

No. 750,725.

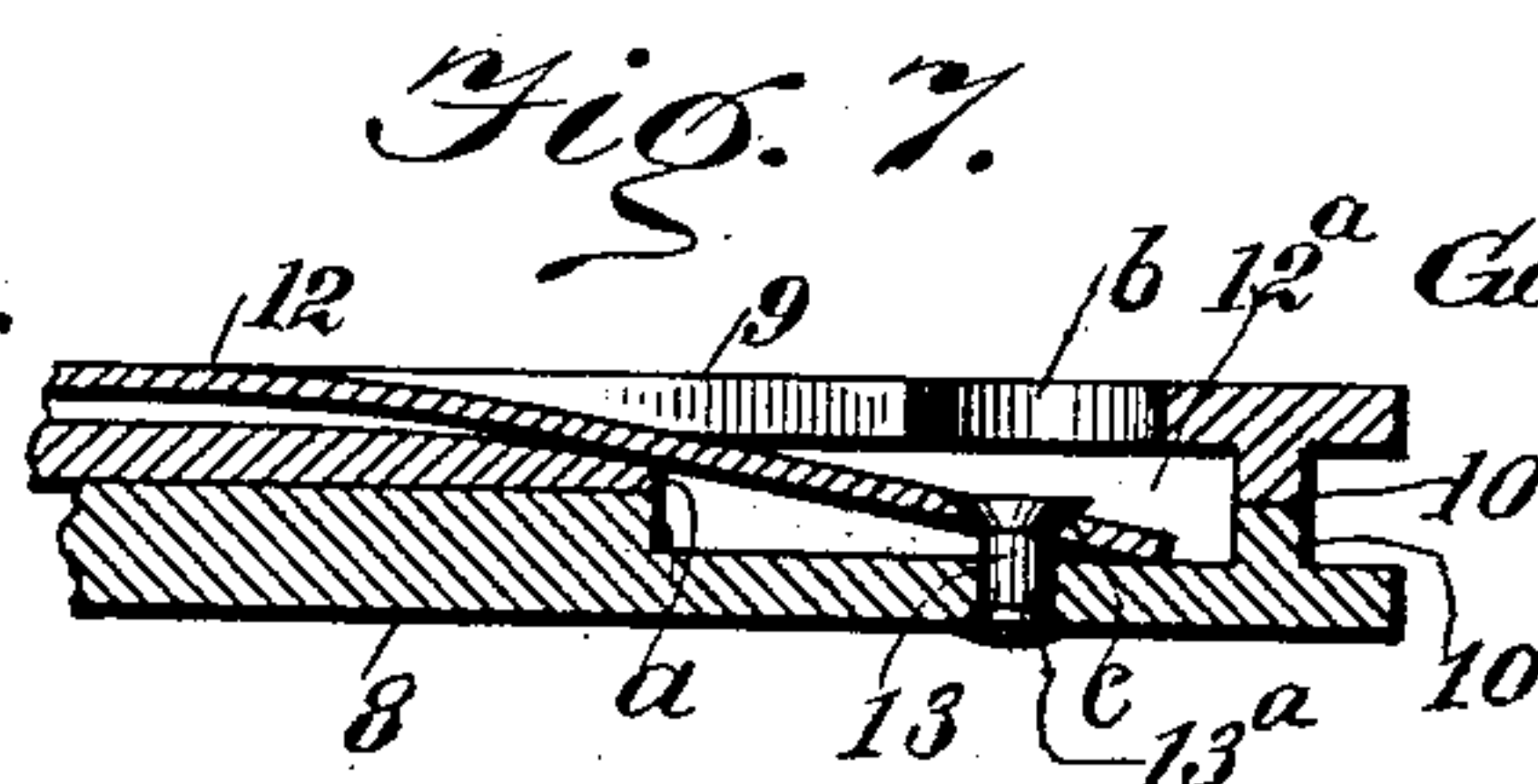
