

No. 697,155.

Patented Apr. 8, 1902.

J. W. MORSE.
NAILLESS HORSESHOE.
(Application filed May 11, 1901.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

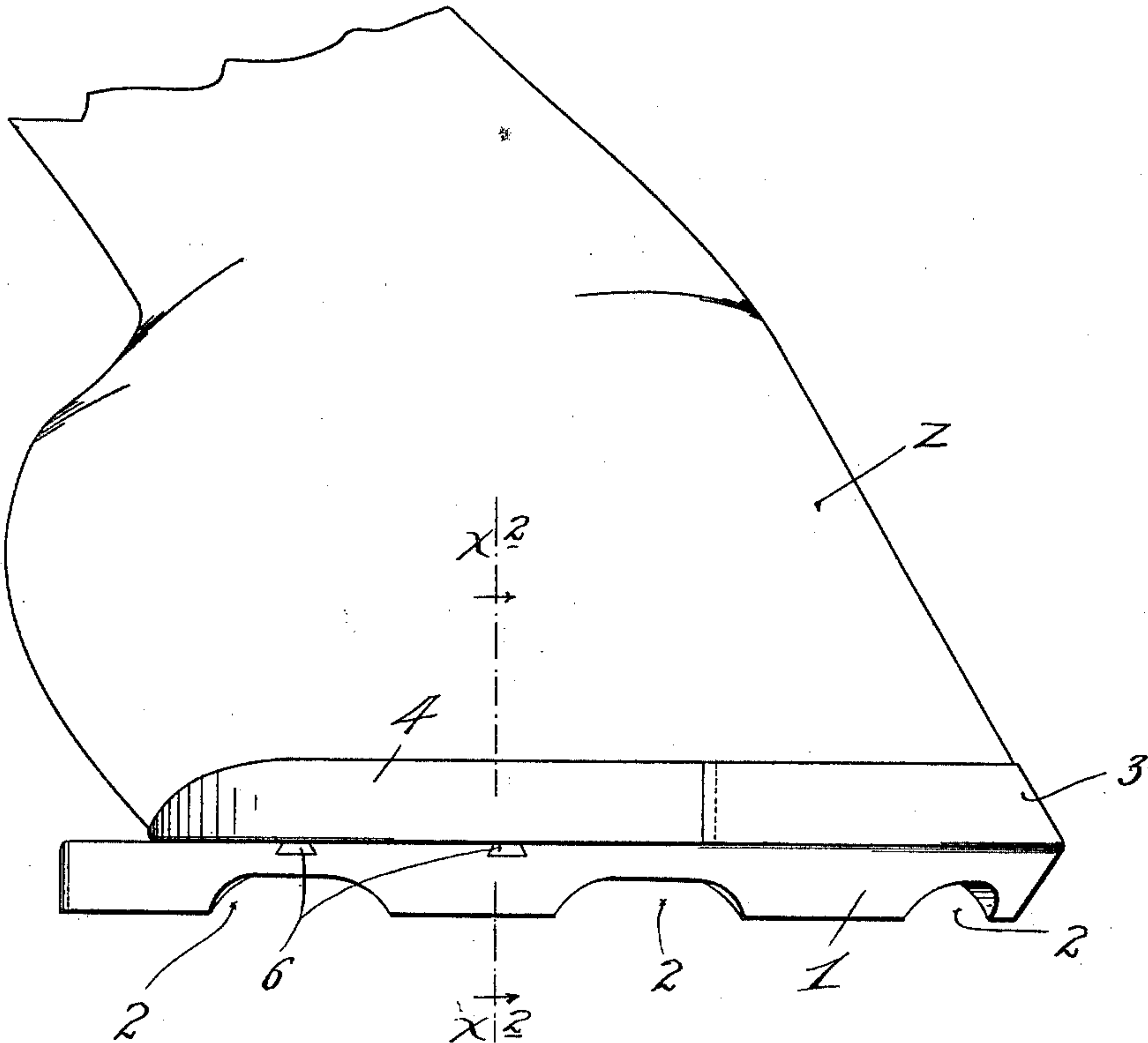
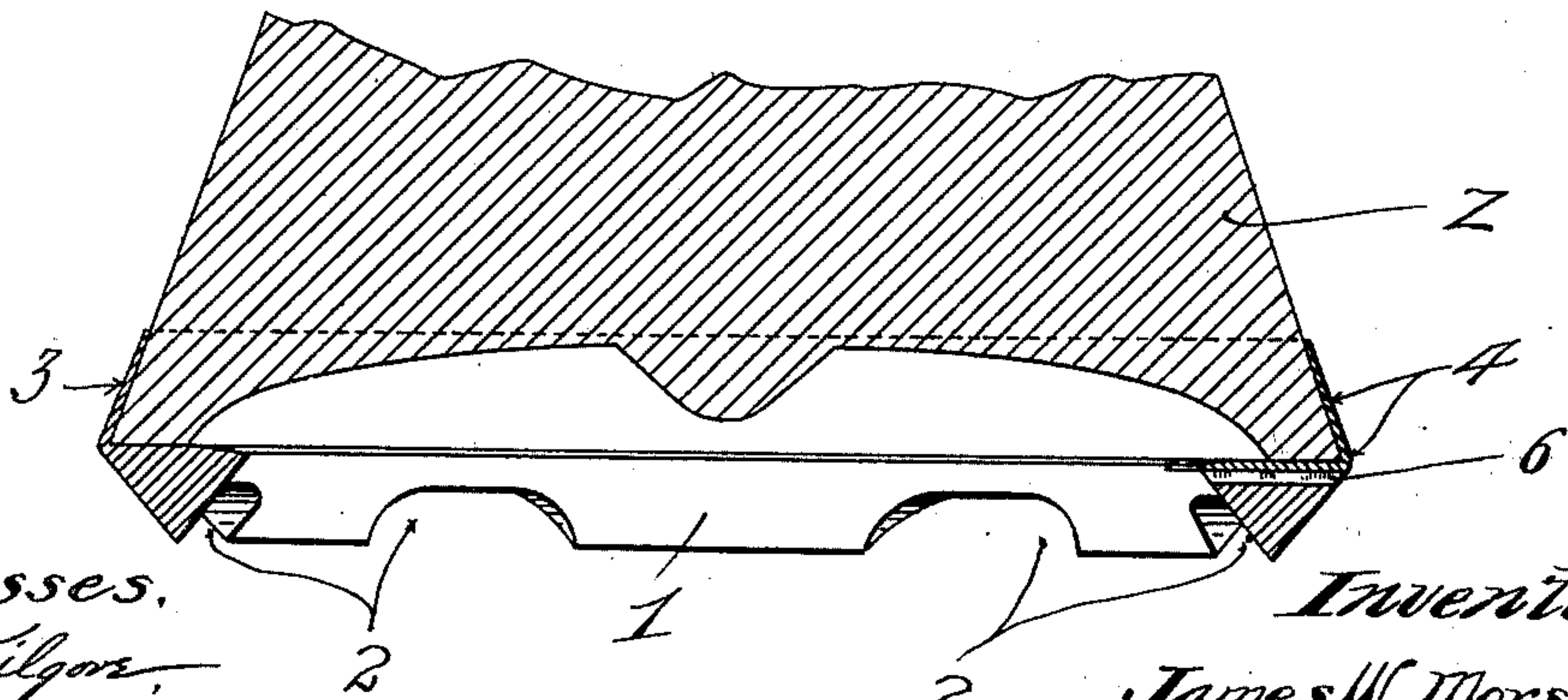


