will be noted, are operative from the inside, so that the screen frames may be actuated entirely from inside the window, and do not therefore require that the operator shall work from outside the window. The catches 22 and the pins 31 together with the recesses 32 thus coact to hold the screen frames from movement either inwardly or outwardly, as will be obvious.

What is claimed is:—

1. The combination with a window frame including outside stops having sockets in their confronting faces, one of said stops having inwardly directed pins, of a screen frame bearing by its side members against said stops and provided with recesses in one of said side members engaging over the inwardly directed pins and with guide recesses registering with the sockets of one of the stops, stop pins extending from one of the screen frame side members and into the sockets of one of the stops, a plate slidable through each of said guide recesses and engaging in the socket which registers therewith and each provided with a slot, and plates connected to said screen frame and extending respectively over the guide recesses and each provided with an inwardly directed pin extending respectively through the slots of the plate.

2. The combination with a window frame including the outside stops having sockets in their confronting faces, of a screen frame

bearing by its side members against said stops and with guide recesses registering with the sockets of one of the stops, stop pins extending from one of the screen frame side members and extending into the sockets of one of the stops, a plate slidable through each of said guide recesses and engaging in the socket which registers therewith and each provided with a slot, and plates connected to said screen frame and extending respectively over the guide recesses and each provided with an inwardly directed pin extending respectively through the slots of the plate.

3. The combination with a window frame including the outside casing and the outside stops, said stops having sockets in their confronting faces, and sashes slidably arranged within said frame and bearing against said stops, of a screen frame bearing at its side edges against said stops and with recesses in one side, said screen frame being located between the paths of said sashes and the outer lines of said stops, stop pins carried by said screen frames at the side thereof opposite to said recesses and engaging the sockets of the stop at one side, plates each having a longitudinal slot and each slidable in one of the recesses and adapted to enter the sockets of the adjacent stop, and a plate bearing over each of said recesses and each provided with an inwardly directed pin engaging in the slot of one of the plates.

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

THOMAS E. BARTON.

Witnesses:
L. N. GILLIS,
M. T. MILLER.