(No Model.) 2 Sheets—Sheet 1.

O. F. HEARTWELL, Jr.

WINDOW SCREEN.

No. 457,155. Patented Aug. 4, 1891.

Fig. 1.

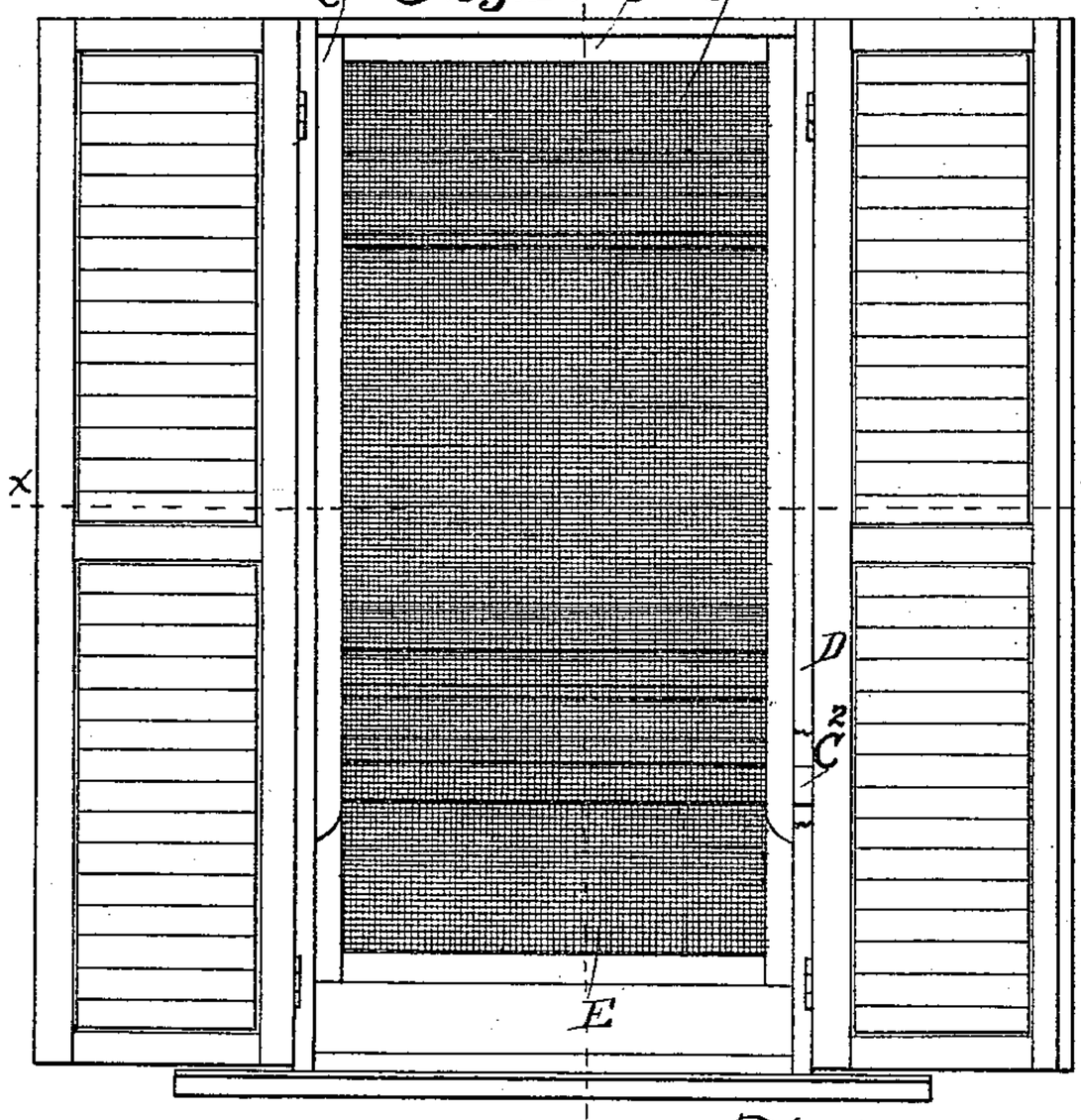


Fig. 2.