Fig. 2.



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Fig. 3.

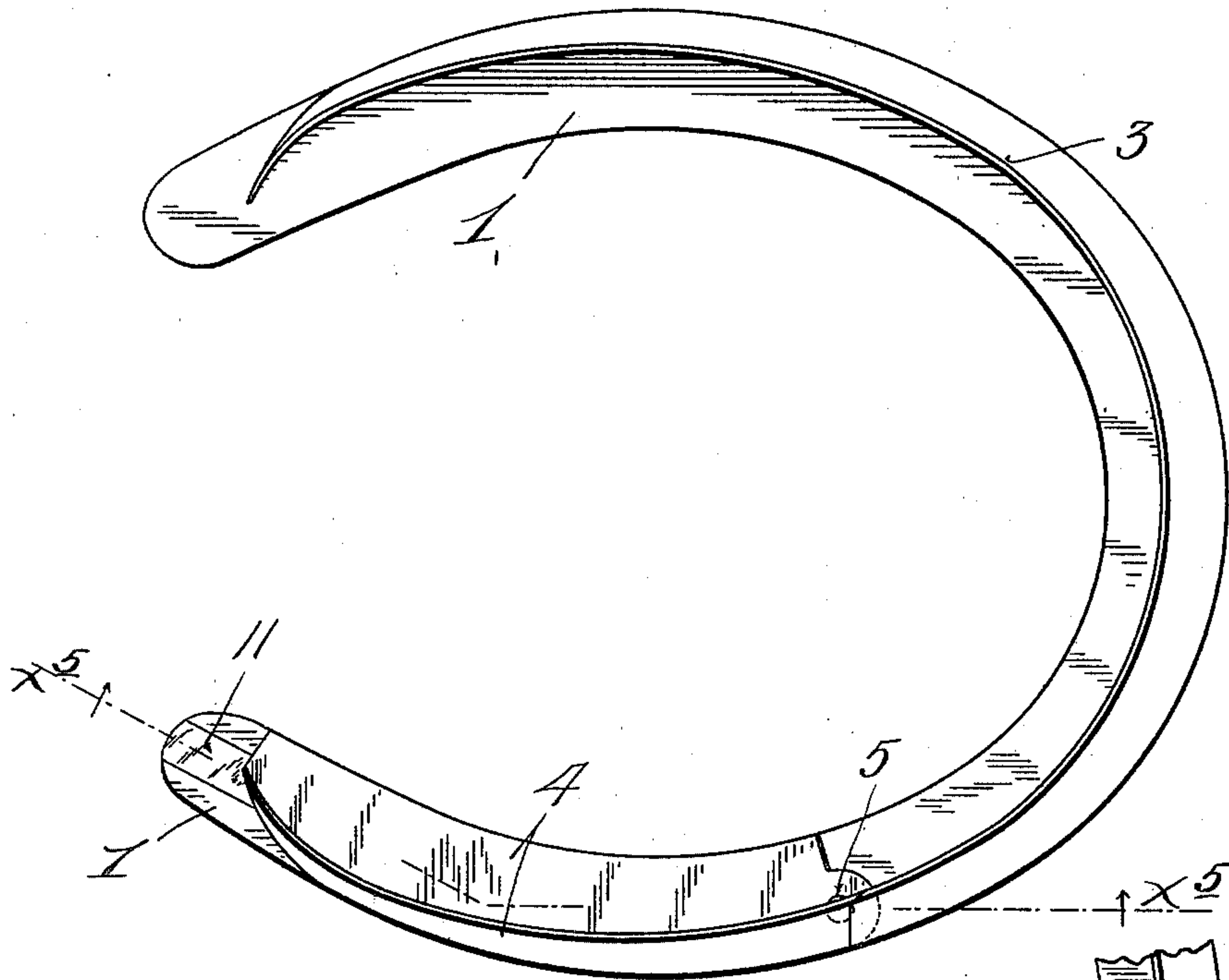


Fig. 4.

