

C. W. CRANNELL.  
HORSESHOE.  
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929,396.

Patented July 27, 1909.

Fig. 1.

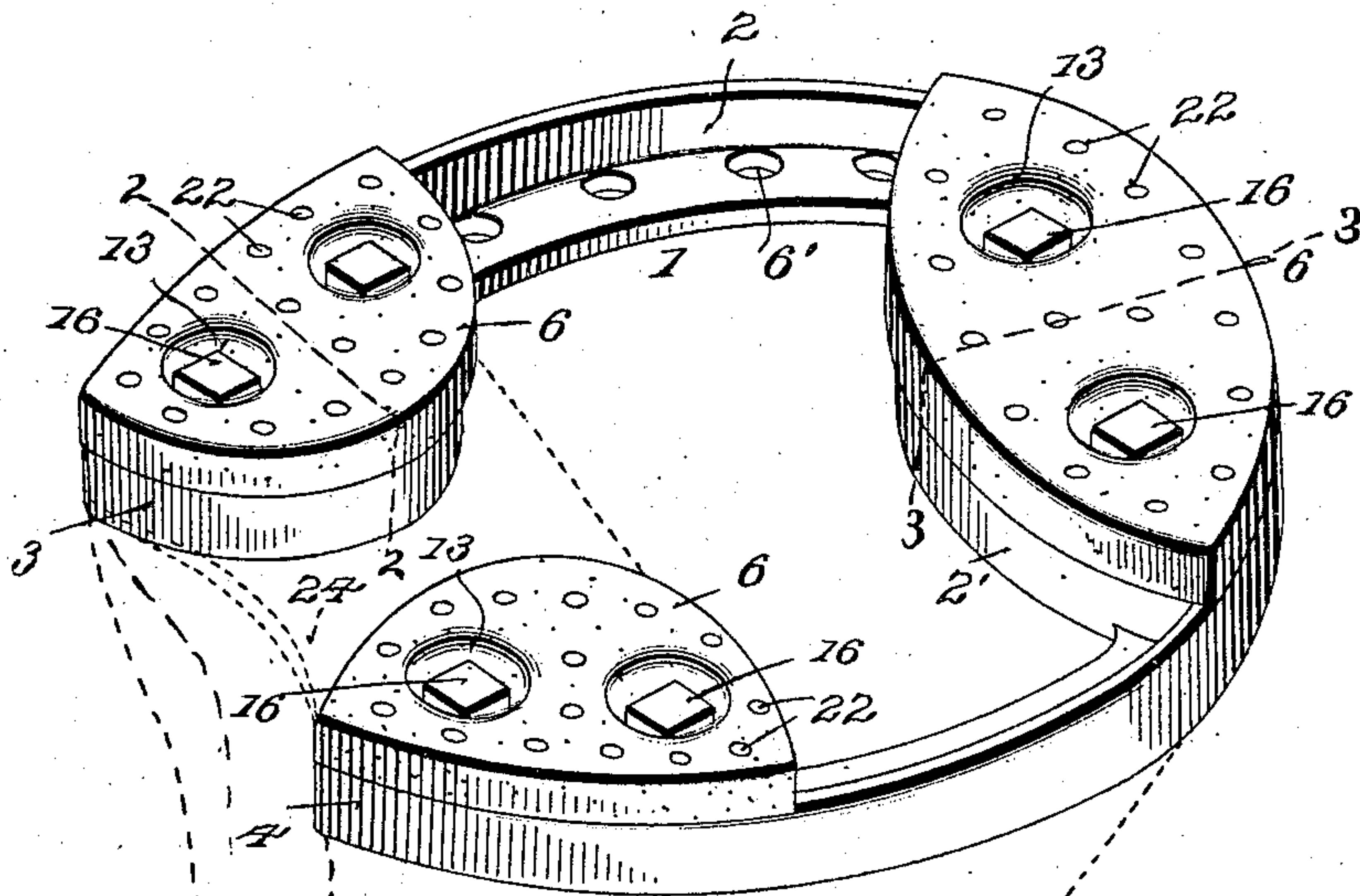


Fig. 4.

