No. 720,144. PATENTED FEB. 10, 1903.

L. H. HIXSON.

SCREEN DOOR OR WINDOW.

APPLICATION FILED MAR. 15, 1902.

NO MODEL.

Fig. 3.

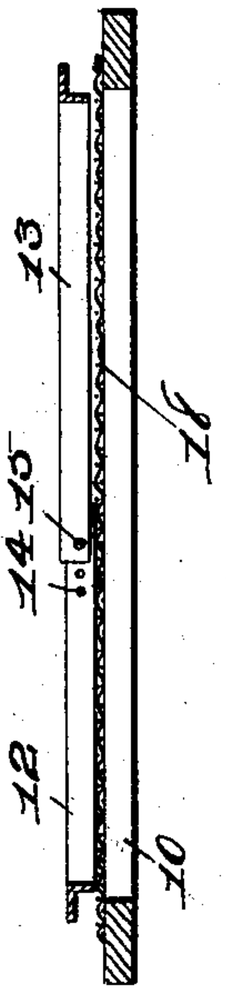


Fig. 4.

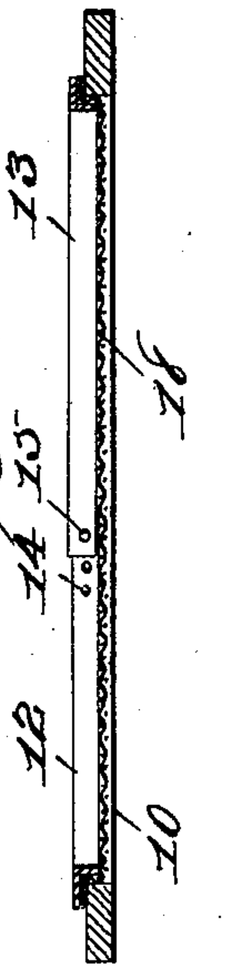


Fig. 5.

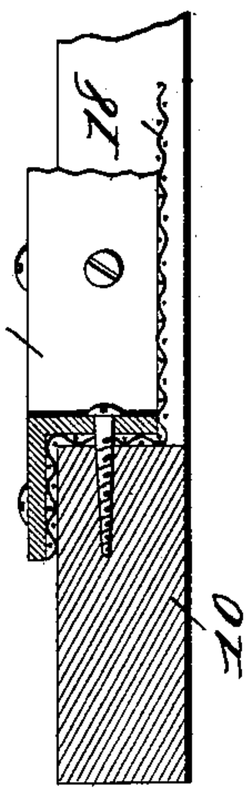


Fig. 2.

