F. H. FREDMAN.

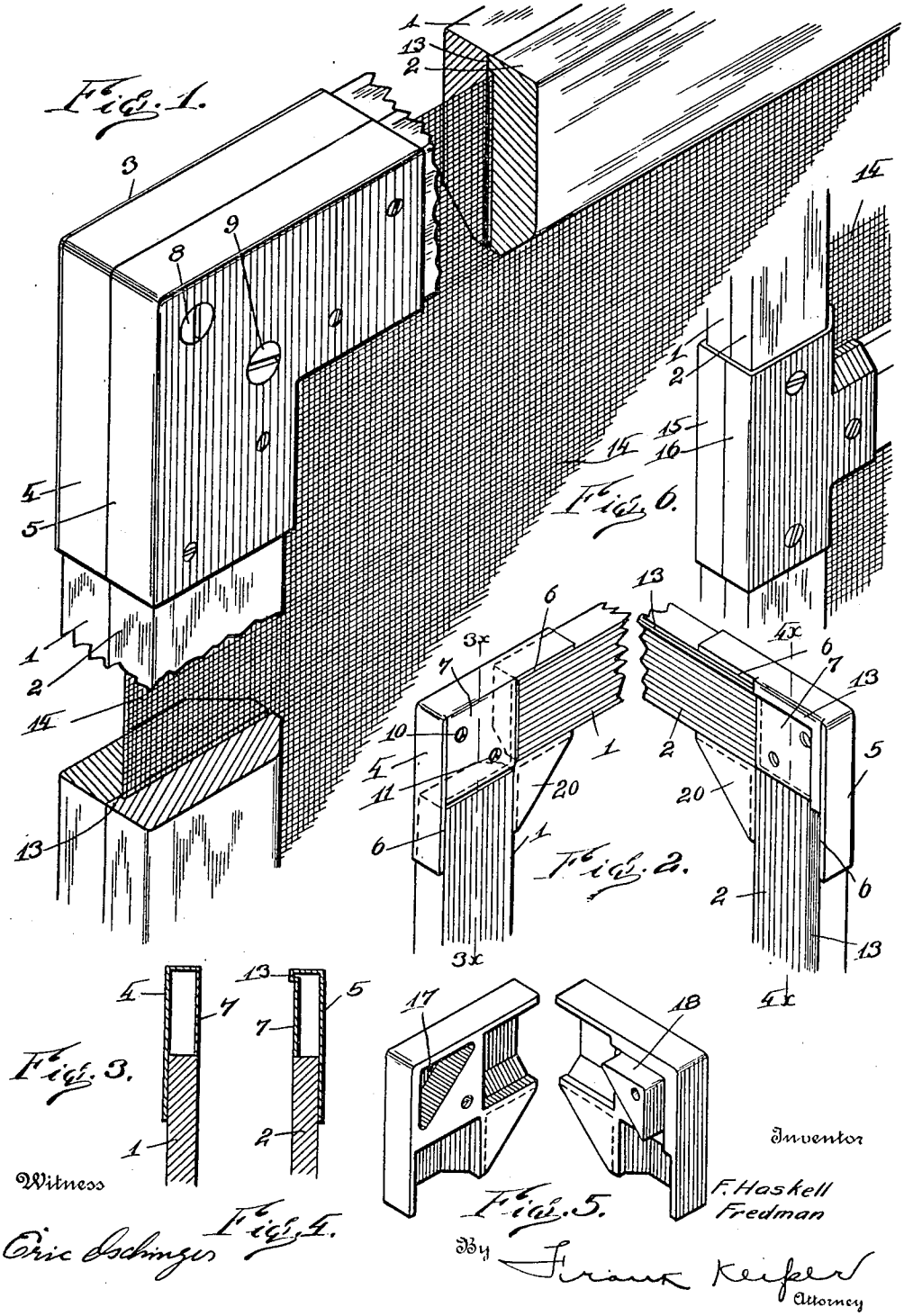
SCREEN FRAME.

APPLICATION FILED FEB. 12, 1918.

1,285,973.

Patented Nov. 26, 1918.

