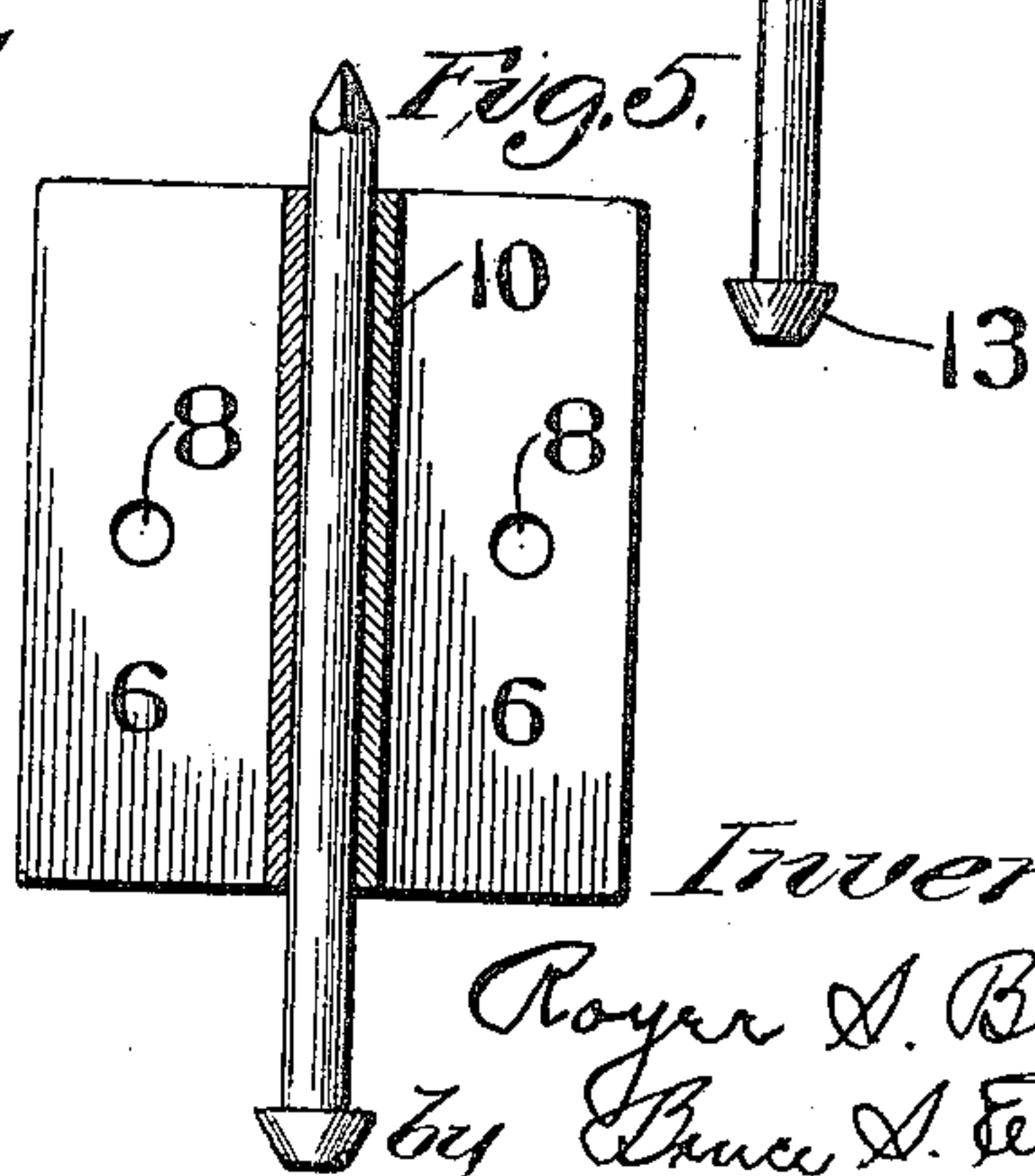
