

M. LACHMAN.
METALLIC STRUCTURE AND PROCESS OF MAKING THE SAME.
APPLICATION FILED DEC. 17, 1914.

1,154,784.

Patented Sept. 28, 1915.
2 SHEETS—SHEET 1.

Fig. 1.

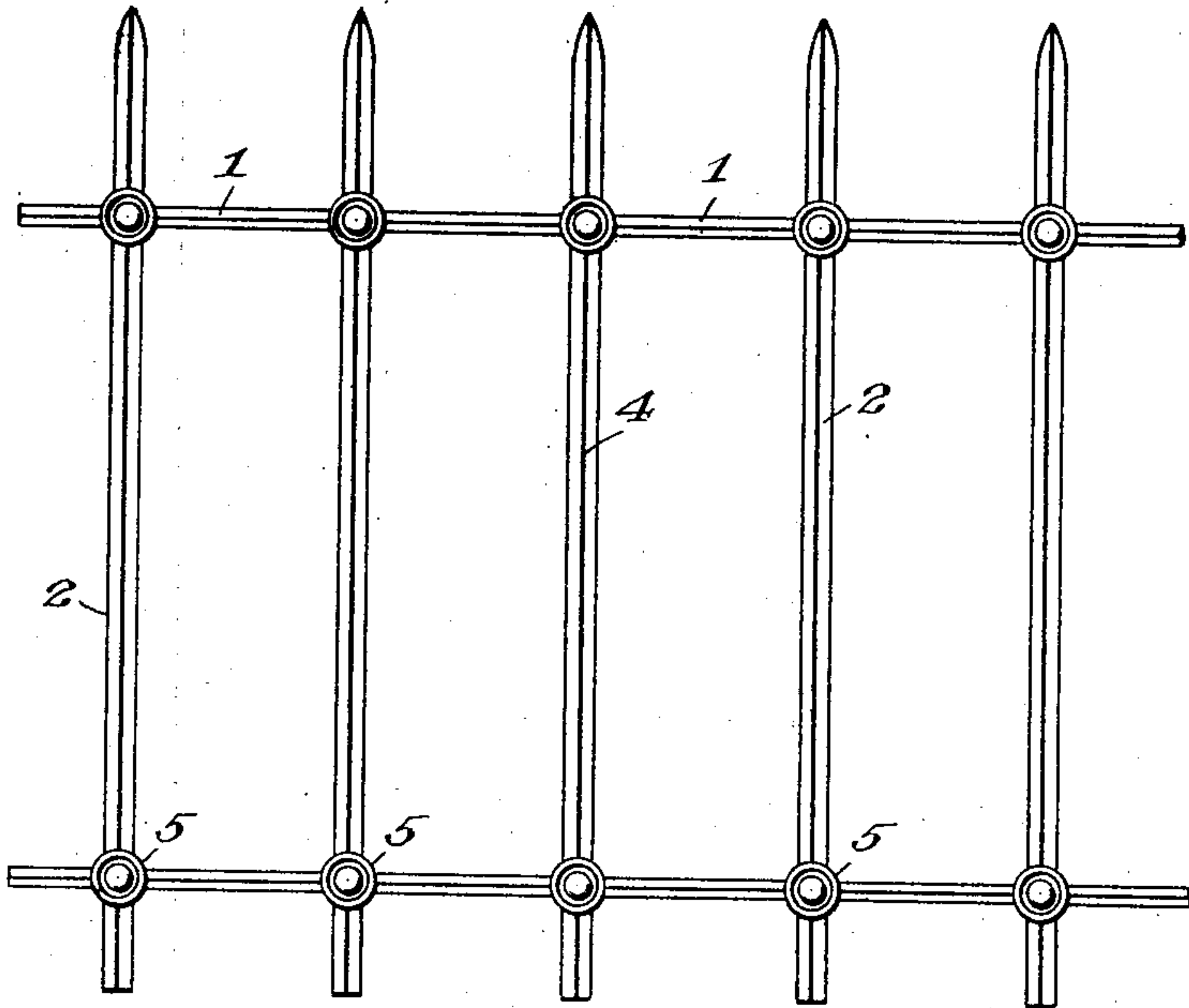


Fig. 2.

