No. 815,484. PATENTED MAR. 20, 1906.

H. E. SOUTHWORTH.

WINDOW AND DOOR SCREEN.

APPLICATION FILED JAN. 15, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

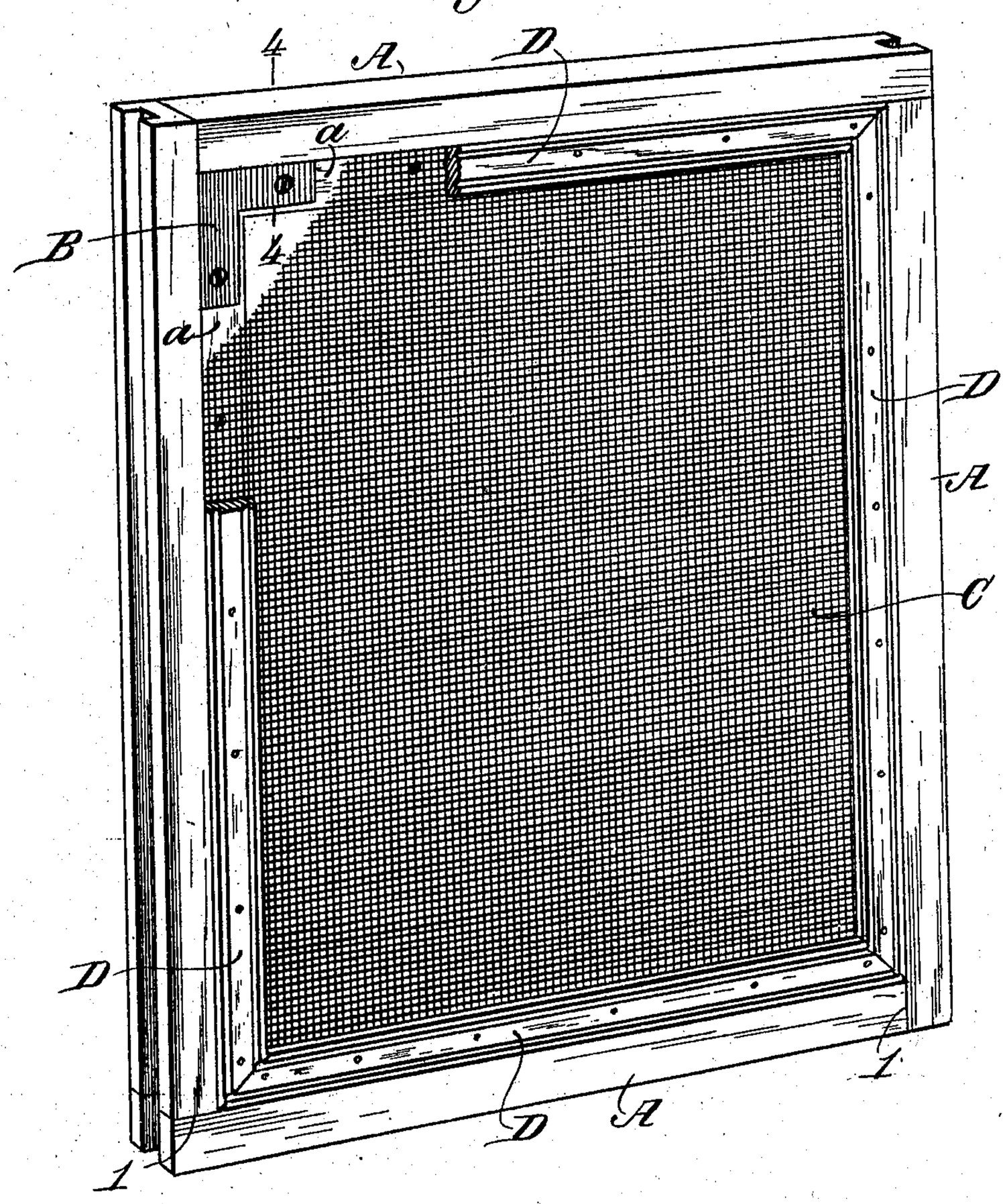
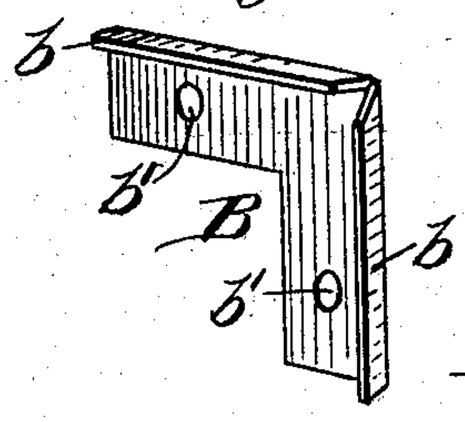