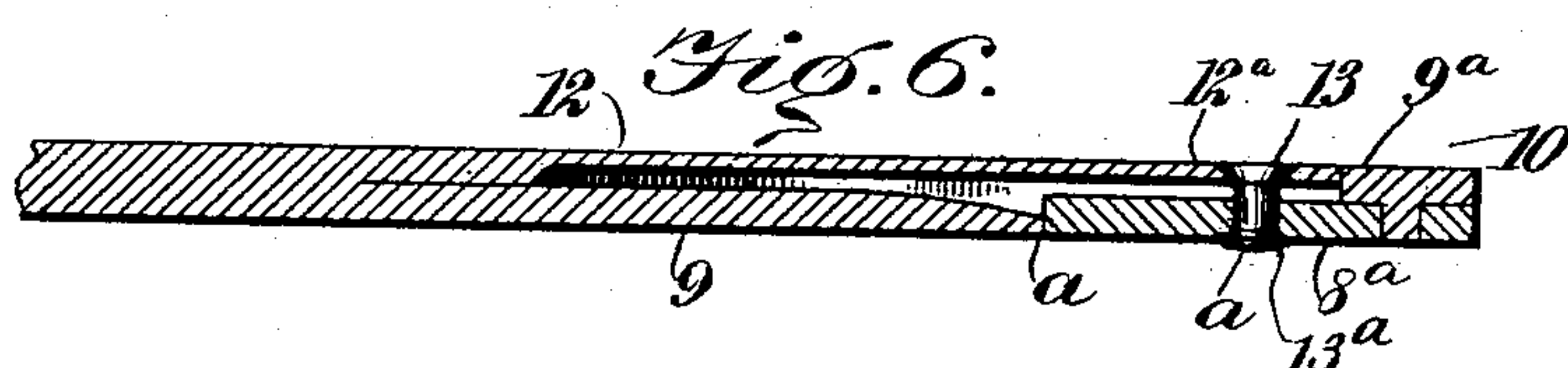
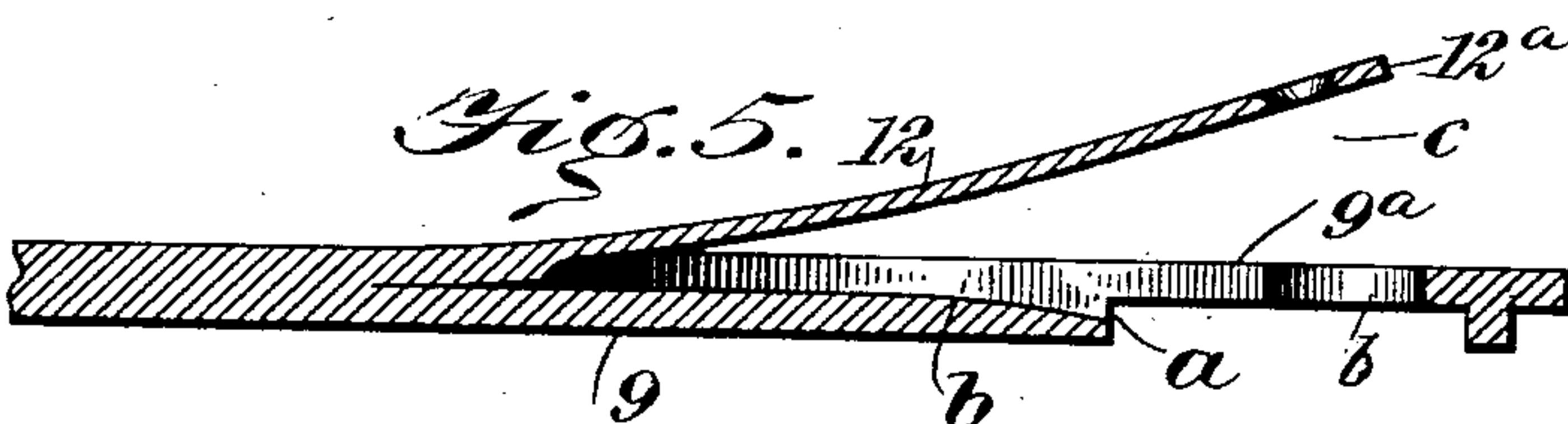