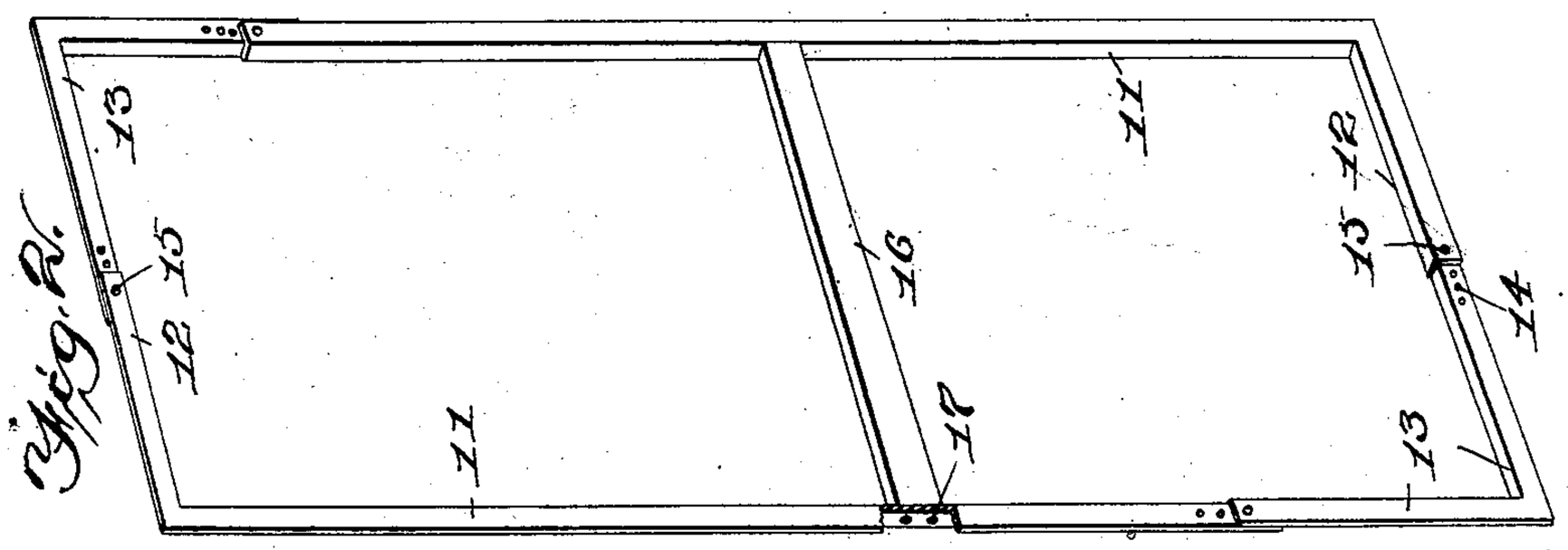
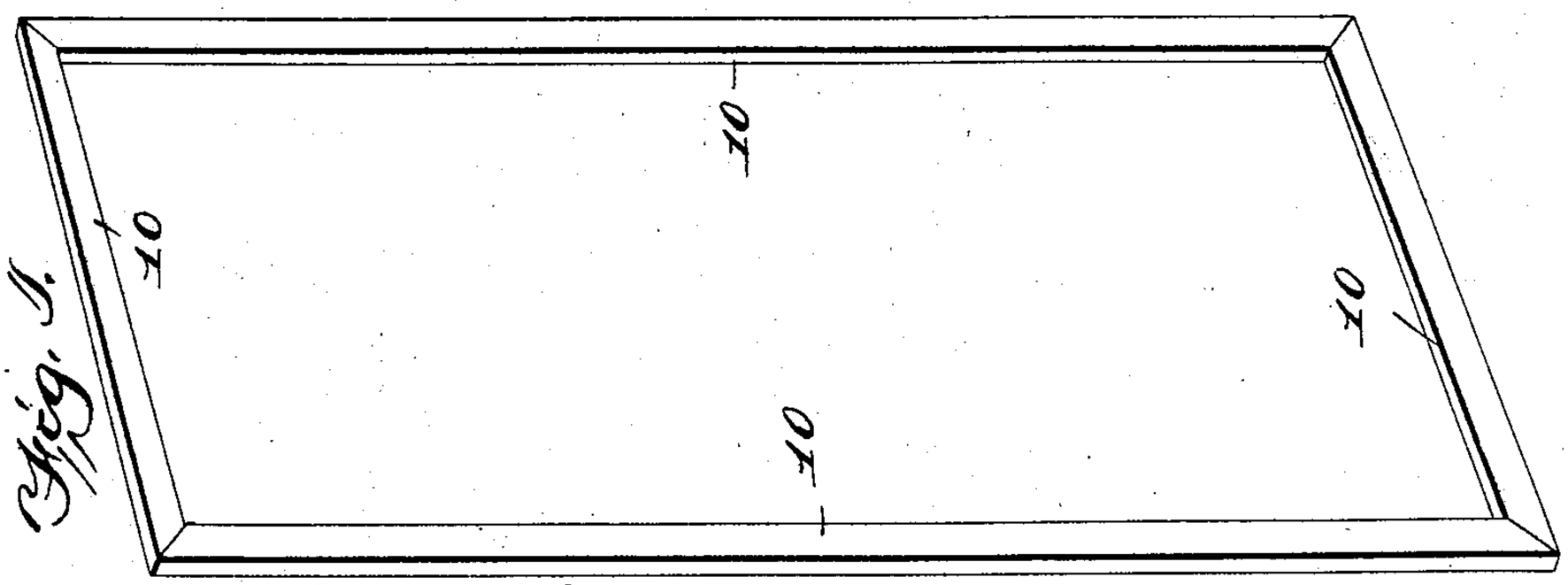


Fig. 1.



Witnesses:
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by Orwig & Lane Attys.

UNITED STATES PATENT OFFICE.

LEW H. HIXSON, OF DES MOINES, IOWA.

SCREEN DOOR OR WINDOW.

SPECIFICATION forming part of Letters Patent No. 720,144, dated February 10, 1903.

Application filed March 15, 1902. Serial No. 98,349. (No model.)

To all whom it may concern:

Be it known that I, LEW H. HIXSON, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented certain new and useful Improvements in Screen Doors or Windows, of which the following is a specification.