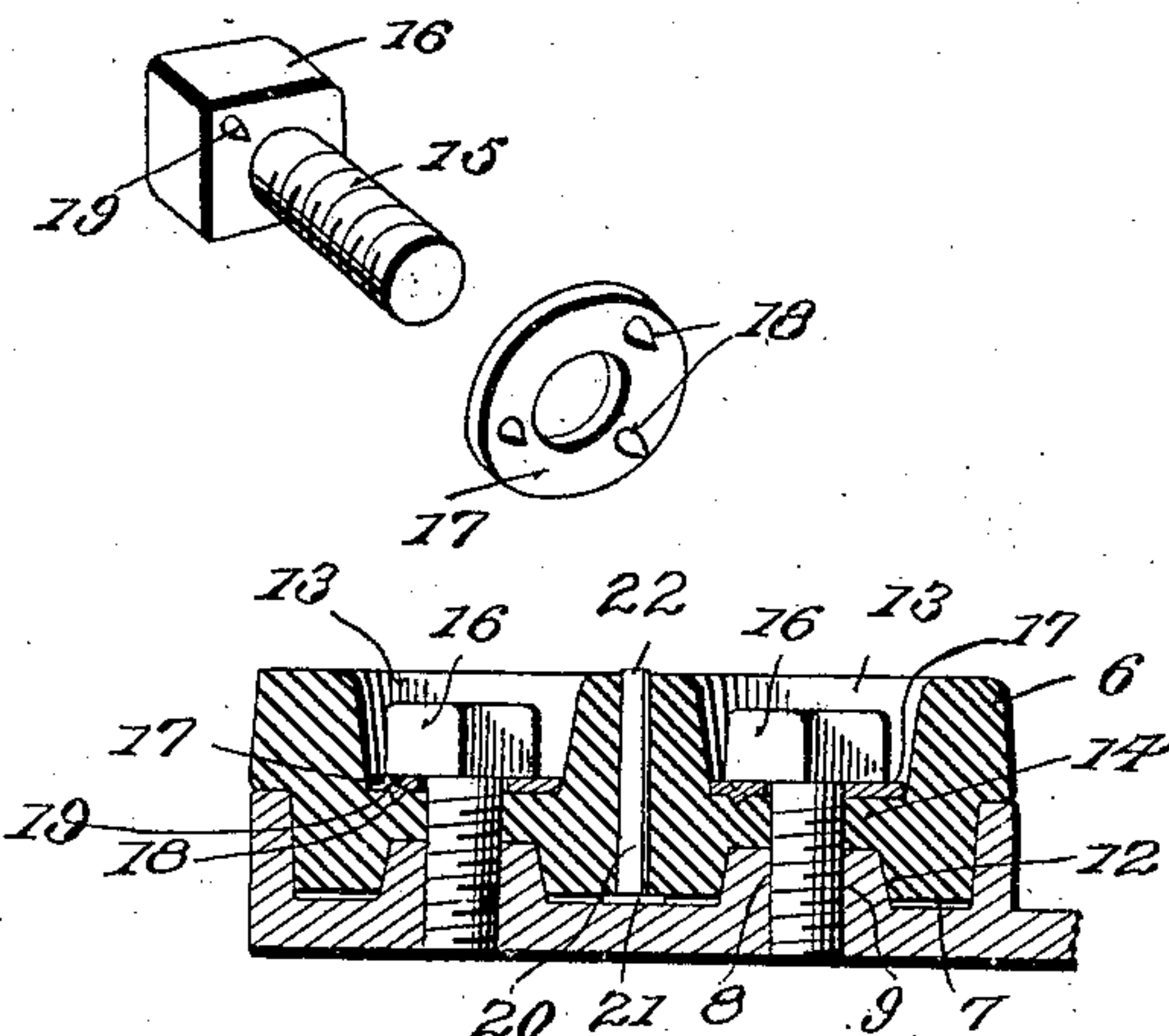
