

No. 756,085.

PATENTED MAR. 29, 1904.

M. G. VAN AUKEN & J. J. MILLER.

WINDOW SCREEN.

APPLICATION FILED JUNE 27, 1903.

NO MODEL.

Fig. 1

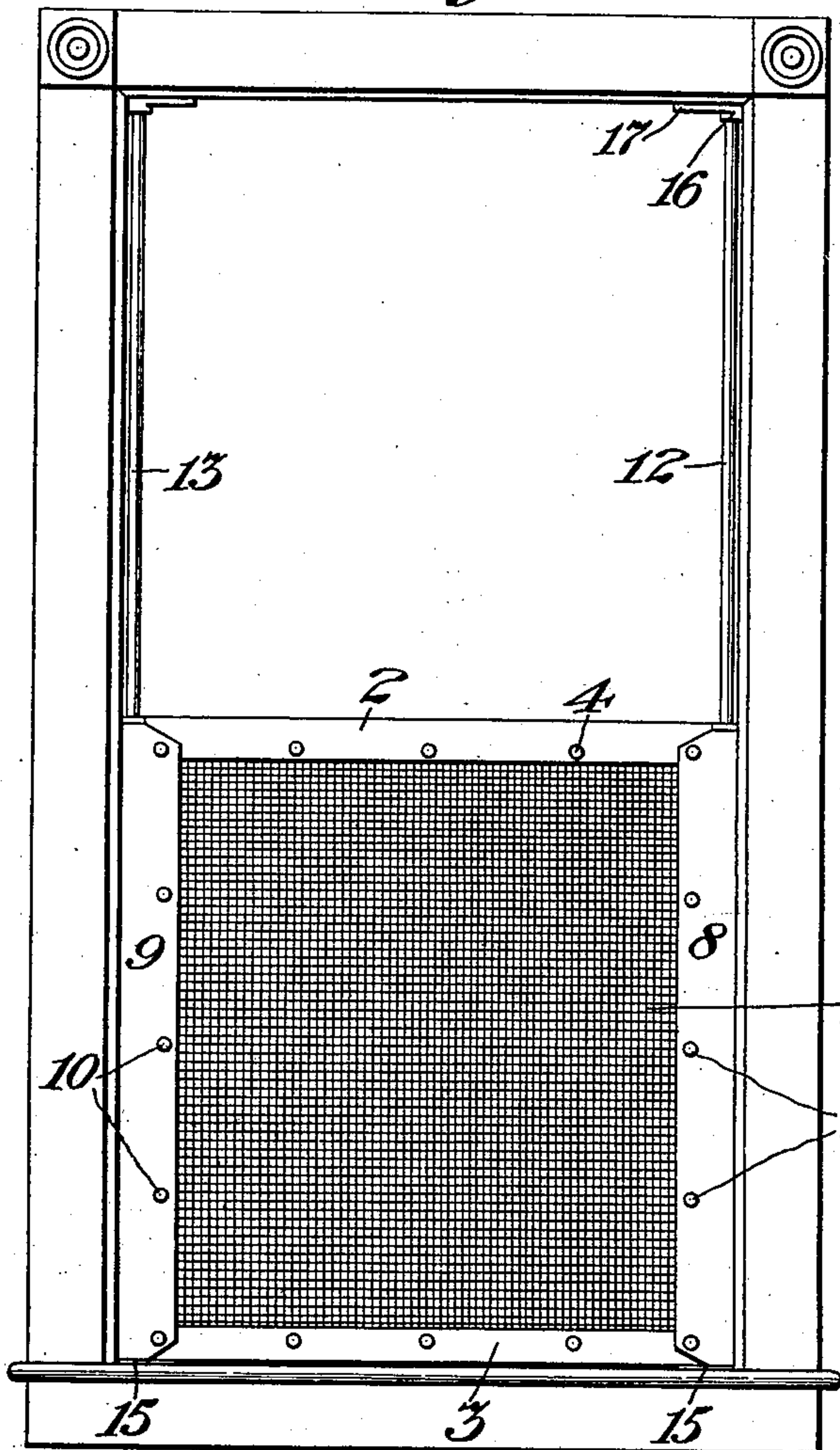


Fig. 2

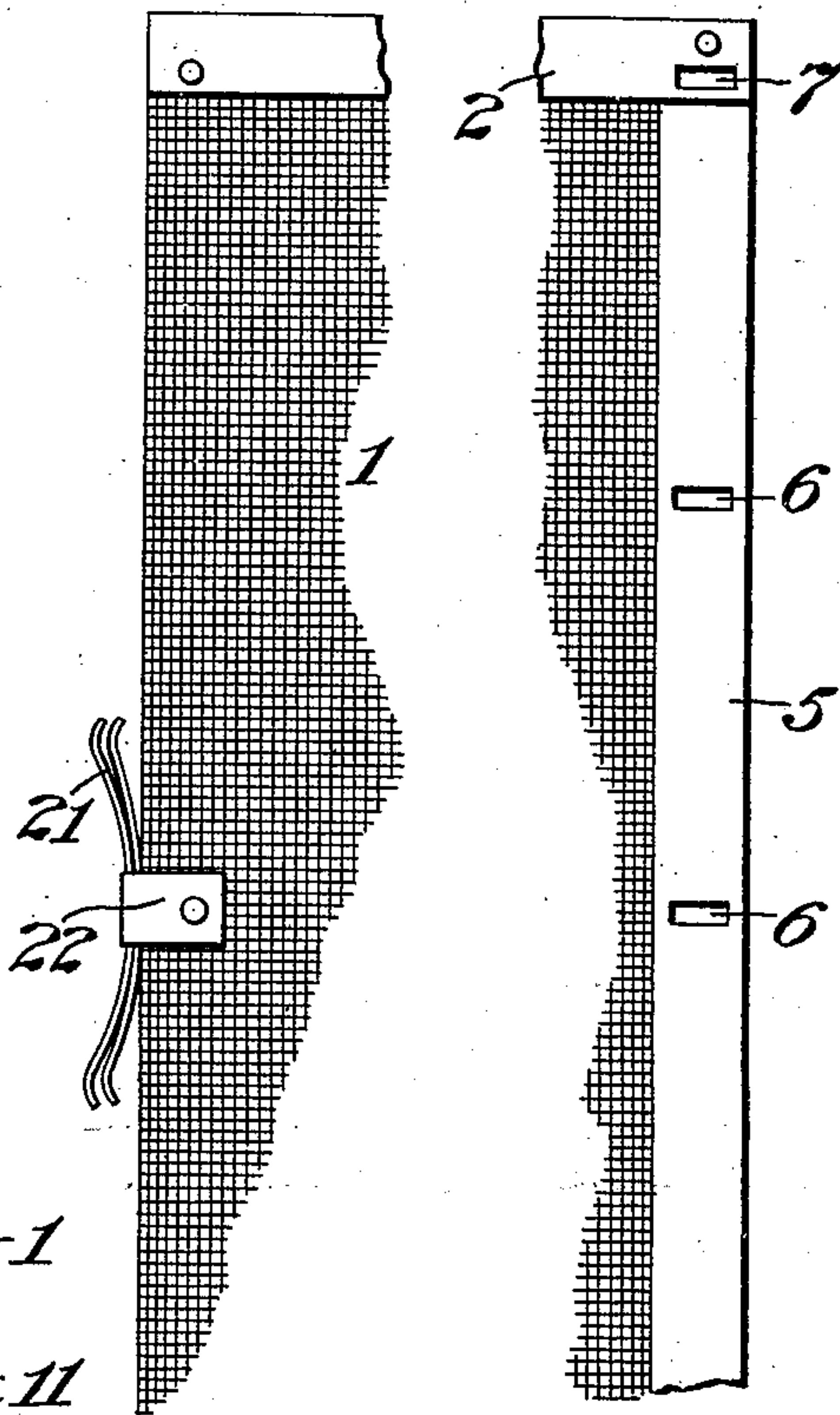