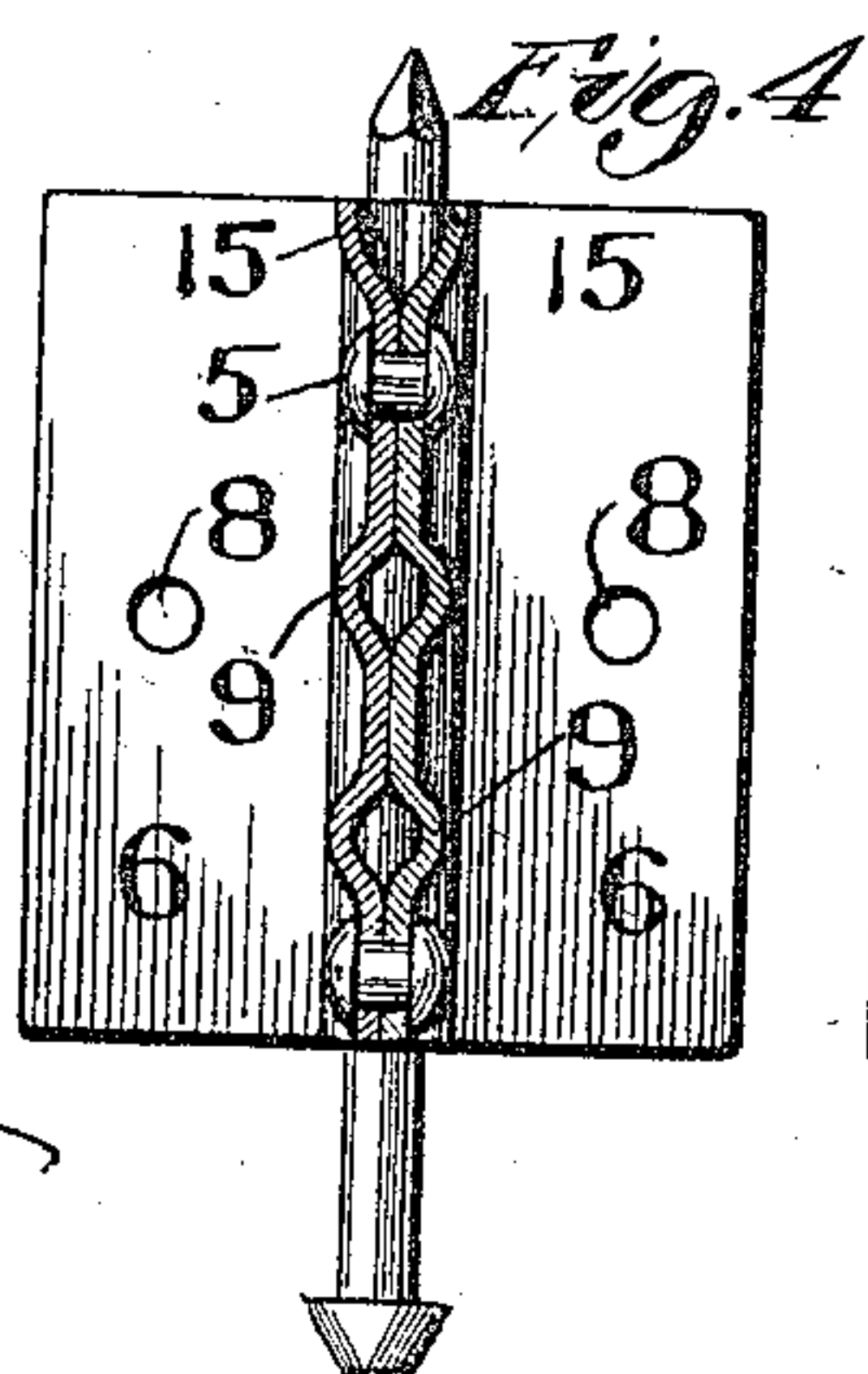
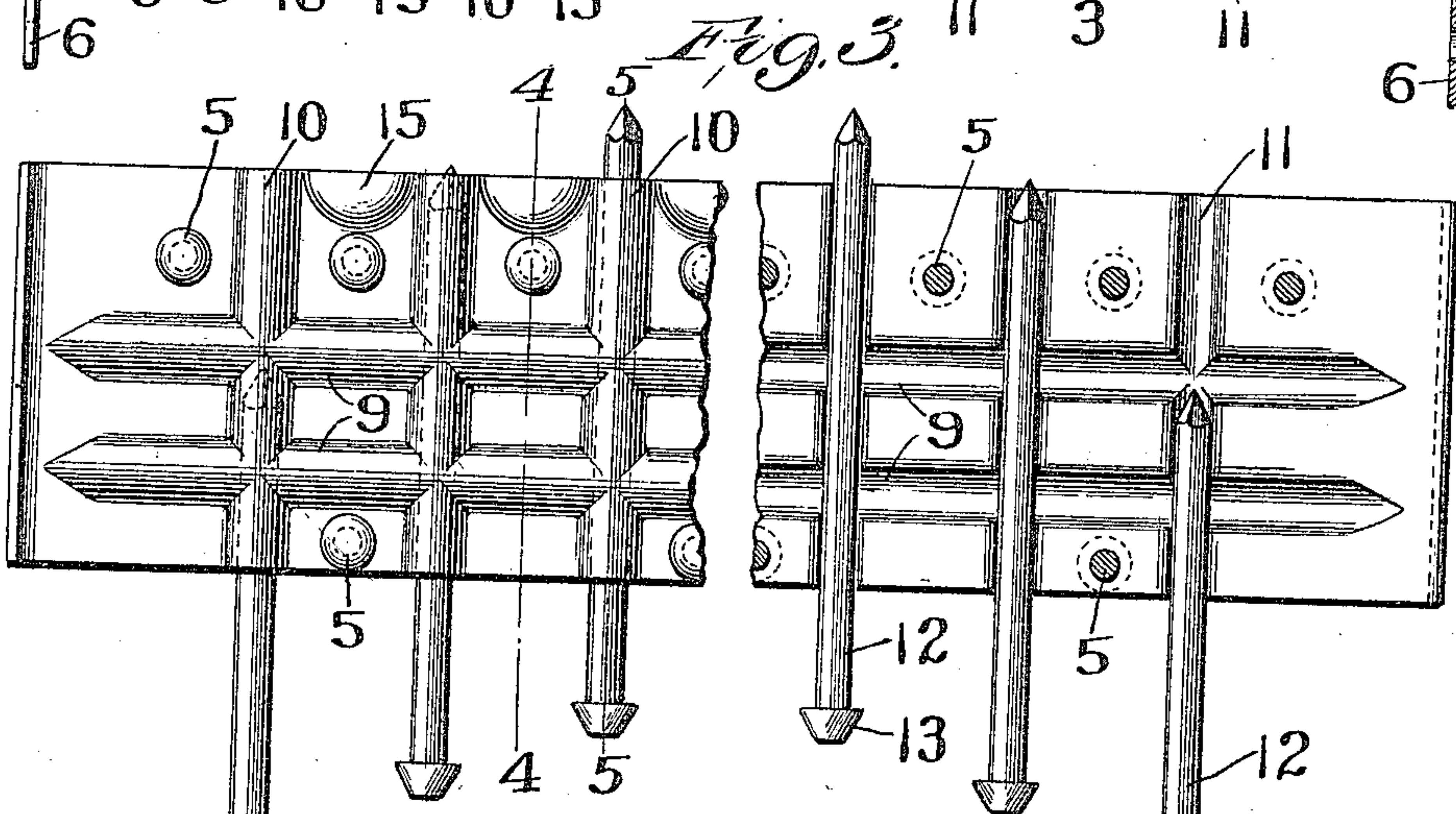