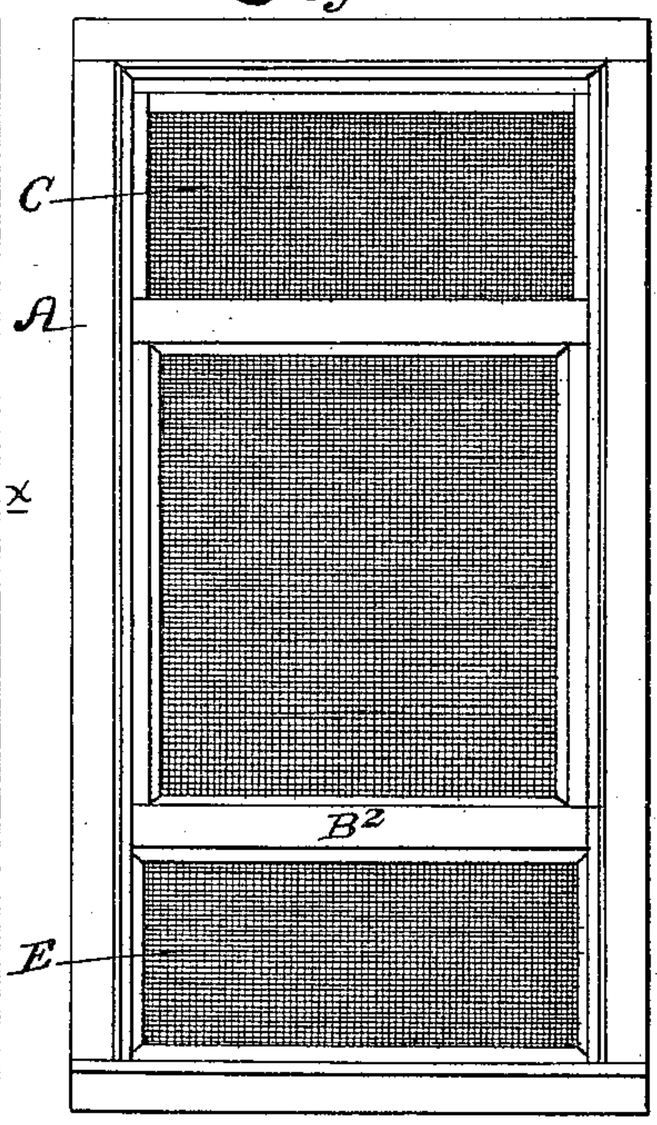


Fig. 3.

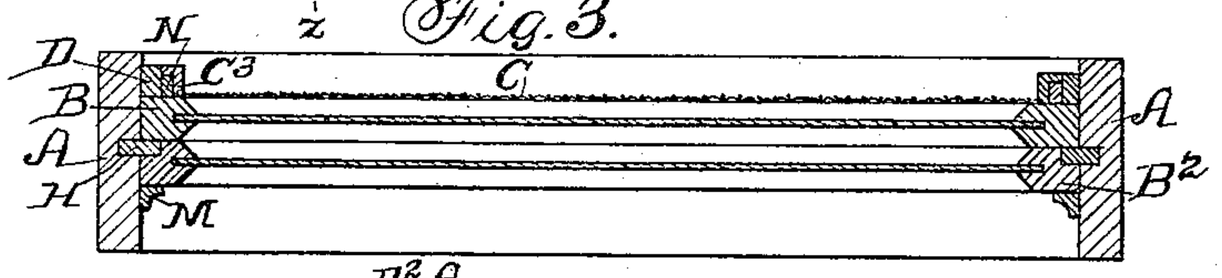


Fig. 4.

