(No Model.) 3 Sheets—Sheet 1.

A. F. TEMPLE.

METALLIC JOINT FOR FRAMES.

No. 364,973. Patented June 14, 1887.

Fig. 1.

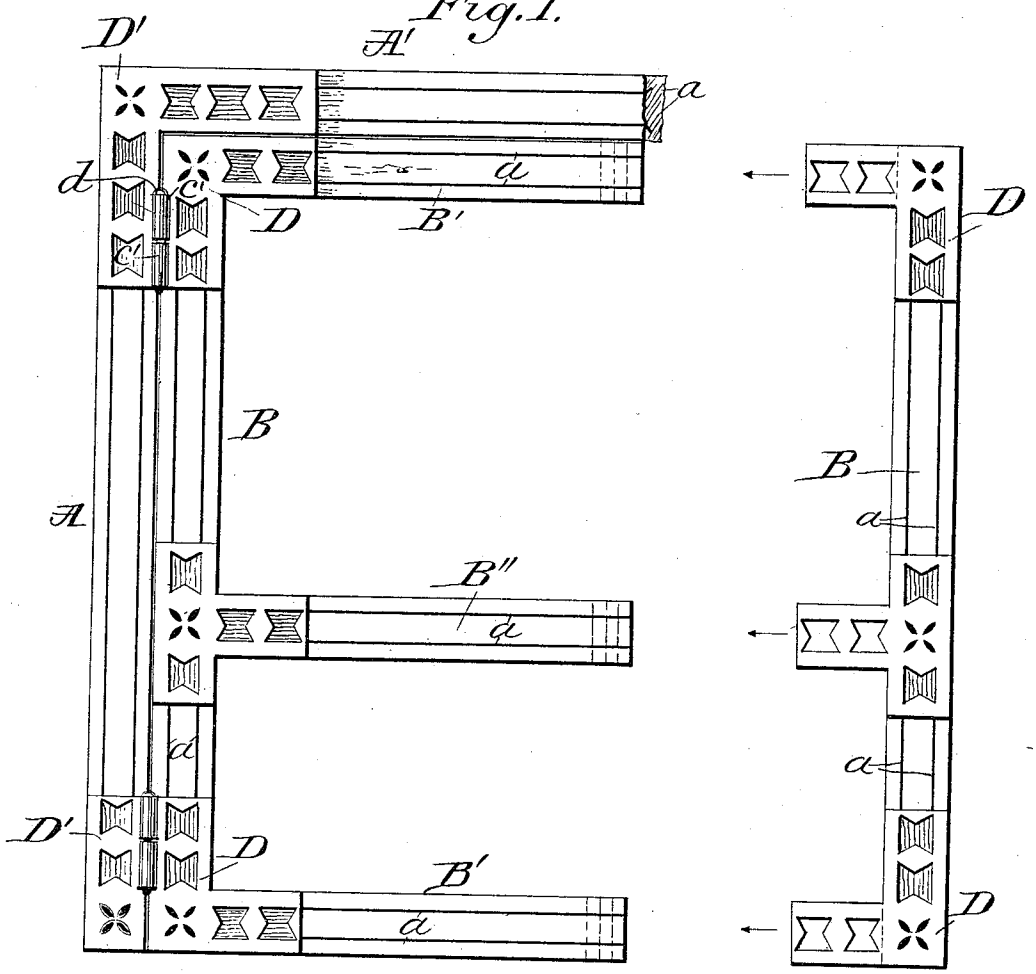
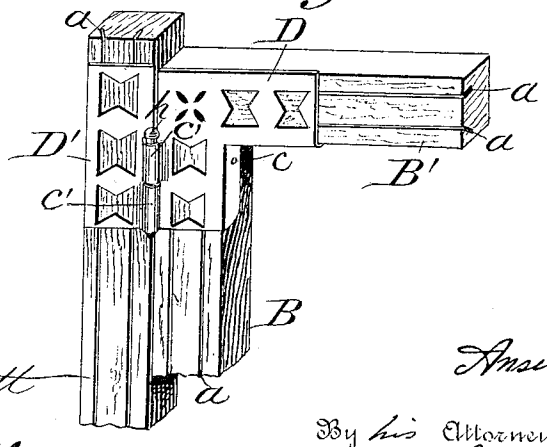


Fig. 2.



Witnesses.