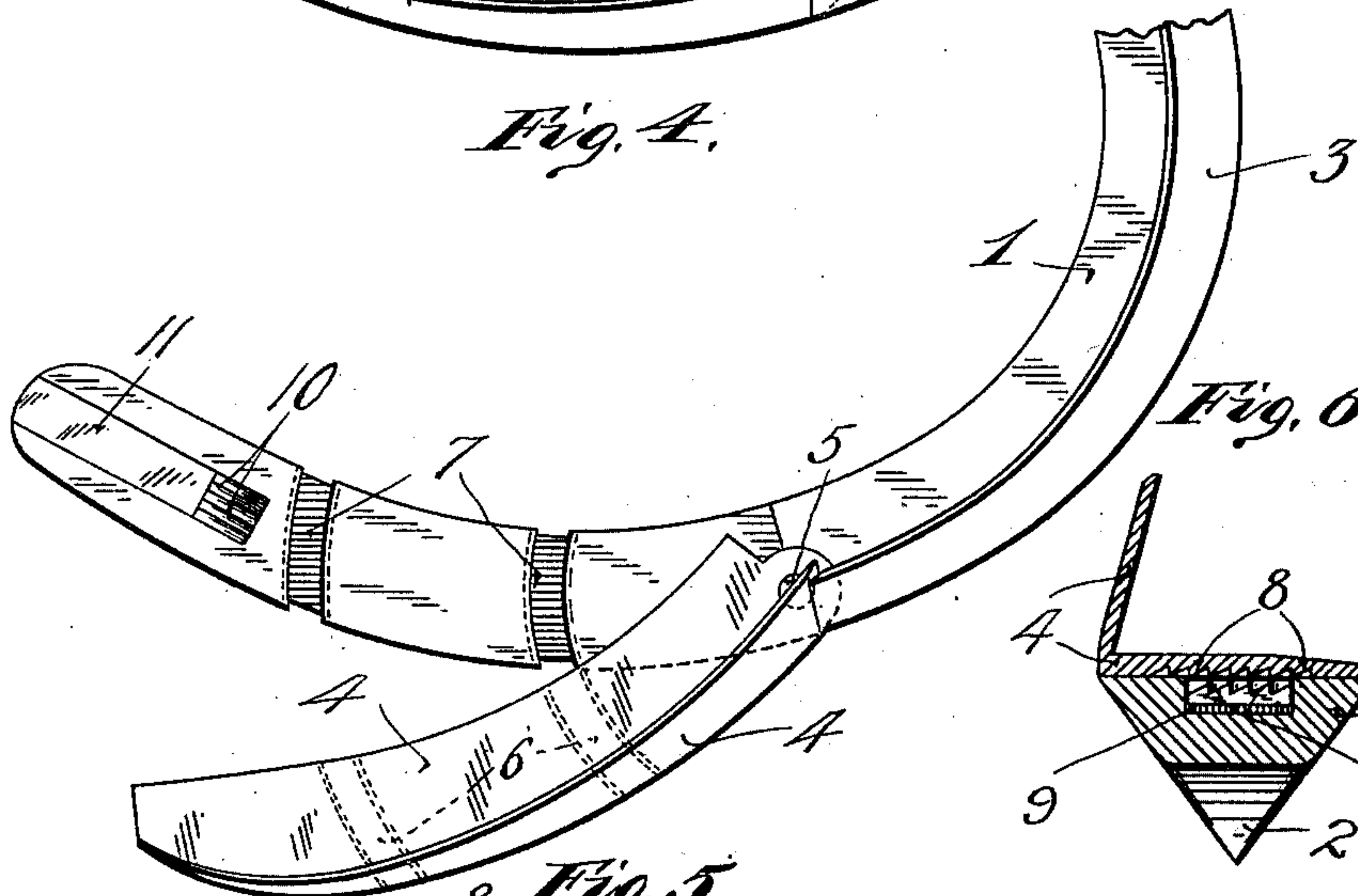


Fig. 6.