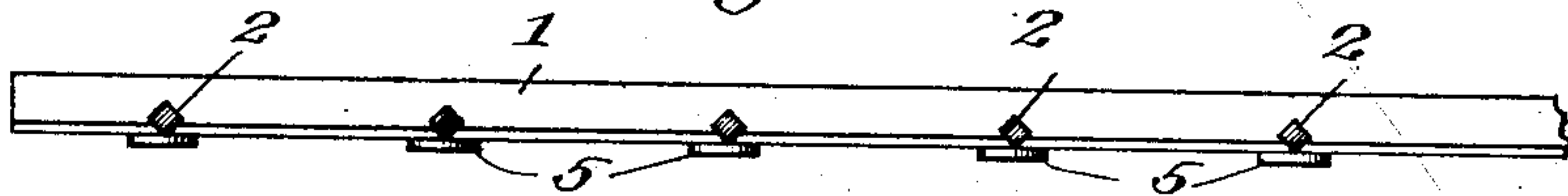


Fig. 3.

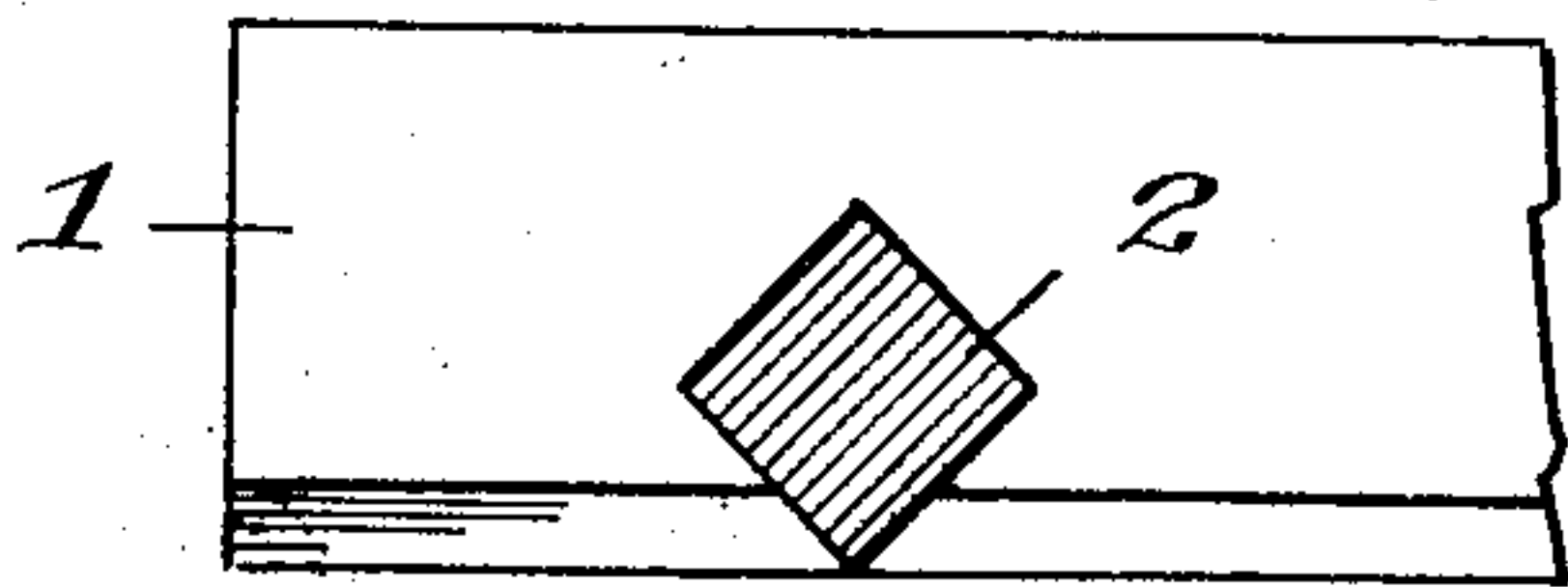


Fig. 4.