Fig. 3

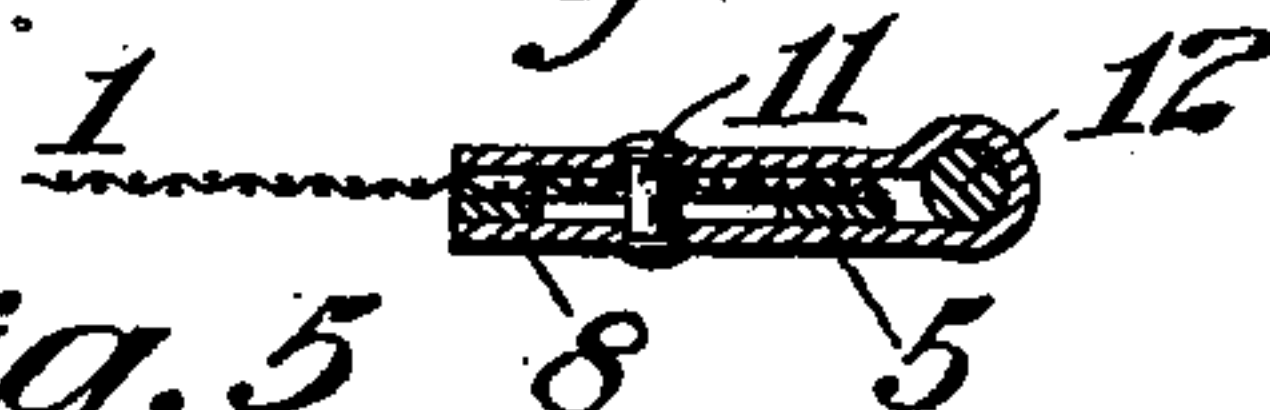


Fig. 5

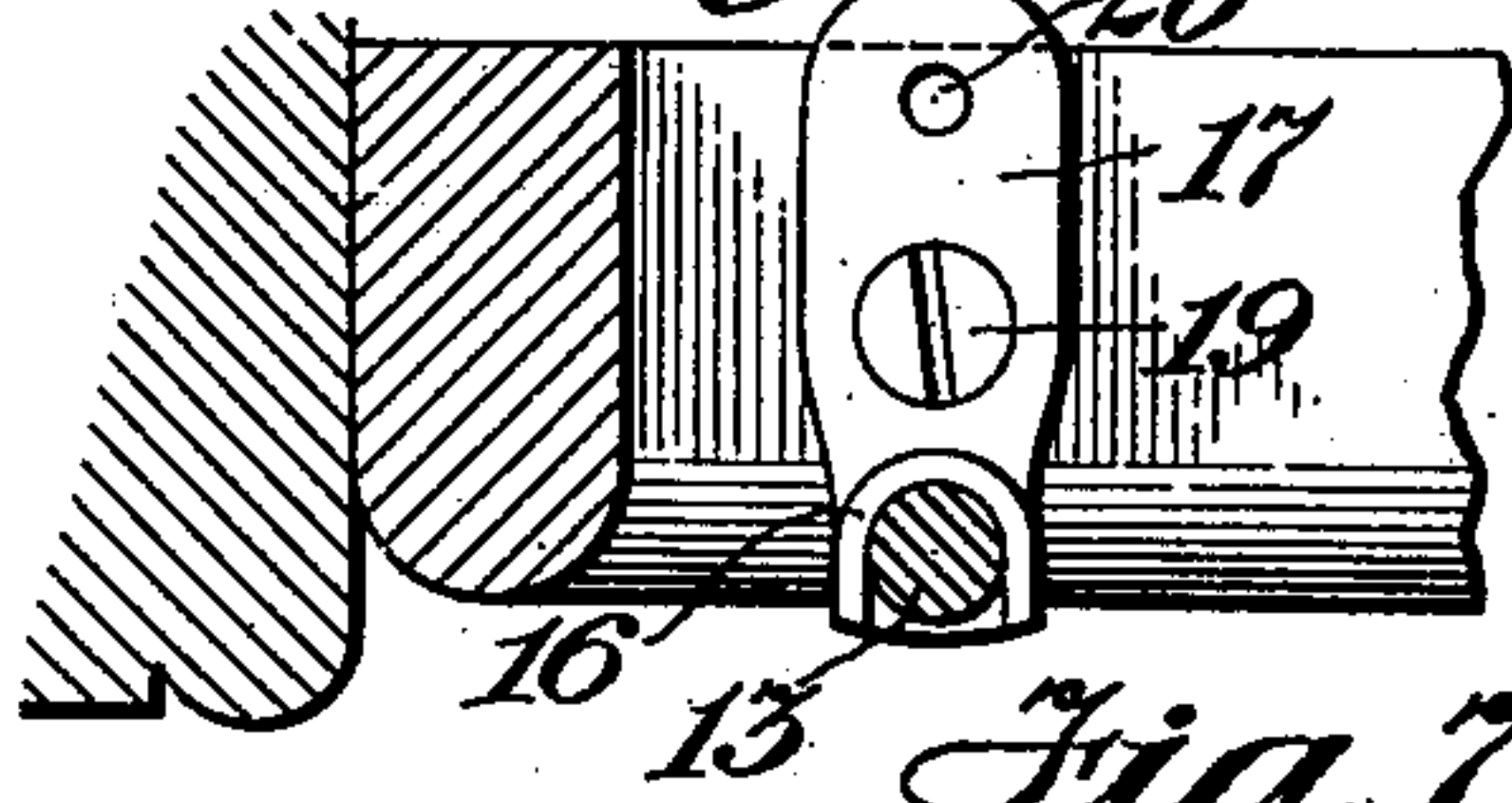