2 SHEETS—SHEET 1.



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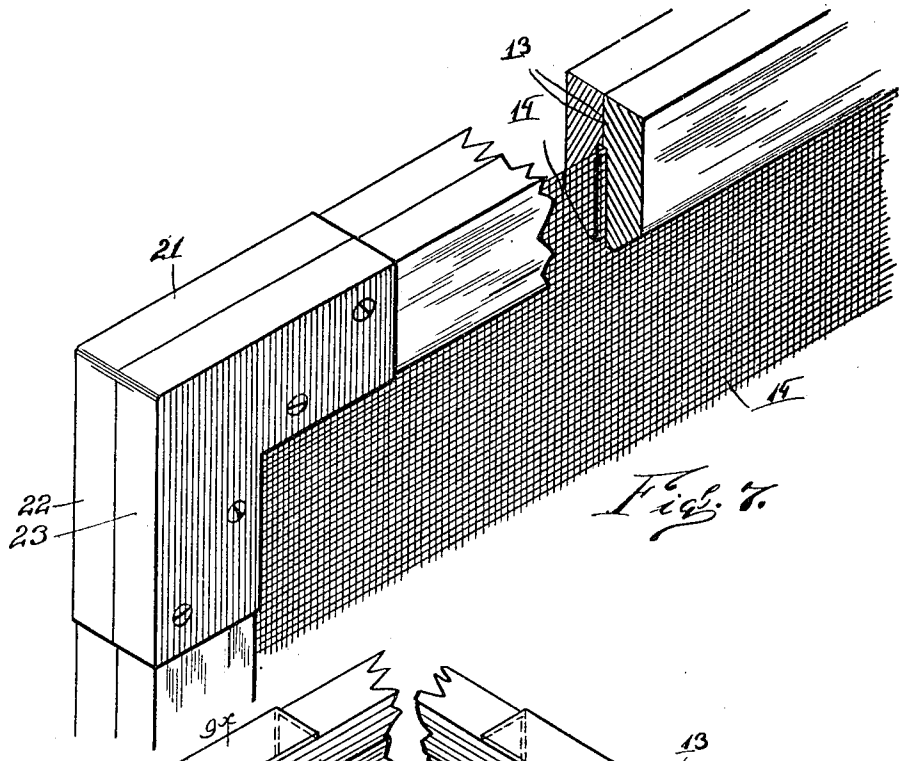


Fig. 7.

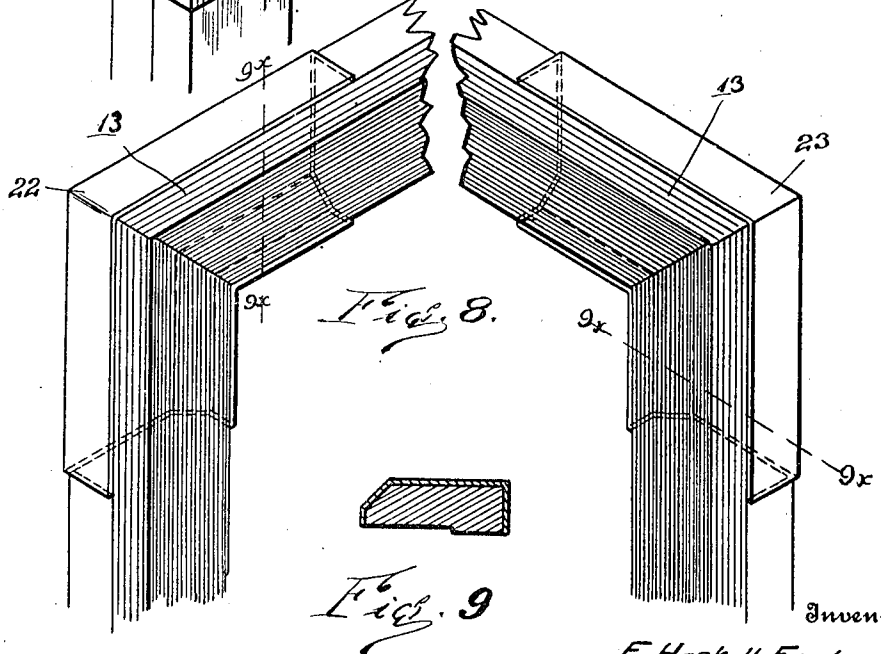


Fig. 8.

Fig. 9

Witness

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UNITED STATES PATENT OFFICE.

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SCREEN-FRAME.

1,285,973. Specification of Letters Patent. Patented Nov. 26, 1918.

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To all whom it may concern:

Be it known that I, FRED HASKELL FREDMAN, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Screen-Frames, of which the following is a specification.

This invention relates to improvements in frames for screens and its object is to provide rails and corner braces which are adapted to clamp and hold a metal screen between them.

Another object of this invention is to so construct this frame that it can be easily fitted to any door or window.

With these and other objects in view, the invention presents a novel construction comprising a combination and arrangement of parts which will be fully illustrated in the drawings, described in the specification and pointed out in the claims at the end thereof.

In the accompanying drawings,

Figure 1 is a perspective view of a corner of a frame embodying the invention.

Fig. 2 is a perspective view of the corner brace and the rails attached thereto, the corner brace and the rails being shown divided along the middle thereof ready to receive and clamp a metal screen between them.

