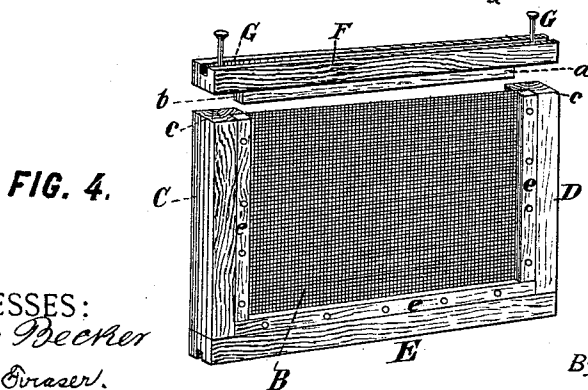
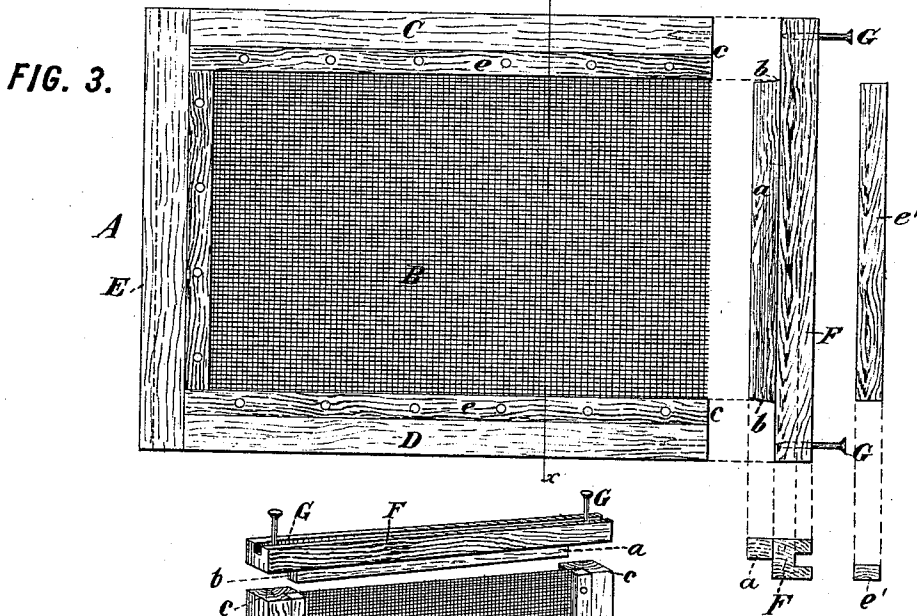
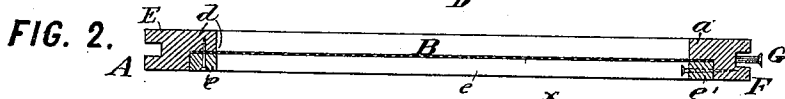
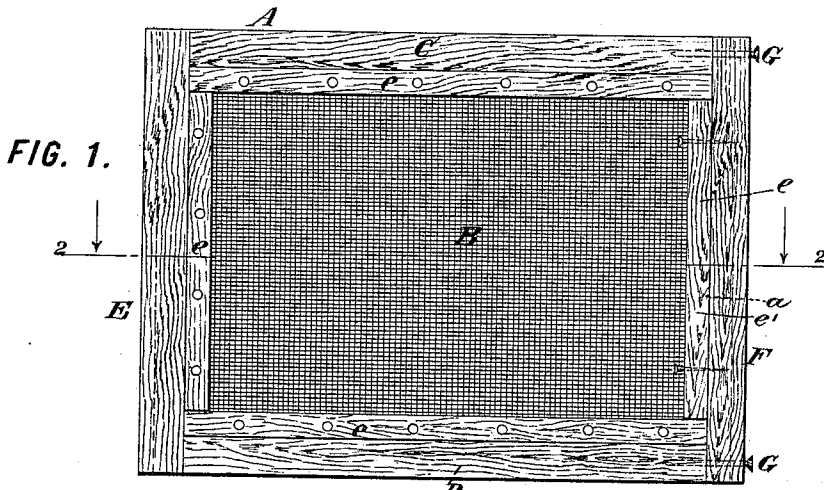


(No Model.)

J. A. BOUGHAN.
SCREEN.

No. 447,934.

Patented Mar. 10, 1891.



WITNESSES:
John Decker
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UNITED STATES PATENT OFFICE.

JAMES A. BOUGHAN, OF BROOKLYN, NEW YORK.

SCREEN.

SPECIFICATION forming part of Letters Patent No. 447,934, dated March 10, 1891.