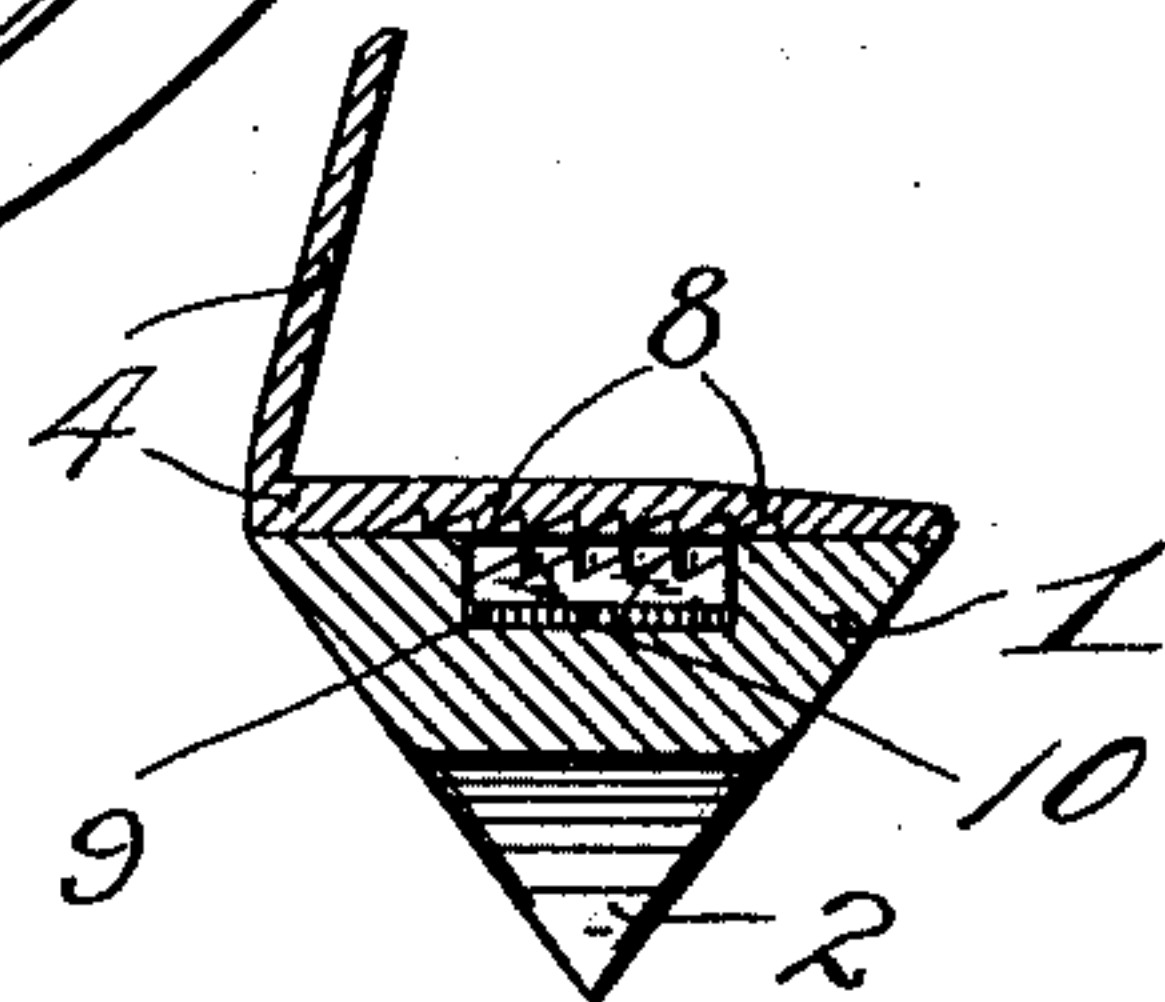
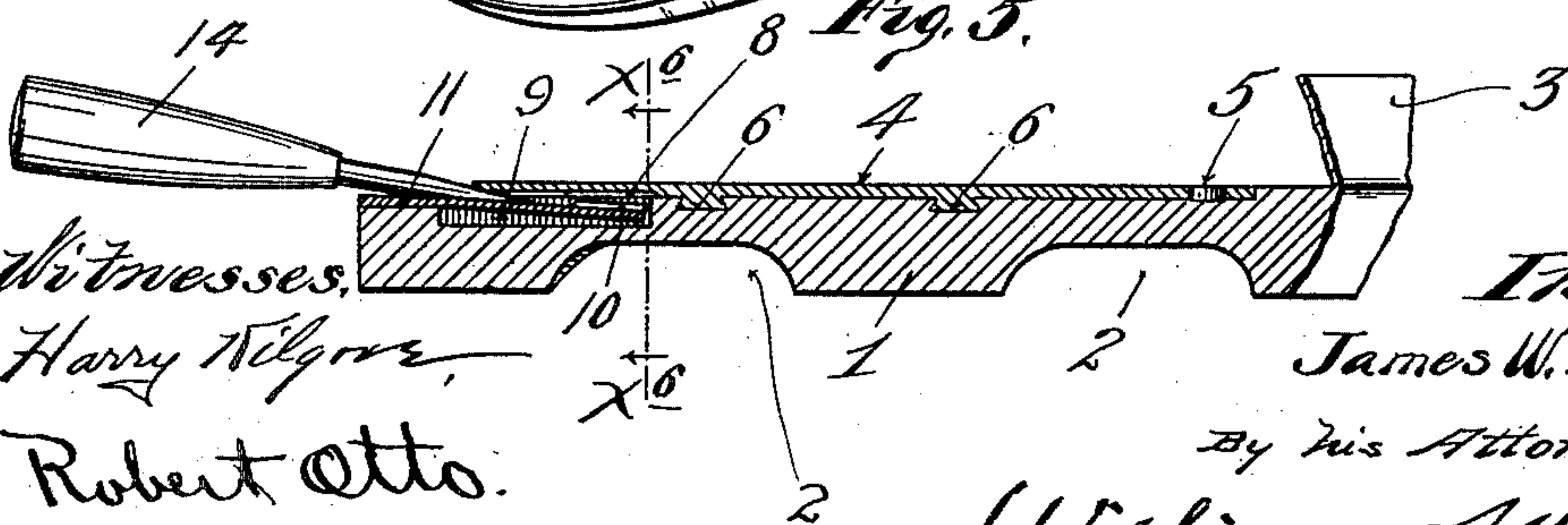


Fig. 5.



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3 Sheets—Sheet 3.

Fig. 7.