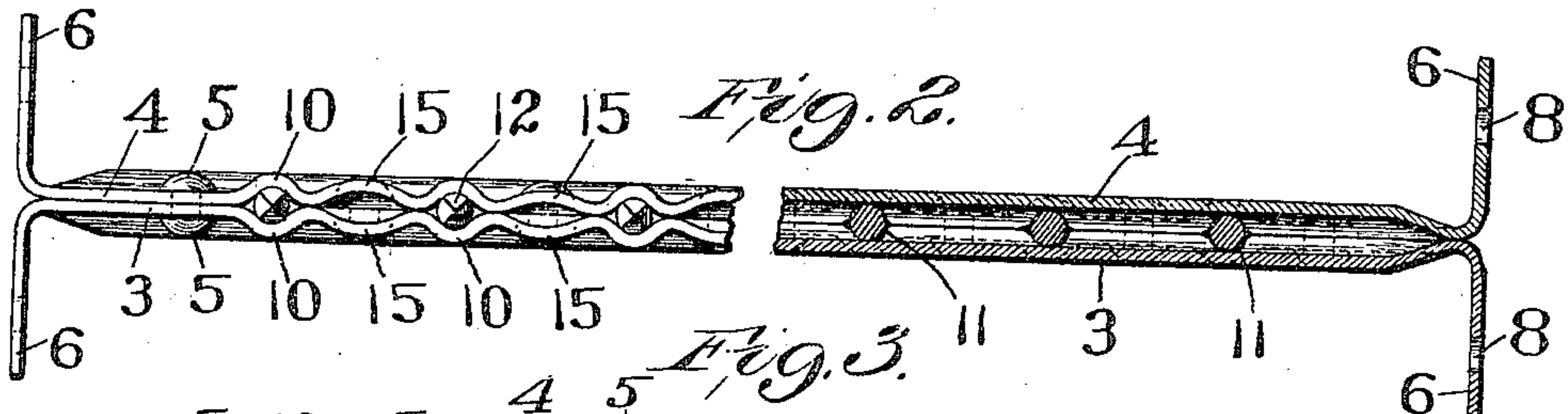