Application filed April 29, 1889. Serial No. 309,028. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. BOUGHAN, a citizen of the United States, residing in the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Screens, of which the following is a specification.

This invention relates to screens used in windows and doors and in other places for excluding insects from houses or inclosures. Such screens have generally been especially made of the proper dimensions for each particular window. This is due to the fact that windows are found to vary in their dimensions, so that it is necessary to construct a special screen for each window where it is desired to have the screens work up or down on slides attached at the sides of the window-casing. To overcome this, telescopic or adjustable screens have heretofore been made which could be extended to approximately the width of the window. These have usually been subject to the disadvantage of having two or more vertical cross-pieces extending from top to bottom of the screen in its central portion, whereby the screen was divided up into sections and obstructed.

The object of my invention is to provide screens which can be readily fitted to the exact dimensions of the window or door to be screened, and which when so fitted have the appearance and simplicity of an ordinary screen, such as would have been made to order for any window or door.

To this end in carrying out my invention I provide a screen consisting of a rectangular frame, one member of which is temporarily attached, so as to be removable from the remainder of the frame, and a suitable netting inclosed by and attached to the frame, but not attached to the removable section of the frame.

My invention also provides a construction by which the rails or sections of the frame to which the removable section of the frame is connected are pressed apart to properly stretch the netting between them.

My invention possesses the advantage that when it is desired to screen a window with my improved screen the removable section can be detached from the rest of the screen without injury thereto, and the screen can

then be cut down to the exact dimensions required and the removable section then permanently attached thereto, thus forming a perfectly-fitted screen having an appearance equal to that of one made to order for the particular window with the expenditure of the minimum amount of labor and skill and at a very small cost. Further, as screens constructed according to my invention can be manufactured in quantities and carried in stock by the dealers, the consumer can secure his screens without the delay heretofore caused by the necessity of making each screen to order.

In the accompanying drawings, wherein I have shown my invention as applied to a window-screen, Figure 1 is an elevation of my improved screen shown in the condition for transportation or sale. Fig. 2 is a horizontal section thereof on the line 2 2. Fig. 3 is a view similar to Fig. 1, but showing the removable section detached from the screen and the screen in condition for fitting to the window. Fig. 4 is a perspective view showing a screen after having been fitted to the window and showing the removable section about to be permanently fixed thereto.

Referring to all the drawings, A designates the frame as a whole, and B the netting.

The frame A consists of the top and bottom rails C D and the side stiles E and F. The stile E and the rails C D are rigidly secured together in any suitable manner. The stile F is in the construction shown the removable section, and abuts against and preferably also enters partially between the rails C and D, and is preferably held in place thereto by the nails G G, which are driven through the stile F and slightly into the ends of the rails C and D, but are left projecting sufficiently to be easily removable when desired. The projection *a* is formed on the inner side of the removable stile F, and this projection is preferably formed with beveled or wedge-shaped ends *b b*. When the stile F is attached to the rails C D, the projection *a* enters between the ends *c c* of the rails and forces the rails apart.

The netting B is preferably wire-netting, and the mesh is sufficiently fine to prevent the passage of flies, mosquitoes, and other insects therethrough. The netting B is se-

cured to frame A in any suitable manner. It may be secured directly to the flat side of the frame, or it may be rabbeted thereon, as shown. I prefer to form the rails C and D and the stiles E and F with the depression or rabbet *d* on their inner faces, and to attach the netting B to these by nails or tacks passing through the netting and into the rabbet *d*. A molding-strip is then tacked onto the rabbet *d* over the netting B, in order to conceal the edge of the netting and give a finished appearance to the screen, as is usually done with screens. The netting B is securely attached to all of the frame A, except the removable section F thereof, as shown in the drawings. After the screen has been fitted to the window and the removable section rigidly secured to the remainder of the frame A the netting B is secured to the removable section F in the same manner as to the remainder of the frame, and the whole constitutes a perfect screen. The stiles E and F are preferably grooved on their outer faces to receive suitable tongues or slideways secured to the window-casing, on which they slide.

In constructing screens made according to my invention the rails C D and stile E are rigidly attached together, thereby forming a partial frame. The removable section F is then temporarily placed between the ends of the rails C and D, so that a rectangular frame is formed. The netting B is then suitably stretched over the frame and secured to the rails C and D and the stile E, as before described. The netting is not secured to the removable section F, but lies loosely thereon, and the molding-strip *e'* is set in its place loosely over the netting, and preferably held to the removable section F by a brad or tack for temporary security, and so that it can be removed therewith. The nails G G are driven through the removable section F and into the ends of the rails C and D sufficiently to retain the removable section in its position during transportation or handling; but these nails are left protruding sufficiently to be easily removed either with a claw-hammer or by pulling the removable section F away from the rails C and D by hand. I prefer to drive the nails G G through the stile F in the center of the guiding-groove in the stile, as thereby they can be driven out of sight and seated against the bottom of the groove when the removable section is permanently secured to the remainder of the frame A. Thus it will be seen that my improved screen, when in condition for handling or transportation, has the appearance and form of a perfect screen and can be handled with the same convenience and facility as a finished screen.