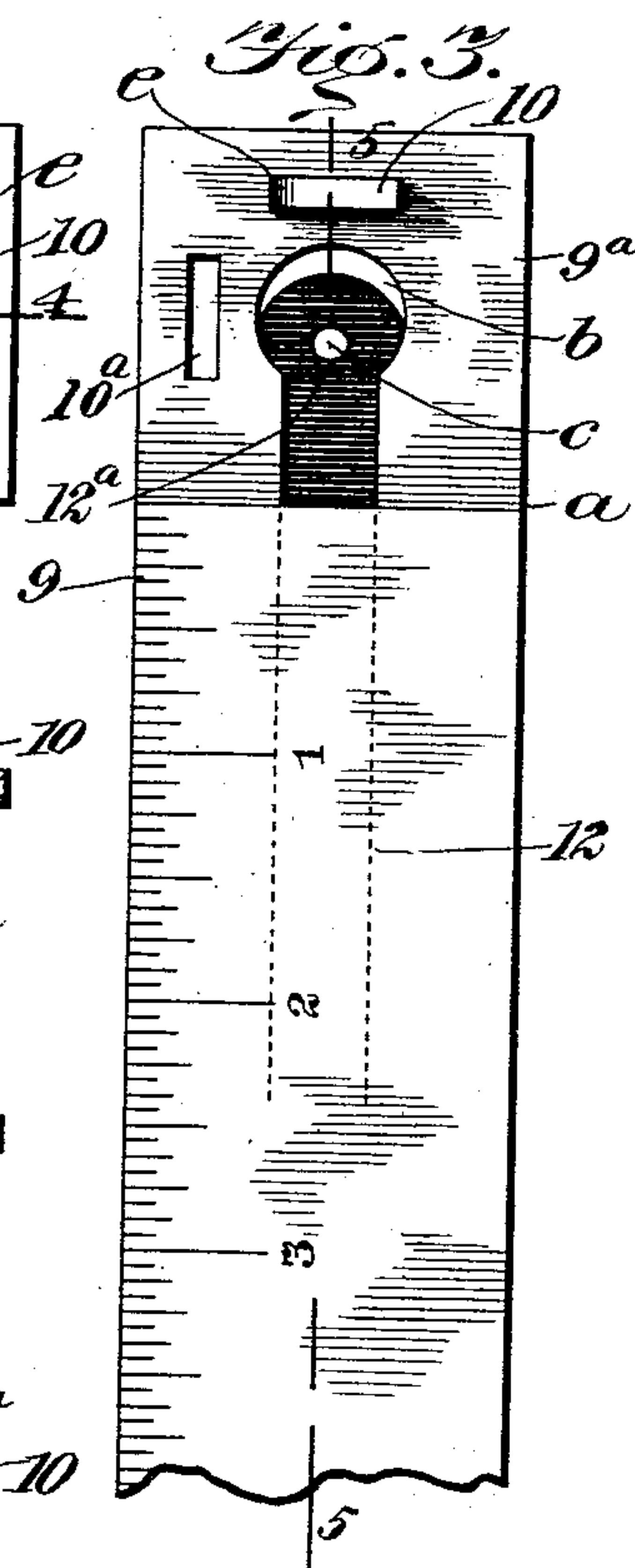
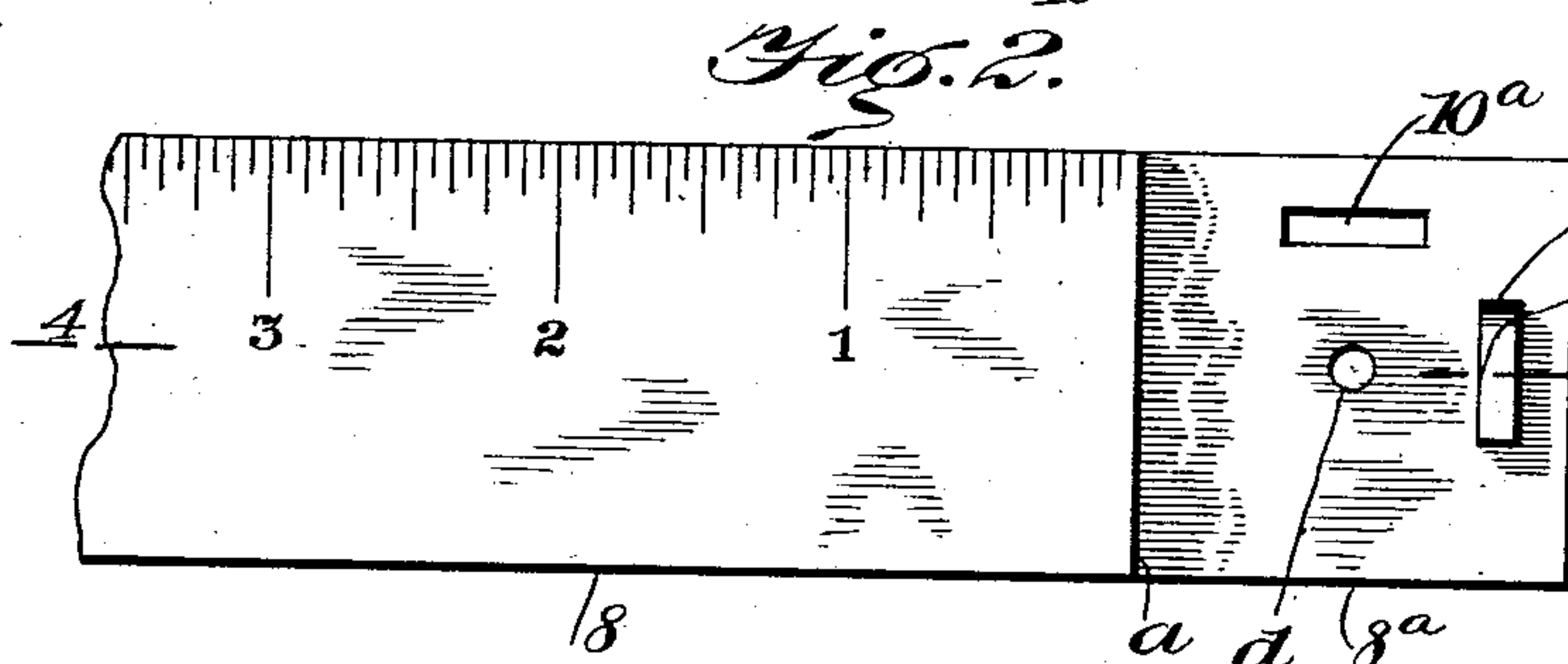
