

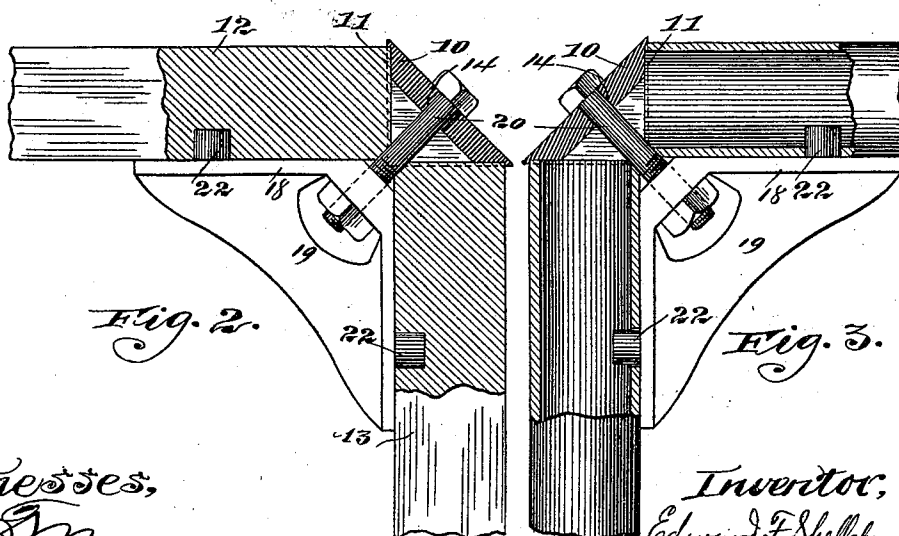
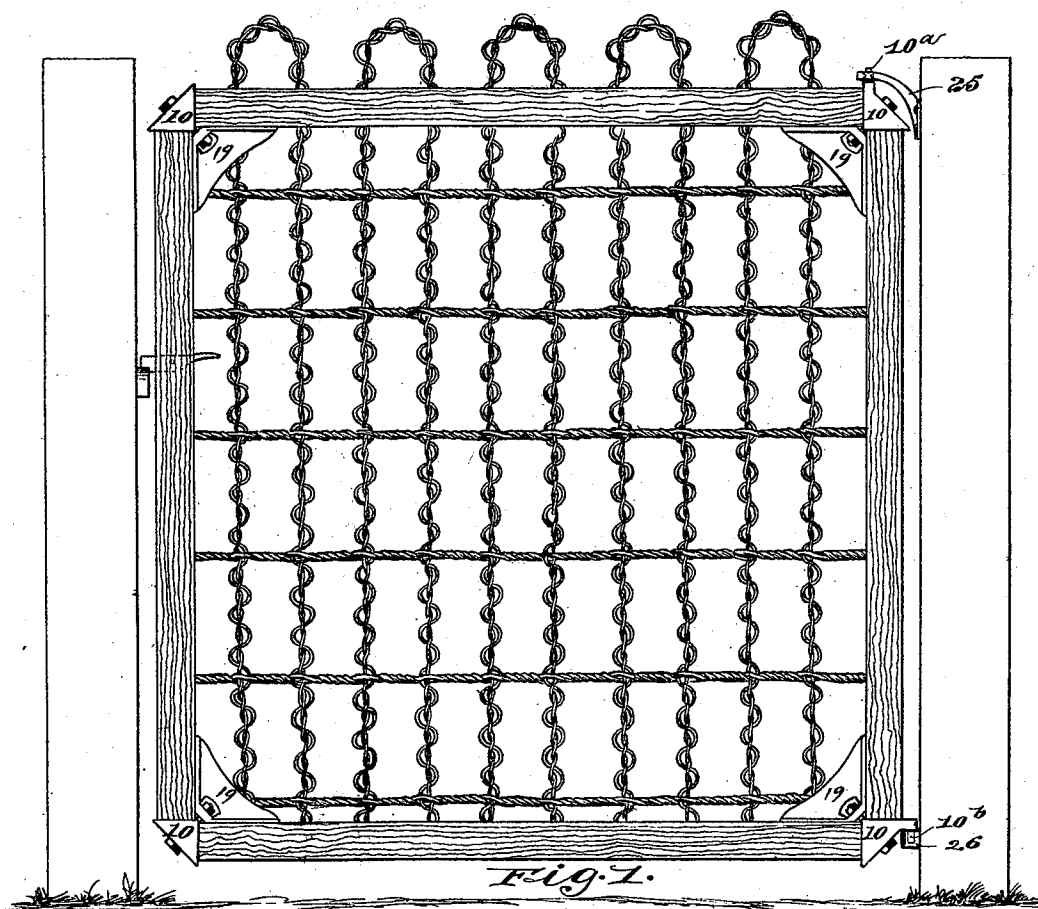
(No Model.)