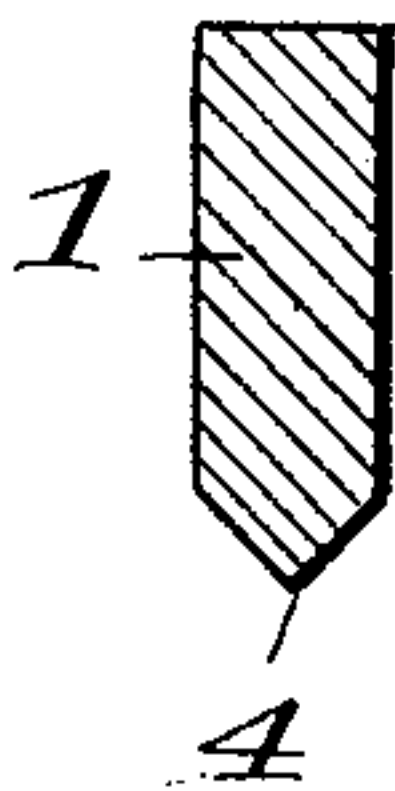


Fig. 5.

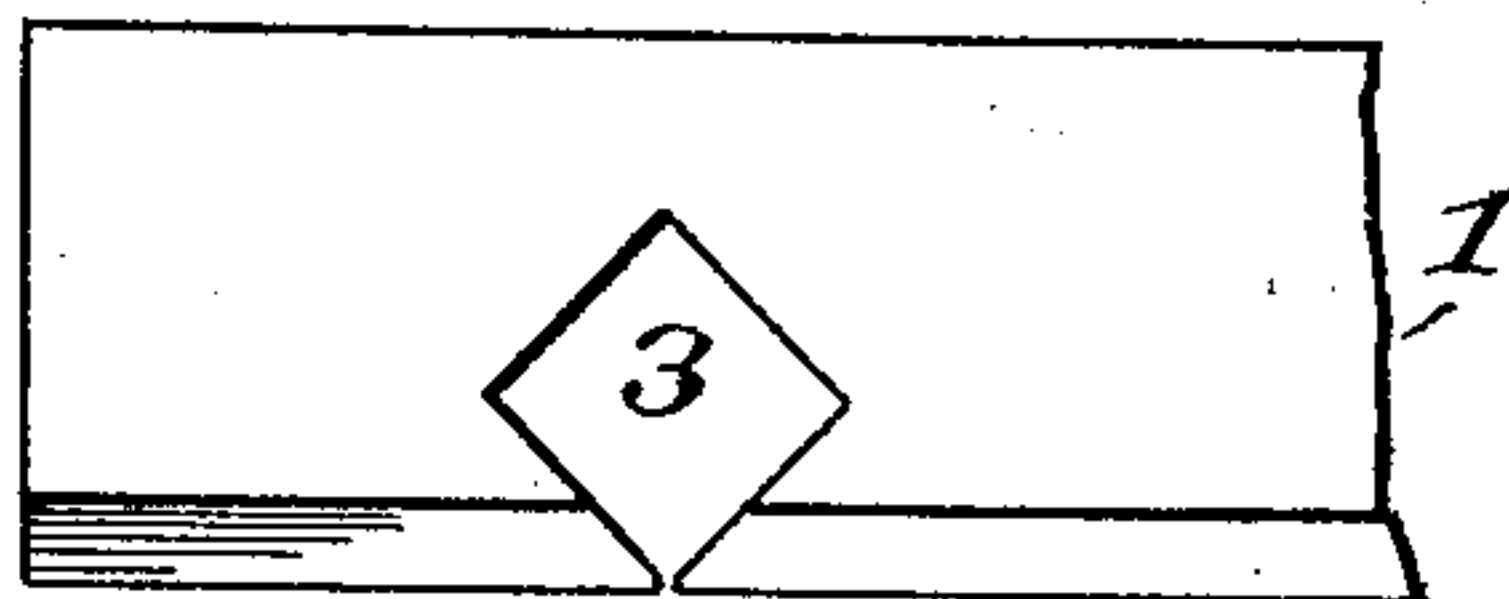


Fig. 6.



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2 SHEETS—SHEET 2.

Fig. 7.