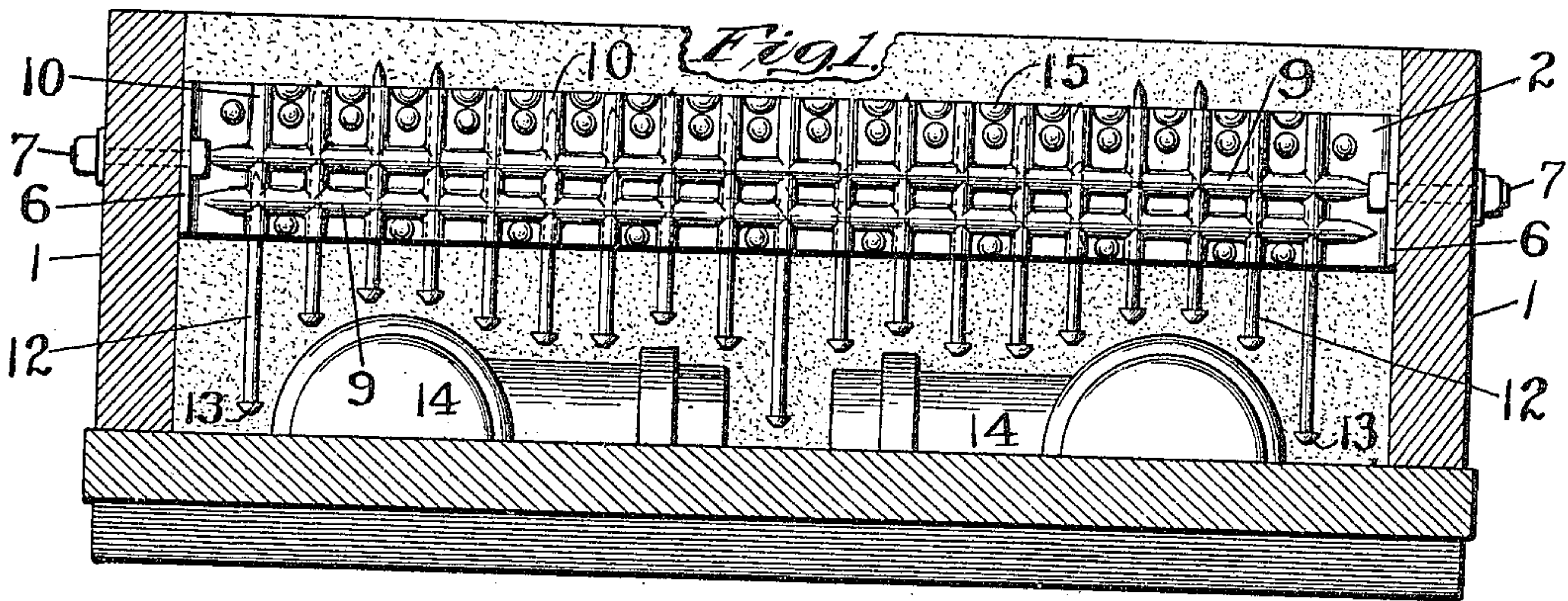