Fig. 7

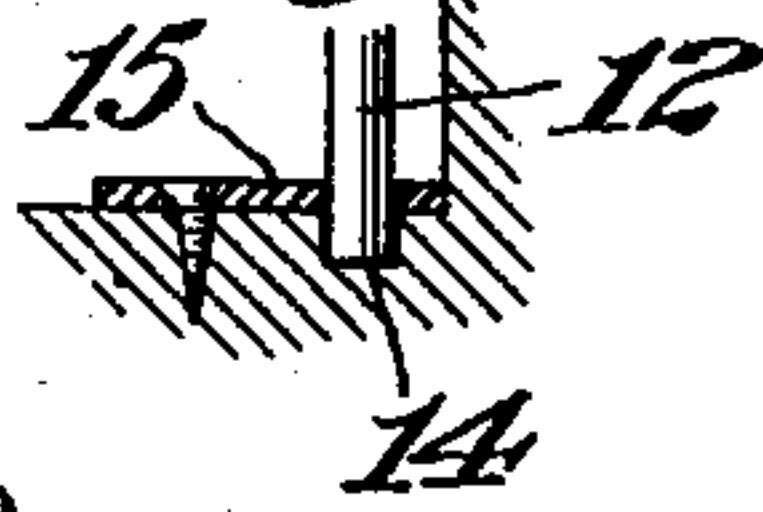
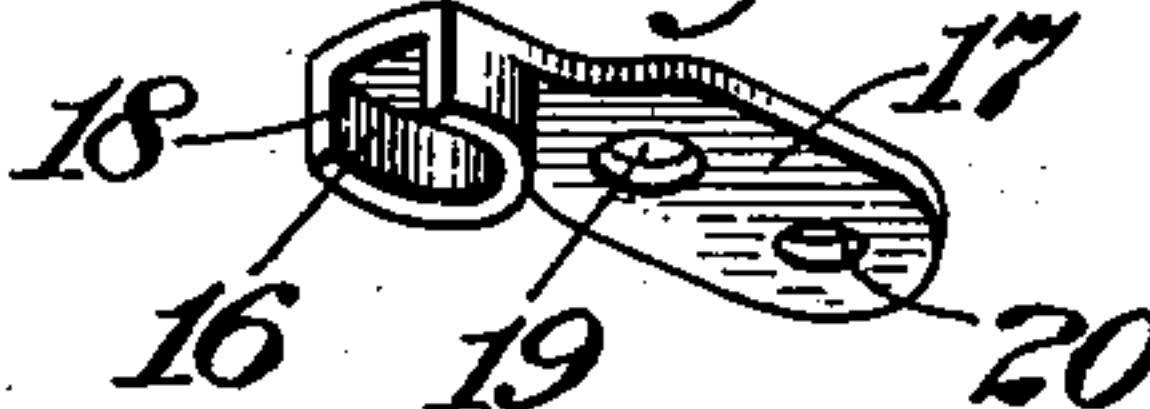


