

(No Model.)

2 Sheets—Sheet 1.

C. W. CRANNELL
NAILLESS HORSESHOE.

No. 492,481.

Patented Feb. 28, 1893.

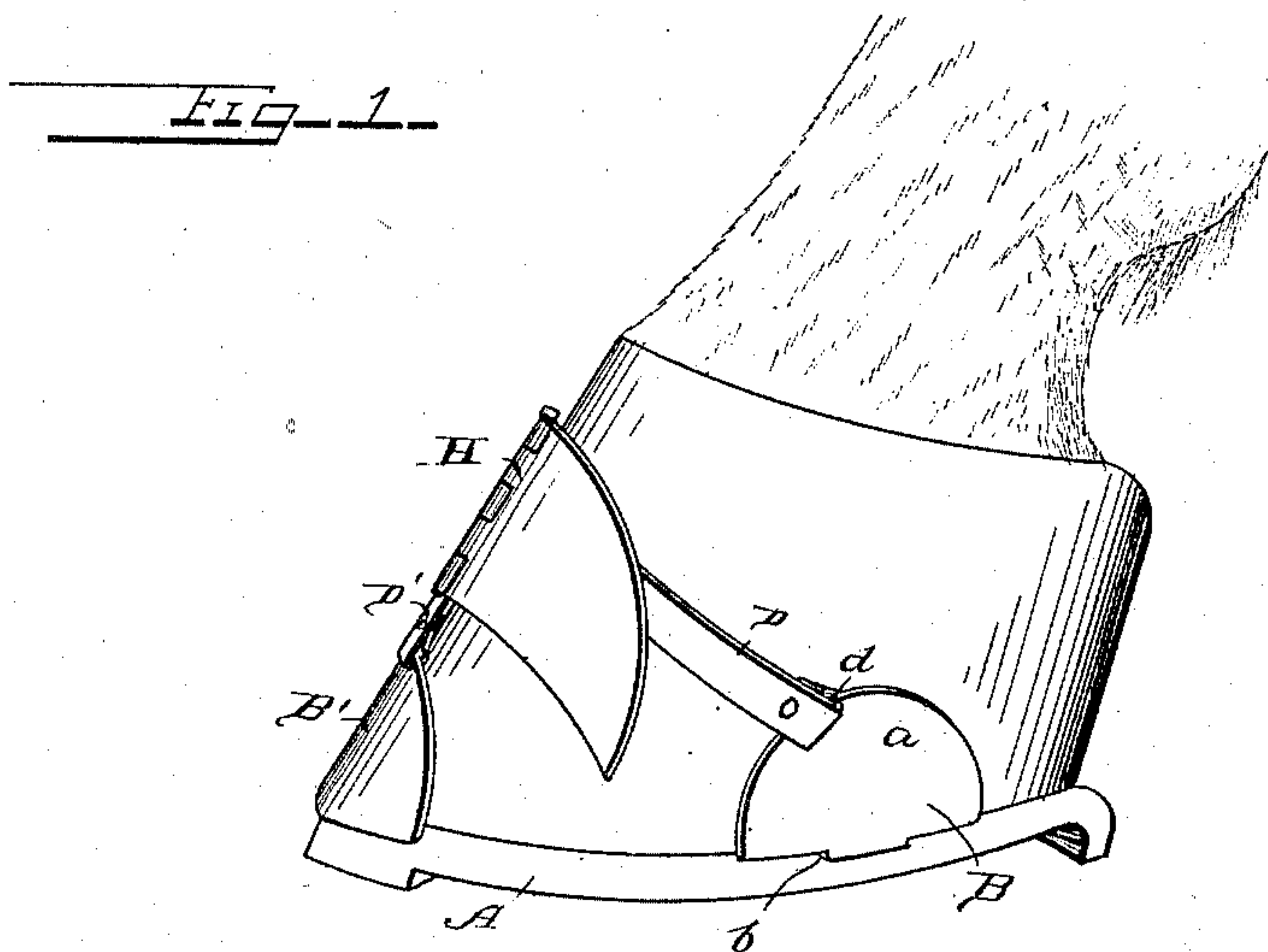


FIG. 3.

FIG. 4.

FIG. 5.

