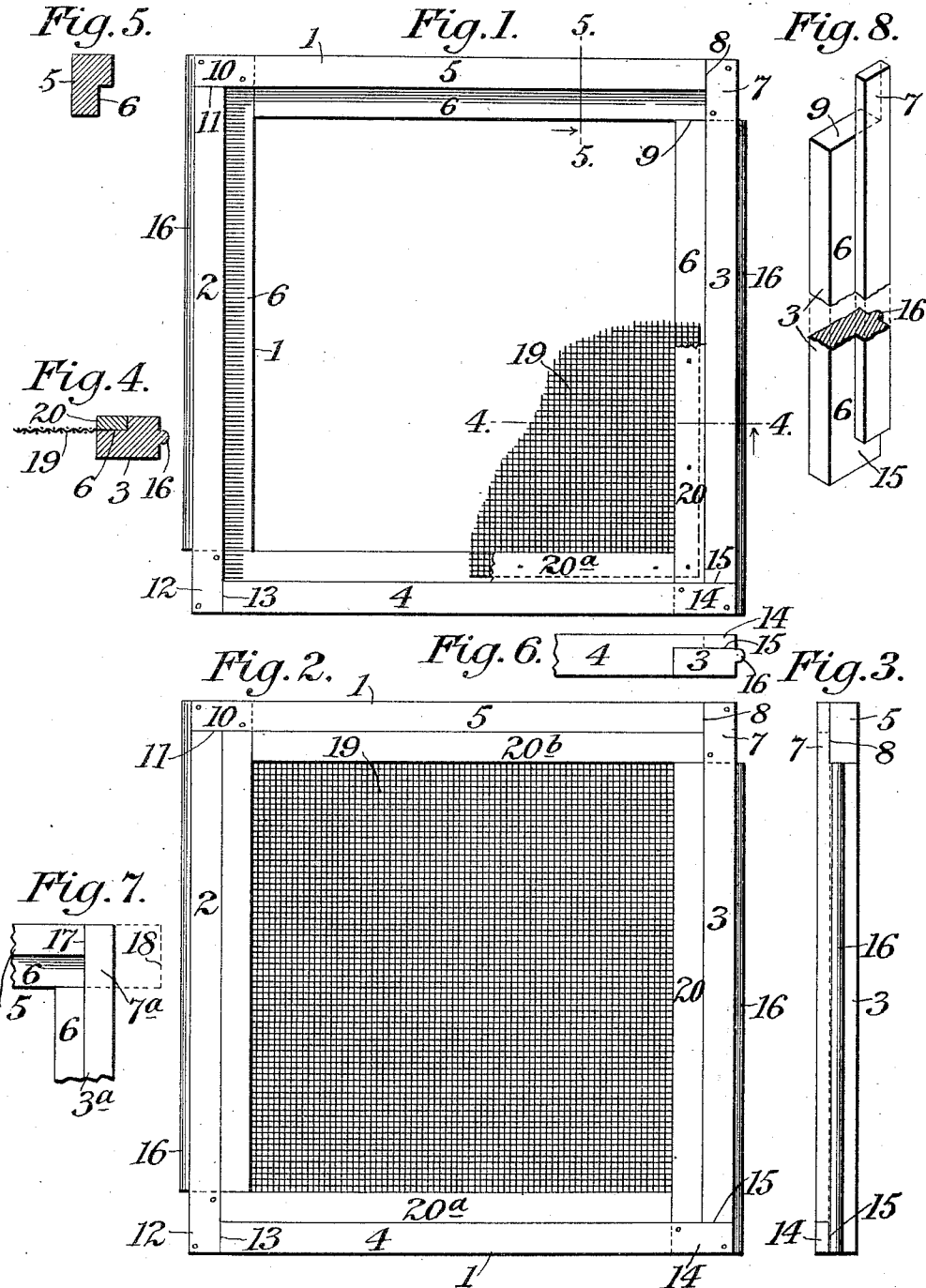


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 KNOCKDOWN WINDOW SCREEN.
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UNITED STATES PATENT OFFICE.

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KNOCKDOWN WINDOW-SCREEN.

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To all whom it may concern:

Be it known that I, BARTON S. CLEVELAND, a citizen of the United States, residing in Orient, Suffolk county, State of New York, have invented certain new and useful Improvements in Knockdown Window-Screens, of which the following is a specification, reference being had to the accompanying drawings, which form a part hereof.

This invention relates to frames, such as frames of window screens. In fitting such screens into windows inconvenience often arises from the fact that the windows vary greatly in their dimensions.

The principal object of this invention is to produce a frame for a window screen having a special construction which enables it to be transported in a knockdown condition, but which enables its parts to be readily attached together to suit windows of any desired width or height.

A further object of the invention is to provide cleats of improved form for securing the screen to the frame and which can be readily adapted to the size of the window in which the frame is to be placed.

In carrying out the invention a frame is formed of four rails or units which are substantially similar in form. The ends of the rails are formed with tongues and rabbets respectively, which fit together so that the same kind of a joint is formed in each corner; and at two diagonally opposite corners the side rails have their ends abutting against the inner faces of the upper and lower rails respectively. To adapt the frame to a window of small width it is only necessary to cut the rabbet for the tongue a little farther along on the horizontal rails, the vertical rails being adjusted toward each other before being attached; and in order to adapt the frame to a window of less height it is only necessary to cut the rabbet for the tongue a little farther along on the vertical rails, the horizontal rails being adjusted toward each other before being attached.