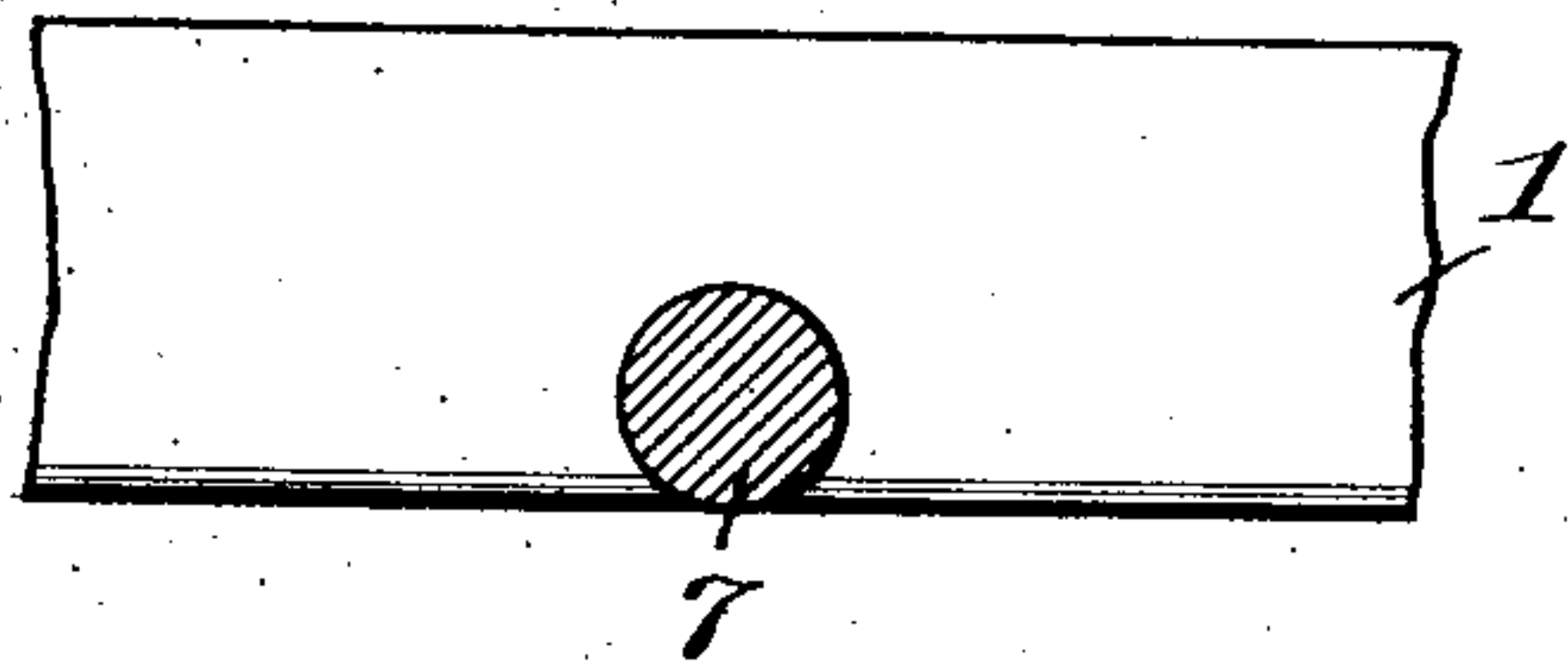


Fig. 8.

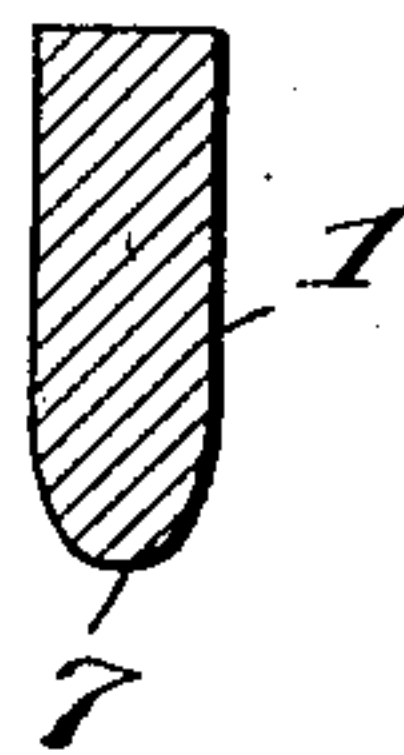


Fig. 9.