Fig. 6



Witnesses
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UNITED STATES PATENT OFFICE.

MELVIN G. VAN AUKEN AND JAY J. MILLER, OF BATTLECREEK, MICHIGAN.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 756,085, dated March 29, 1904.

Application filed June 27, 1903. Serial No. 163,306. (No model.)

To all whom it may concern:

Be it known that we, MELVIN G. VAN AUKEN and JAY J. MILLER, citizens of the United States, residing at Battlecreek, Michigan, have
 5 invented certain new and useful Improvements in Window-Screens, of which the following is a specification.

Our invention relates to window-screens, the object of the same being to provide an im-
 10 proved device of this character which is constructed entirely of metal, which is capable of lateral expansion and contraction to adapt the same for use in windows of different widths, which is capable of sliding up and down op-
 15 posite both the upper and lower sashes of the window, and which is adapted to be frictionally held or sustained to any point to which it may be moved.

A further object of the invention is to pro-
 20 vide a simple and convenient means of attaching and detaching the guide-rods from the window-frame.

Other objects and advantages of the inven-
 25 tion will hereinafter appear, and that which we regard as new will be set forth in the claims.

In the drawings forming part of the specifi-
 cation, Figure 1 is a front elevation of a win-
 dow-frame, showing our improved screen
 30 mounted in the opening therein. Fig. 2 is a detail view of the screen, partly broken away and with the side strips thereof removed. Fig. 3 is a detail sectional view, the section being taken through one side of the screen. Fig. 4
 35 is a similar view looking upwardly, the section being taken through the window-frame above the screen. Fig. 5 is a view similar to Fig. 4, with the thimble in which the upper
 40 end of the guide-rod is mounted shown in a different position. Fig. 6 is a detail perspective view of one of the thimbles in which the guide-rods are mounted, and Fig. 7 is a detail sectional view showing the socket in which the lower end of one of the guide-rods fits.

Like reference-numerals indicate like parts
 45 in the different views.

Our improved screen is made up of a sheet
 1 of wire-netting or other reticulated or open-
 work material, having secured to its upper
 and lower edges the strips 2 and 3 of sheet
 50 metal or other like material. These strips 2