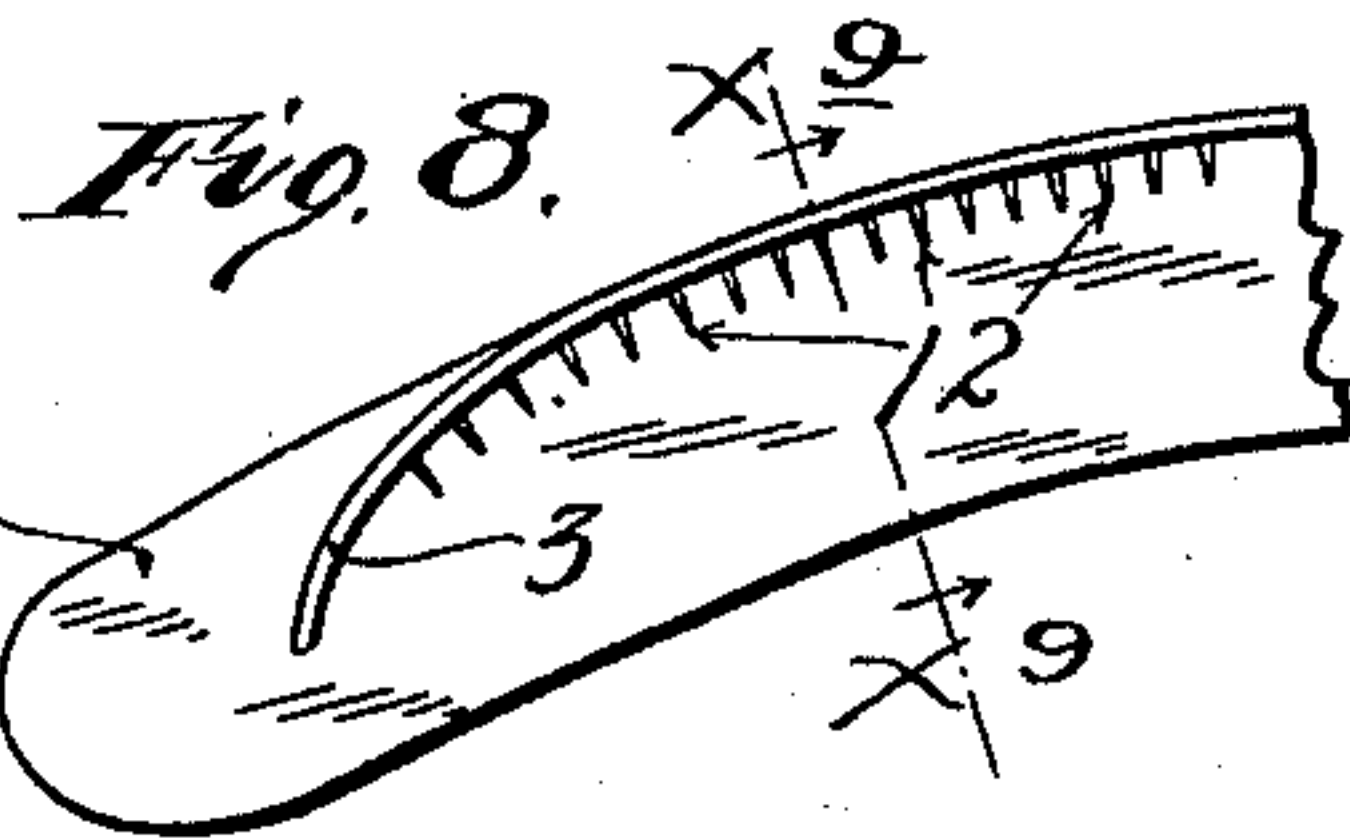
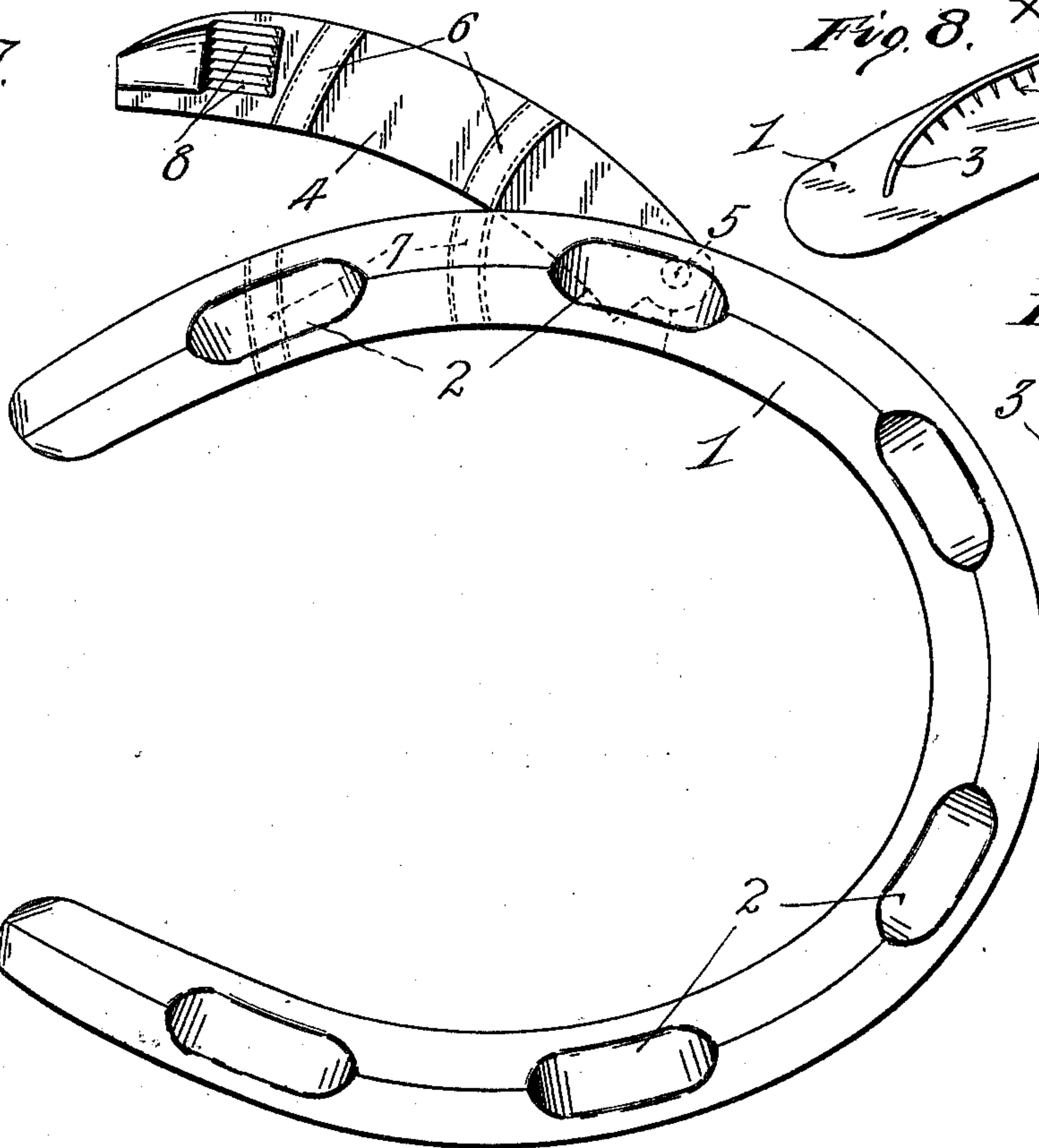