R. S. BUCH.
 MOLDER'S FLASK AND BAR THEREFOR.
 APPLICATION FILED JAN. 19, 1911.

993,953.

Patented May 30, 1911.



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UNITED STATES PATENT OFFICE.

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MOLDER'S FLASK AND BAR THEREFOR.

993,953.

Specification of Letters Patent.

Patented May 30, 1911.

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To all whom it may concern:

Be it known that I, ROYER S. BUCH, a citizen of the United States, residing in Elizabethtown and State of Pennsylvania, have invented new and useful Improvements in Molders' Flasks and Bars Therefor, of which the following is a specification.

This invention relates to the art of molding, and has for its object an improved form of metal bar having a series of sand supports adjustably mounted therein, whereby said sand supports may be readily adjusted to the configuration of various shapes of patterns. The general purpose of bars of this description, and the advantages to be derived from the use thereof, are fully set forth in the specifications of Letters-Patent granted to Dennis Parks, No. 880,396, dated February 25th, 1908, and No. 880,397, dated February 25th, 1908, which patents are now owned by the A. Buch's Sons Company, of Elizabethtown, Pennsylvania, of which company I am president. Reference may be had, therefore, to such patents for a full statement of the general state of the art with reference to this kind of device, and the objections overcome by use of flasks containing bars having adjustable sand supports mounted therein, such as generically claimed in the said Parks patents.

The present invention aims to provide a simple, strong and durable bar containing adjustable sand supports, and one which may be economically manufactured, and in the use of which the same set of nails may be adjusted to various positions in the bar, and be automatically held in such adjusted positions without bending or the use of independent locking devices. Furthermore, the bar itself is so constructed as to assist in supporting the sand in the flask.

Said invention is illustrated in the accompanying drawing, in which—

Figure 1 is a cross sectional view through a cope provided with my improvements, one of the bars for holding the sand supporting devices being shown in elevation, the sand supports being shown adjusted to have their lower headed ends conform to the outline of two patterns, and the sand being illustrated as packed about the patterns; Fig. 2 is a broken plan view, partly in section, of one of the bars constructed according to my invention; Fig. 3 is a view in broken side ele-

vation of the bar illustrated in Fig. 2, one side of the bar being shown removed from one portion of the bar to better illustrate the construction; Fig. 4 is a sectional view on the line 4—4 of Fig. 3; and Fig. 5 is a section on the line 5—5 of Fig. 3.

Referring now to the drawings, 1 indicates the frame of the cope, and 2 bars running from side to side of said cope and secured therein in spaced parallel relation. Each of the bars 2 is a compound bar, the two members 3, 4 of each bar being united by a series of rivets 5. Each of the members 3, 4 has its outer end bent outward at right angles to its body to form flanges 6, by means of which the bars are secured in the cope by bolts 7 passing through apertures 8 in said flanges. Each of the members 3, 4 is also rolled or stamped in a manner to provide two or more parallel, longitudinally-disposed ribs 9 extending from end to end of the bar, and a series of vertically-disposed, parallel ribs 10 extending from side to side or top to bottom, of the bar, as the case may be. As clearly shown in Figs. 3 and 4, the ribs 9 and 10 are concavo-convex in form, being struck up from the body of the metal of which the bars are composed. They therefore form grooves on the inner side of the bar, and the grooves of the two members 3, 4 register with each other. The ribs 9 are merely for the purpose of strengthening the bar, that is to say, to prevent it from bending laterally. The ribs 10, however, when the two members 3, 4 are secured together, form vertically-disposed apertures 11 which are adapted to snugly receive the shanks of nails 12, having heads 13. These nails, as stated, fit snugly in the apertures 11, and may be driven therein to any required depth, and by the use of a punch can be driven outwardly, if desired, in order to cause the heads 13 to approach in suitable proximity to the surface of the pattern, such as indicated by 14.