and 3 are folded around the upper and lower
 edges, respectively, of the sheet 1 and are se-
 cured to said sheet by rivets 4 or other anal-
 ogous devices. Extending along one of the
 side edges of the sheet 1 from the upper to
 the lower end thereof is a strip 5 of sheet
 metal, the same being secured to the sheet 1
 and to the strips 2 and 3 in any suitable man-
 55 ner. This strip 5 is provided with one or more elongated slots 6, and the strips 2 and
 60 3 are provided with similar elongated slots 7 in vertical alinement with the slots 6. Cover-
 ing and protecting the side edges of the sheet 1 and forming parts of the screen-frame are
 65 the side strips 8 and 9 of sheet metal, the same being similar in construction to the top and
 bottom strips 2 and 3, heretofore referred to—
 that is, the strips 8 and 9 are made from sheet
 metal and are bent around the side edges of
 the sheet 1 and around the ends of the strips
 70 2 and 3. The strip 9 is firmly and rigidly se-
 cured to the sheet 1 of wire-netting by means
 of rivets 10, which extend through said sheet
 and through the two leaves or wings of the
 strip 9. The strip 8 is connected to the body
 75 of the screen, with provision for lateral move-
 ment, by means of the rivets or bolts 11, which extend through the slots 6 and 7, registering
 with openings or passages in the sheet 1 and
 through both leaves or wings of the strip 8.
 80

It will be seen that the screen thus pro-
 duced is strong and rigid, that there are close
 joints between the different parts thereof, and
 that the same is capable of lateral expansion
 and contraction to adapt the same for use in
 85 window-openings of different widths.

The vertically-disposed side strips 8 and 9
 of the screen-frame are bent or folded at their
 centers along the extreme sides of the screen-
 frame to form substantially circular passages
 90 for the reception of the guide-rods 12 and 13. This construction is most clearly shown
 in Fig. 3 of the drawings. The said guide-
 rods 12 and 13 are mounted in fixed position
 within the opening in the window-frame and
 95 are arranged as closely as possible to the side
 walls of said opening. They are capable of
 ready application to the window-frame and
 of equally as ready removal therefrom. To
 accomplish this result, the sill or bottom wall
 100

of the window-frame is formed on each side with a socket 14 for the reception of the lower end of each of said rods, which socket is covered and protected by a horizontally-disposed face-plate 15, having an opening therein which registers with said socket. The upper ends of the rods 12 and 13 are held in place within thimbles or socket-pieces 16, formed upon plates 17, pivotally mounted in the upper wall of the opening in the window-frame, as shown. Each thimble 16 is located at one end of the plate 17, on which it is formed, and is provided with a side opening or passage 18 leading into the same. Each of the plates 17 is pivoted at 19 at a point intermediate its ends and is provided with an opening 20 adjacent to the end opposite the thimble 16, through which a pin, nail, screw, or other like securing device may be passed for holding said plate in locked position. When the parts of the device are in operative positions, the guide-rods 12 and 13 extend from top to bottom of the opening in the window-frame, the side strips 8 and 9 of the screen-frame embrace said rods, and the screen is movable thereon. At this time the lower ends of the rods 12 and 13 are seated in the sockets 14 and the upper ends of said rods are seated in the thimbles 16, which thimbles are swung outwardly, as shown in Figs. 1 and 4 of the drawings, with the lateral openings or passages 18 therein lying in close relation to the inner walls of the opening in the window-frame. The plates 17, which carry the thimble 16, are locked in the positions last described by driving nails or other like securing devices through the openings 20 in the plates 17 into the lower surface of the upper rail of the window-frame. To remove the rods 12 and 13, and consequently detach the screen from the window, it is merely necessary to remove the securing devices from the plates 17 and swing the latter inwardly upon their pivots 19 until the openings or passages 18 in the thimbles 16 are exposed, as shown in Fig. 5 of the drawings, when the upper ends of said rods may be readily slipped out from the thimbles in which they were formerly located. This movement will of course necessitate a slight inward movement of the upper ends of the rods 12 and 13; but when the screen is in its lowermost position, as shown in Fig. 1 of the drawings, this movement of said rods is permissible both by reason of the springy nature of the material of which said rods are made and by reason of the fact that the screen as a whole is capable of lateral expansion and contraction.

To apply the screen to a window, the rods 12 and 13 are introduced into the tubular openings or passages along the sides of the strips 8 and 9, the lower ends of said rods are placed in the sockets 14, the thimbles 16 are moved inwardly to the positions shown in Fig. 5, the upper ends of said rods are slipped into said thimbles by passing the same through the

lateral openings 18, the thimbles 16 are swung back into the positions shown in Figs. 1 and 4, and the securing devices for the plates 17, on which the thimbles 16 are formed, are applied.