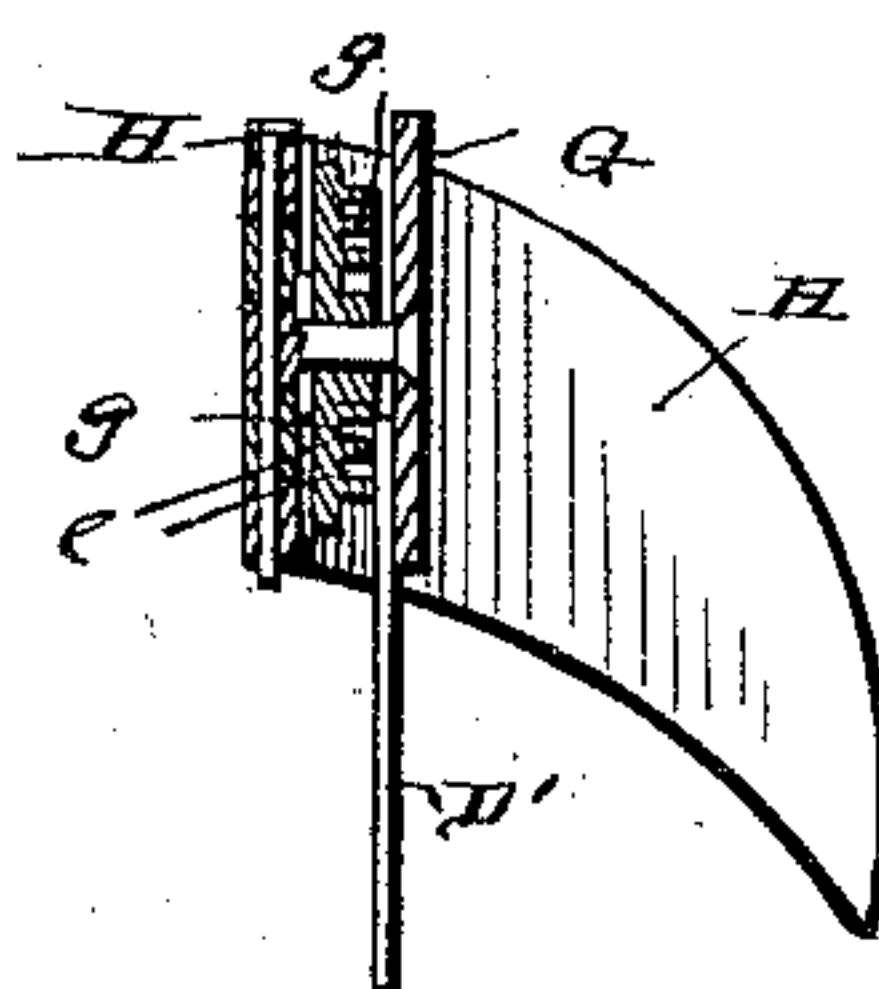
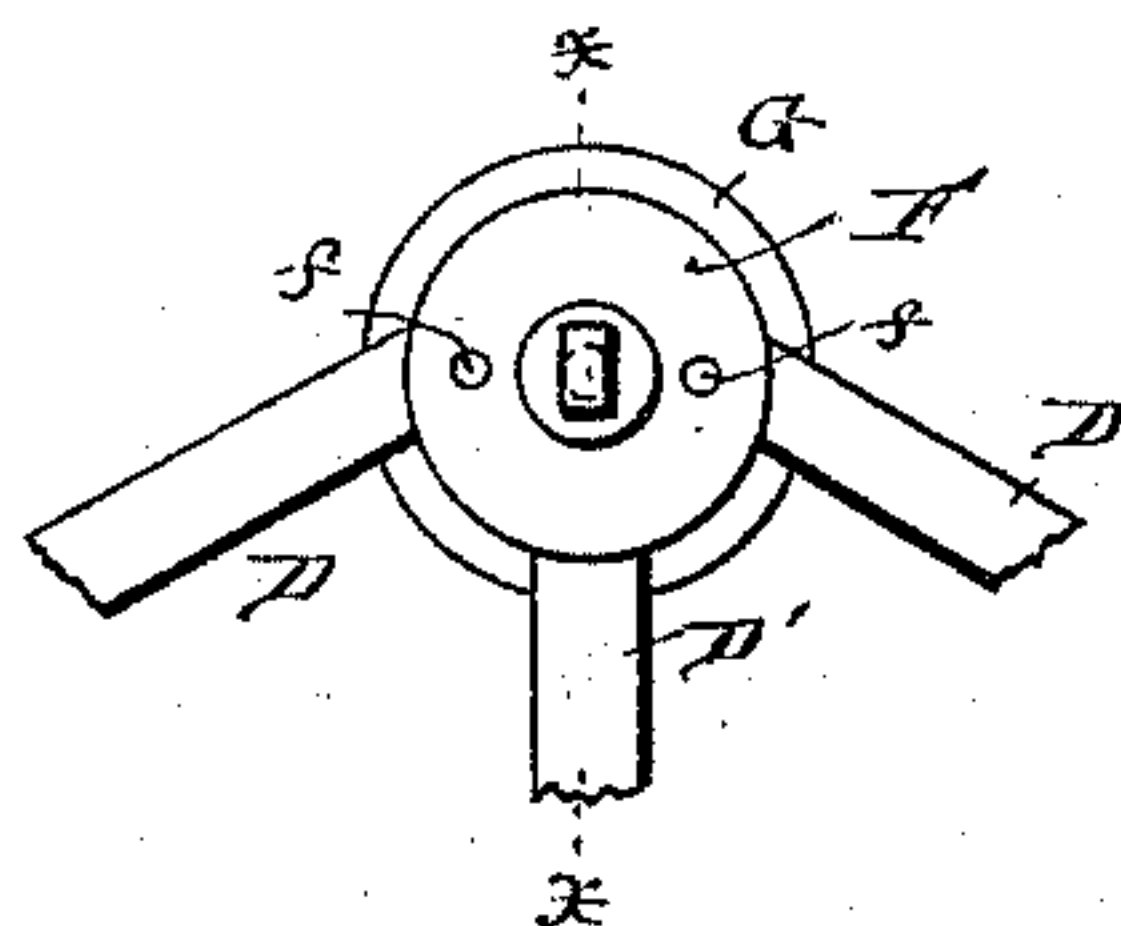
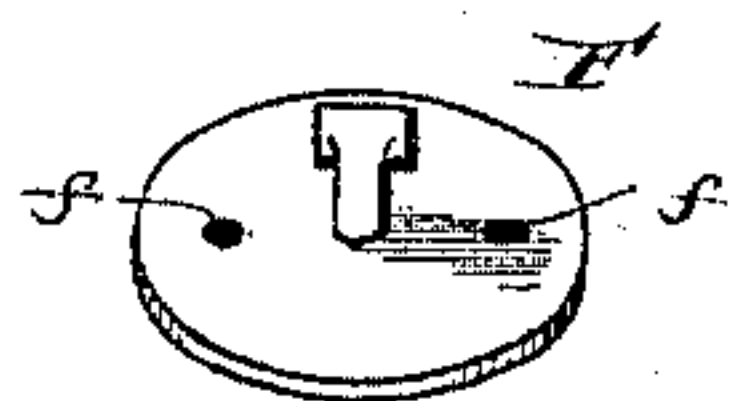