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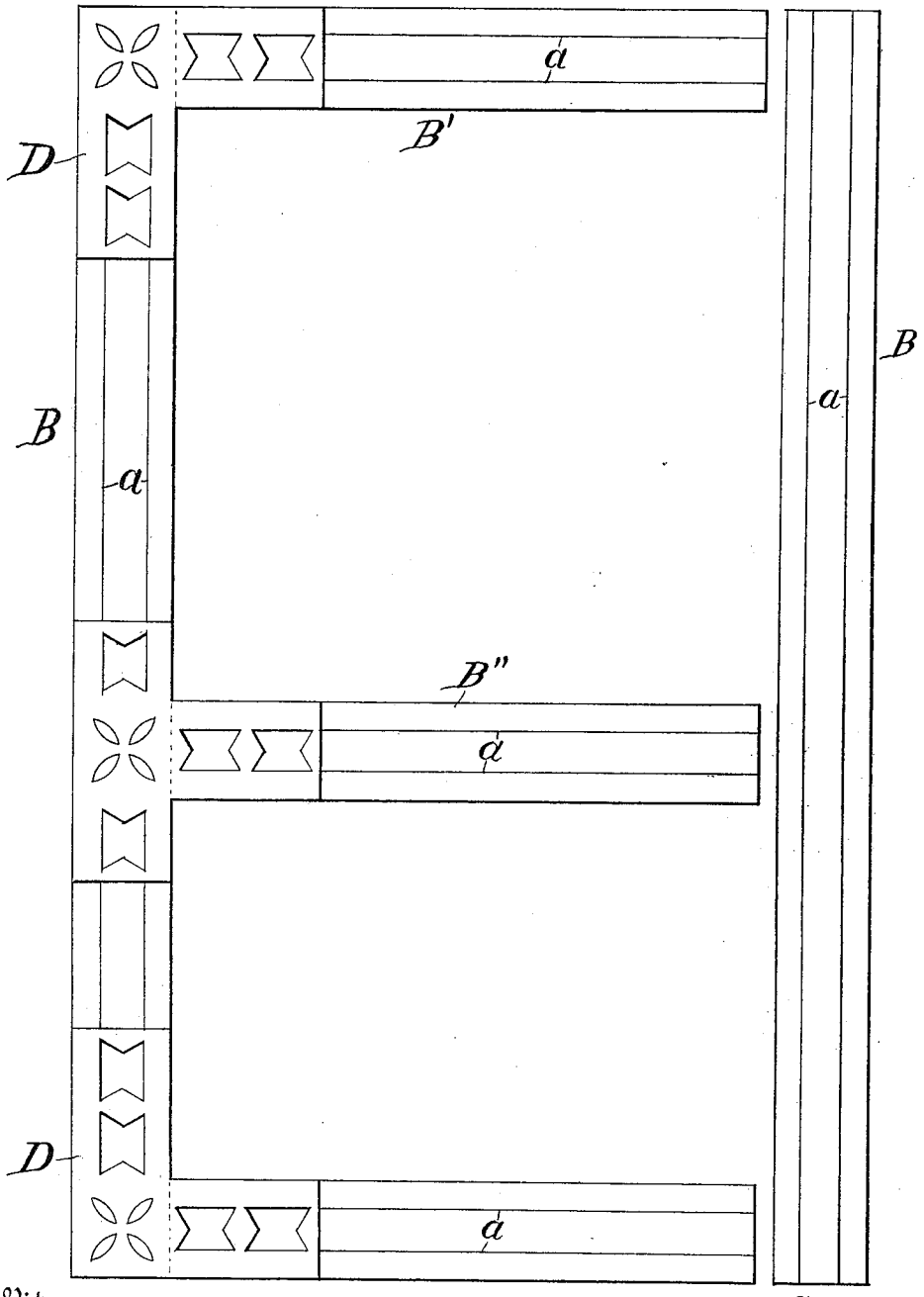
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METALLIC JOINT FOR FRAMES.

No. 364,973. Patented June 14, 1887.

Fig. 3.



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(No Model.) 3 Sheets—Sheet 3.

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METALLIC JOINT FOR FRAMES.

No. 364,973. Patented June 14, 1887.

Fig. 4.

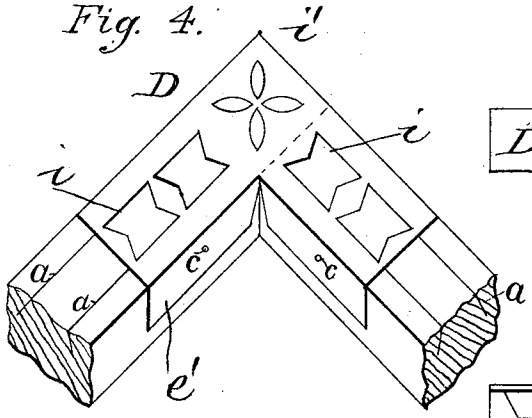


Fig. 5.