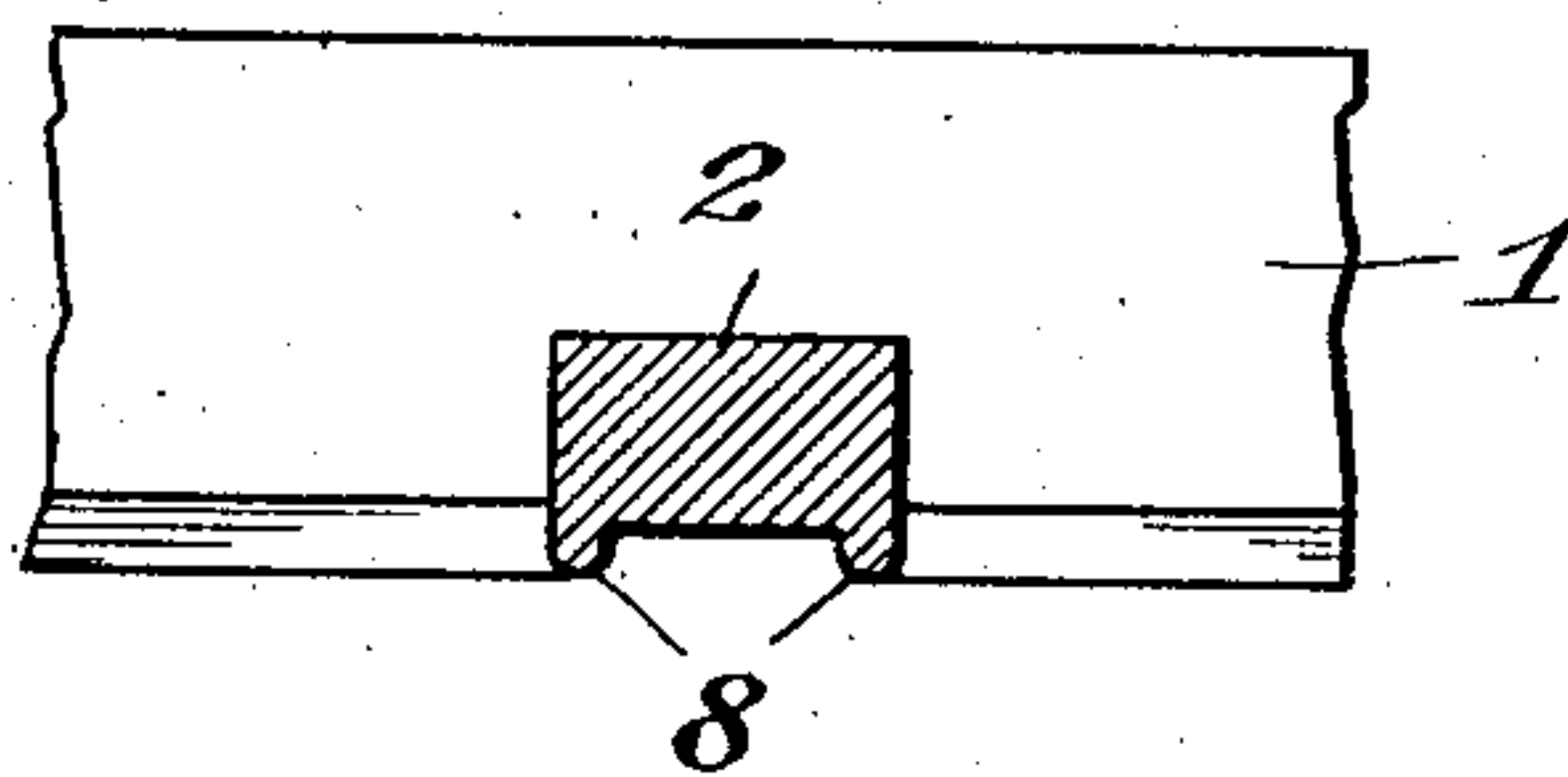


Fig. 10.

