No. 743,080. PATENTED NOV. 3, 1903.

H. S. & A. P. HUBBELL.

SCREEN OR STORM WINDOW.

APPLICATION FILED AUG. 10, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

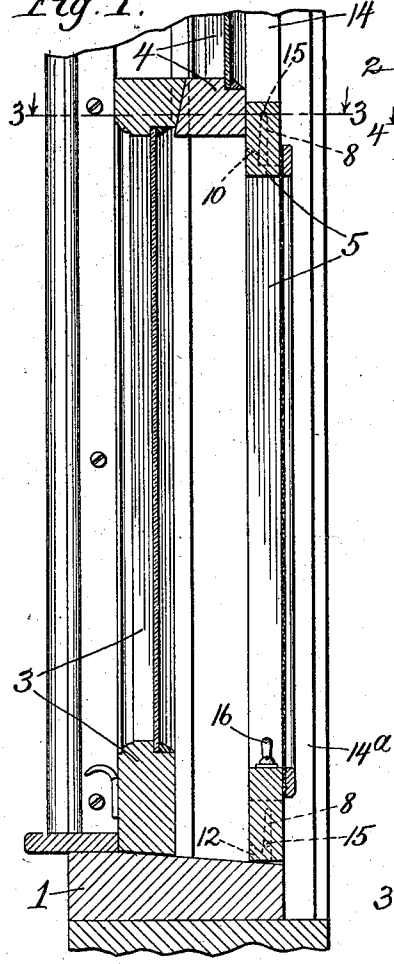


Fig. 2.

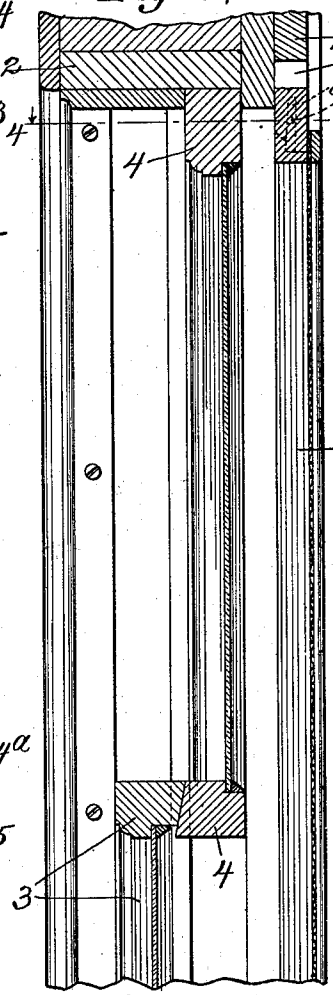


Fig. 5.

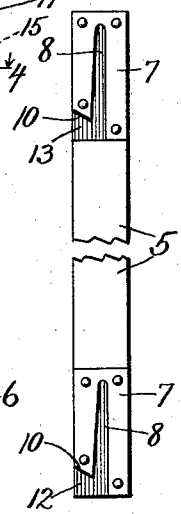


Fig. 6.

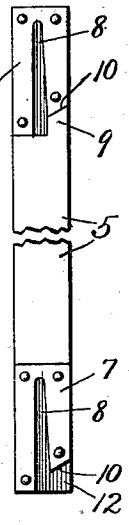


Fig. 4.

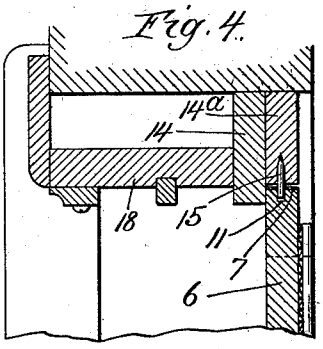
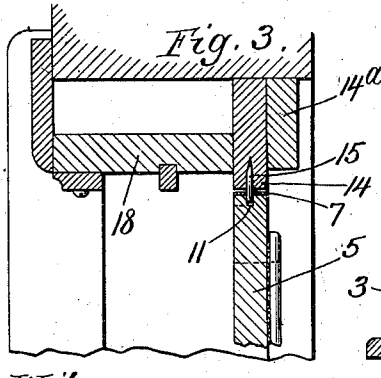


Fig. 3.



