No. 758,021. PATENTED APR. 19, 1904.

G. W. ROCKWELL.

EXTENSION WINDOW SCREEN.

APPLICATION FILED MAR. 1, 1904.

NO MODEL.

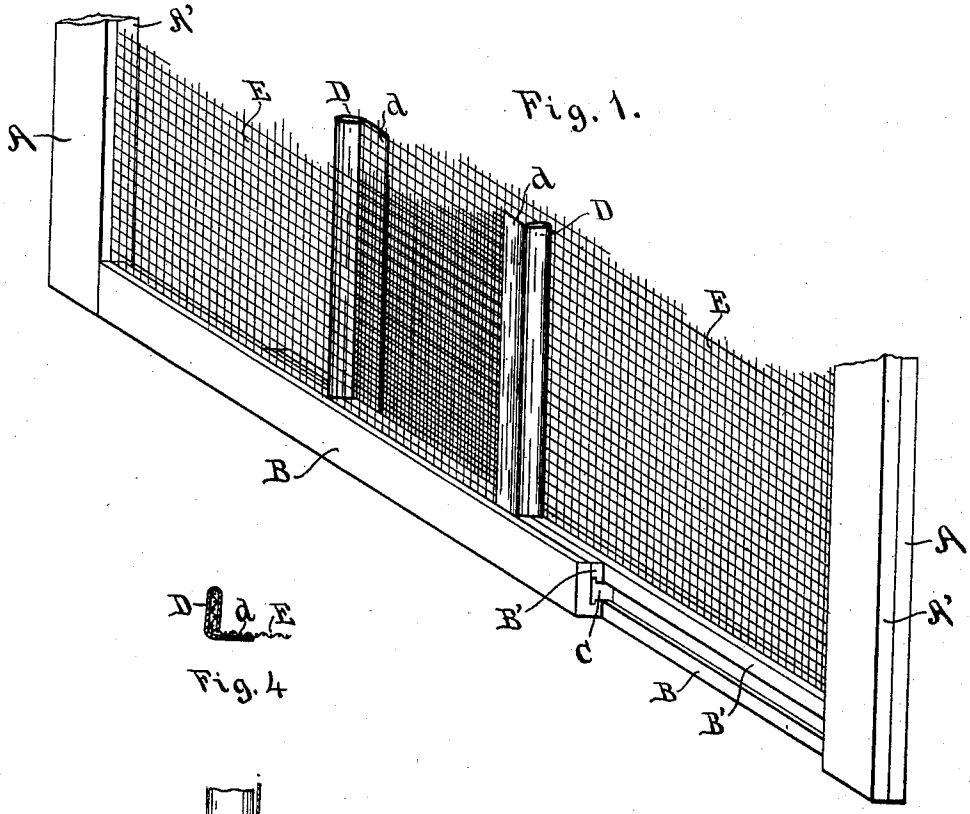

Fig. 1.

Fig. 4

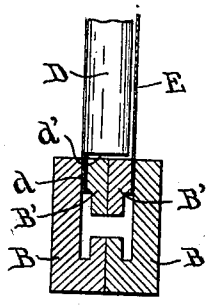

Fig. 2.

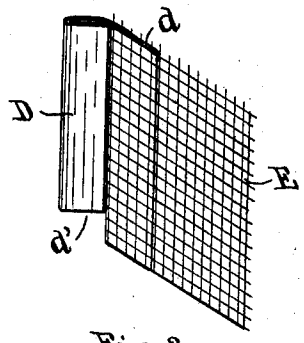

Fig. 3

WITNESSES:

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No. 758,021. Patented April 19, 1904.

UNITED STATES PATENT OFFICE.

GEORGE W. ROCKWELL, OF HORSEHEADS, NEW YORK.

EXTENSION WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 758,021, dated April 19, 1904.

Original application filed October 8, 1903, Serial No. 176,222. Divided and this application filed March 1, 1904. Serial No. 196,018. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. ROCKWELL, a citizen of the United States, residing at Horseheads, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Extension Window-Screens, of which the following is a specification.

My invention relates to improvements in two-part extension-screens in which one half of the screen slides upon the other; and the object of my improvements is to provide a metallic strengthening-bar between the overlapping ends of the top and bottom rails which shall be simple in construction and by which the joints between the screen-sections and at the top and bottom rails will be rendered positively insect-proof. This improved strengthening-bar is especially adapted for use in connection with top and bottom rails formed and connected together in the manner set forth and claimed in particular in my companion application, Serial No. 176,222, filed October 8, 1903, of which the present application is a division.