In manufacturing screens according to this invention I prefer to make them in quantities of a uniform width, say, of thirty-six inches, and to manufacture them in sets of different heights, varying from, say, a height of twelve inches to any required height, in order to

adapt them to the various requirements of the trade. For window-screens as a rule it is not necessary to make the height of the screen adjustable, as the window-sill can be lowered until it meets the top of the window-screen; but it is essential to make the window-screen fit the width of the window exactly, and as the widths of windows vary to such an extent that it is unusual to find any two of exactly the same dimensions it has heretofore been necessary to either use one of the well-known collapsible or telescopic screens in order to adapt the screen to the width of the window or else to construct screens to order especially for each window.

In employing my invention it is only necessary to take a screen of the desired height and the standard width of, say, thirty-six inches and measure exactly the width of the window to be screened, and then cut down the width of the screen to the exact width required. This is done by removing the removable section F and sawing off the ends *c* of the rails C and D the necessary amount, and then cutting off the netting B in a straight line between the two ends *c c* as shortened, as shown by the dotted line *xx* in Fig. 3. To facilitate this operation it will sometimes be found convenient to place the projection *a* of the section F between the rails C and D at a convenient point between the point to which the screen is to be shortened and the stile E. When so placed the removable section F will stiffen and support the rails C and D and will stretch the netting B taut between them, so that it can be more readily cut. After the netting B and the rails C and D have been shortened to the desired extent the removable section F is placed against the ends of the rails C and D, with its projection *a* standing between the rails and bearing against their inner sides, and the nails G G are driven home through the removable section F and into the ends of the rails C and D until the heads of the nails G G seat themselves against the bottom of the groove in the removable section F, thereby permanently securing the section F to the remainder of the frame A. As the section F is drawn tightly against the rails C and D the beveled shoulders *b b*, formed by the ends of the projection *a* on section F, force apart the rails C and D as the projection *a* enters between them, and thereby stretch the netting B taut. When the section F has been rigidly secured to the remainder of the frame A, the netting B is secured to the section F, preferably by laying the netting down on the projection *a* of the section F and then nailing it thereto. The molding-piece *e'* is then nailed in position on the projection *a* by nails driven through the piece *e'* and the netting B and into the projection *a*. In doing this it is preferable to spring the middle of the section F inwardly toward the netting as far as the elasticity of the section will permit and then secure the netting thereto, as described above,

whereupon the section F will draw the netting taut by its elasticity.

While I have particularly described my invention as used with a window-screen, it will be understood that it is equally applicable to screens generally, whether for use in windows or doors or in other places where screens are used. It will also be understood that, while I have shown the removable section of my screen as being at the side thereof, it can, if preferred, be or constitute any other portion of the frame. For example, instead of making the side stile F the removable portion, one of the rails C or D may be made removable. Also, if desired, the removable section of the frame can constitute two of the rectangular sides thereof; but I prefer to make only one side removable. I prefer to construct the frame A of wood and the netting B of wire.

What I claim as my invention is—

1. A screen consisting of a rectangular frame formed with parallel top and bottom rails joined permanently together at one end through the medium of a stile and having a detachable stile temporarily attached against the opposite ends of said rails, which are cut square, said detachable stile constructed with an inward shoulder formed integrally with the stile to enter between the ends of the rails, and said detachable stile extending entirely past the square ends of each of said rails and constructed on its exterior face with a longi-

tudinal groove throughout its entire length, whereby to shorten the screen the detachable stile may be removed, the ends of the rails cut square off, and the stile attached against the square-cut ends of the rails, with its inward projection entering between them to hold them apart and its outer grooved side extending entirely past their square-cut ends, thereby constituting a complete screen having a groove throughout the entire length of one of its sides.

2. A screen consisting of a rectangular frame formed with parallel rails joined permanently together at one end through the medium of a stile and having a detachable stile constructed to fit against the opposite ends of the rails and formed with an inward projection to enter partly between them, and having beveled end faces to wedge them apart as it is forced between them, and the detachable stile fastened temporarily to the rails and a netting fastened to the rails and permanent stile, whereby the netting is stretched between the side rails by the attachment of the detachable stile.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JAMES A. BOUGHAN.

Witnesses:

GEORGE H. FRASER,
CHARLES K. FRASER.