Fig. 2.



Witnesses.
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H Lee Helms

Inventor.
Henry E. Southworth.
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2 SHEETS—SHEET 2.

Fig. 3.

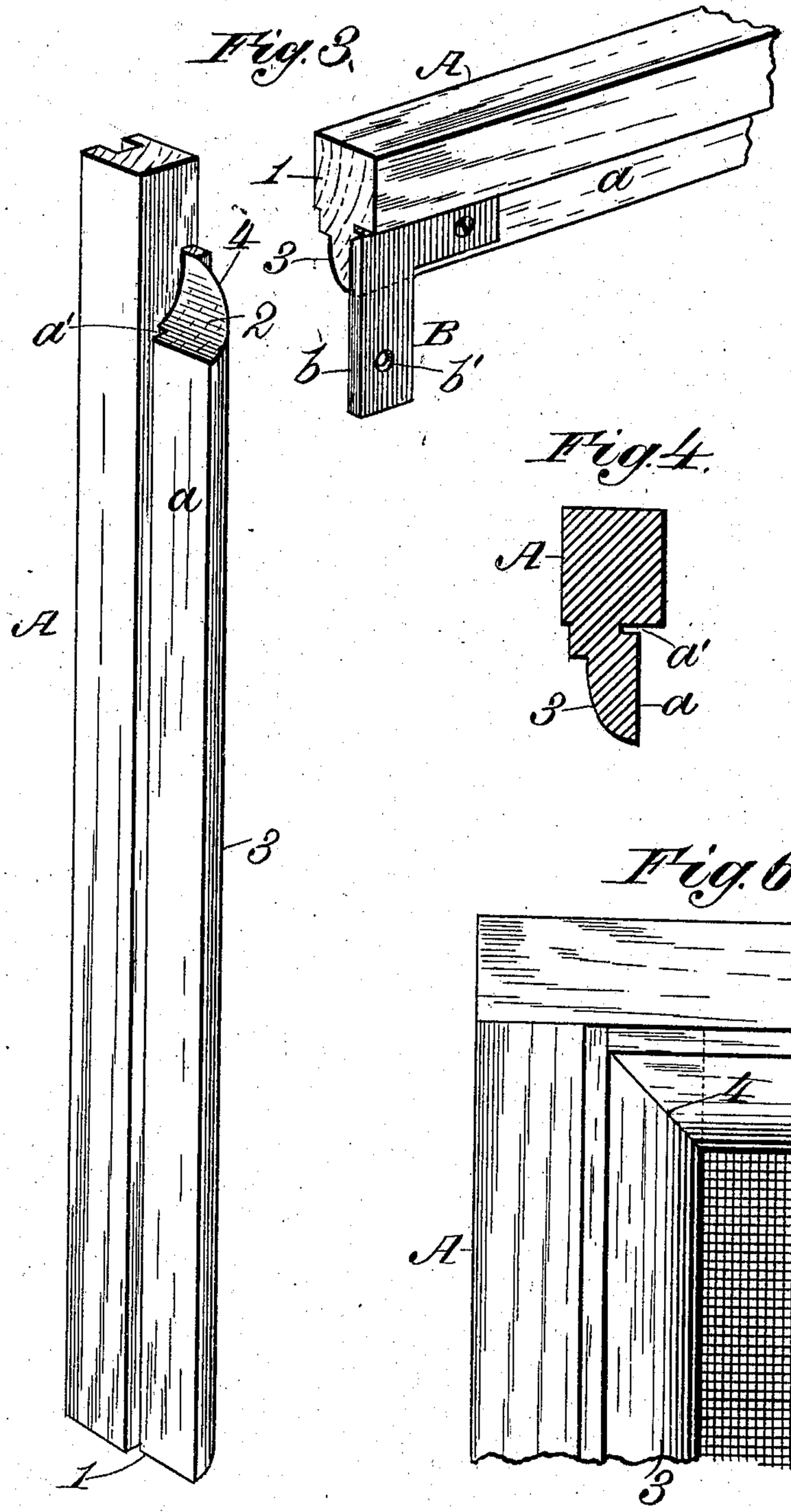

Fig. 4.

Fig. 5.

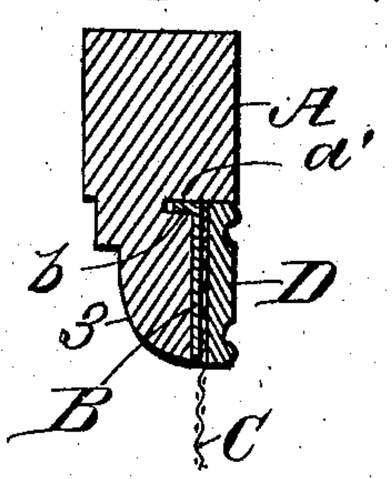

Fig. 6.

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UNITED STATES PATENT OFFICE.

HENRY E. SOUTHWORTH, OF COLCHESTER, VERMONT, ASSIGNOR TO PORTER SCREEN MANUFACTURING COMPANY, OF BURLINGTON, VERMONT.

WINDOW AND DOOR SCREEN.

No. 815,484. Specification of Letters Patent. Patented March 20, 1906.

Application filed January 15, 1906. Serial No. 296,086.

To all whom it may concern:

Be it known that I, HENRY E. SOUTHWORTH, of Colchester, in the county of Chittenden and State of Vermont, have invented a new and useful Improvement in Window and Door Screens, of which the following is a specification.

My invention has to do with the frame of the screen, and while applicable to suitable screen-frames in general it is more particularly designed to meet the needs of what are known as "knockdown" frames—that is, frames the parts of which are adapted to be readily taken apart and assembled again.

The invention concerns the joints at the corners of the frame; and it consists in the construction hereinafter described and adaptation of the frame-bars and corner-irons used for this purpose.

I shall first describe my improvement in connection with the accompanying drawings, forming part of this specification, and will then point out more particularly in the claims those features which I believe to be new and of my own invention.

In the drawings, Figure 1 is a view of a screen embodying my invention with a portion of the strips or moldings which cover the edges of the wire-cloth broken away to expose to view one of the corner-irons. Fig. 2 is a view of one of the corner-irons detached. Fig. 3 is a view of one of the rails detached. Fig. 4 is a cross-section of a frame-bar. Fig. 5 is a cross-section of one of the bars, corner-iron, wire-cloth, and covering strip or molding on any one of the lines 4 4, Fig. 1. Fig. 6 is a view of a portion of the screen from the side opposite that shown in Fig. 1.

