

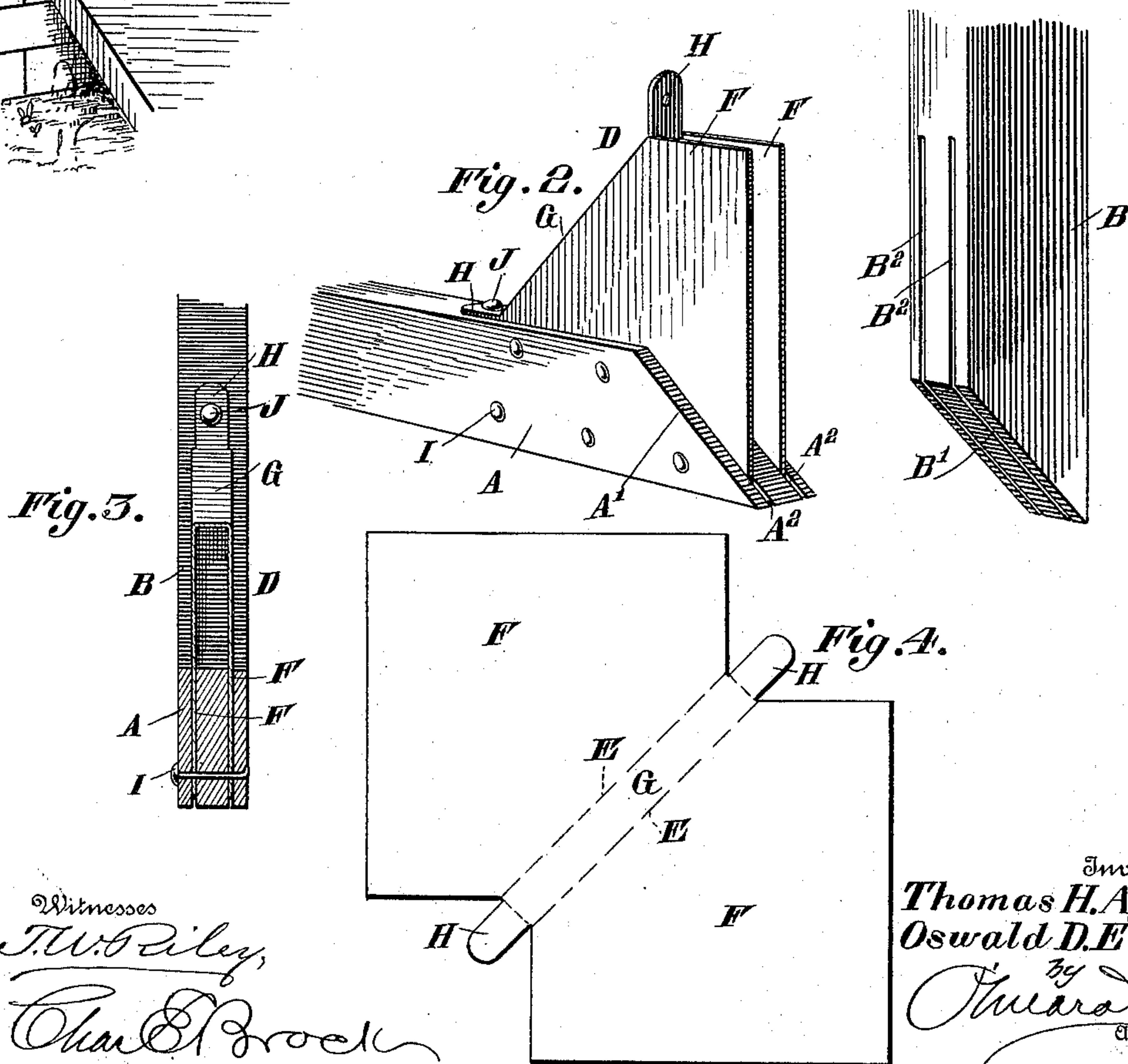