FIG. 6.

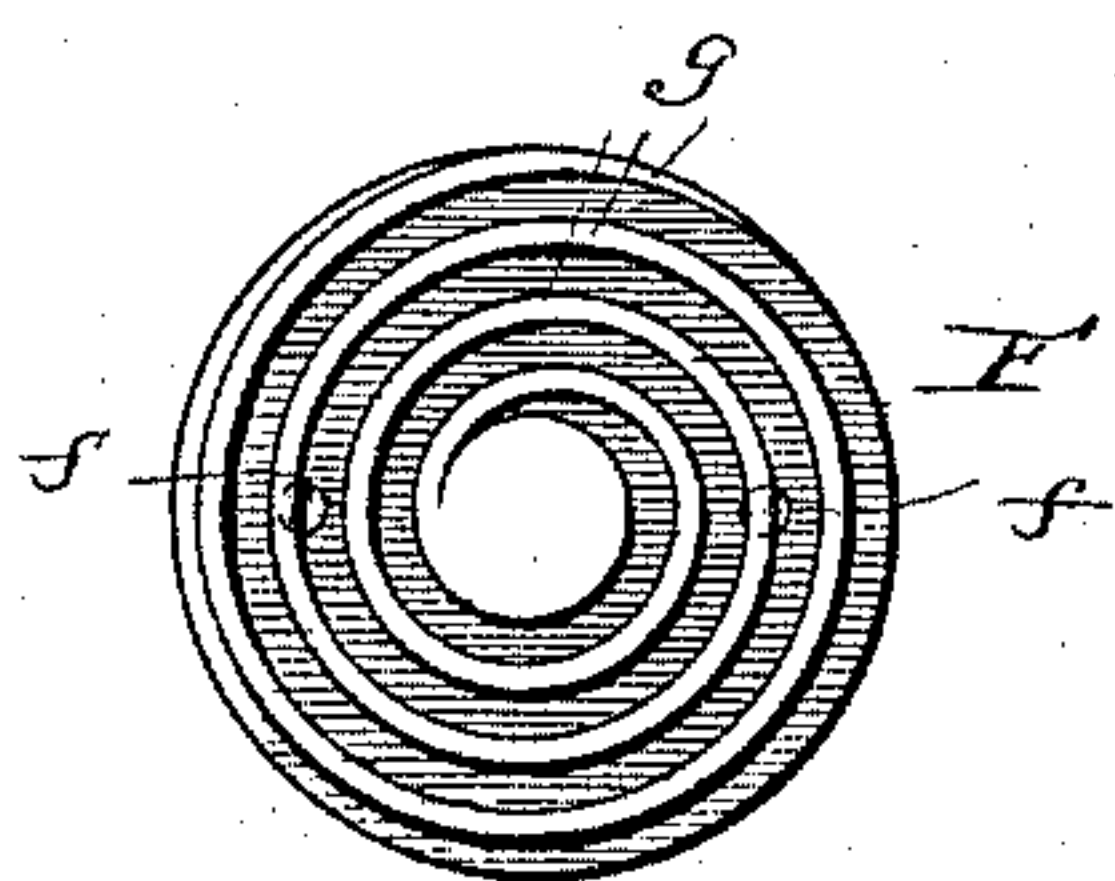
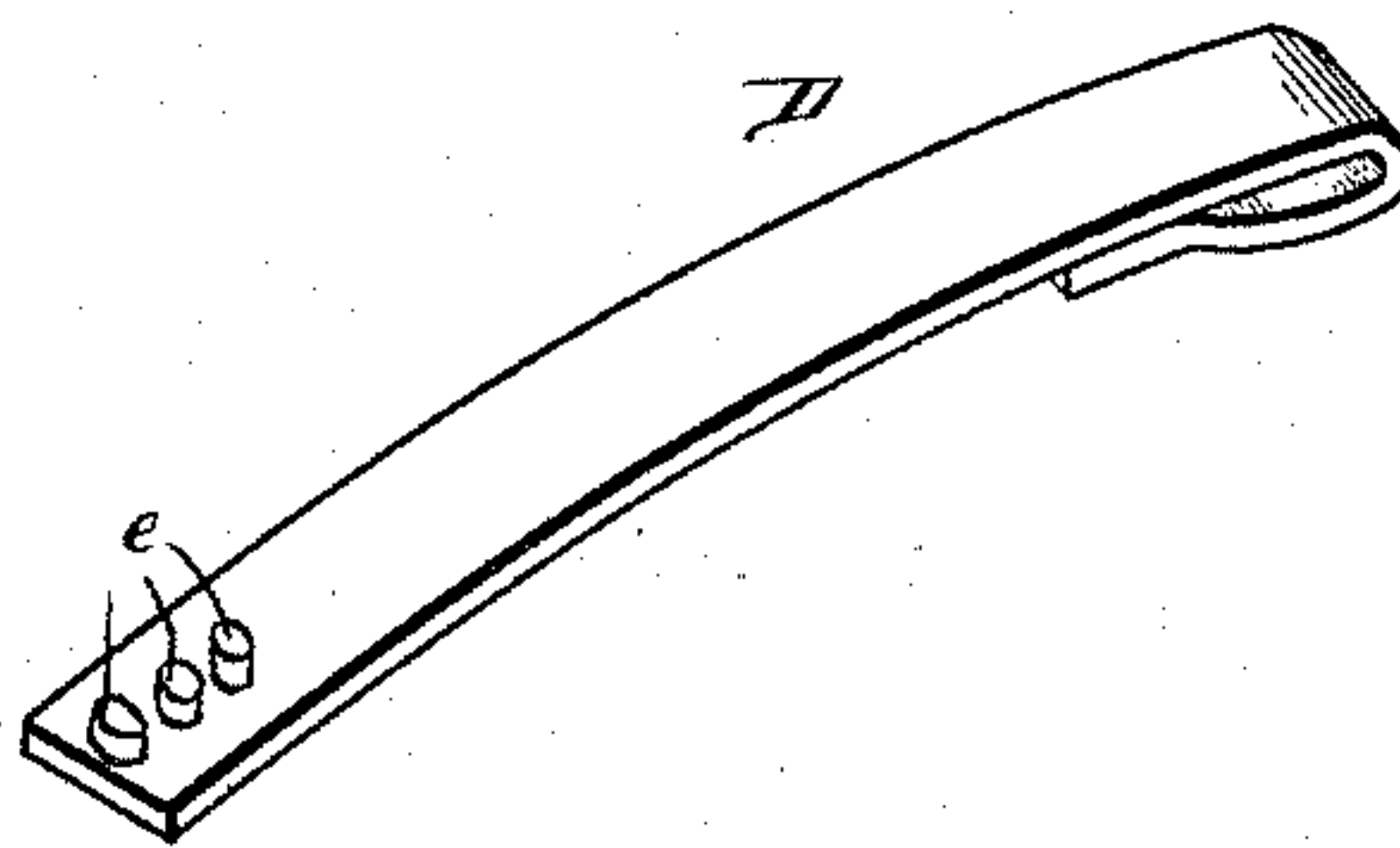


FIG. 7.