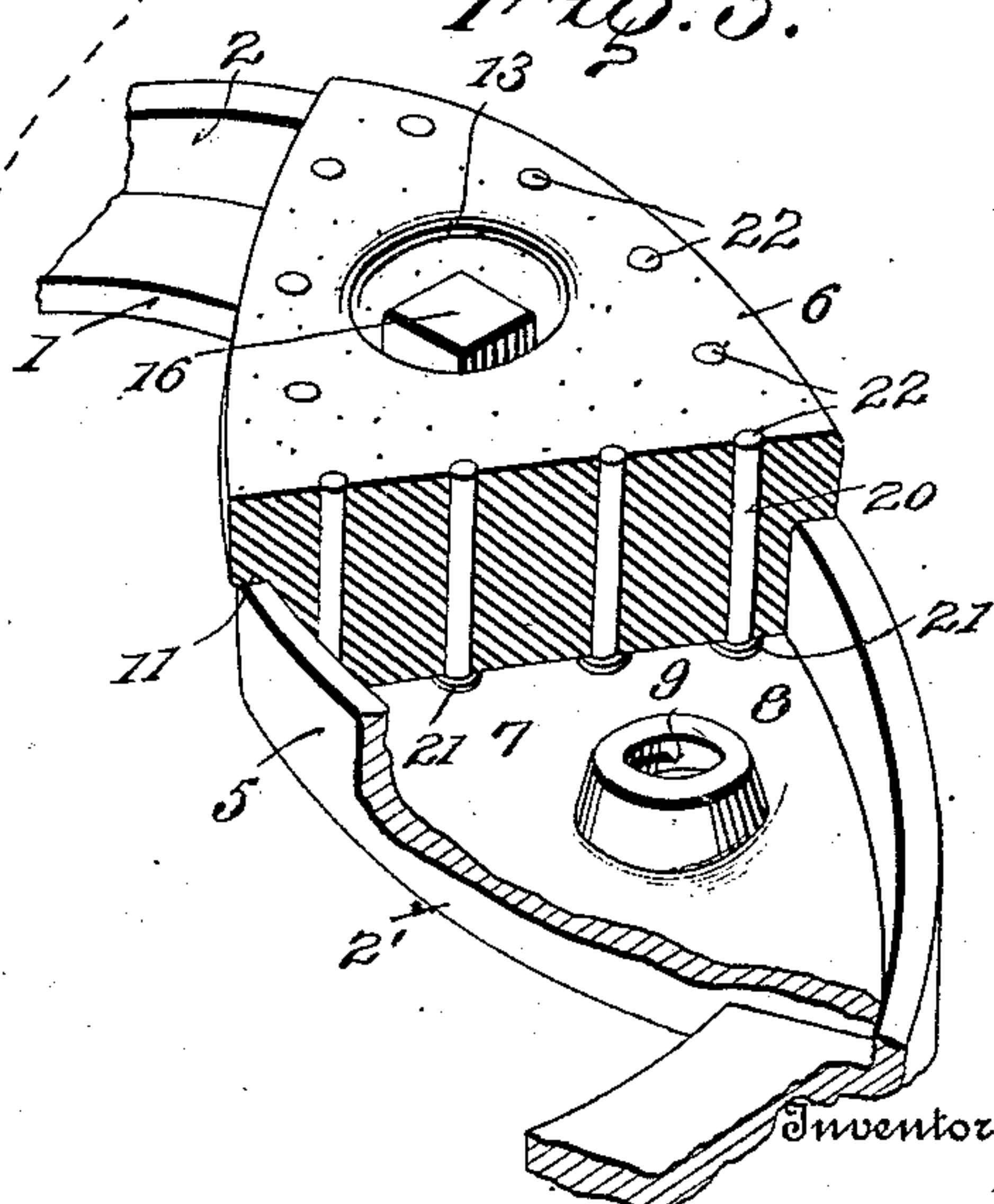