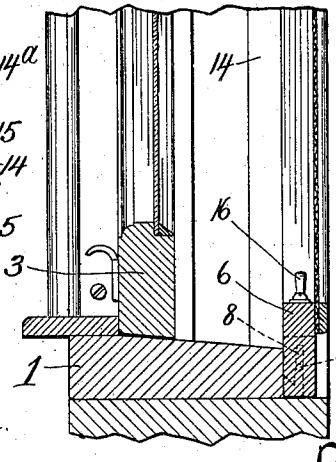
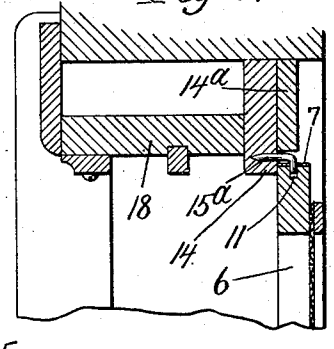


Fig. 7.



Witnesses.
Edward T. Wray.
Fred'k G. Fischer.

Inventors.
Henry S. Hubbell
Andrew P. Hubbell.
by Burton & Burton
their Atty's.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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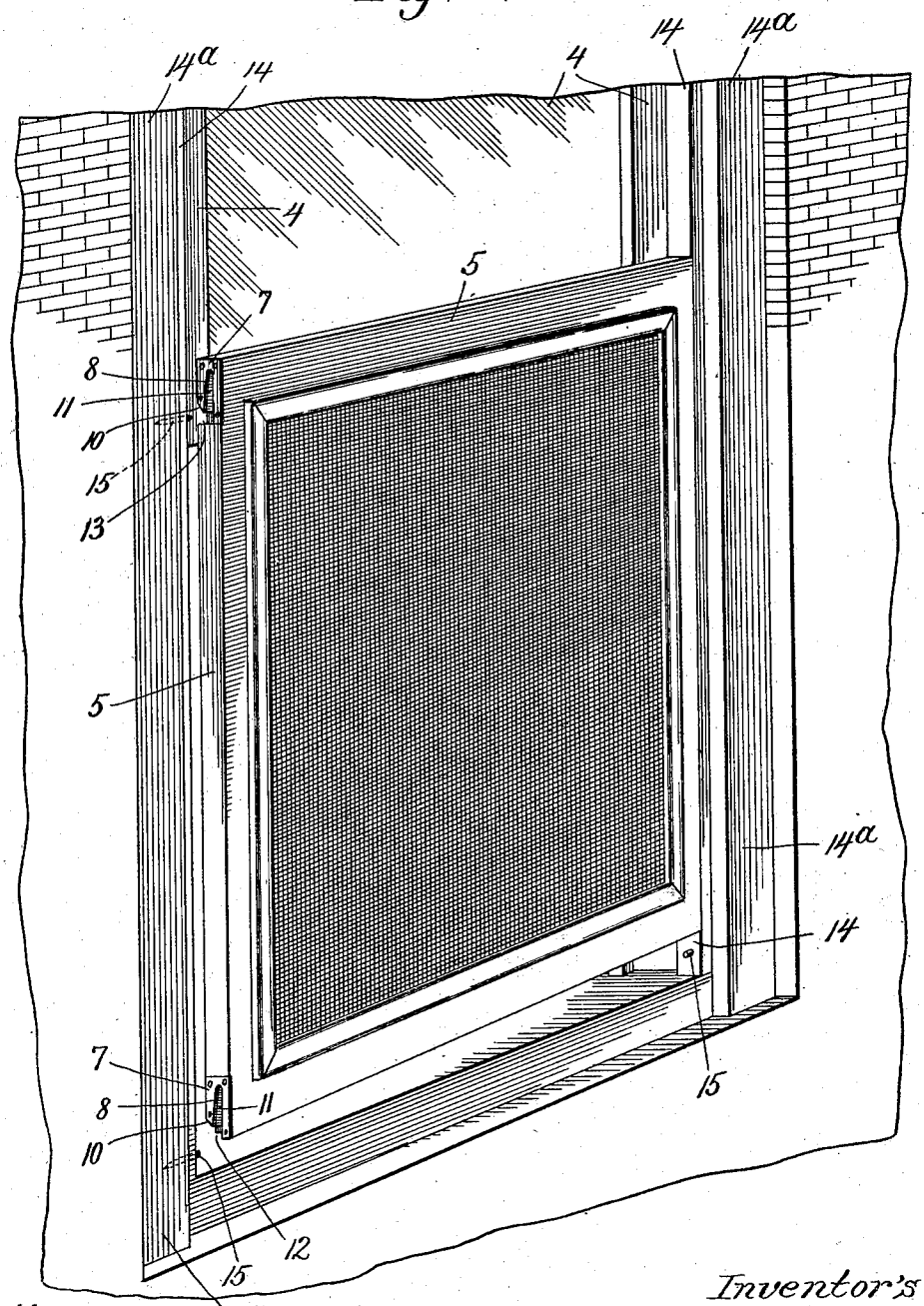
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SCREEN OR STORM WINDOW.