2 Sheets—Sheet 1.

E. F. SHELLABERGER.
METAL CORNER PIECE FOR FRAMES.

No. 518,828.

Patented Apr. 24, 1894.



Witnesses,
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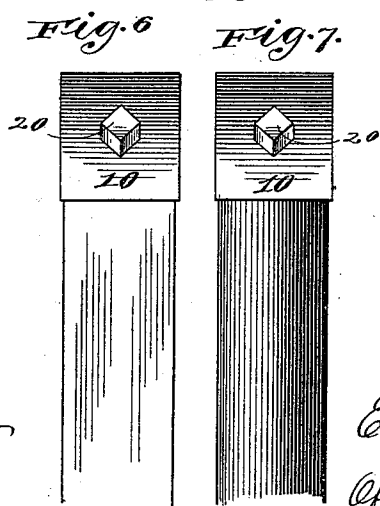
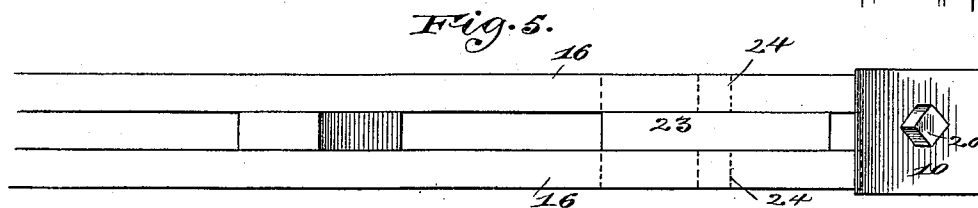
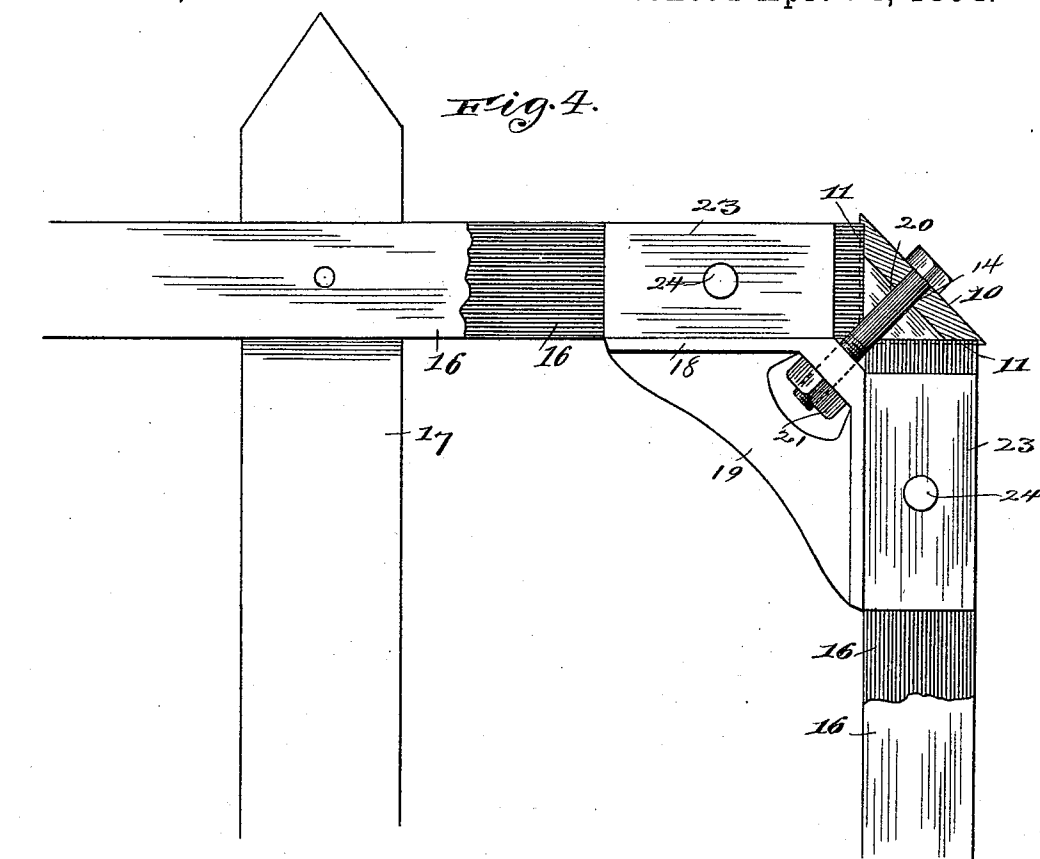
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2 Sheets—Sheet 2.