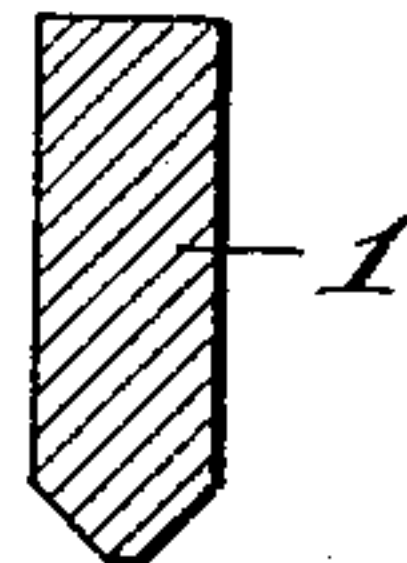
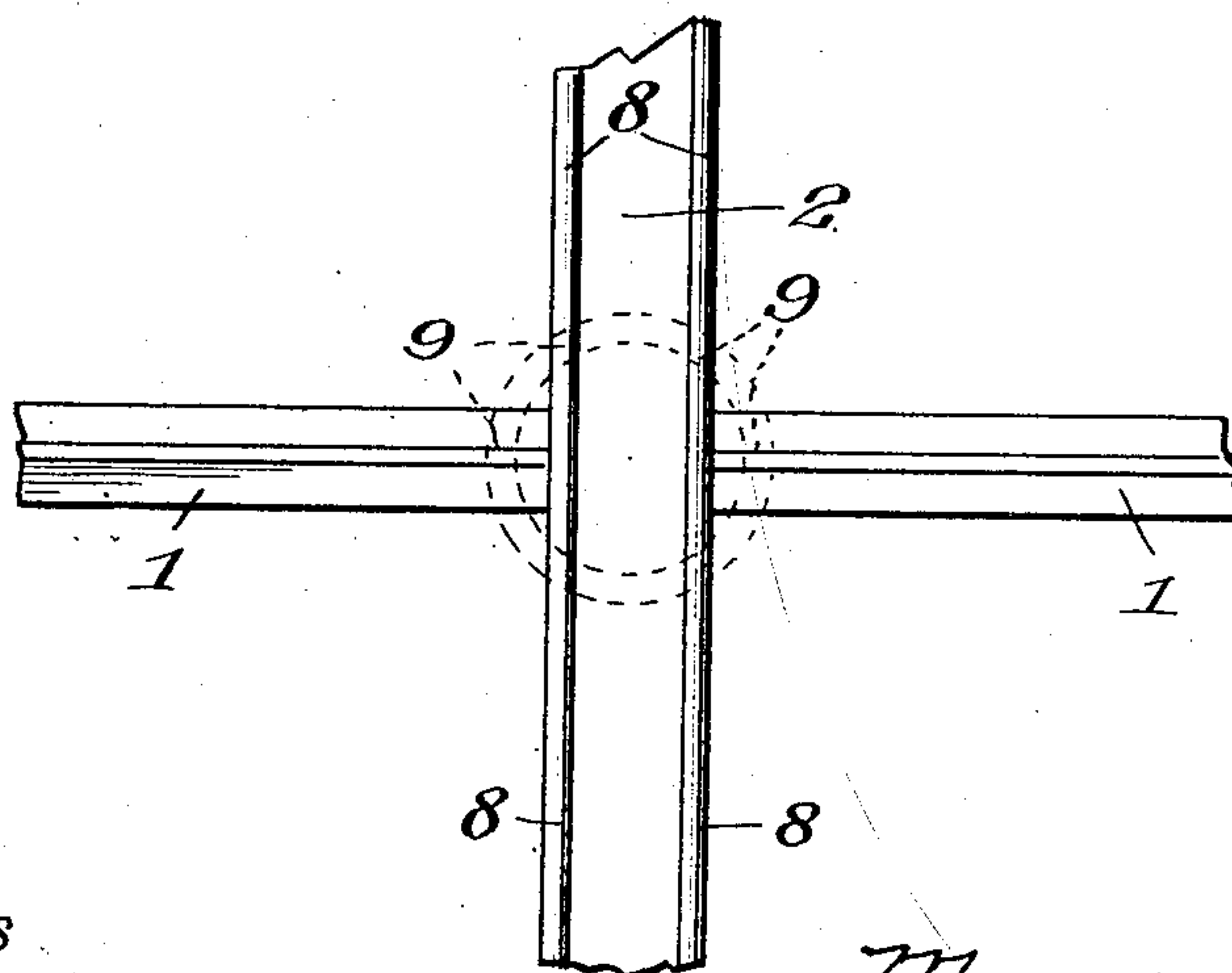