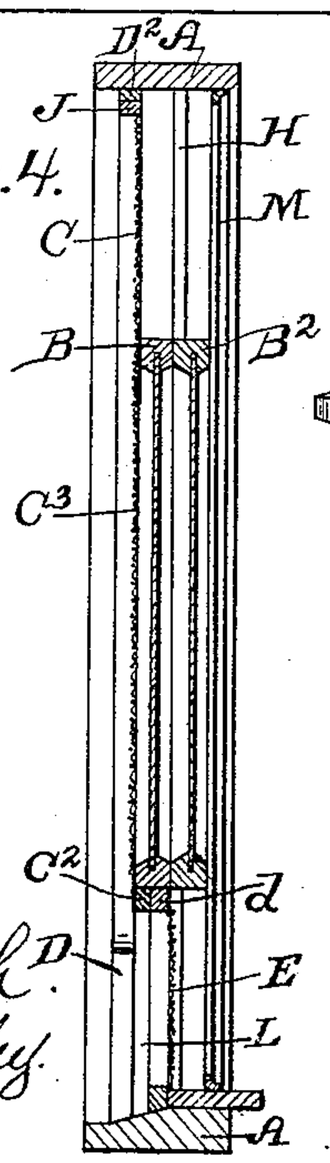
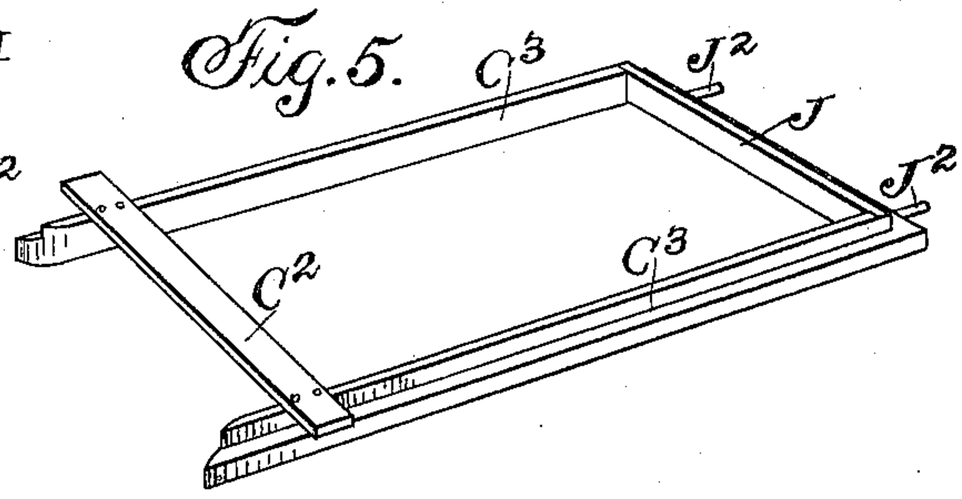


Fig. 5.



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By Thomas G. Orwig, Atty.

(No Model.) 2 Sheets—Sheet 2.

O. F. HEARTWELL, Jr.

WINDOW SCREEN.

No. 457,155. Patented Aug. 4, 1891.

Fig. 6.