Fig. 9.

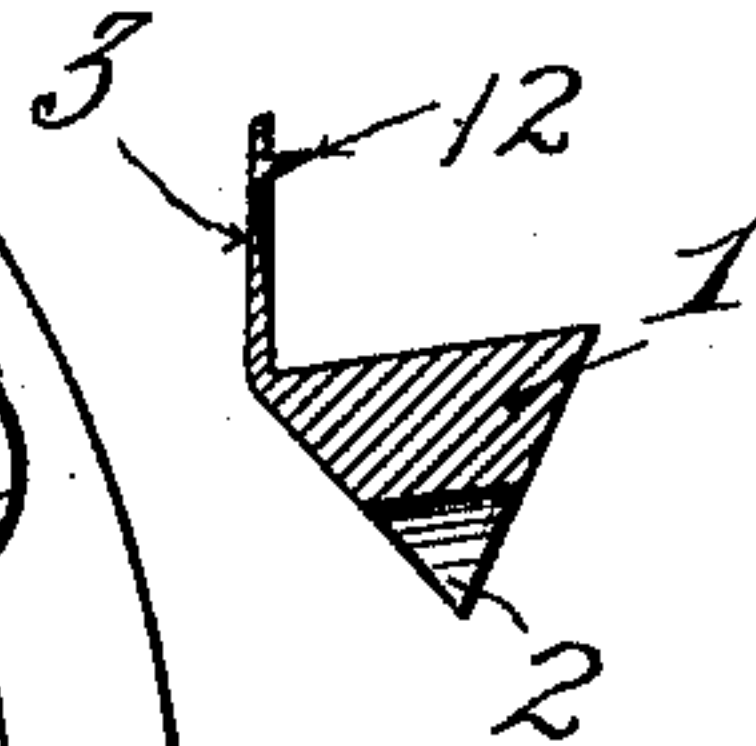


Fig. 11.