Fig. 11.



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METALLIC STRUCTURE AND PROCESS OF MAKING THE SAME.

1,154,784.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MAURICE LACHMAN, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Metallic Structures and Processes of Making the Same, of which the following is a specification.

My present invention relates to metallic structures, such as fence, fabric, &c., in which the intersecting members are securely locked to each other so that they cannot move or become displaced relative to each other.

The object of the invention is to provide a simple, inexpensive construction in which the members will be effectively secured together so that they cannot shift from their intended relation to each other. Also when the invention is applied to constructions to be used as fence, grilles, &c., the object is to produce an ornamental structure.

The invention consists in the improved method or process of producing metallic structures comprising intersecting members as well as in the improved structure itself as hereinafter more particularly described and then specified in the claims.

In the accompanying drawings the invention as carried out in the manufacture of a metallic fence will be described, it being understood that it is not limited to this particular use.

Figure 1 is a front elevation of a metallic structure, such as a fence, constructed in accordance with this invention. Fig. 2 is a horizontal section through the vertical members of the same. Fig. 3 is an enlarged view similar to Fig. 2 of the intersection between the members before the fastener is applied. Fig. 4 is a transverse section of one of the members. Fig. 5 is a plan of one of the members. Fig. 6 is a central cross-section of the preferred type of fastener for the members. Fig. 7 is a view similar to Fig. 3 and illustrating a variation in the shape of the intersecting members. Fig. 8 is a transverse section of one of the members employed in the type shown in Fig. 7. Fig. 9 illustrates a further modification in the shape of the members. Fig. 10 is a transverse section of one of the members of Fig. 9. Fig. 11 is a front view of the members shown in Fig. 9.

The fence or fabric comprises main intersecting members 1 and 2 arranged any de-

sired distance apart. The members 1 and 2 are of different relative size or shape, the object being to have one of the members of such size or shape that when an opening is formed in it at one edge of a size equal to the other member sufficient material will remain in back of the opening to insure the required strength of the members.

In the structure illustrated the longitudinal members 1 are flat metallic bars of a generally rectangular cross-section while the members 2 may be square, round or of almost any geometrical shape in section. The member 1 is punched, stamped or otherwise suitably provided with a plurality of openings 3 along one longitudinal edge. The openings 3 are spaced any desired distance apart and through said openings the members 2 of the fabric or fence are inserted. It will be obvious that any desired number of members 1 and 2 may be employed.

The openings 3 are preferably formed so near to the edge that they pierce the edge of the member 1 so that the side or edge of the member 2 when inserted will be brought into the same plane as the edge of the member 1. In other words, it is preferable to have the one surface, for instance the front, of the fence or fabric in the same plane. The openings 3 are preferably formed of the same size and configuration as the contour of the members 2 desired to employ so that the joint between the two members will be as snug as possible.

In the form shown in Figs. 1, 2 and 3 the member 2 is square in cross-section and disposed edgewise in the structure. In this case the forward edge of the member 1 is preferably formed as a triangle with the apex 4 outward. By this construction four more or less sharp edges are provided around each intersection of the members.