Witnesses:
Jesse Heller
Philip Masi.

Inventor:
Chas W. Crannell,
by E. W. Anderson
his Attorney.

(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

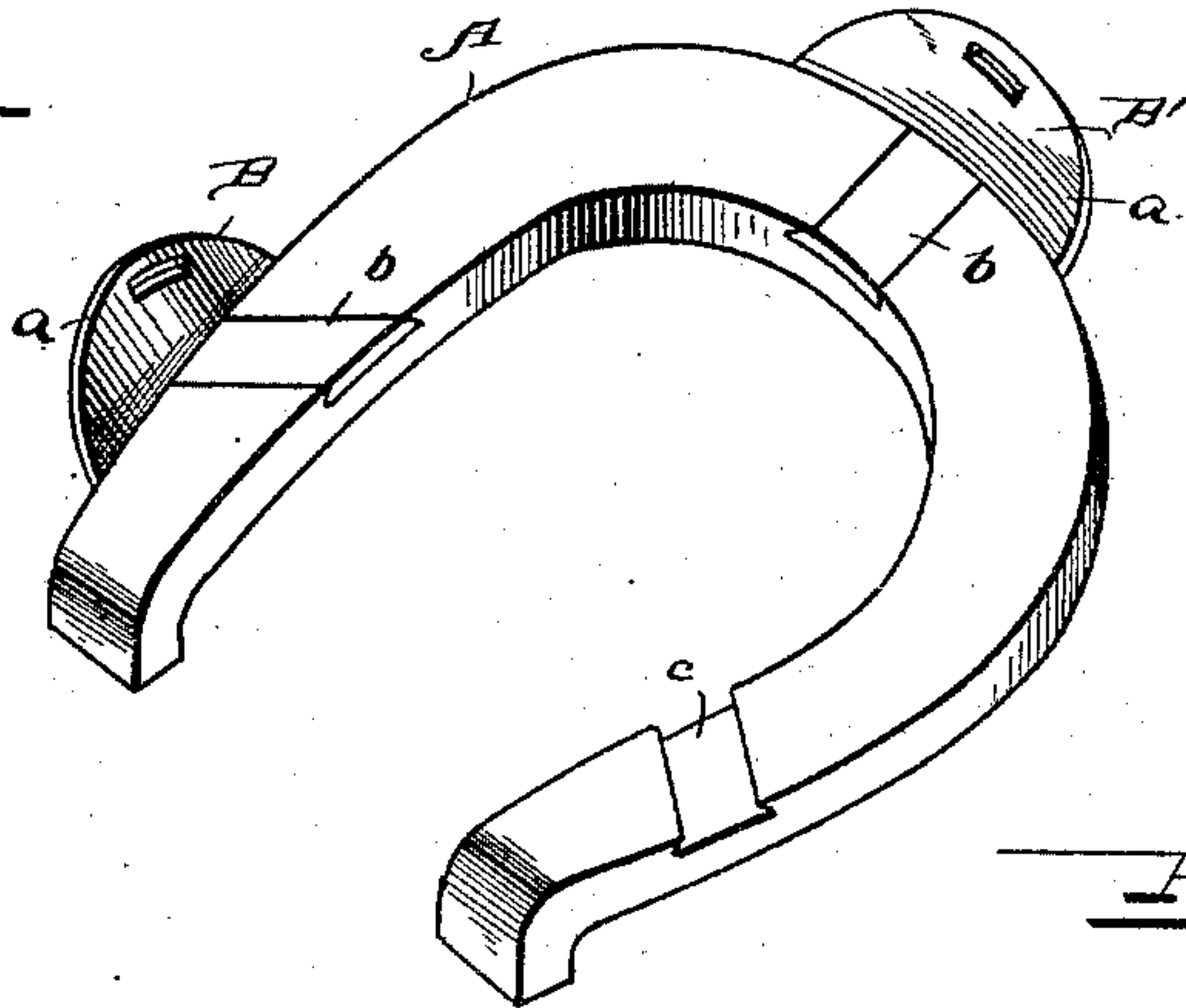


FIG. 8.