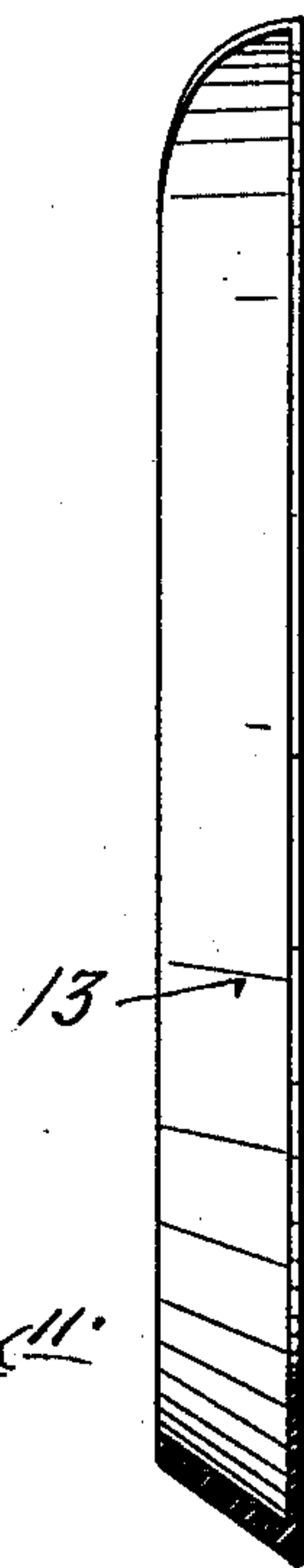
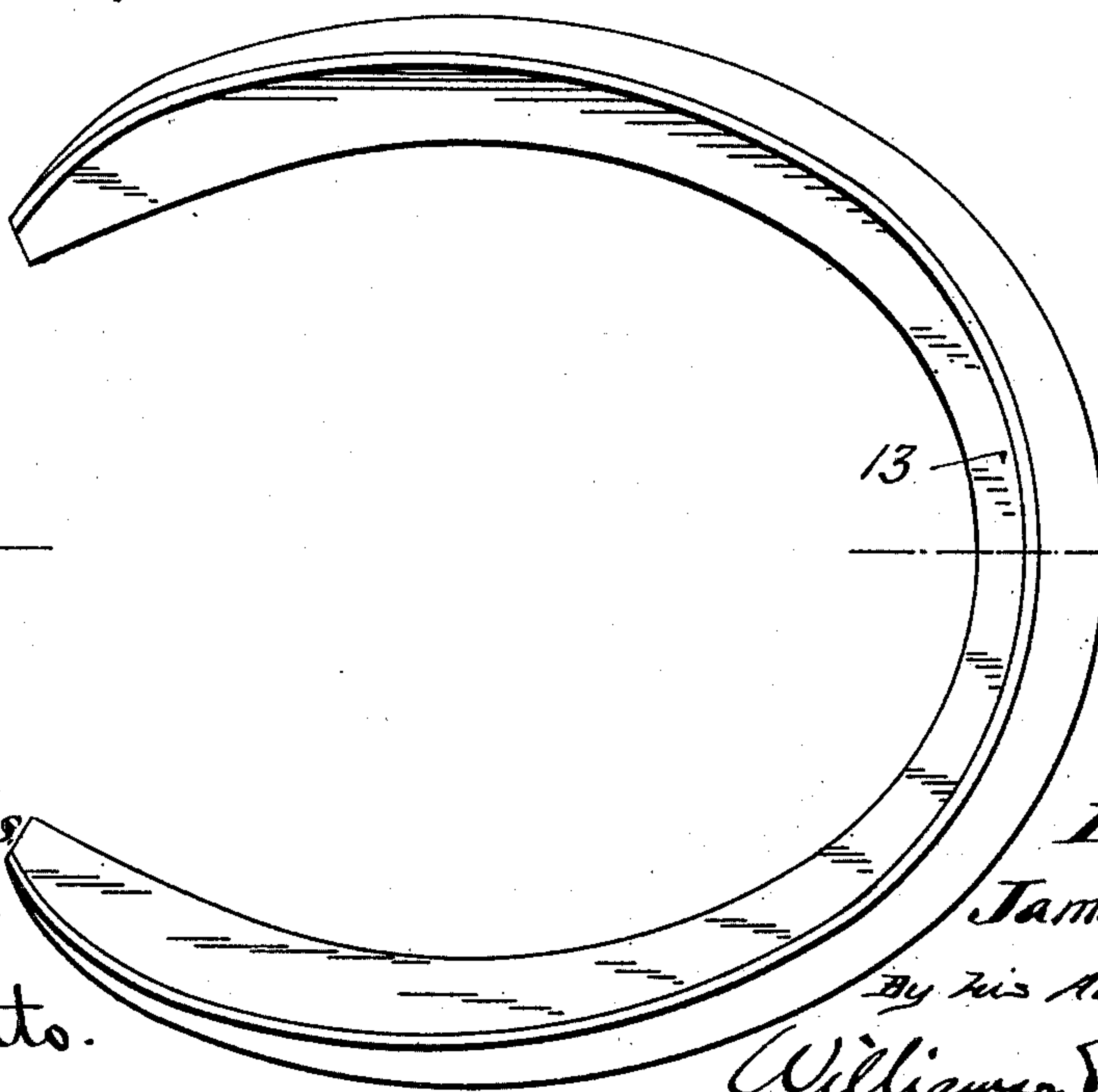


Fig. 10.



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UNITED STATES PATENT OFFICE.

JAMES W. MORSE, OF BARRON, WISCONSIN.

NAILLESS HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 697,155, dated April 8, 1902.

Application filed May 11, 1901. Serial No. 59,770. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. MORSE, a citizen of the United States, residing at Barron, in the county of Barron and State of Wisconsin, have invented certain new and useful Improvements in Nailless Horseshoes; and I do hereby 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.

My present invention has for its object to provide a horseshoe adapted to be quickly and securely fastened to the hoof of the horse without the use of nails and to be readily removed therefrom.

To the above ends my invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

It may be here stated that my improved shoe is especially intended for use on race-horses or other high-bred horses that are given more than the ordinary care. The shoe is nevertheless adapted for general use.

It is, as is well known, the common practice to shoe race-horses just before sending them to the track and to remove the shoes immediately thereafter. In fact, with these high-bred horses it is desirable that they should be shod whenever they leave the stable and unshod whenever they return to the stall. Frequent shoeing badly tears up the horse's hoofs and often makes it extremely difficult to secure the shoe by the use of nails.

In accordance with my invention I provide the horseshoe on its upper face with a segmental hoof-clamping flange, which is bent to fit the incline and curve of the hoof and is provided with a pivoted section, which when opened up permits the shoe to be applied to or removed from the hoof.

My invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a view in side elevation showing my improved horseshoe applied to a horse's hoof. Fig. 2 is a transverse vertical section on the line $x^2 x^2$ of Fig. 1. Fig. 3 is a plan view of the horseshoe removed from working position. Fig. 4 is a plan view of a portion of the shoe, the pivoted section of the clamp-

ing-flange thereof being opened up. Fig. 5 is a vertical section on the irregular line $x^5 x^5$ of Fig. 3, showing a tool in use for releasing the pivoted section of the clamping-flange. Fig. 6 is a transverse section on the line $x^6 x^6$ of Fig. 5. Fig. 7 is a bottom plan view of the shoe, showing the pivoted section of the clamping-flange opened up. Fig. 8 is a plan view of a portion of the shoe and clamping-flange. Fig. 9 is a vertical section on the line $x^9 x^9$ of Fig. 8. Fig. 10 is a plan view of a spacing-strip for use in connection with a shoe, and Fig. 11 is a vertical section on the line $x^{11} x^{11}$ of Fig. 10.

The numeral 1 indicates the body of the shoe, which, as shown, is formed of triangular iron turned edge downward. This shoe is, for a purpose to be hereinafter noted, notched or cut away at intervals, as indicated at 2.