The bar such as described and illustrated herein may be very cheaply manufactured, it is relatively light in weight, and the apertures 11 are merely straight apertures, and hold the nails, or sand supports 12, simply by frictional contact therewith. In order to further assist in supporting the body of sand in the cope, I preferably bend outward the top portion of each member 3 and 4 between each pair of ribs 10, as illustrated

at 15, the outstanding portions 15 of the member 3 being directly opposite the outstanding portions 15 of the member 4, as clearly shown by Fig. 2, so that, as a result, these outstanding or projecting portions 15 afford supports for the body of sand above them, and thereby assist in maintaining the whole body of sand as a firm, compact mass within the cope, which, by cohesion and the supports 15 and 13, is prevented from falling out of the cope when the patterns 14 have been removed and the cope has been turned over and placed upon the drag.

By making a composite bar of two strips of metal riveted together, I provide means for venting the mold when the metal is poured therein, the gases escaping through the spaces between the two strips.

It will be obvious that the bars can be secured in the flask in any well-known way other than by the use of the flanges 6, as by being keyed, riveted, screwed, or the like.

I claim:

1. A bar for a molder's flask having a series of parallel, vertically-disposed apertures of relatively fixed area extending from edge to edge thereof, and a series of sand supports adjustably mounted in said apertures and automatically held therein solely by frictional contact with the walls thereof.

2. A bar for a molder's flask comprising two rigidly connected members, each of which is provided with a series of corresponding parallel, vertically-disposed corrugations, whereby when said members are united the said corrugations will aline and afford vertically-disposed apertures, and a series of sand supports adjustably mounted in said apertures and automatically held therein solely by frictional contact with the walls thereof.

3. A bar for a molder's flask comprising two rigidly connected members having longitudinally-disposed strengthening ribs, and corresponding vertically-disposed corrugations, providing apertures extending from edge to edge of the bar.

4. A bar for a molder's flask comprising two rigidly connected members, each of which is provided with corresponding longitudinal and vertically-disposed corrugations, whereby to provide longitudinal strengthening ribs and vertically-disposed apertures for the reception of sand supports.

5. A bar for a molder's flask comprising two connected members having corresponding vertically-disposed parallel corrugations extending substantially throughout the length of the bar, said corrugations, when the members are connected, forming vertically-disposed apertures, for the reception of sand supports, each of said members hav-

ing its material at its upper edge between each pair of corrugations bent outwardly, substantially as described.

6. A bar for a molder's flask having a series of vertically-disposed parallel apertures extending substantially throughout the length of the bar, and adapted to receive and having their walls frictionally engage and thereby adjustably hold nails or similar sand supporting devices mounted therein, said bar, as a whole, being provided at opposite ends with means whereby it may be secured in a flask member.

7. A bar for a molder's flask having a series of sand supports adjustably mounted therein, and provided along its upper edge at each side with a series of outwardly-projecting members forming sand supports.

8. A bar for a molder's flask having parallel vertically-disposed apertures extending throughout the length of the bar, and from edge to edge thereof, sand supports adjustably mounted in said apertures, said bar being provided along its upper edge on each side with a series of projections forming sand supports, each of said projections being located between a pair of said apertures.

9. A molder's flask having a series of bars secured therein in parallel relation, each of said bars having vertically-disposed parallel apertures of relatively fixed area extending throughout the length of the bar, and from edge to edge thereof, and a sand support adjustably and automatically secured in each of said apertures solely by frictional engagement with the walls thereof.

10. A molder's flask having a series of bars secured therein in parallel relation, each of said bars comprising two connected members having flanged ends, and each of said members having longitudinally-disposed strengthening ribs, and vertically-disposed corrugations, the corresponding corrugations of the members, when united, forming vertically-disposed apertures extending throughout the length of the bar, and sand supports adjustably mounted in said apertures and held therein by frictional contact with the walls thereof.

11. A bar for a molder's flask comprising two rigidly connected strips of metal affording between them vertically-disposed walled apertures for the reception and frictional engagement of sand supports.

In testimony whereof, I have hereunto set my hand in presence of two subscribing witnesses.

ROYER S. BUCH.

Witnesses:

WM. H. BARNES,
I. E. SHOOP.