Fig. 2.

Fig. 3.



Witnesses  
H. M. Murray,  
C. P. Wright, Jr.

C. W. Crannell  
By A. S. Pattison,  
Attorney



# UNITED STATES PATENT OFFICE.

CHARLES W. CRANNELL, OF LEBANON, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD TO CHARLES D. STEWARD AND TWO-THIRDS TO ELMER E. McCURDY, OF LEBANON, PENNSYLVANIA.

## HORSESHOE.

No. 929,396.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed March 18, 1908. Serial No. 421,868.

*To all whom it may concern:*

Be it known that I, CHARLES W. CRANNELL, a citizen of the United States, residing at Lebanon, in the county of Lebanon and State of Pennsylvania, have invented certain new and useful Improvements in Horse-shoes, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in horse shoes, and pertains more particularly to a shoe having a soft tread.

The object of my invention is to provide a shoe of this character having pockets for receiving the tread portions of the shoe, and in which said tread portions are more rigidly and securely fastened by bolts or screws, all of the strain being taken off of the bolts, and at the same time allowing for a much firmer securing means in a shoe of less thickness.

Another object of my invention is to provide the elastic tread portions with metal pins having their heads resting against the bottom of the shoe, and opposite ends extending to the lower face of the tread, whereby the pins will protrude beyond the cushion when the same is compressed by the weight of the horse.

Another object of my invention is to provide a simple, cheap and effective shoe to accomplish the desired results.

In the accompanying drawings, Figure 1, is an inverted perspective view of a horse shoe embodying my invention, and showing the hoof of the horse in dotted lines. Fig. 2, is an enlarged vertical sectional view taken on the line 2—2 of Fig. 1. Fig. 3, is an enlarged perspective view of the shoe broken away, and showing the tread portions cut in section on line 3—3 of Fig. 1. Fig. 4, is an enlarged perspective view of one of the securing bolts, and its washer detached, showing means by which the bolt is prevented from becoming unscrewed.

Referring now to the drawings, 1 represents the shoe which, as shown, is preferably made of a thin flat piece of metal having the downwardly turned flange 2 around its outer edge, or in other words, the shoe is formed of an L-shaped bar of metal. The shoe, as shown, is made of comparatively thin metal which forms an essential feature of my invention, as heretofore it has been impossible to securely fasten a removable

calk of any description to a thin shoe without having it work loose. The toe portion 2' and the heel portions 3 and 4, are enlarged inwardly, and are surrounded by the downwardly-turned flanges 5 which form the pockets at both the heel and toe portions into which are fitted the soft tread portions 6 which I will now proceed to describe. The shoe is secured to the hoof by means of nails passing through the nail openings 6' in the usual manner. The pockets, as shown, have their bottoms formed as a continuation of the shoe, and flush with that portion of the shoe which rests against and is secured to the hoof. The bottom 7, as shown, is provided with downwardly-extending bosses or sleeves 8 which are provided with screw-threaded openings 9 which extend through the bottom 7, and whereby elongated screw-threaded openings are obtained. The soft tread or calk 6 fits within the pockets and is of a thickness greater than the depth of the pocket, whereby the tread portions are so positioned that the shoe does not at any time engage the ground. The lower portion of the cushion is provided with the flange 11 which extends over the flange of the shoe and pocket, and therefore protects and assures a soft tread. The cushion or tread portion in its upper face, is provided with recesses 12 into which the bosses or sleeves 8 extend, and therefore all lateral strain of the cushion is on said bosses. The lower face of the cushion is provided with annular recesses 13 opposite the recesses 12, but having a web 14 of considerable thickness between the same. This web is provided with an opening through which extends the screw-bolt 15 which enters the screw-threaded opening 9 in the boss 8, and whereby the cushion is prevented from coming off, yet all of the strain is taken up by the boss and the walls of the pocket. In order that the web 14 may not break or be injured by the turning of the head 16 of the bolt 15, I provide a washer 17 which engages the entire web. This washer will be provided with indented portions or recesses 18 which will enter the cushion and prevent the washer from turning, and the inner face of the head 16 of the bolt will be provided with a teat 19 which will enter said recesses, and thus the bolt is prevented from being worked loose by the jar of the horse's hoof. The recess 13 is of a depth considerably greater than the thick-



ness of the bolt, in order that the bolt heads may not at any time engage the ground. The cushions are made of rubber preferably, or some other plastic material, or composition, whichever is found to be the most serviceable, and adapted to the circumstances.

While I have shown two securing bolts for each cushion, it will be understood that any number may be used. Extending loosely through the cushion are steel pins 20, the headed ends 21 resting against the bottom of the pockets, while the opposite ends 22 extend flush with the outer face of the cushion. By this construction it will be seen that the life of the cushion is materially increased, and at the same time these pins form an additional anti-slipping means. The pins pass loosely through the cushion and when the cushion is compressed by the weight of the horse, the pins protrude beyond the outer face thereof, and will absolutely prevent any slipping.