To the upper and flat face of the shoe the main body portion 3 of a hoof-clamping flange is rigidly secured, being, preferably, either formed integral therewith or welded thereto. This clamping-flange 3 is inclined or beveled in cross-section and is also so curved longitudinally as to closely fit the hoof of the particular horse to which it is to be applied. At one extremity the said clamping-flange 3 extends nearly to the end of the shoe 1 and as far back as it will have any efficient clamping action on the hoof.

The movable section 4 of the clamping-flange is pivoted to the top of the shoe 1, as shown at 5, and it is provided on its underside with segmental dovetailed flanges 6, which work in dovetailed grooves 7, formed in the top of the shoe 1. The dovetailed flange 6 and groove 7 extend on arcs concentric to the axis of the pivot 5.

Near its free end and on its underside the pivoted clamping-section 4 is provided with ratchet-teeth 8. The shoe 1, immediately under and extending outward from the position occupied by the ratchet-teeth 8 when the clamping-section 5 is closed, is recessed, as shown at 9, and in this recess works the free and ratchet-toothed end 10 of a spring locking-detent 11. The said locking-detent 11 is shown as in the form of a flat spring-blade, the outer end of which is countersunk in the end of the shoe 4 and is rigidly connected thereto in any suitable way.

In Fig. 8 the clamping-flange 3 is shown as provided at its rear end with inwardly-projecting brads 12, which are adapted to enter slightly into the sides of the hoof and to thereby more firmly secure the shoe on the hoof. In most cases, however, these brads or teeth will not be necessary.

The numeral 13 indicates a segmental spacing-strip, preferably of rubber or leather, which is V-shaped in cross-section and is adapted to fit into the clamping-flange 3 of the shoe. These spacing-strips may be furnished in different thicknesses, so as to adapt a shoe of given size to fit hoofs varying somewhat in size. This spacing-strip being of pliable or elastic material also serves to cushion the pounding action of the shoe on the hoof.

The numeral 14 indicates a small chisel-like tool which is used in removing the shoe from the hoof.

The character *a* indicates the horse's hoof.

Assuming that the shoe and its clamping-flanges fit the horse's hoof without the use of the spacing-strip 13, it will be applied as follows: The pivoted flange-section 4 is opened up, as shown in Figs. 4 and 7, and the hoof is placed on the shoe 1 and against the inner surface of the clamping-flange 3. Then the pivoted flange-section 4 is closed and tightly pressed against the hoof. The teeth 10 of the detent 11 spring into engagement with the teeth 8 of the said pivoted flange-section 4 and automatically lock the same in its closed position. It is evident that as the hoof is tapered upward and as the complete clamping-flange 3 4 embraces and closely fits the foot the said shoe is secured to the hoof by a sort of a dovetailed connection. When the spacing-strips 13 are used, the shoe is of course applied in the manner above described, except that the said spacing-strip is first either placed upon the hoof or upon the shoe within the clamping-flange thereof.

The obvious purpose of the dovetailed connections 6 7 between the pivoted flange-section 4 and the shoe is to prevent the former from rising off from the latter, so that the teeth of the detent 11 will keep engagement with the teeth 8 of said section 4.

The shoe may be easily detached from the hoof by running the point of a sharp instrument, such as the tool 14, between the free end of the flange-section 4 and the body of the spring-detent 11, so as to force the latter downward and the teeth 10 thereof out of engagement with the teeth 8 of the said pivoted flange-section 4.

The notches 2 in the bottom of the shoe cut the depending edge thereof into a series of calks, and by distributing these notches properly the shoe may be evenly balanced, or it may be made heavier on one side than on the other. As is well known, it is frequently necessary to make one side of the shoe heavier than the other in order to cause the horse to place his hoof flatwise onto the ground. The

notches above described afford a very simple and efficient means for accomplishing this result and at the same time provide the shoe with efficient intervening calks.

A horseshoe formed with a rigid body-section extending from end to end thereof and provided with a clamping-flange having a pivoted section, in combination with a detent or means of any kind for securing the pivoted flange-section to said body, I consider broadly new and desire to claim the same broadly.

The shoe above described, it will be understood, is capable of considerable modification within the scope of my invention. By the use of special machinery the shoe may be constructed at such small cost that its use will be practical in all classes of horses, and, in fact, considering the cost of frequent shoeing, will in the long run be extremely economical.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A horseshoe formed with a rigid body-section extending from end to end thereof, and provided with a segmental clamping-flange having a pivoted section, and a detent for locking said pivoted flanged section directly to the body of said shoe, substantially as described.

2. A horseshoe, provided on its upper face with a segmental clamping-flange having a pivoted section, and a spring pawl-and-ratchet device for locking said pivoted flanged section in its closed position, substantially as described.

3. A horseshoe, provided on its upper face with a clamping-flange having a pivoted section, ratchet-teeth at the free end of said pivoted flange-section, a cooperating spring-detent on said shoe, and a dovetailed connection between said shoe and the intermediate portion of said pivoted flange-section, substantially as described.

4. A horseshoe, having a rigid body portion extending from end to end thereof provided on its upper face with the clamping-flange 3 and the pivoted flange-section 4, which clamping-flange is provided with teeth or brads 12, and means for securing said pivoted flanged section in its closed position, substantially as described.

5. The combination with a horseshoe, of the clamping-flange 3 rigidly secured to the upper face thereof, the pivoted clamping-section 4 pivoted thereto at 5, and provided with the ratchet-teeth 8 and dovetailed ribs 6, which seats 6 work in dovetailed grooves 7 of said shoe, and the spring-detent 11 on said shoe provided with teeth 10 for engagement with the said ratchet-teeth 8, substantially as described.

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

JAMES W. MORSE.

Witnesses:

HARRY KILGORE,
F. D. MERCHANT.