In the accompanying drawings Figure 1 is a front elevation of the window screen frame constructed according to my invention, a portion of the screen being broken away and portions of the retaining cleats removed. Fig. 2 is a view similar to Fig. 1, but showing a complete screen. Fig. 3 is an edge elevation of the screen shown in Fig. 1. Fig. 4 is a cross section taken

through the right hand vertical rail or stile of the frame. Fig. 5 is a vertical section through the top rail. Fig. 6 is a bottom plan view of the right hand lower corner of the screen shown in Fig. 1. Fig. 7 is a front elevation of the upper right hand corner of the screen indicating how it can be adapted to a window of less width than the greatest capacity of the frame. Fig. 8 is a perspective showing the upper and lower ends of the right hand side rail, the body of the rail being broken away.

Referring more particularly to the parts, the frame 1 is formed of two side rails or vertical rails 2 and 3, a base rail 4 and an upper rail 5. These rails are of the same form and cross section, such as indicated in Fig. 5. Each rail has a rabbet 6 formed on its inner edge and on its forward face.

As indicated in Fig. 1 the upper end of the right hand vertical rail 3 is extended upwardly on its forward face to form a flat tongue 7 and a rabbet 8 is formed in the adjacent end of the upper rail 5 in the same plane with the tongue to receive this tongue as shown in Figs. 1 and 3. The rabbet 8 is of the same depth as the rabbet 6. A butt or end face 9 is formed on the upper end of the side rail or stile 3 which rests against the lower edge of the upper rail 5. Similar joints are formed at the other three corners of the frame, that is, at the left hand end of the upper rail 5 a tongue 10 is formed which is similar to the tongue 7 and is received in a rabbet 11 formed in the upper end of the left hand side rail or stile 2. In a similar manner at the left lower corner of the frame the lower end of the rail 2 is extended to form a tongue 12 received in the corresponding rabbet 13 formed in the lower rail 4. Likewise at the right end of the lower rail 4 an extension or tongue 14 is formed which is received in a rabbet 15 of the rail 3. In this way it will be seen that the frame is formed of four rails or units of similar form, one pair being of the same length and corresponding to the width of the window while the other pair are of the same length and extended vertically in the finished screen. There is, however, a slight modification in the vertical rails 2 and 3 consisting in providing them with longitudinal tongues 16 by means of which they may be guided in the window casement.

In Fig. 7 I illustrated the manner in which the upper right hand joint of the

frame can be formed in adapting the frame of the screen to a window of small width. In order to do this the rabbet 8 is cut farther toward the left as indicated by the line 5 17, and the left edge of the tongue 7^a then seats farther to the left as shown in Fig. 7. This leaves a projecting end 18 beyond the right edge of the rail 3^a, and this projecting edge is then removed with a saw. In a similar manner the joint will be formed at the 10 tongue 12, the rabbet 13 being cut back toward the right to correspond to the opposite side of the rabbet edge 17. The screen 19 of wire gauze or similar material is supported on the rabbet 6 and held in place by 15 removable cleats 20 as shown most clearly in Fig. 2. The outer faces of these cleats are flush with the face of the rail as indicated in Fig. 4. At one end each cleat abuts directly 20 against the rabbet edge of one of the rails, and at the other end it abuts against the side or inner edge of the adjacent cleat. In other words, the cleats simply overlap in succession at one end all around the inner 25 side of the frame. With this arrangement, in order to adapt the cleats to windows of less width than normal, it is simply necessary to saw off the lower cleat 20^a and the 30 upper cleat 20^b to the proper length, and of course these cleats will be shortened by an amount equal to the length of the projecting end 18 which was sawed off in forming the joint for the rails. The rails of the frame are secured together preferably by removable 35 fastening devices passing through the tongues 7, 10, 12 and 14; and the cleats 20 which hold the screen in place may be fastened with brads or similar devices.

40 In order to adapt the frame to windows of less than normal height, it is necessary to saw off the side cleats to the proper length and adjust the end rails toward each

other. The projecting ends of the side or vertical rails diagonally opposite each other are then sawed off to form a smooth joint. 45

By means of this construction an extremely simple and compact arrangement of parts is provided which permits the frame to be used in windows of other than standard size and also permits the frame to be 50 readily adjusted to windows which have become warped. The frame can be shipped in a knockdown condition and can be readily assembled by anyone able to use the simplest tools and without employing a skilled 55 mechanic.

I claim as my invention:—

A window screen frame, formed of four rail units of similar form connected together, each of said rail units having a 60 transverse butt or end face at one end abutting against the inner edge of the adjacent rail at one end, and having a longitudinally extending tongue projecting across said adjacent rail, said adjacent rail having a transverse rabbet receiving said tongue, said rails 65 having rabbets in the inner edges thereof, a screen supported on said last named rabbets, and retaining cleats for said screen received in said last named rabbets, each cleat 70 having its outer edge in snug contact with the face of one of the last named rabbets and its two ends in snug contact with the inner face of the adjacent cleat and the inner face of the rabbet of the opposite adjacent rail respectively, whereby longitudinal and transverse movement of all of the 75 parts of said frame is resisted.

This specification signed and witnessed this 31st day of August, A. D. 1911.

BARTON S. CLEVELAND.

Signed in the presence of—

ABRAM D. LATHAM,
WILLIS R. YOUNG.