To provide for the retention or support of the screen in any position to which it may be moved, we secure to the side edge of the sheet 1 opposite the strip 5 a double leaf-spring 21, which when the parts of the device are assembled bears at its free ends against the guide-rod 13. Frictional engagement is thus had between the screen and one of the fixed guide-rods on which it slides, which tends to hold the screen at any point within its range of movement. We may of course use any other suitable form of spring than that shown; but when a leaf-spring is employed we prefer to secure the same in place by means of a short strip 22 of sheet metal, which surrounds one edge of the sheet 1 of reticulated material, embraces both the spring 21 and said sheet, and is secured to the latter by riveting or in any other suitable way.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A window-screen consisting of a sheet of wire-netting, metallic strips bent around the upper and lower edges of said sheet and lying in contact with the opposite faces thereof, metallic strips bent around the two side edges of said sheet and lying in contact with the opposite faces thereof, and connecting devices extending through said sheet and through both wings or branches of said strips, the looped portions of the side strips having their upper and lower ends open, being located beyond the ends of the top and bottom strips and the side edges of said sheet, and forming guide-rod passages.

2. A window-screen consisting of a body including a sheet of open-work material and having elongated slots along one of the sides thereof, and metallic strips bent around the side edges of said body, one of said strips being connected to said body, with provision for lateral movement, by connecting devices which pass through the two leaves of said strip and through said slots.

3. A window-screen consisting of a sheet of wire-netting, metallic strips bent around and secured to the upper and lower edges thereof, each provided with an elongated slot at one end, a connecting-strip between said metallic strips lying along one of the side edges of said sheet and having an elongated slot therein between the slots in said metallic strips, and metallic strips bent around the two side edges of said sheet, the looped portions of the latter strips having their upper and lower ends open, being located beyond the ends of the top and bottom strips and the side edges of said sheet, and one of the same being connected to the body of the screen, with provision for lateral movement,

by connecting devices which pass through the two leaves of said strip and through said slots.

4. The combination with a pair of vertically-disposed guide-rods mounted in the opening of a window-frame, of a window-screen mounted to slide on said rods, the said screen comprising a body of open-work material, metallic strips embracing and connected to the side edges of said body, the looped portions of said strips having their upper and lower ends open, being located beyond the side edges of said body and embracing said rods, and one of said strips being rigidly secured to said body and the other being connected thereto with provision for lateral movement, and a spring connected with said body, located between the two parts of the rigidly-connected strip, and bearing against the adjacent guide-rod, as and for the purpose set forth.

5. The combination with a window-frame having sockets in the sill thereof, and a window-screen, of a pair of guide-rods on which said screen is mounted to slide, whose lower ends are adapted to fit within said sockets, and movable thimbles for the upper ends of said rods having lateral passages therein, as and for the purpose set forth.

6. The combination with a window-frame having sockets in the sill thereof, and a win-

dow-screen, of a pair of guide-rods on which said screen is mounted to slide, whose lower ends are adapted to fit within said sockets, and pivotally-mounted laterally-swinging thimbles for the upper ends of said rods, the said thimbles cooperating with the window-frame when in one position, for retaining said rods in place, as and for the purpose set forth.

7. The combination with a window-frame having sockets in the sill thereof, and a window-screen, of a pair of guide-rods on which said screen is mounted to slide, whose lower ends are adapted to fit within said sockets, thimbles for the upper ends of said rods having side openings or passages therein, the said thimbles being movable away from the side walls of the opening in the window-frame to expose said passages and being movable toward said side walls to cover said passages, and means for retaining said thimbles in the latter position, as and for the purpose set forth.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

MELVIN G. VAN AUKEN.

JAY J. MILLER.

Witnesses:

JAMES H. MILLER,

GEORGE W. HILL.