Fig. 3 is a vertical sectional view of one section of the corner brace and the rail attached thereto, the section being taken on the line $3^{\times}$—$3^{\times}$ of Fig. 2.

Fig. 4 is a similar sectional view of the companion section of the corner brace and its rail, the section being taken on the line $4^{\times}$—$4^{\times}$ of Fig. 2.

Fig. 5 is a perspective view of a modified form of the corner brace.

Fig. 6 is a perspective view of an angle brace for connecting horizontal rails to the vertical rails.

Fig. 7 is a perspective view of a corner of a frame showing a modified form of the corner brace for clamping together the rails and screen of the frame.

Fig. 8 is a perspective view of the two sections of the corner brace shown in Fig. 7.

Fig. 9 is a sectional view of one of the sections of the corner brace and the rail fastened therein, the section being taken on the line $9^{\times}$—$9^{\times}$ of Fig. 8.

In the several figures of the drawing, like reference numerals indicate like parts.

The frame comprising this invention is built up of a series of parallel rails 1 and 2 which are connected at their ends by the corner braces 3 to form the corners of the frame. These corner braces are made up in two sections which are preferably stamped and bent up out of sheet metal. As shown in Figs. 1 and 2, the sections 4 and 5 forming one of the corner braces 3 comprise an angular channel 6 with a cover plate 7 bent over the central portion thereof. This cover plate is integral with each of the sections and divides the angular channel 6 into two pockets, each of which is adapted to receive the end of one of the rails 1 or 2.

When the rails are inserted into these pockets, the sides of the cover plate 6 which are adjacent to the pockets, act as a stop for the rails and serve to properly locate them therein. The rails 1 and 2 are fastened into the pockets of each of the sections 4 and 5 by suitable wood screws, and the sections 4 and 5 with the rails 1 and 2 attached thereto are then clamped together by means of the machine screws 8 and 9. These machine screws pass through holes provided in the outside of the section 5 of the corner brace 3 and project through corresponding holes in the cover plate 7 of the same section and then engage with the threaded holes 10 and 11 provided in the cover plate 7 of the section 4 of the corner brace.

In this manner, sections 4 and 5 of the corner brace 3 together with the rails 1 and 2 are rigidly clamped side by side to form a complete frame. The metal screen 14 is tightly clamped in place between the rails 1 and 2 and the cover plate 7 of the sections 4 and 5 of the angle braces.

To provide space sufficient to prevent the rails 1 and 2 and the angle braces from spreading when the metal screen is inserted between them, the rails 2 and the cover plate 7 of the sections 5 of the angle braces are provided with a ridge 13 which encircles the outer edge of the inner side of the rails 2. This in turn provides the small channel between the rails 1 and 2 and the section of the corner braces when the frame is put together, so that the metal screen can be placed between the rails 1 and 2 before they are clamped together and clamped in place between them afterward without spreading the rails and corner braces as shown in Fig. 1.

Because of the clamping of the metal screen between the rails along the whole perimeter thereof, the metal screen does not need to be tacked down or otherwise fastened thereto. If desired, however, the screen may be fastened to the rails in any suitable manner after it has been clamped in place between them.

From the foregoing it will be seen that a screen frame of this kind can be made up of stock rails and corner braces and to fit a screen to any size of opening, window or door only stock rails need be secured and cut to the desired length and fastened together by means of the stock corner braces which will clamp the rails together with a metal screen of corresponding length between them.

To fasten and connect cross rails to the vertical rails, angle braces are used. These angle braces are made up of two sections 15 and 16 which are bent up of sheet metal similar to the corner brace sections 4 and 5 except that the cover plates 7 are omitted therefrom. This is necessary because the rails 1 and 2 pass clear through the sections of the angle braces and the rails forming the cross rail abut against the sides of the vertical rails. Suitable screws are provided to clamp the sections of each of the angle braces together and hold the vertical as well as the horizontal rails in place therein.

In Fig. 5 is shown a modified form of a corner brace, which is preferably formed as a casting. This corner brace instead of being provided with a cover plate to form a stop for the rails when inserted into the pockets on each end of the corner brace is formed with a stop which is integral with the casting and for this purpose the middle portion of the angle brace is left solid except for a pocket 17 in one of the sections and a lug 18 in the other section. The lug 18 of one section is adapted to project into the pocket 17 in the other section and when the metal screen 14 is placed between them, the lug 18 will force a portion of the screen into the pocket 17 and rigidly lock it in place therein.

The addition of the lug 18 and pocket 17 also serves to prevent the sections of the corner braces from endwise movement and properly locates them side by side with relation to each other.

The web 20 on each of the sections of the corner braces is provided for the purpose of reinforcing the inner corner thereof.