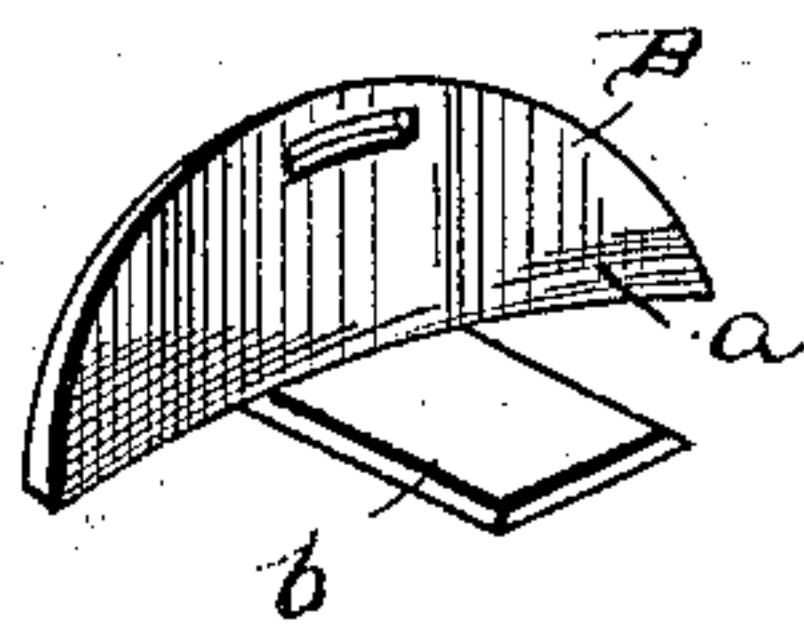


FIG. 9.