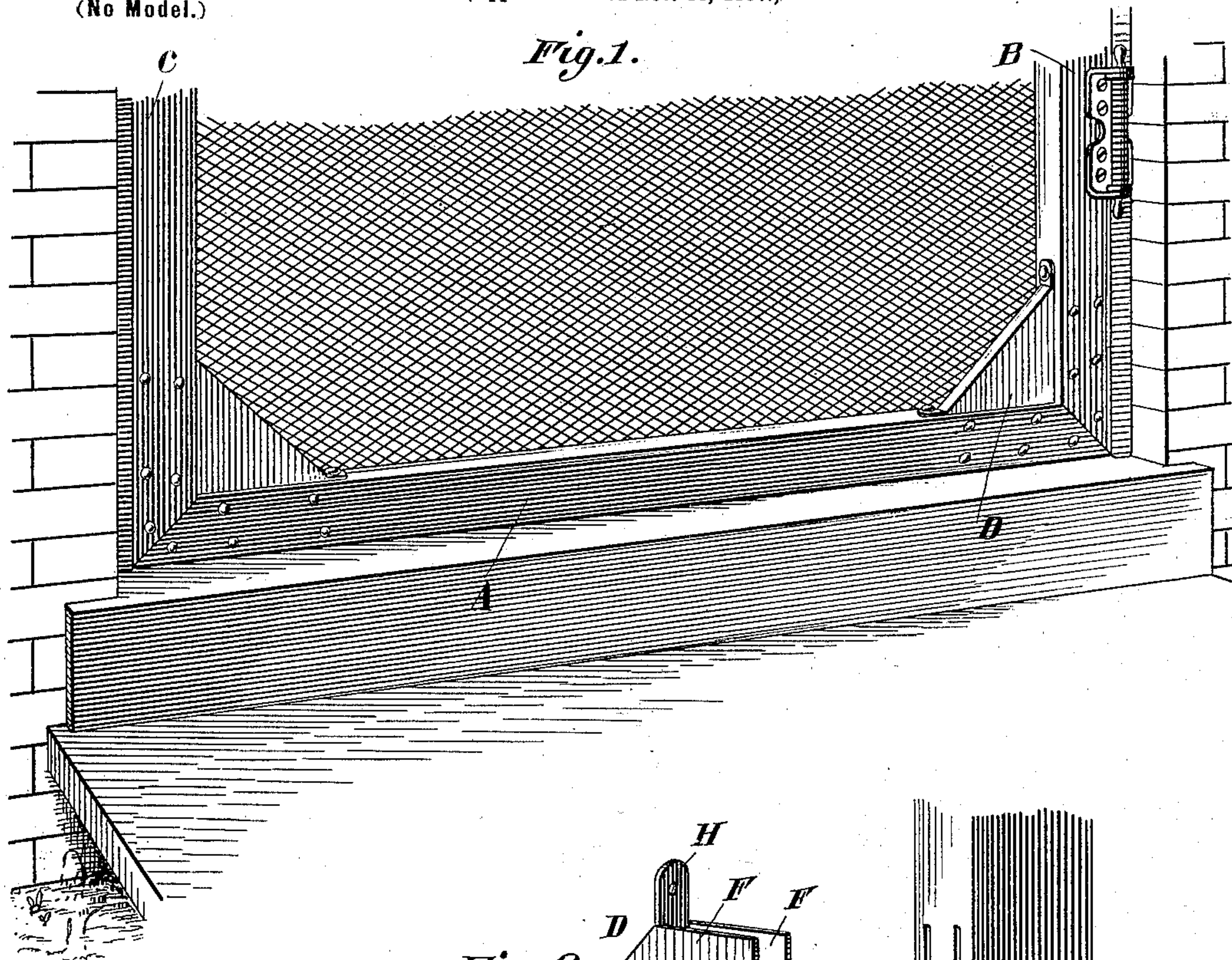
No. 612,452.