When the cushions have become worn, it will be only necessary to remove the screw-bolt and replace the cushion, as there will be no wear on either the shoe or bolts.

In dotted lines, Fig. 1 of the drawings, I have shown a web portion 24 connecting the two rear pockets of the shoe, and whereby the frog is supported and thereby relieving the plantar border of the hoof and distributing one-third of the weight of the animal on the frog for allowing the hoof to assume its more normal and natural position.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:—

1. A horseshoe comprising a body portion, bosses carried thereby, calks having recesses in the upper and lower faces and oppositely arranged, the lower recesses adapted to receive the bosses, and bolts passing through the web between the recesses and screwed into the bosses and their heads embedded in the recesses in the outer faces of the calks.

2. A horseshoe comprising a body portion having pockets therein, bosses extending upwardly from the bottom of said pockets, calks fitting within said pockets and having recesses to receive the bosses, the calks having recesses in their outer faces arranged opposite the boss recesses, and bolts passing through the web between the recesses and screwed into the bosses and having their heads embedded in the recesses and engaging the web.

3. A horseshoe comprising a body portion having pockets formed in its lower face, bosses extending upwardly from the bottom of said pockets, calks fitting in said pockets and extending over the outer edge of the walls of said pockets and having recesses to receive the bosses, the calks having recesses in their outer faces arranged opposite the boss recesses, and bolts passing through the

web between the recesses and screwed into the bosses, and having their heads embedded in the outer recesses and engaging the web.

4. A horse shoe comprising a body portion, an elastic calk screwed upon the lower face of the body portion, and rigid pins loosely passing through the elastic calks and having their heads resting against the body portion of the shoe.

5. A horse shoe comprising a body portion, an elastic calk screwed upon the lower face of the body portion, and steel pins loosely passing through the elastic calks and having their heads resting against the body portion of the shoe, and their lower ends flush with the lower face of the cushion, whereby the pins protrude beyond the calk when the same is compressed by the weight of the animal.

6. A horse shoe comprising a body portion, pockets carried thereby, bosses extending downwardly from the bottoms of said pockets and having screw-threaded openings therethrough, elastic calks fitting in the pockets and extending over the edges thereof, said calks having recesses to receive the bosses, screw-bolts passing through the calks and screwed into the openings in the bosses and having their heads embedded in the calks, and pins passing loosely through the calks and having their heads resting against the bottoms of the pockets and their outer ends flush with the outer face of the elastic calks.

7. A horse shoe comprising a body portion, bosses formed thereon and having screw-threaded openings therethrough, calks having recesses to receive said bosses, said calks having recesses in their lower faces opposite the boss recesses, washers within the recesses and having depressed recesses forming projections in their upper faces to engage the calk, bolts passing through the calks and screwed into the bosses, and teats carried by the inner face of the head of the bolt and entering the recesses in the washers for locking the bolts against rotation.

8. A horse-shoe comprising a body portion, pockets carried thereby at the toe and heel portion and having vertical walls with an open lower end, bosses extending downwardly from the bottom of said pockets and having screw-threaded openings there-through, elastic calks fitting in the pockets and extending over the flange forming the vertical walls of the pockets and flush with the outer edge thereof, said calks having recesses to receive the bosses and also recesses opposite those receiving the bosses leaving a web between the same, pins passing loosely through the calks and having their heads resting against the bottom of the pockets and their outer ends flush with the outer face of the calks, and screw-bolts passing through the web between the recesses and screwed



into the openings in the bosses, and having their heads within the recesses in the outer face of the calks.

9. A horseshoe comprising a body portion, 5 pockets carried thereby, bosses extending downwardly from the bottom of said pockets and having screw-threaded openings therethrough, elastic calks fitting in the pockets, said calks having recesses to receive 10 the bosses, and recesses opposite thereto and having a web between the same, pins passing loosely through the calks and having their heads resting against the bottom of the

pockets and spacing the calk a distance therefrom, the outer ends of said pins flush 15 with the outer face of the calks, and screw-bolts passing through the web between the recesses and screwed into the bosses and having their heads within the recesses in the outer face of the calks. 20

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

CHARLES W. CRANNELL.

Witnesses:

JOHN L. FLETCHER,  
C. R. WRIGHT, Jr.