I attain my object by means of the arrangement and construction of the parts, as illustrated in the accompanying drawings, in which—

Figure 1 represents a perspective view of the lower portion of my improved extension-screen, showing the sliding rails, the metallic strengthening-bar, and the manner of securing the same together; Fig. 2, a detail showing a cross-section adjacent to one of the metallic strengthening-bars; Fig. 3, a detail showing the construction of the strengthening-bar and the manner of securing the netting thereto, and Fig. 4 a detail cross-section of the strengthening-bar and a portion of the netting.

Like letters refer to like parts in the several views.

Each section of the screen is the counterpart of the other, the frames being composed of outer vertical rails A, top and bottom horizontal rails B, and a sheet-metal strengthening-bar D, which latter constitutes an inner vertical rail on each frame. The frames are connected together by interlocking slide-blocks C, fastened at the inner ends of each of the top and bottom rails B, so as to slide in properly-formed grooves in the adjacent faces of said rails. This form of interlocking connection between the rails is not new, various forms of interlocking blocks and grooves being already in use. I prefer to provide the rails B with T-shaped grooves, the interlocking blocks C being of H-shaped formation. Heretofore it has been customary to cut the interlocking grooves in one-piece rails. I rabbet the inner side of each rail and fill in the space formed thereby with a separate strip B′, cut so as to form one side of the groove, and between this strip and the main rail in the rabbeted portion I fasten the edge of the wire-netting and also the end of the strengthening-bar D, all of which is fully shown in Fig. 2. The netting is attached to the vertical rails by strips A′.

The strengthening-bars D are formed of sheet-metal strips folded lengthwise, so as to embrace and grip the inner edges of the netting, with a single portion *d*, which is secured in the channeled portion of the rail and overlies the face of the netting. The folded portion after being pressed down upon the netting is bent at right angles to the single portion and to the face of the netting, this folded limb of the angle-bar being turned toward the netting on the opposite screen-section when the parts are assembled. The folded limb on each bar is cut shorter than the single limb at each end to form a right-angled notch, as indicated at *d′*, the projecting ends of the single limb being fastened to the rails B, together with the edges of the netting, and covered by the strips B′. In forming these strengthening-bars D, I use a specially-designed machine by which the fold is pressed down upon the edge of the netting, and the notches *d′* are cut at the same time by suitably-formed dies. After the fold is made the double limb is then bent at right angles to the single limb and to the face of the netting.

It will be noted that the notched ends of the bars D overhang and abut against both of the attaching-strips B′ on the rails B, whereby the inner edge and the two ends of the bars

are made to lie close to the face of the adjacent netting and to the inner surfaces of the top and bottom rails. This prevents flies or other insects by any chance from crawling between the netting and the bars or between the top and the bottom rails and the bars. By this arrangement of parts I also attain a rigid and stable connection between the sliding members of the screen in a very simple and cheap manner. The interlocking slide-blocks C prevent the top and bottom rails from being separated sidewise or from being pulled apart, and the shoulders on the strengthening-bars D, abutting as they do against both of the adjacent top and bottom rails, prevent said rails from being pressed together, so as to buckle the screen.

Having thus described my improvements, what I claim as my invention, and desire to secure by Letters Patent, is—

1. In a two-part screen, the combination with the top, bottom and outer end rails and the wire-netting attached thereto, of an inner end rail formed of a sheet-metal strip folded lengthwise to embrace the edge of the netting and having a single portion overlying the face of the netting, the folded portion being bent at right angles to the single portion in the direction of the netting on the opposite screen-section and being cut shorter than the single portion to form a notch at each end, the shoulders of said notches abutting against the inner faces of the top and bottom rails as and for the purpose set forth.

2. In a two-part screen the combination with the top, bottom and outer end rails and the wire-netting attached thereto, of an inner end rail formed of sheet metal of right-angle cross-section, one limb of the angle overlying the face of the netting and the other limb turning toward the netting of the opposite screen-section, the inturned limb being cut shorter at each end with a right-angle cut, rabbets on the inner sides of the top and bottom rails, in which the projecting ends of the inner rails and the edges of the netting are fastened, and strips on each rail covering the netting and filling the spaces between the rails formed by the rabbets, the inturned limb of the inner rail abutting against both adjacent rail-strips.

3. The combination with a pair of screen-sections adapted to slide the one upon the other, of an inner end rail comprising a metal angle-bar having one limb of the angle cut shorter than the other at both ends to form notches, said rail being secured to one section with its shorter limb turned toward the netting of the other section and with the ends of said limb abutting against and extending across the adjacent inner faces of the top and bottom rails of both sections.

In testimony whereof I have affixed my signature in presence of two witnesses.

GEO. W. ROCKWELL.

Witnesses:
M. E. VERBECK,
A. S. DIVEN.