Patented Oct. 18, 1898.

T. H. AYRES & O. D. ELBEL.
CORNER JOINT FOR SCREEN DOORS.

(Application filed Nov. 13, 1897.)

(No Model.)



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UNITED STATES PATENT OFFICE.

THOMAS H. AYRES AND OSWALD D. ELBEL, OF SOUTH BEND, INDIANA.

CORNER-JOINT FOR SCREEN-DOORS.

SPECIFICATION forming part of Letters Patent No. 612,452, dated October 18, 1898.

Application filed November 13, 1897. Serial No. 658,433. (No model.)

To all whom it may concern:

Be it known that we, THOMAS H. AYRES and OSWALD D. ELBEL, citizens of the United States, residing at South Bend, in the county of St. Joseph, in the State of Indiana, have invented a new and useful Corner-Joint for Screen-Doors, of which the following is a specification.

Our invention relates to the frame of window or door screens, and more especially to means for securing the upright and horizontal bars of said frame together.

The objects of our invention are to provide a corner-bracket for such frames which shall be simple, cheap, strong, and durable and by means of which the side bars composing the frame may be readily and quickly joined at their corners and a rigid frame formed by unskilled persons without the use of any special tools whatever.

With these objects in view our invention consists in a corner-bracket composed of a single piece of sheet metal bent to form two parallel plates adapted to be inserted in slots in the ends of the side frames, a connecting-bar being provided by the same bending, which when the bracket is placed in position will lie at an angle of forty-five degrees across the corner-joint, ears being also formed to lie against the inner side of the adjoining side and end bars of the frame and adapted to be secured thereto by nails or screws.

Our invention further consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the appended claims.

In order to enable others skilled in the art to which our invention most nearly appertains to make and use the same, we will now proceed to describe its construction and operation, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of the lower portion of a screen-door provided with corner-brackets constructed in accordance with our invention. Fig. 2 is a detail perspective view illustrating the parts composing one corner-joint of a frame, the corner-bracket being secured to one of the side bars and the

other side bar detached. Fig. 3 is a detail sectional view illustrating a corner-joint formed in accordance with our invention. Fig. 4 is a detail plan view of the sheet-metal blank from which our improved corner-bracket is formed.

Like letters of reference mark the same parts wherever they occur in the different figures of the drawings.

Referring to the drawings by letters, A, B, and C indicate the bottom and side bars of a screen-door. The adjoining ends of each of these bars, as well as the fourth bar of the frame, (not herein shown,) are mitered, as shown at A' and B' in Fig. 2, and are further provided with parallel slits or saw-kerfs extending some distance into the bars, as clearly shown at A² and B².

D indicates our improved corner-bracket, which is composed of a single piece of sheet metal of the shape indicated in Fig. 4, which is substantially a square with portions cut out at diagonally opposite corners.

In forming our improved corner-bracket the blank is bent on the broken lines E E until the wings or portions F of the blank outside of these lines are brought to a position parallel with each other, as most clearly shown in Fig. 2. This leaves a connecting-strip G between the wings F and at right angles thereto, at each end of which an ear H projects, which in completing my corner-bracket are bent at an angle of forty-five degrees to the connecting-strip G, and consequently at an angle of ninety degrees to each other, and in position when the bracket is secured to the side bars to lie against the inner side of the adjacent bars of the frame. In making a corner-joint with our improved bracket the wings F F are slipped into the saw-kerfs A² and B², which brings the connecting plate or bar G in a position at an angle of forty-five degrees to the two adjacent side bars of the frame, the interior bracket taking a position, as clearly shown in Fig. 1, on the right hand. In this position the bracket is secured by means of nails I, passing through the frame-bar and the two wings F F of the bracket and clenched on the opposite side, as clearly shown in Fig. 3. The bracket is further secured and the corner further braced and

stiffened by driving a nail J through each of the ears H into the bars against which these ears lie.

5 From the foregoing description of the construction and operation of our invention it will be seen that we have produced a very simple, cheap, reliable, and durable corner-bracket for screens or other frames which can be readily attached or detached without the
10 necessity of employing skilled labor or any special tools and that a frame put together with our improved corner-brackets will securely maintain its position under all ordinary wear and usage.

15 While we have illustrated and described the best means now known to us for carrying out our invention, we do not wish to be understood as restricting ourselves to the exact details of construction shown and described,
20 but hold that any slight changes or variations as might suggest themselves to the ordinary mechanic would properly fall within the limit and scope of our invention.

Having thus fully described our invention,
25 what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. A corner-bracket for screen or similar

frames constructed of sheet metal and comprising two parallel wings connected together by a right-angled strip, said wings being
30 adapted to enter saw-kerfs in the frame-bars, and ears extending outwardly from the ends of the connecting-strip and bent at angles of forty-five degrees to said strip, or ninety degrees to each other, substantially as described. 35

2. A corner-joint for screen or other frames comprising two adjacent mitered bars provided with parallel registering saw-kerfs, a corner-bracket provided with parallel wings
40 secured in said saw-kerfs and connected together by a strip at right angles to the wings extending from one bar of the frame to the other across the corner at an angle of forty-five degrees, and ears projecting from the
45 ends of said connecting-strip at an angle of about forty-five degrees thereto and secured to the inner faces of the adjacent bars of the frame, substantially as described.

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