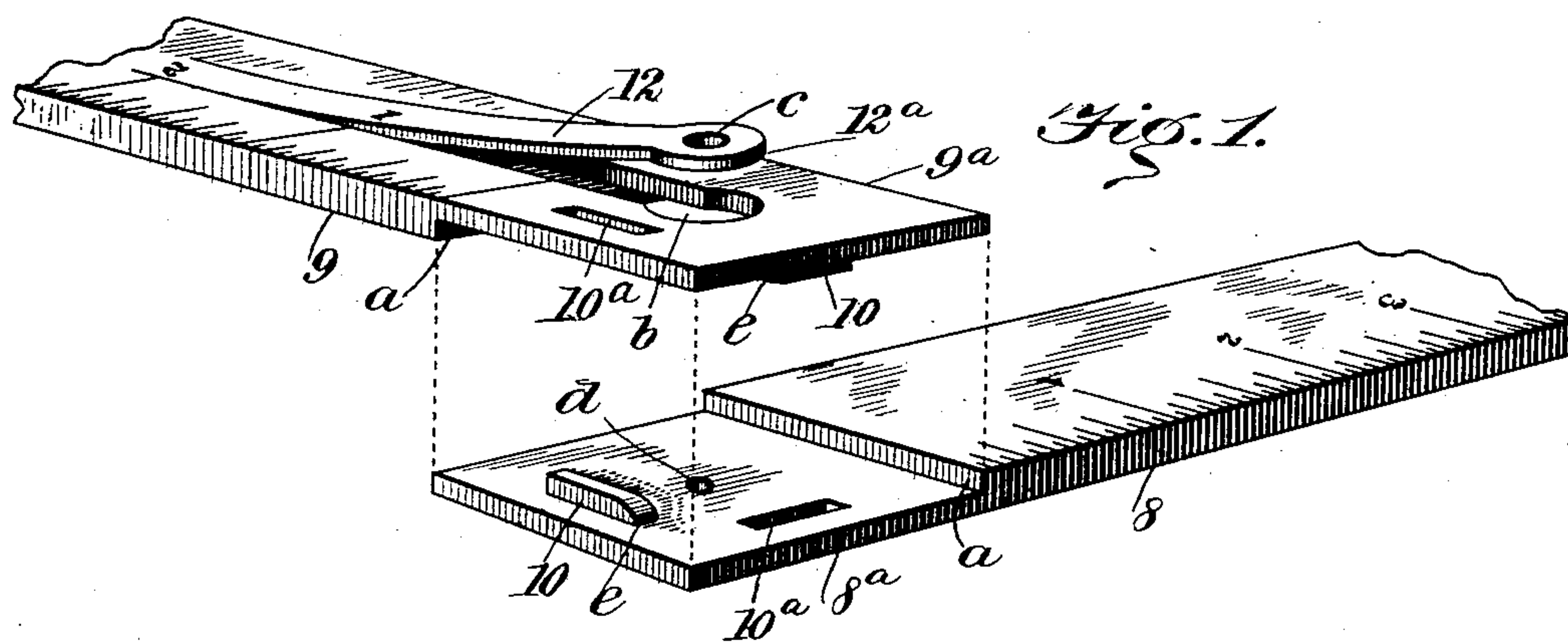
PATENTED JAN. 26, 1904.