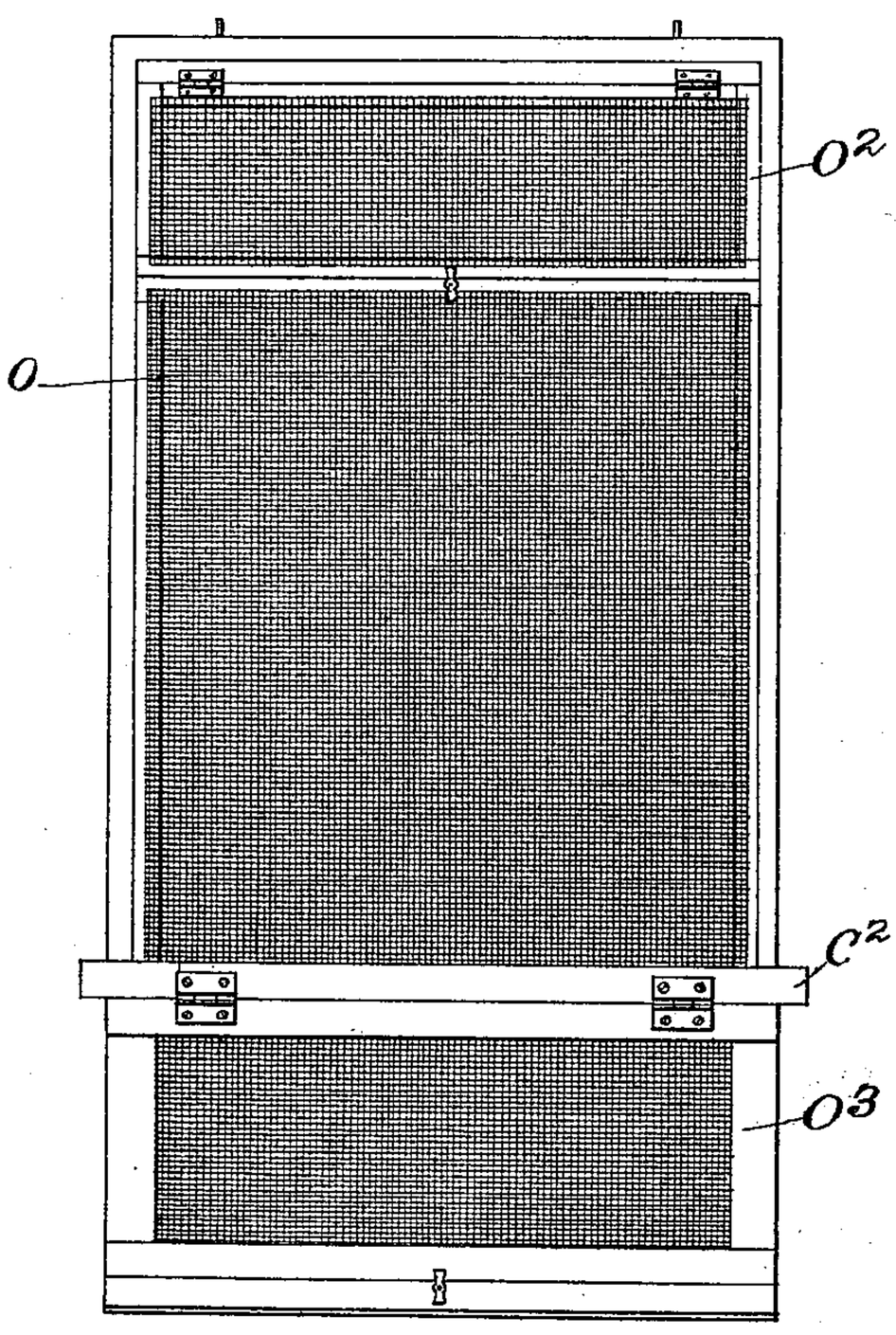
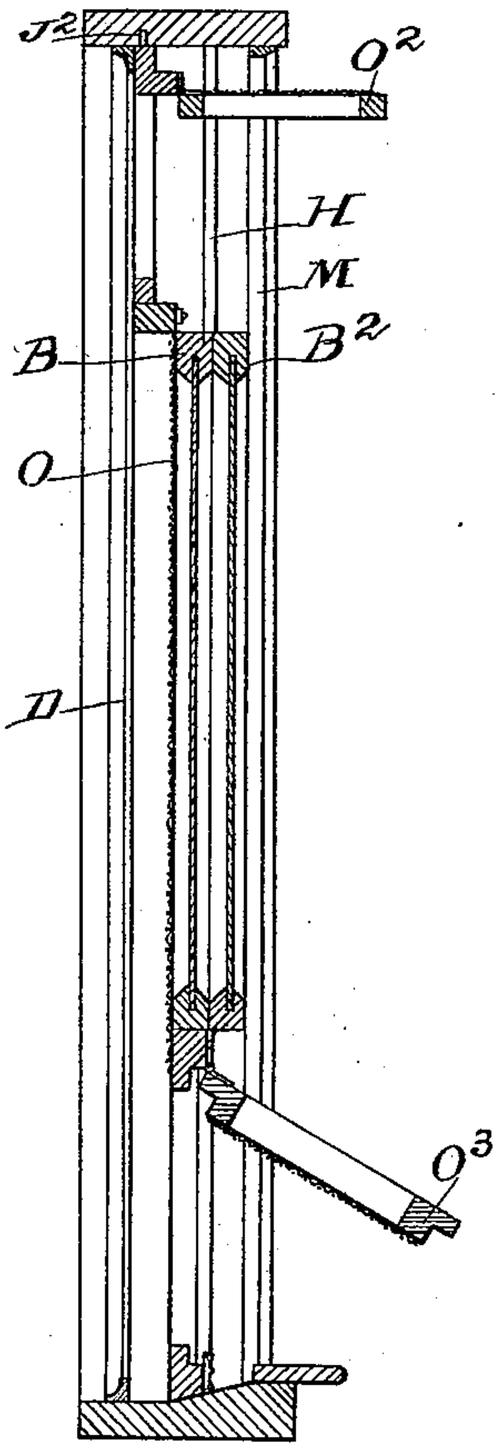