E. F. SHELLABERGER.
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UNITED STATES PATENT OFFICE.

EDWARD F. SHELLABERGER, OF DE KALB, ILLINOIS.

METAL CORNER-PIECE FOR FRAMES.

SPECIFICATION forming part of Letters Patent No. 518,828, dated April 24, 1894.

Application filed June 27, 1893. Serial No. 478,970. (No model.)

To all whom it may concern:

Be it known that I, EDWARD F. SHELLABERGER, of De Kalb, Illinois, have invented certain new and useful Improvements in Metal Corner-Pieces for Frames, of which the following is a specification.

This invention relates to a metallic corner for skeleton frames, such as gate frames, mattress frames, &c.

The object of the invention is to provide a metallic corner which is adapted for rigidly connecting two frame members disposed angularly with reference to each other without mitering the frame members. The corner is also of such construction that it will draw the frame members closely together so as to produce a rigid structure.

In the accompanying drawings, Figure 1 is a side elevation of a gate frame and its posts, the frame having my improved corners applied thereto. Fig. 2 is a detail view, sectional through one of the corners and the ends of the members joined thereby. Fig. 3 is a similar view showing the invention applied to a frame composed of tubes or pipes. Fig. 4 is a broken detail view showing the invention applied to a gate, the frame members of which are double. Fig. 5 is a plan view of Fig. 4; and Figs. 6 and 7 are edge views of the parts shown in Figs. 2 and 3.

The corner is composed of two members both of which, when applied to a rectangular frame, are substantially triangular in outline. One of said members, marked 10, as shown in Fig. 1, consists of a casting of substantially triangular form having side flanges 11, which embrace the ends of the frame bars 12, 13. This casting has a perforation 14 extending from its flat side to its apex, and the apex may be cored interiorly, as shown in Figs. 2 and 3. When the invention is applied to a frame composed of squared timbers, this casting 10 will have straight sides, as seen in Fig. 2, but when the invention is applied to a frame composed of pipes or tubes as seen in Fig. 3, the ends of the casting will be substantially circular in outline so as to provide flanges adapted to receive the ends of the pipes or tubes 15. As seen in Fig. 4, the invention is applied to a gate, each of whose frame members is composed of a plurality of bars, marked 16, and

shown particularly in Fig. 5. These bars may be slightly separated and adapted to receive between them a picket 17. In this construction the metallic corner piece will be applied to the ends of these bars and will have the flanges 11, as shown by the dotted line in Fig. 4, to engage the ends of the frame pieces. Co-operating with said metal corner piece 10 is a second piece 11, which is of elbow form and has the strengthening web 19 which is apertured at its apex. The corner of this elbow casting is cut away and the casting is slightly thickened at that point, as most clearly shown in Figs. 2, 3 and 4. Such thickened portion is provided with a perforation for the binding and tightening bolt 20, whose nut 21 is seated in the aperture in the rib.

As the invention is applied in Figs. 1, 2 and 3, the casting 18 is provided with the lugs 22, which enter seats or sockets in the frame members, and as applied in Fig. 4, the casting is further provided with the integral flanges or webs 23, which enter between the separated frame members and are provided with lateral lugs 24 for engaging said members. The lugs serve to draw the frame members closely together when the nut is tightened. As applied in the several views the frame members simply have their ends squared, and the necessity of providing miter joints is dispensed with.