APPLICATION FILED AUG. 10, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 8.



Witnesses.
Edward T. Wray.
Fred'k G. Fischer

Inventor's.
Henry S. Hubbell.
Andrew P. Hubbell
by Burton & Burton
his Atty's.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 743,080. Patented November 3, 1903.

UNITED STATES PATENT OFFICE.

HENRY S. HUBBELL AND ANDREW P. HUBBELL, OF CHICAGO, ILLINOIS.

SCREEN OR STORM-WINDOW.

SPECIFICATION forming part of Letters Patent No. 743,080, dated November 3, 1903.

Application filed August 10, 1903. Serial No. 168,869. (No model.)

To all whom it may concern:

Be it known that we, HENRY S. HUBBELL and ANDREW P. HUBBELL, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Screens or Storm-Windows, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide an improved construction for window-screens and storm-windows, adapting them more perfectly for easy removal and safe storage and for manipulation in use.

It consists in the features of construction set out in the claims.

In the drawings, Figure 1 is a vertical section of the lower part of a window having our improved invention as applied to a screen shown in position opposite the lower sash. Fig. 2 is a similar view showing a screen embodying our invention extending the full length of a window—that is, opposite both upper and lower sashes. Fig. 3 is a detail section at the line 3 3 on Fig. 1, the sash being omitted. Fig. 4 is a detail section at the line 4 4 on Fig. 2, the sash being omitted. Figs. 5 and 6 are respectively opposite side edges of the screen. Fig. 7 is a view similar to Fig. 4, showing a slight modification. Fig. 8 is a perspective view showing the manner of inserting and removing the screen.

1 represents the lower bar, and 2 the upper bar, of the window-casing; 3, the lower sash, and 4 the upper sash.

5 is a screen embodying our invention applied to the lower half of the window. 6 is a similar screen applied to the whole window, covering both sashes. In either case the devices constituting our invention comprise plates 7 7 7 7, applied to the lateral edges of the screen-frame at the upper and lower ends, as seen in Figs. 5 and 6. These plates are let in so as to stand flush with the edge of the screen-frame, showing no protruding part. They are each provided with a slot 8, extending from the lower end up toward the upper end, and the plate is cut away at one side, as seen at 9, and provided with a beveled edge 10. The wood of the frame-bar has a slot 11 corresponding with the slot 8, and at the lower end of the frame it is also cut away, forming a notch 12, opening at the inner side of the frame, as seen in dotted line in Figs. 1 and 2. A similar notch 13 is made to correspond with the plate at the upper end of the frame at one side only, the other side being without such notch, as seen by comparison of Figs. 5 and 6. For the half-length screen in the outer stop 14, sometimes termed the "blind-stop," and for the full-length screen in the outer casing 14^a there are set four pins 15, corresponding to the four slotted plates 7, the pins being adapted to take into the slots 8 of the plates. One of these pins is seen in full lines in Fig. 3, and the position of all of them may be understood from the dotted-line representation of them in Figs. 1 and 2 at one side, the positions being precisely similar at both sides of the casing.

The screen is provided with a handle 16, preferably mounted upon the upper edge of the lower bar, as seen in Figs. 1 and 2, so that it may be grasped from the inner side in inserting, adjusting, and removing the screen.

To insert the screen, the edge seen in Fig. 6—that is, the one which does not have the notch 13—is introduced into the casing, the pins being entered into the slots of the upper and lower plates and the opposite edge being then swung in while the screen is held in position to permit the pins at the lower and upper ends to pass in through the notches 12 and 13, and the screen is then dropped into position, causing the pins to pass up into the slots 8 8 and be fully engaged with the plates. The height of the notches 12 and the position of the beveled edge 10 of the plates at the lower end are designed to be such that the screen resting its lower edge on the sill and being pushed or pulled inward will cause the beveled edge to collide with the pins and the screen to ride up on them and drop down when the pin reaches the slot, making an automatic gravity catch or latch device, thus dispensing with any accurate matching of the pin with the slot in order to get the screen into position. To remove the screen, it is lifted far enough to disengage the pins from the slot, and the lower end being then swung out, the side which was last entered—that is, the