The screen consists of the frame-bars A, the corner-irons B, the wire-cloth C, and the wooden strips or moldings D, which cover the edges of the wire-cloth. The bars A are all alike, so that a description of one will answer for all. Each bar, which has the cross-section of a suitable frame-molding, has one of its ends cut square or at right angles to its length, as at 1. Its other end is recessed at 2 to fit over the convex portion 3 of the next adjoining rail and is cut off on a slant 4, so that when the ends of two adjoining rails are fitted together the effect of a miter-joint will be given. Each rail has on one face and extending along its inner edge a rabbet *a* to receive the corner-iron B and the edge of the wire-cloth, and along and bordering the rear of the rabbet is cut a kerf *a'* into the body of the frame-bar to receive the flanges *b* of the corner-irons, the kerf being at substantially right angles to the bottom of the rabbet.

The corner-irons B are of sheet metal, preferably sheet-steel. They are formed from a suitable blank, the body of the iron consisting of two limbs at right angles to each other, each limb being bordered along its outer edge by a longitudinal flange *b*, which stands at practically right angles to the face of the body portion of the iron. These flanges stiffen the body of the iron and serve also by their engagement with the bars A to hold the latter firmly and tightly together at the corners. In the body of the iron are formed holes *b'* for the passage of the screws or other appliances by which the iron is secured to the screen-frame.

The moldings D are of any suitable pattern desired. They serve to cover the edges of the wire-cloth over which they are tacked and to give a finish to the rabbeted face of the frame.

In setting up the screen the frame-bars A are fitted together and the corner-irons B are applied and secured to the rabbeted portion of the bars at the corners of the frame, as shown, their flanges *b* entering and being seated in the kerfs *a'* and serving to hold the parts of the frame strongly together. The meeting ends of the bars can also be nailed or tacked together, if desired. The wire-cloth C is then applied to the rabbeted face of the frame with its edges extending into the rabbets *a*, in which position the edges may be tacked down, if desired, and then the moldings D are tacked down in place in the rabbets *a* over the edges of the wire-cloth therein. They conceal the corner-irons, and kerfs *a'* as well, and give the effect of an all-wood screen-frame.

I have stated that the frame-bars A are all alike. This is true so far as concerns the subject-matter of my invention; but of course the side bars will be longitudinally grooved or otherwise suitably formed on their outer edges to receive the usual guides or rails in the window-frame, on which the screen can slide up and down.

The frame thus made is cheap, easily made, and readily put together and taken apart.

The kerfs a' can be formed at the same time and by one and the same operation with the rabbets a. The sheet-metal flanged corner-irons can be produced with equal economy and facility. When applied to the frame, their flanges are practically embedded in the frame-bars. Thereby the corner-joints are made strong and durable, while the frame itself has imparted to it an equally-lasting stiffness.

Having described my improvement and the best way now known to me of carrying the same into effect, I state in conclusion that I do not limit myself narrowly to the structural details hereinbefore set forth in illustration of the improvement, since manifestly such details can be varied considerably without departure from the spirit of the invention; but

What I claim herein as new, and desire to secure by Letters Patent, is as follows:

1. In combination, a screen-frame composed of frame-bars formed on one face along the inner edge with rabbets and with longitudinal kerfs extending into the body of the bars from, and at substantially right angles to, the bottom of the rabbets; corner-irons located in said rabbets at the meeting ends of adjoining bars to which they are secured and provided on their limbs with flanges which project at right angles from the body of the irons and enter and are seated in the kerfs in the frame-bars; wire-cloth the edges of which are received in the rabbets in the frame; and moldings covering the corner-irons and edges of the wire-cloth, and secured to the bars, substantially as and for the purposes hereinbefore set forth.

2. In a screen-frame, two frame-bars formed with rabbets a and kerfs a', in combination with a corner-iron of V form located in the rabbeted portions of the meeting ends of said rails, and secured by one of its limbs to each rail, and flanges b on the limbs of the iron which enter and are seated in the kerfs a' of the frame-bars, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY E. SOUTHWORTH.

Witnesses:
JOS. H. JACOBS,
LENA WINTERBOTTOM.