The modified form of angle brace 21 shown in Figs. 7, 8 and 9 has the cover plate 7 omitted therefrom, so that each end of the sections 22 and 23 comprising the angle brace is bent up in the form of a plain L shaped channel. The rails 1 and 2 are adapted to project into each end of these channels so that their ends abut against each other in the middle thereof and form a miter joint between them.

Both of the rails 1 and 2 shown in Figs. 7, 8 and 9 have the ridge 13 provided around their perimeter on the inner side so that the screen 14 when placed between these rails will be held in the exact middle between them.

In the corner brace shown in Figs. 7, 8 and 9, the sections are held together by means of wood screws which pass through one side of each of the sections and screw into both of the rails and thus hold each of the sections in place on the rails in addition to clamping the rails side by side to hold the metal screen between them.

It will be understood that instead of clamping the screen between the rails, a glass panel or any other panel may be inserted instead.

I claim:

1. In a screen frame the combination of a pair of individual frames of equal size placed side by side, each of said frames comprising a series of rails with the ends abutting each other, separate corner braces connecting the ends of said rails in each frame, a screen placed between said individual frames, means for clamping said frames and said corner braces together with said screen placed between said corner pieces coming together at each corner with abutting edges on one side to form a hollow tube that incloses the ends of the rails of the two frames.

2. In a screen frame the combination of a pair of individual frames of equal size placed side by side, each of said frames comprising a series of rails with the ends abutting each other, separate corner braces connecting the ends of said rails in each frame, a screen placed between said individual frames, means for clamping said frames and said corner braces together with said screen placed between, said corner pieces coming together at each corner with abutting edges on one side to form a hollow tube that inclose the ends of the rails of the two frames.

3. In a screen frame the combination of a pair of individual frames placed side by side, each of said frames comprising a series of rails with the ends abutting each other, corner braces connecting the ends of said rails, a screen placed between said individual frames, means for clamping said frames and said corner braces together with said screen placed between, a ridge formed on one side of one of said individual frames to slightly space said frames apart from each other to receive said screen between them.

4. In a screen frame, the combination of a series of rails, corner braces connecting said rails, said corner braces comprising two sections, each having an L shaped channel provided therein, a cover plate on each of

said sections, said cover plate dividing said L shaped channel and providing a pocket on each end of said section to receive said rails, means for clamping said corner brace sections together to embrace the ends of said rails.

5. In a screen frame the combination of a pair of individual frames placed side by side, each of said frames comprising a series of rails with the ends abutting each other, corner braces connecting the ends of said rails, a screen placed between said individual frames, means for clamping said frames and said corner braces together with said screen placed between them, said corner braces forming an angular channel into which said rails are adapted to project, each of said corner braces having a series of holes provided in their sides, clamping screws being adapted to pass through said holes to clamp each of said corner braces to the rails of both of said individual frames.

6. In a screen frame the combination of a pair of individual frames placed side by side, each of said frames comprising a series of rails with the ends abutting each other, separate corner braces connecting the ends of said rails in each frame, a screen placed between said individual frames, means for clamping said frames and said corner braces together with said screen placed between, said corner pieces coming together at each corner with abutting edges on one side to form a hollow tube that incloses the ends of the rails of the two frames, said tube having a longitudinal slit on the other side to receive the screen.

7. In a screen frame, the combination of a pair of individual frames placed side by side, each of said frames comprising a series of rails, separate channel shaped corner braces connecting the ends of the rails in each frame, a screen placed between said individual frames, means for clamping said frames and said corner braces together with said screen placed between them, the adjacent flanges of said corner pieces lying flush with each other in the same plane.

8. In a screen frame, the combination of a pair of individual frames placed side by side, each of said frames comprising a series of rails, separate channel shaped corner braces connecting the ends of the rails in each frame, a screen placed between said individual frames, means for clamping said frames and said corner braces together with said screen placed between them, the adjacent flanges of said corner pieces lying flush with each other in the same plane, said corner pieces forming an inclosure for the ends of the rails of the two frames at one corner.

9. In a screen frame the combination of a pair of individual frames of equal size placed side by side, each of said frames comprising a series of rails with the ends abutting each other, separate corner braces connecting the ends of said rails in each frame, a screen placed between said individual frames, means for clamping said frames and said corner braces together with said screen placed between.

10. In a screen frame the combination of a pair of individual frames of equal size placed side by side, each of said frames comprising a series of rails with the ends abutting each other, separate corner braces connecting the ends of said rails in each frame, a screen placed between said individual frames, means for clamping said frames and said corner braces together with said screen placed between, said corner braces forming an angular channel into which said rails are adapted to project.

In testimony whereof I affix my signature.

F. HASKELL FREDMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."