one having the notch 13 at the top—being pushed out, the other edge may be disengaged, reversing the movement by which it was engaged with the pin. The plates 7 and the slots 8 therein are made much longer than necessary for the mere engagement and disengagement as described in order that when it is desired to set the screen open without removing it the disengagement at the lower end may be effected by lifting the screen slightly to permit the pins to pass out by the notches 12, and the screen being then allowed to drop until the pins are again at the upper end of the slots in the upper plates the screen will hang on such pins and can be swung out to any distance and, if desired, propped in open position for temporary purposes. The full-length screen is necessarily made enough shorter than the opening of the casing to leave at the upper end when it is in closed position a gap, which is seen at 17, Fig. 2, as wide as the distance from the pin 15 to the lower corner of the beveled edge 10 of the plate—that is, to the entrance to the notch 12—so that the screen may be lifted far enough to permit the pin to pass into the notch. The disengagement in this respect will occur simultaneously at the top and bottom of the screen in this form, and the edge which has the notch 13 at the top may be pushed outward as soon as the screen has been pushed up to the top of the casing, taking up the play shown at the gap 17.

When it is desired to prop this screen open without removing it, the upward movement having been made, the lower end being swung outward to disengage it from the pins at that end, the screen may be dropped again and will then fall below its closed position until the pins are at the end of the slots in the upper plates a distance which will be seen from Fig. 2, the lower end of the screen in that event dropping past the lower sill and hanging outside the same, causing the screen to be securely held at the top, so that it may be swung outward to any distance at the bottom.

In some cases the outer casing 14^a will be too thin or narrow to securely hold the pins 15, and in that event to perform the service of said pins 15 cornice-hooks 15^a may be employed set into the outer face of the blind-stop 14, as seen in Fig. 7.

The advantage of this construction and its distinction from prior constructions with which we are familiar consists, in part at least, in that there are no protruding fittings on the screen to interfere with packing closely when stored out of use or liable by reason of protruding to be damaged or broken off when so stored and also that there are no protruding devices left on the window-casing exposed when the screens are removed of sufficient size or prominence to either attract attention or cause inconvenience in respect to cleaning or otherwise attending to the woodwork of the casings when the screens or storm-windows are absent therefrom, and as compared with the more common form of screens having grooved edges engaged by tongued strips on the casing the distinction and advantage consist in the absence of any part liable to be broken or split off or to become bound by swelling or changes of weather, as is the common experience with the more familiar devices mentioned. Also as compared with former devices of the nature of screens or storm-windows adapted to swing outwardly at the lower end from an upper support the present structure presents the advantage that it is not necessary to swing the screen out in order to disengage it for removal, but it is only necessary to lift it a short distance, as described, so that the further handling for removal can be done in an easy position instead of requiring to be done at arm's length or from the exterior.

We have as to details represented our invention as if it were applied to a screen; but it will be understood that we do not limit ourselves in any respect by the character of the material with which the frame is provided, whether it be glass, as in the case of a storm-window, or wire-netting, as in the case of a screen, or any other form of protection or closure, and the term "screen" wherever used in the specification is not to be taken as a limitation excluding any other form of protection, and particularly our invention is designed to be understood as including storm-windows under the general term of "screens," and one point of advantage which it presents is that the pins in the casing which hold the wire screens in summer are equally suitable for holding in the winter storm-windows similarly provided with plates 7 for engaging the pins and that the change can be made from the interior of the house, and so without the use of ladders, which are necessary when exterior application of such screens or windows is necessary.

We claim—

1. A screen or storm-window comprising, in combination with studs projecting inwardly from the lateral edges of the casing-opening, the screen or window frame having plates, 7, secured on its lateral edges at the upper and lower ends, said plates having each a slot, 8, and a recess leading in from one edge to the slot, and the frame-bars being slotted to correspond to the slots of the plates, and notched to correspond with the recesses of the plates at the lower end, and with the recess of one of the plates at the upper end.

2. A screen or storm-window comprising, in combination with studs projecting inwardly from the lateral edges of the casing-opening, a screen or window frame having plates, 7, secured on its lateral edges, said plates having each a longitudinal slot, 8, and recesses leading in from one edge to the slot, and a beveled edge bounding at the upper

side said recesses in the plates at one end, the frame-bars being correspondingly slotted and notched to correspond with the recesses of the plates at one end and with the recess of one of the plates at the other end.

In testimony whereof we have hereunto set our hands, in the presence of two witnesses, at Chicago, Illinois, this 3d day of August, A. D. 1903.

HENRY S. HUBBELL.
ANDREW P. HUBBELL.

In presence of—
E. U. McDONALD,
MATHEW BARTAL.