G. A. STEPHENS.

SQUARE.

APPLIOATION FILED AUG. 10, 1903.

NO MODEL.



**WITNESSES:**

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# UNITED STATES PATENT OFFICE.

GAVIN ALSTON STEPHENS, OF MEMPHIS, TENNESSEE.

## SQUARE.

SPECIFICATION forming part of Letters Patent No. 750,725, dated January 26, 1904.

Application filed August 10, 1903. Serial No. 168,968. (No model.)

*To all whom it may concern:*

Be it known that I, GAVIN ALSTON STEPHENS, a citizen of the United States, and a resident of Memphis, in the county of Shelby and State of Tennessee, have invented a new and Improved Square, of which the following is a full, clear, and exact description.

This invention relates to a class of plate-metal squares used by woodworkers and other mechanics, and has for its object to so construct a tool of the class indicated that its two members are rockable one on the other, so as to permit them to be folded flatwise together and also to adapt said members for instant adjustment to form a true square when this is desired.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the end portions of the two members of the improved square, showing details of the invention thereon. Fig. 2 is a plan view of one member of the square, showing features of the improvement. Fig. 3 is a reversed plan view of the other member of the square, showing novel details which coact with the novel features on the member shown in Fig. 2 for the pivotal connection of said parts and their adjustment to form a square. Fig. 4 is a longitudinal sectional view substantially on the line 4 4 in Fig. 2. Fig. 5 is a longitudinal sectional view substantially on the line 5 5 in Fig. 3. Fig. 6 is a longitudinal sectional view showing the two members of the square secured together and adjusted at right angles with each other, and Fig. 7 is a longitudinal sectional view of two end portions of the members of the square in folded adjustment.