To secure the members together I attach a third member or fastener, preferably by welding, to each of the edges of the members around each intersection. Preferably the fastener takes the form of a circular button 5 having an annular ridge 6 stamped or otherwise formed thereon. After the members 2 have been properly located in the openings 3 of the members 1 the button 5 is placed over the intersection between the members with the ridge 6 in contact with and intersecting the edge 4 of the member 1 and the similar edge of the member 2. The parts are so assembled between the elec-

trodes of an electric welding machine and an electric current passed from one electrode to the other through the parts and pressure applied to force them together upon softening of the parts in contact due to the passage of the current. The more or less sharp edges of the members 1 and 2 form points of restricted contact at the intersections with the ridge of the button 5 and permit the ready and quick welding at such points. Thus each button is welded to the members at four points around their intersection which effectively secures the members together and owing to the metal of the member 1 in back of the openings 3 the members are locked against relative displacement in any direction.

In the form shown in Fig. 7 the member 2 is a round rod in which case the forward edge of the member 1 is preferably rounded as shown at 7 in Fig. 8 to facilitate the welding operation.

In Fig. 9 the member 2 is rectangular in section and provided with longitudinal ridges 8, the forward edge of the member 1 being preferably tapered as shown. The ridges 8 lying in the same plane as the forward edge of the member 1 are engaged by the ridge of the button 5 and welding connections indicated at 9, Fig. 11, are formed at the intersecting points.

It will be understood that my invention is not limited to the particular forms, shapes and arrangements of the parts shown in the drawings and herein described except as set forth in the appended claims.

What I claim as my invention is:—

1. The method of producing metallic structures comprising intersecting members consisting in forming an opening at the edge of one of the members corresponding in shape to the other member, passing the other member through said opening so that the outer edges of the intersecting members lie in the same plane, superposing a fastener over the intersection in contact with the edges thereof around the intersections and electrically welding said fastener to said members.

2. The method of producing metallic structures comprising intersecting members consisting in forming an opening at the edge of one of the members corresponding in shape to the other member, passing the other member through said opening whereby the outer edges of the intersecting members lie in the same plane and electrically welding a third member to said edges at the intersection of said members.

3. The method of producing metallic structures comprising intersecting members consisting in forming an opening at the edge of one of the members, passing the other member through said opening whereby the outer edges of said intersecting members lie in the same plane and locking said members to-

gether by a superimposed member at the intersection integrally united with the edges of the intersecting members.

4. The method of producing metallic structures comprising intersecting members consisting in forming an opening at the edge of one of the members corresponding in shape to the other member, passing the other member through said opening whereby the outer edges of the intersecting members lie in the same plane, superposing a third member on said members at the intersections and securing said third member to said intersecting members whereby the intersecting members are locked to each other.

5. The method of producing metallic structures comprising intersecting members consisting in forming an opening at the edge of one of the members corresponding in shape to the other member, passing the other member through said opening whereby the outer edges of the intersecting members lie in the same plane, superimposing a ridged button on said members whereby the ridge thereof intersects said members at points around the intersection and electrically welding said button to said members at such intersecting points to lock the members to each other.

6. The method of producing metallic structures, comprising intersecting members consisting in forming a plurality of openings at the forward edge of one of the members corresponding in shape to the other members, passing the other members through said openings, applying a fastening member at the intersections of said intersecting members and securing said fastening member thereto.

7. A metallic structure comprising intersecting members, one of said members passing through openings in the edge of the other member, the outer edges of the members lying in the same plane and a fastener welded to said outer edges whereby the members are locked together.

8. A metallic structure comprising intersecting members, one of said members being provided with openings along its edge corresponding in shape to the other members, co-acting members disposed in said openings, the edges of both said members lying in the same plane and a fastener superimposed over the intersections of the members and welded thereto to lock the members to each other.

9. A metallic structure comprising intersecting members of relatively different shape or size, one of the members being provided with openings at one edge through which the other members pass whereby the outer edges are disposed in the same plane and a fastener welded to said outer edges around the intersection of the members.

10. In a metallic fence or fabric, flat longitudinal members having openings formed

in one edge thereof corresponding in shape to the other members, transverse members located in said openings whereby the outer edges of the intersecting members lie in the same plane and a button superimposed over the intersection of the members and welded thereto whereby the members are locked against relative displacement.

Signed at New York, in the county of New York and State of New York, this 16th day 10 of December A. D. 1914.

MAURICE LACHMAN.

Witnesses:

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REMINGTON SCOTT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."