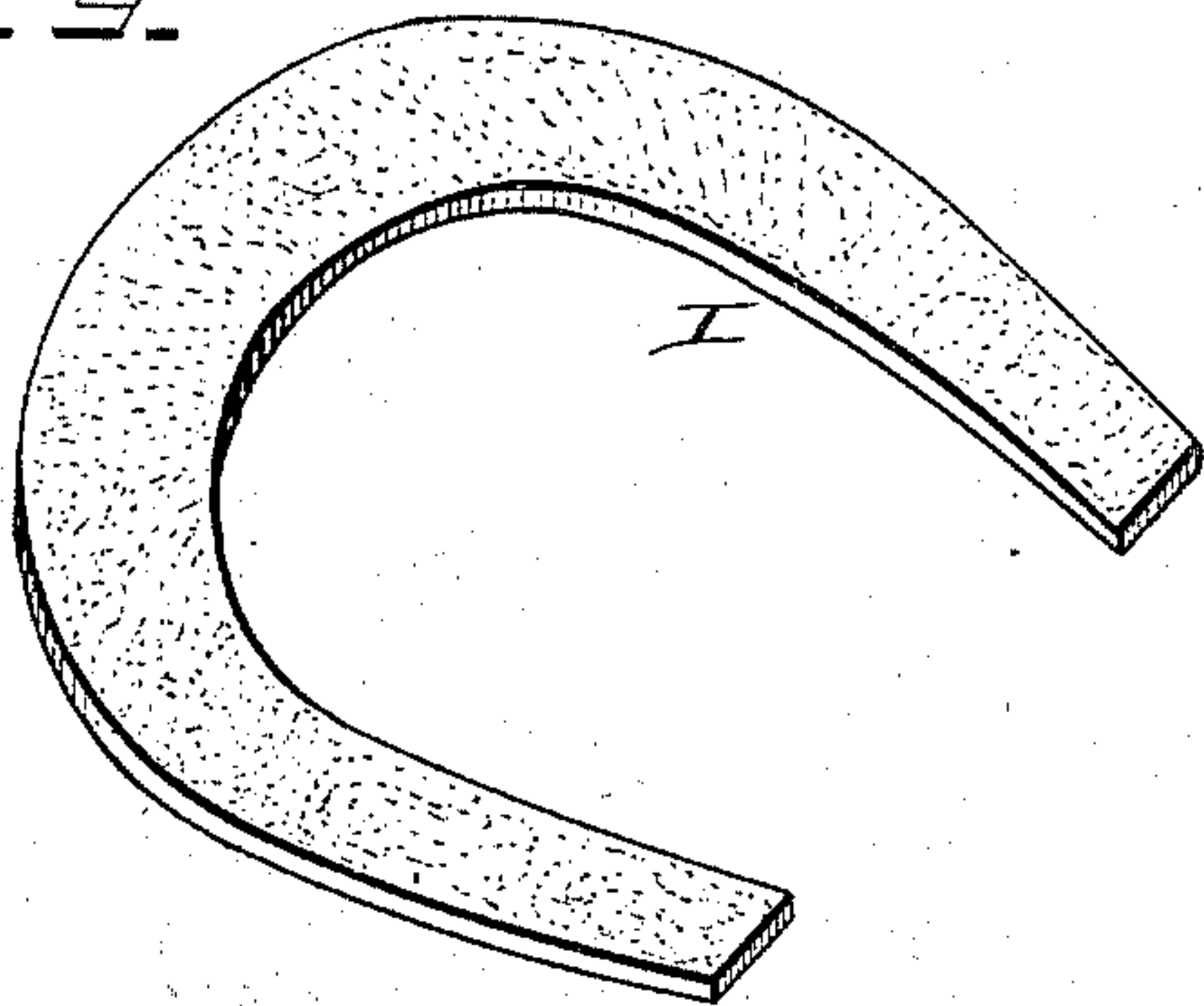


FIG. 10.

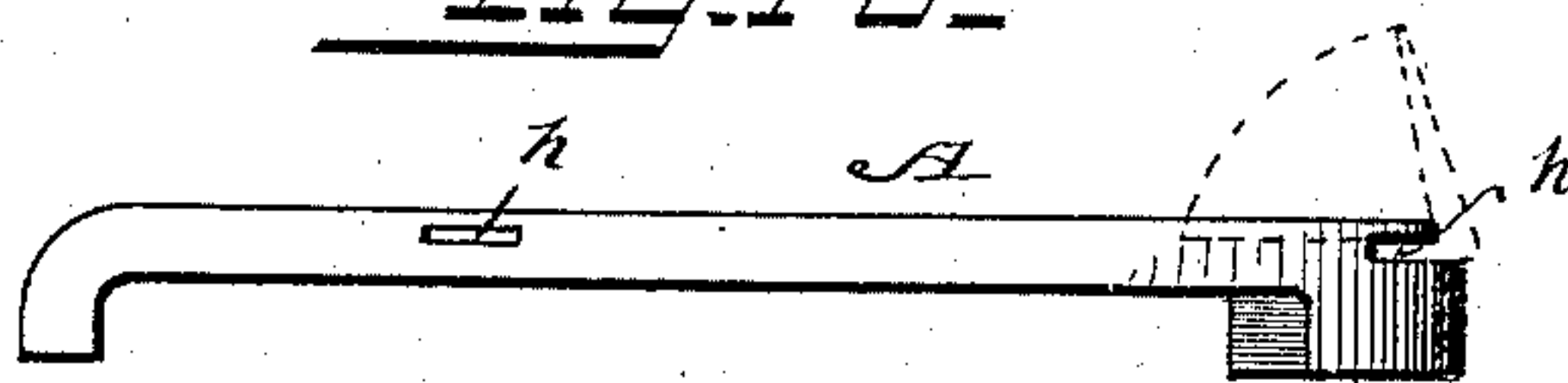
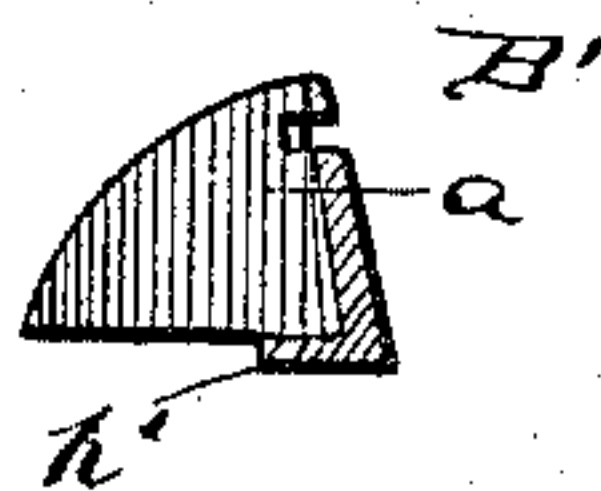


FIG. 11.



Witnesses:
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his Attorney.

UNITED STATES PATENT OFFICE.

CHARLES W. CRANNELL, OF OBERLIN, KANSAS, ASSIGNOR OF ONE-HALF TO
D. E. GROBE, OF SAME PLACE.

NAILLESS HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 492,481, dated February 23, 1893.