Fig. 7



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UNITED STATES PATENT OFFICE.

OSCAR F. HEARTWELL, JR., OF HASTINGS, NEBRASKA, ASSIGNOR TO AUGUSTA C. HEARTWELL, OF SAME PLACE.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 457,155, dated August 4, 1891.

Application filed August 5, 1890. Serial No. 361,222. (No model.)

To all whom it may concern:

Be it known that I, OSCAR F. HEARTWELL, Jr., a citizen of the United States, residing at Hastings, in the county of Adams and State of Nebraska, have invented a new and useful Improvement in Window-Screens, of which the following is a specification.

My object is to provide a screen which will be adapted for use in conjunction with the blinds of a window, and will readily overcome the difficulties experienced in obtaining access to the blinds when the screens are in place, and which will also afford free movement of the top and bottom sash in their vertical planes, giving free ventilation at top and bottom, and also permitting adjustment of the screen in place or ready removal from the interior of the building.

My invention consists in sections of screen, one of which has at its bottom edge a transverse cross-piece extending beyond the sides of the screen-frame, to which the lower edge or selvage of the screen is secured, supporting-pieces holding the said screen in place, the other section of screen being adapted for vertical movement.

Figure 1 is an elevation of a window-frame from the outside, showing the position of the screen-frames relatively to the sash partly broken away, the lower section of screen being raised to give access to the blinds from the interior. Fig. 2 is an elevation from the interior, showing the sash in position to give free ventilation at top and bottom. Fig. 3 is an enlarged transverse sectional view on the line *x x*, Fig. 1. Fig. 4 is a vertical section on the line *z z*, Fig. 1. Fig. 5 is a perspective view of the upper screen-section. Fig. 6 is a front view of a single section of screen; and Fig. 7 is a vertical sectional view of same, and also of the casing.

A represents the casing of the window; B, the upper, and B^2 the lower, sash thereof.

C is the upper section of screen, which has its lower transverse bar C^2, Fig. 5, extended beyond the side bars C^3, so that the portion of the said bar C^2 beyond the side bars C^3 will be interposed between the blind-stop D and the lower section of screen E. I preferably sever one of the parting-strips H at a point above the lower screen E, so that the lower end portion of the said strip may be removed to adjust in place the section of said screen E or to remove the same from its position.