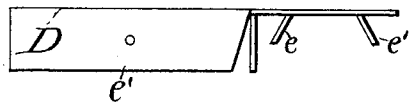


Fig. 6.

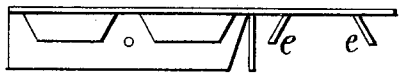


Fig. 8.

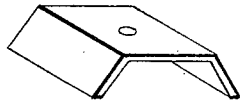


Fig. 7.

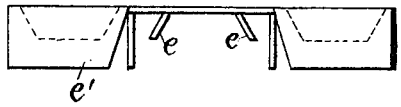


Fig. 9.

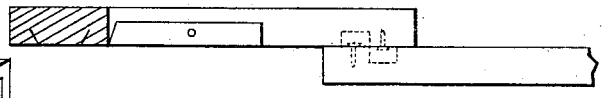


Fig. 10.

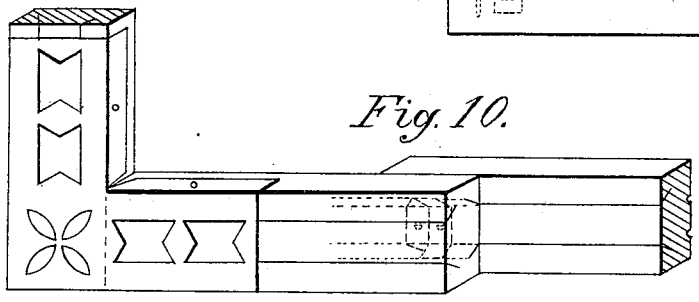
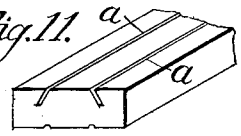


Fig. 11.



Witnesses
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UNITED STATES PATENT OFFICE.

ANSEL F. TEMPLE, OF MUSKEGON, MICHIGAN.

METALLIC JOINT FOR FRAMES.

SPECIFICATION forming part of Letters Patent No. 364,973, dated June 14, 1887.

Application filed March 1, 1887. Serial No. 229,372. (No model.)

To all whom it may concern:

Be it known that I, ANSEL F. TEMPLE, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Metallic Joints for Frames; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in the construction of doors, door-casings, screen-frames for windows, and other like articles, being especially intended for use in the construction of portable houses, but may be used in other places, the object of the invention being to provide a cheap and effective connection for the several parts of the door or other frame, as well as to furnish a suitable hinge for hanging said doors to their frames.

Many devices have been heretofore constructed to serve the purpose of a cheap corner connection for the frames of window and door screens; but all of them, so far as my knowledge extends, required the addition of nails or screws to hold the metallic connection to the wood, and none of them served the double purpose of uniting the parts of the frame together and also forming the hinge upon which the door swings.

My invention therefore consists in providing door or other frames with a joint-fastening that shall firmly secure the different parts of the frame together, said fastening being constructed as hereinafter described; and, further, in the construction of the fastenings in such a manner that they may serve as hinges upon which the door will swing in the same manner as when supported by the hinges in common use.

In the accompanying drawings similar letters of reference indicate like parts in the different figures.

Figure 1 is a front view of a door and its frame constructed in accordance with my improvement. Fig. 2 is a perspective view of one of the corner-pieces provided with the hinge attached, to show more clearly its construction. Fig. 3 is a plan view of a door-frame with only one of the side pieces connected to the top and bottom pieces. Fig. 4 is a perspective view of one corner of a frame with the corner-piece in place, showing the method of applying the same to the frame. Figs. 5, 6, and 7 show views of the corner-iron detached from the frame. Fig. 8 is a perspective view of a coupling-piece used where it is desired to allow one part of a frame to slide upon another part. Figs. 9 and 10 show the construction of a sliding joint. Fig. 11 is a perspective view of a part of a frame, showing the manner of forming the grooves therein to receive the holding-wings of the sliding connections or of the corner-pieces.

In carrying out this invention I prepare the several parts of a door or other frame, the parts of which are to be united by these corner-pieces, as follows: The pieces of which said frame is composed are first dressed to the proper sizes and then run through a machine containing two circular saws placed at an angle to each other, the table of the machine being adjustable and raised to a point so near the periphery of the saws as to allow no more of the same than is needed to make the grooves *a a* of the proper depth to project above said table. The prepared pieces of the frame are then passed over the saws in a plane parallel therewith and controlled in their movement by suitable guides, so that the grooves shall all be of equal depth and at the same distance from and parallel with one edge of the piece.