The longer and shorter members of the square are respectively designated by the numerals 8 9, and, as shown, each consists of a flat plate of metal of suitable width having the side edges of each member true and parallel with each other, and said portions of the

square may and preferably are provided with graduations that indicate inches and parts thereof, as usual.

The end portions 8<sup>a</sup> 9<sup>a</sup> of the members 8 9, which are to be detachably joined together at a right angle to each other, are respectively reduced in thickness by the removal of material, thus producing joint-leaves which are one-half the thickness of the remaining portions of the square members.

Shoulders *a a*, respectively formed on the members 8 9, are cut across the same at right angles to the parallel side edges of said members, the leaves 8<sup>a</sup> 9<sup>a</sup> having equal length and width, so that when the leaves having the defining-shoulders *a* are lapped together and a side edge of each leaf has contact with a respective shoulder the square members 8 9 will be disposed at a right angle to each other.

The ends of the leaves 8<sup>a</sup> 9<sup>a</sup> are formed true and at right angles with their side edges, and upon the end portion of each leaf 8<sup>a</sup> 9<sup>a</sup> parallel with a respective shoulder *a* thereon an elongated rectangular tenon 10 is formed that is parallel with the shoulder it is opposite to and at a proper distance therefrom, and preferably said tenons are positioned near the ends of the leaves, as shown clearly in Figs. 1, 2, and 4. In each of the joint-leaves 8<sup>a</sup> 9<sup>a</sup> a slot 10<sup>a</sup> is formed which is positioned near the side edge of the leaf that is outermost when the square members are joined together, and, as shown, the slot 10<sup>a</sup> in each leaf is disposed at a right angle to the tenon 10, and preferably is arranged at an equal distance from the side edge of the leaf with that of the tongue 10 from the transverse end of the same.

It will be seen that the tenons 10 and slots 10<sup>a</sup> in the leaves 8<sup>a</sup> 9<sup>a</sup> are so relatively disposed as to adapt said slots to respectively receive the tenons, such a connection occurring when the joint-leaves 8<sup>a</sup> 9<sup>a</sup> are disposed one upon the other at right angles and made to have intimate contact. To facilitate the turning of the square members one on the other, each tenon 10 is beveled at one end, as shown at *e* in the drawings, which will effect such a result.

It will be seen that the interlocked engage-



ment of the tenons 10 within the slot-like openings 10<sup>a</sup> will serve to stiffen the connection between and detachably secure the square members 8 9, joined at a right angle.

5 To prevent a lateral disconnection of the square members 8 9 where they have lapped contact, it is preferred to employ the means shown, comprising a resilient tongue 12, arranged as follows: A longitudinal channel *b* 10 is formed in the square member 9, which extends as a slot into the leaf 9<sup>a</sup>, crossing the center of the latter, and in the channel is loosely embedded an end portion of the tongue 12, that is secured therein at the extremity by 15 attachment upon the bottom and sides of the channel. The tongue 12 extends at its free end over the slot in the leaf 9<sup>a</sup> and is given a slight curvature away from the leaf at said end, so that the free end of the tongue will 20 normally be disposed above the joint-leaf, as shown in Figs. 1 and 5.