To the upper transverse piece J of the upper section of screen C, Fig. 5, I fix dowel-pins J^2 J^2, adapted to enter coinciding perforations formed in the transverse top piece D^2 of the blind-stop D.

L are supporting-pieces under the upper portion of the screen.

M is the sash-stop, and N are re-enforcing-strips secured to the blind-stop D.

In order to adjust the screen in place, I first remove one of the side pieces of the sash-stop M, then slip both of the sashes B B^2 up to the top of the window, and then remove the separable portion of the parting-strip H. I then adjust and secure the re-enforcing strips N N in place upon the blind-stop D. The upper section of screen C, as shown in Fig. 4, is then placed in position by inserting the same horizontally and diagonally through the window-casing below the sashes and then raising it into a vertical position and pushing it up so that the dowel-pins J^2 J^2 engage within their perforations in the upper cross-piece of the blind-stop D. The supporting pieces or strips L are then adjusted in place underneath the cross-bar C^2 of the said section of screen C, supporting the same and holding the dowel-pins J^2 J^2 within their perforations. The lower section of screen E is then adjusted in position, so that its upper cross-bar *d* faces and bears against the lower cross-bar C^2 of the upper section of screen C, and when the upper sash is elevated in its bearings the screen-section E can follow in the same bearings and slide up and down relative to the upper screen-section C. It is therefore obvious that when the lower window-sash is elevated the lower screen-section will be accessible to a person on the inside of a window and readily lifted, as required, to gain access to the shutters or blinds on the outside of the screens. The separable portion of the parting-strip and sash-stop is then adjusted in place.

O is a single section of screen, which is provided with the upper hinged section O^2 and

lower hinged section O^3, the latter being hinged to the cross-bar C^2 and the former preferably so hinged to the frame of the screen O as to be adapted to be turned upwardly. This form of screen may also be inserted in the window-frame either from the outside or inside thereof and the lower hinged section O^3 will take the place of the supporting-strips L.

It will now be seen that the adjustment of the various parts may all be accomplished from the interior of the building, avoiding the necessity of mounting ladders to adjust the screens in place, since the sash-strips and parting-strips are removable and the supporting-pieces adjustable from the interior and the dowel-pins adapted to engage in the upward movement of the upper section of screen, and that when single sections of screens are used the necessity of providing supporting-pieces or cutting the stops is avoided, the hinged sections affording access both at top and bottom to the exterior from the interior.

To avoid crevices occasioned by the variations in the casing or other causes, the side and top bars of the upper section of screen C is rabbeted, which, with the re-enforcing strips N N, forms a tight joint, this plan being also adapted with the single section.

If desired, the wire screen of the lower section E may be secured on the outer side of the frame of the lower section E, so that flies which have lodged thereon may be brushed off when the said section is raised.

It is obvious that the sash B may be moved the whole length of the window in its vertical plane, and that the sash may be adjusted so as to give free ventilation at the top and bottom, that the upper section of screen is removably secured in place by the supporting-pieces, and that the formation of a rabbet and re-enforcing strips obviates the crevices usually found.

In applying and operating my improved screen the projecting ends of the cross-bar C^2 serve as guides in moving the screen up and down when the supporting-strips L are removed from under them or the lower section O^3 of the screen is turned upward.

I am aware that screens have been detachably fixed in window-frames and sections thereof hinged to the main fixed frame; but my manner of forming and applying a screen so that it can be raised and lowered at pleasure for the purposes stated is novel and greatly advantageous.

What I claim is—

The combination, with the casing of a window, of an upper section of screen having dowel-pins engaging perforations in the frame and a cross-bar at its lower end projecting beyond the parallel side pieces of the screen, said section being adapted for adjustment on the outer side of the sash from the interior of the building, supporting-pieces which, together with the dowel-pins, hold the said section in position, a lower section of screen adapted to move in a vertical plane, and removable parting-strips or blind-stops, as and for the purposes set forth.

OSCAR F. HEARTWELL, JR.

Witnesses:

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JACOB BAILY.