Application filed May 16, 1892. Serial No. 433,175. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. CRANNELL, a citizen of the United States, and a resident of Oberlin, in the county of Decatur and State of Kansas, have invented certain new and useful Improvements in Nailless Horseshoes; and I do 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a side elevation showing the invention applied. Fig. 2 is a perspective view of a shoe with two clips attached. Fig. 3 is a plan view of the fastening. Fig. 4 is a section through the fastening devices. Figs. 5 and 6 are detail views of the drive plate. Fig. 7 is a perspective view of one of the straps. Fig. 8 is a similar view of one of the clips. Fig. 9 is a perspective view of the pad. Fig. 10 is a detail view showing a modified form of clip, and Fig. 11 is a section of a modified clip.

This invention has relation to certain new and useful improvements in nailless horse shoes, and it consists in the novel construction and combination of parts, all as hereinafter specified.

The invention particularly consists in the construction of the clips for attaching the shoe to the hoof, and the manner in which said clips are attached to the shoe; also in the means employed for tightening the straps connected to said clips, and which run over the hoof.

The object in view is to simplify both the construction and number of parts, and at the same time afford means whereby the shoe is rigidly held in place without the use of nails or other fastenings entering the hoof.

In the accompanying drawings, the letter A designates a shoe, which may be either plate or calked, and which is of the ordinary construction with the exception that the nail grooves and perforations are omitted.

B, B, and B' are the clips, one of which is attached to the shoe at each side portion near the heel, and one B', at the central toe portion. In Fig. 8 these clips are shown as con-

sisting each of a body portion *a*, concaved on its inner face to fit the hoof, and an inwardly projecting horizontal portion or tongue *b*. Said tongue or projection is of slanting, tapered, dovetailed form, and is arranged to slide in a corresponding recess or seat *c*, cut in the shoe, in which it locks in such a manner that it cannot be displaced, except by a direct movement in the direction opposite to that of its insertion.

D, D, and D' are the fastening straps formed of thin metal and connected at one end, one to each clip, at *d*. The straps D, D, connected to the side clip extend along the sides of the hoof to the central portion thereof, their forward ends being adjacent to each other, and provided each with lugs or projections *e*. The toe strap D' extends up the front side of the hoof, and terminates at its upper end at a point adjacent to the ends of the straps D, D. The strap D' at its upper end also has lugs or projections *e'*.

For the purpose of giving a tension to these straps in order to draw them, the clips, and thereby the shoe, close to the hoof, and secure it in position, I employ a draw plate F, preferably of circular form, as shown, having on its under surface a series of deep threads *g* of inclined, spiral form, and which are designed to take the lugs or projections of the straps D, D', so that as said plate is turned by means of a wrench, or other suitable tool, the straps will be uniformly drawn together and fastened. To permit the application of the wrench, the plate F may be provided with the seats *f*. I usually prefer to place on the hoof, underneath the meeting ends of the straps, a wear plate G, in order to prevent injury to the hoof. I may also if desired protect the fastening plate with a cap or guard H, as shown in Fig. 1, and fully described in a former application, Serial No. 431,272, filed April 30, 1892.

It may sometimes be found advisable to place a thin piece I of rubber or felt, or other soft material between the shoe and the hoof, said piece corresponding in shape to the form of the shoe.

The straps D, D, D' may be loosely connected to the clips, as shown in Fig. 1 or they may be made integral therewith.

In Figs. 10 and 11, I have shown a modified form of the clip, wherein the horizontal or tongue portion is made shorter, forming a hook *h'*, which is designed to engage a seat or recess *h* in the edge portion of the shoe, as shown.

Either of the forms of clips above described may be quickly applied to a shoe, and as quickly removed when the straps are loosened, so that when a shoe is worn out, it may be quickly detached from the fastening devices, and a new shoe applied.

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

1. In a nailless horse shoe, the combination with the shoe having the seats therein, of the clips having a detachable connection with said shoe, said clips comprising the broad concave body portion, arranged to fit neatly against the hoof, and the central projecting horizontal or tongue portion, adapted to engage the seats in the shoe, said body portion

having a slot therein to receive the fastening strap, the fastening straps secured at one end in said slots, said straps running along the hoof to the central forward portion thereof, and a draw plate for engaging and securing said straps substantially as specified.

2. In a horse shoe, the combination with a horse shoe, and the clips rigidly but detachably secured thereto, of the straps connected to said clips, said straps running along the hoof to the central forward portion thereof and terminating in ends having lugs or projections thereon, and a draw plate having a thread on its under surface arranged to take projections on said ends, substantially as specified.

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

CHARLES W. CRANNELL.

Witnesses:

F. S. YARNALL,
GEO. B. VAWTEN.