The object of my invention is to provide a device of this class in which the door-frame is held together and the screen is secured to the door-frame by means of an auxiliary frame made of angle-iron, whereby a simple, durable, and inexpensive screen-door is provided in which the edges of the screen are covered by the angle-iron, so that no unfinished edges are left exposed, and the corners of the door-frame are firmly and securely braced by the angle-irons; and my object is further to provide an auxiliary angle-iron frame that may be readily, quickly, and easily adjusted as to size to fit door-frames of any ordinary size.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows in perspective the door-frame detached. Fig. 2 shows in perspective an auxiliary angle-iron frame detached, a part being broken away to show the means by which the cross-brace of the door-frame is connected with the angle-iron frame. Fig. 3 shows a transverse sectional view of the door-frame, wire-netting, and auxiliary angle-iron frame with the parts in position ready to be assembled; and Fig. 4 shows a like view with the parts connected to form a screen-door. Fig. 5 shows an enlarged detail sectional view through one of the side pieces of the finished screen-door.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate the parts of the door-frame which include top and bottom and side pieces. These pieces may, if desired, be temporarily connected with each other for convenience in assembling.

The auxiliary iron frame is made of four parts, each forming a right angle and being L-shaped in cross-section. The two parts at the diametrically opposite corners each have one long side 11 and one short side 12, the long side being designed to extend along one of the side pieces of the door-frame and the short side being designed to extend along the top or bottom of the door-frame. The numeral 13 indicates the remaining parts of the angle-iron frame, of which the sides are of equal length. The meeting ends of the angle-iron-frame parts are adjustably connected by means of bolts 15, passed through an opening in one part and through one of the series of perforations 14 in the other part, thus providing means whereby the angle-iron frame may be quickly and easily adjusted as to size. These angle-irons are so arranged relative to each other that when placed on the door-frame they will lie close to the inner edge of the door-frame and close to the outer face of the door-frame.

The numeral 16 indicates the wooden cross-brace for the door, and this brace is connected with the angle-iron frame by means of the screw 17.

The reference-numeral 18 is used to indicate the wire netting or screen, which is of such size as to substantially cover one side of the door-frame.

In assembling the door the parts of the door-frame are first temporarily connected in any ordinary way. Then the parts of the angle-iron frame are assembled, as shown in Fig. 2, the angle-irons having the long sides 11 being placed at diametrically opposite corners of the frame and the others at remaining corners. The ends of the angle-irons are preferably overlapped and are connected by rivets 15, as shown in Fig. 2, by means of the series of openings 14. This angle-iron frame may be made to fit doors of any ordinary size. Then the cross-piece 16 is connected to the angle-iron frame. Then the door-frame is placed in a horizontal position, the wire screen or netting is placed on its top, and the angle-iron frame is placed on top of the wire netting or screen, as shown in Fig. 3. The operator then pushes downwardly upon both sides of the angle-iron frame at the same time. This will cause the vertical portions of the angle-irons to engage the wire netting or screen and cause it to bind between the said vertical portions and the inner edge of the

door-frame. Obviously, then, as the angle-iron frame is forced downwardly the wire-netting will be stretched very tightly, and it will be stretched evenly throughout the entire surface of the door, aud when the angle-iron frame has been pushed to its downward limit it will be nearly flush with the under surface of the door-frame. Then the angle-iron frame is secured to the wooden door-frame by screws or nails in the ordinary way, and the door is produced of very great strength, in which the edges of the netting are completely covered and the netting tightly stretched and the door-frame firmly braced at its corners, so that the door cannot sag or lose its shape. Furthermore, by connecting the cross-piece 16 with the angle-iron frame instead of with the door-frame there is nothing in the way to prevent the wire-netting from being tightly and evenly stretched throughout its entire length, and yet when the door is finally assembled the parts will be braced just as firmly as though the cross-piece 16 were attached to the door-frame.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. In a device of the class described, the combination of a rectangular door-frame and a wire netting or screen, of an auxiliary frame composed of four right-angled pieces of angle-iron connected to form a rectangular frame, a cross-brace secured to the auxiliary frame, said auxiliary frame clamping the wire-netting against the wire edge and one surface of the door-frame and covering the edges of the wire netting or screen, and secured to the door-frame substantially as and for the purposes stated.

2. In a device of the class described, the combination of a rectangular door-frame, an auxiliary frame composed of angle-irons arranged to form a rigid rectangular frame, said auxiliary frame clamping the wire-netting against the inner edge and one surface of the door-frame and covering the edges of the wire netting or screen and secured to the door-frame to firmly brace the door-frame, substantially as and for the purposes stated.

Des Moines, Iowa, January 23, 1902.

LEW H. HIXSON.

Witnesses:
W. R. LANE,
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