While I have employed the term "squared," I do not mean to be understood that the ends of the frame members need be accurately cut in order to adapt them to the casting, because the form of the metal corner pieces is such that the frame members can be drawn tightly together so as to make a rigid structure so long as they have the requisite abutment or bearing upon the corner pieces. It is well understood that the mitering of a frame together requires great care and accuracy if a tight and rigid joint is desired, and even when the joint is tight when first constructed the shrink- ing of the material may operate to loosen it.

With my improved metal corners the frame members are simply cut approximately square upon their opposite ends and can be fitted rapidly with the corners and then by means of the tightening bolt a very close tight joint can be secured; and if at any time the tim-

bers shrink or expand the frame members may be drawn into proper position again by the employment of the tightening bolt.

While I have shown my invention as applied to gate frames it is obvious that the same construction may be employed in various other frames, as, for example, in the construction of frames for woven wire mattresses, billiard and other table frames, screen frames, and, generally, wherever it is desired to produce a skeleton frame by the employment of frame members arranged angularly with reference to each other.

The frames shown in the drawings are rectangular in outline, but if made triangular, hexagonal, octagonal, &c., the metal corner pieces will be varied in their structure to correspond to the angle at which the frame members are connected.

It is also obvious that instead of making said corner pieces triangular in form they may be rectangular or have their outer surfaces convex, these modifications being such as will readily occur to a mechanic in adapting the invention to various kinds of frames.

In the adaptation of the invention shown in Fig. 1 of the drawings, I have further utilized these metallic corners to form hinge members. Thus at the upper right hand corner of the frame shown in Fig. 1, the corner piece 10 is provided with an integral pintle projecting above the plane of the gate, marked 10^a. To this is adapted an over-hanging perforated arm 25, which is connected with the gate post, and at the lower right hand corner the casting 10 is provided with the downwardly extending pintle 10^b, which enters a socket piece 26 secured with the post. It will be observed that the pintles 10^a and 10^b are not arranged in the same vertical plane, the pintle 10^a being farther from the supporting post than the pintle 10^b. In consequence of this arrangement the gate is made self-closing.

It will be understood that these metallic corners may have, instead of the pintles shown which adapt them for a hinge connection, sockets, lugs or other members to adapt them to engage with other associated parts.

Without limiting myself to precise details of construction, I claim—

1. A metallic corner for frames, comprising in combination two corner pieces adapted respectively to receive frame members angularly disposed with reference to each other, one of said pieces being disposed in the outer angle of the corner and providing abutments for the side pieces of the frame and the other fitting the interior angle of the corner and providing seats for the sides and having lugs to engage the frame members, and a clamp-

ing bolt for binding said pieces together, substantially as described.

2. A metallic corner for frames, comprising in combination two corner pieces having their opposing surfaces triangularly formed and disposed with their apices toward each other and adapted for engagement with the frame members, the inner member having lugs to engage the frame members and prevent lateral movement thereof and a clamping bolt extending through the apices of the corner pieces and provided with tightening means, substantially as described.

3. In a joint for the corner of frames, the combination with the sides arranged angularly with reference to each other but not overlapped, of a metallic corner comprising two corner pieces, one of which is adapted to the space between the adjacent ends of the sides of the frame and provides abutments for said ends, and the other fits the interior angle of said sides and has lugs to engage the frame members, a clamping bolt arranged diagonally to the sides of the frame, passing between the adjacent ends thereof and engaging the metallic corner pieces, and tightening means applied to said bolt, substantially as described.

4. In a joint for the corner of frames, the combination with the sides arranged angularly with reference to each other but not overlapped, of a metallic corner comprising two corner pieces, one of which fits the space between the adjacent ends of the sides of the frame and provides abutments for said ends and has flanges to engage the said ends to prevent lateral movement thereof and the other of said corner pieces fits the interior angle of said sides and has lugs to engage the frame members, a clamping bolt engaging the metallic corner pieces and tightening means applied to said bolt, substantially as described.

5. In a joint for the corner of frames, the combination with the sides arranged angularly with reference to each other but not overlapped, of a metallic corner comprising two corner pieces, one of which fits the space between the adjacent ends of the sides of the frame and provides abutments for said ends and has flanges to engage the said ends to prevent lateral movement thereof, and the other of said corner pieces fits the interior angle of said sides and has lugs to engage the frame, one of said corner pieces being provided with a hinged member, a clamping bolt engaging the metallic corner pieces and tightening means applied to said bolt, substantially as described.

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