The tongue 12 may be circularly enlarged at its loose end, and at the center of said enlargement 12<sup>a</sup> a perforation *c* is formed for 25 the reception of a head on the clamping-rivet 13. At a suitable point a perforation *d* is formed in the joint-leaf 8<sup>a</sup>, which will become directly opposite the perforations *c* in the tongue 12, when the two square members 8 9 30 are arranged for service by lapping together the joint-leaves 8<sup>a</sup> 9<sup>a</sup>, as before explained. The rivet 13 is provided with another head 13<sup>a</sup>, that seats in a countersink formed around the perforation *d*, and when the square mem- 35 bers 8 9 are lapped together, as shown in Figs. 6 and 7, the rivet will secure the two members 8 9 together in a manner that will permit them to be rocked on the rivet 13 as a pivot.

40 It will be seen that when the tenons 10 are fully inserted within the mating slotted openings 10<sup>a</sup> and the joint-leaves 8<sup>a</sup> 9<sup>a</sup> have contact throughout their areas the rivet connection 13 will draw upon the tongue 12, so as 45 to cause it to bear upon the joint-leaf 8<sup>a</sup> and securely bind the leaves 8<sup>a</sup> 9<sup>a</sup> together, thus practically uniting the members 8 9 to form a square, said members being disposed at an angle of ninety degrees one with the other 50 and the respective sides of the square members in like planes.

When the square is to be folded, so as to lap its members 8 9 one upon the other, these members are twisted, so as to pull upon the 55 spring-tongue 12 and release the side edges of the same from interlocked engagement with the shoulders *a*, the operation being completed by turning the square members 8 9 edgewise toward each other, which will cause the tenons 60 10 to be withdrawn from the slots 10<sup>a</sup> and ride upon each other, the parts 8 9 then having contact throughout their length and are held in that adjustment by the tension of the spring-tongue 12, as indicated in Fig. 7.

65 To open the square for service, it is only

necessary to turn the members 8 9 edgewise, so that they will be disposed at a right angle to each other. When the tenons 10 are positioned directly in registry with the slots 10<sup>a</sup>, the force of the spring-tongue 13 will draw 70 the joint-leaves together and introduce the tenons within the slots and at the same time effect a contact of the respective side edges of the joint-leaves with the transversely-extended shoulders *a*, which will exactly dispose the 75 two members 8 9 at right angles to each other and hold them in that adjustment for service.

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

1. A square, comprising two members 80 lapped at one end, means for holding the members at a right angle to each other, a spring-tongue carried by one member, said tongue and the other member being oppositely perforated, and a clamping-rivet adapted to draw 85 the spring-tongue toward the perforated member, thus securing the members together and diverged at a right angle.

2. A square, comprising two flat members, each having at one end a joint-leaf of reduced 90 thickness, forming a transverse shoulder at right angles to side edges of said member, a tenon-and-slot connection between the joint-leaves, a spring-tongue on one of said members and the leaf thereon having a perfora- 95 tion in its free end, the other leaf having a perforation, and a rivet engaging the perforations and adapted to clamp the leaves together when the square members are disposed at a right angle. 100

3. A square, comprising two flat members, each reduced at one end to provide a joint-leaf half the thickness of the body, forming a transverse vertical shoulder at a right angle 105 to the side edges of a respective leaf, an elongated rectangular tenon projected laterally from the reduced side of one joint-leaf and having the end sloped on the upper side, a slot in the joint-leaf at right angles to the tenon and respectively disposed parallel with 110 one side edge and the true transverse end of the joint-leaf, the other joint-leaf having mating tenon and slot therein, the engagement of the slots, tenons, shoulders and edges, holding the square members at a right angle to 115 each other edgewise, a spring-tongue working in a longitudinal opening in one of said members and the joint-leaf thereon, said tongue being fast at one end and having a perfora- 120 tion in its free end, the other joint-leaf having a perforation opposite the perforation in the tongue, and a clamping-rivet adapted to engage the perforated tongue and joint-leaf.

In testimony whereof I have signed my name to this specification in the presence of two sub- 125 scribing witnesses.

GAVIN ALSTON STEPHENS.

Witnesses:

CHARLES M. WARNER,  
JAMES L. BLANKER.