Where the frames are intended for the general market, it is preferred to make both the side and cross pieces as long as or a little longer than the ordinary dimensions of doors and windows as supplied by the trade, so that in putting the frame together these may be cut to fit the opening they are required to fill.

In Fig. 1 of the drawings a door is shown fitted to the opening in a door-frame for a portable house. As shown, this door-frame is composed of the upright pieces A and the cross-piece A′, formed from scantling about three by four inches in dimension and of suitable length. The separate pieces of this frame are dressed and provided with the usual rabbet, forming the door-jamb. They are then

grooved in the manner hereinbefore described to receive the wings of the corner-pieces, and united by means of my improved corner-pieces. The door fitting the opening in this frame is formed of the side pieces or stiles, B B, united by the top and bottom cross-pieces, B′, and an intermediate cross piece or pieces, B″, the inclosed spaces between them being filled by any suitable panel. The corner-pieces by which these several parts are united consist of the plates D, preferably of sheet metal, having the wings *e e* (which enter the grooves of the frame) cut from said plates and bent into the desired position for entering the grooves *a a* by means of suitable dies. A lip or lips, *e′*, may also be formed by bending down a portion of the plate to a right angle with its body, which lips are arranged so as to extend downward at the side of the pieces forming the frame and assist in securing rigidity to the joints of the same. If desired, a screw or nail, *c*, may be driven into the wood through the lips *e′*, and will still further assist in securing the parts by preventing any movement of them after they are once in place.

When the corner or joint connection D is attached to a swinging door, I provide those placed upon the hinged side of the same with an extension, *c′*, which forms one half of a hinge, the other half being formed by the plate D′, having an extension, *c′*, thus forming the other half of said hinge, the two being united by the headed pin *h*, which acts as the pintle of the hinge. The plate D′ is provided with wings *e e*, formed as in the case of the piece D, by cutting a longitudinal slit in the plate and two diagonal slits from each end of said longitudinal slit for a distance equal to the breadth of the wings. By bending these partially-excised portions into a proper position the wing is produced, the opening in the plate from which the metal has been displaced to form said wings presenting a double dovetail in outline, as shown at *i i*. Other openings, as *i′*, may be also formed in the plate for ornamental purposes.

As will be observed in Fig. 3 of the drawings, the connecting-plates when employed for the purpose of securing the different parts of a frame together at other points than its corners may have a T form, as in the instance shown, where the cross-piece of the T-shaped connection is secured to the upright side piece of a door, and the other arm to the central cross-piece of the same.

As will be apparent, this invention provides a ready means not only for uniting the corners of door and screen frames, but when constructed of sufficient strength furnishes an efficient means for connecting the joints in the frames of portable houses and other structures of wood. It will also be seen that frames adapted for union by this joint can be cut to fit desired spaces and be always ready to go together and be fastened at any desired point, thus forming any length or width of door-screen or other frame desired by simply sawing off the parts of the frame-pieces which may be in excess of the required dimensions, thus avoiding the use of all tenons and mortises, thereby saving material and labor, while retaining the full strength of the parts.

As it is sometimes desirable to form screen-frames in such a manner that they may be adjustable to doors or windows of different widths, I in such cases form the frame in two parts and connect them by a sliding joint formed of a plate bent to the shape shown in Fig. 8; but as this sliding joint has been used for other purposes I make no claim to the same.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent, the following:

1. As an improvement in the means of connecting the parts of a frame, each part being provided with diagonal grooves *a a*, the combination, with said parts of the frame, of the plate D, having wings *e e* to enter the grooves, and a lip or lips, *e′*, secured to the edges of the two parts of the frame, substantially as set forth.

2. As an improvement in metallic connections for the frames of doors, the plates D, having wings *e e*, which enter diagonal grooves in said frame, and a hinge-extension, *c′*, in combination with the plate D′, attached to the door-post by similar diagonal wings entering grooves in said post and provided with the hinge-extension *c′*, substantially as specified.

3. As an improvement in metallic connections for doors, the plates D, having wings *e e* extending diagonally therefrom, for attaching the same, and a hinge-extension, *c′*, in combination with the plate D′, provided with similar wings, *e e*, extending diagonally therefrom, for the purpose of attachment, and a hinge-extension, *c′*, and the pin *h*, for connecting said extensions, as specified.

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

ANSEL F. TEMPLE.

Witnesses:
M. H. CHANDLER,
ROBERT E. MORRIS.