

No. 780,583.

PATENTED JAN. 24, 1905.

F. SINGER.
HORSESHOE CALK.
APPLICATION FILED FEB. 9, 1904.

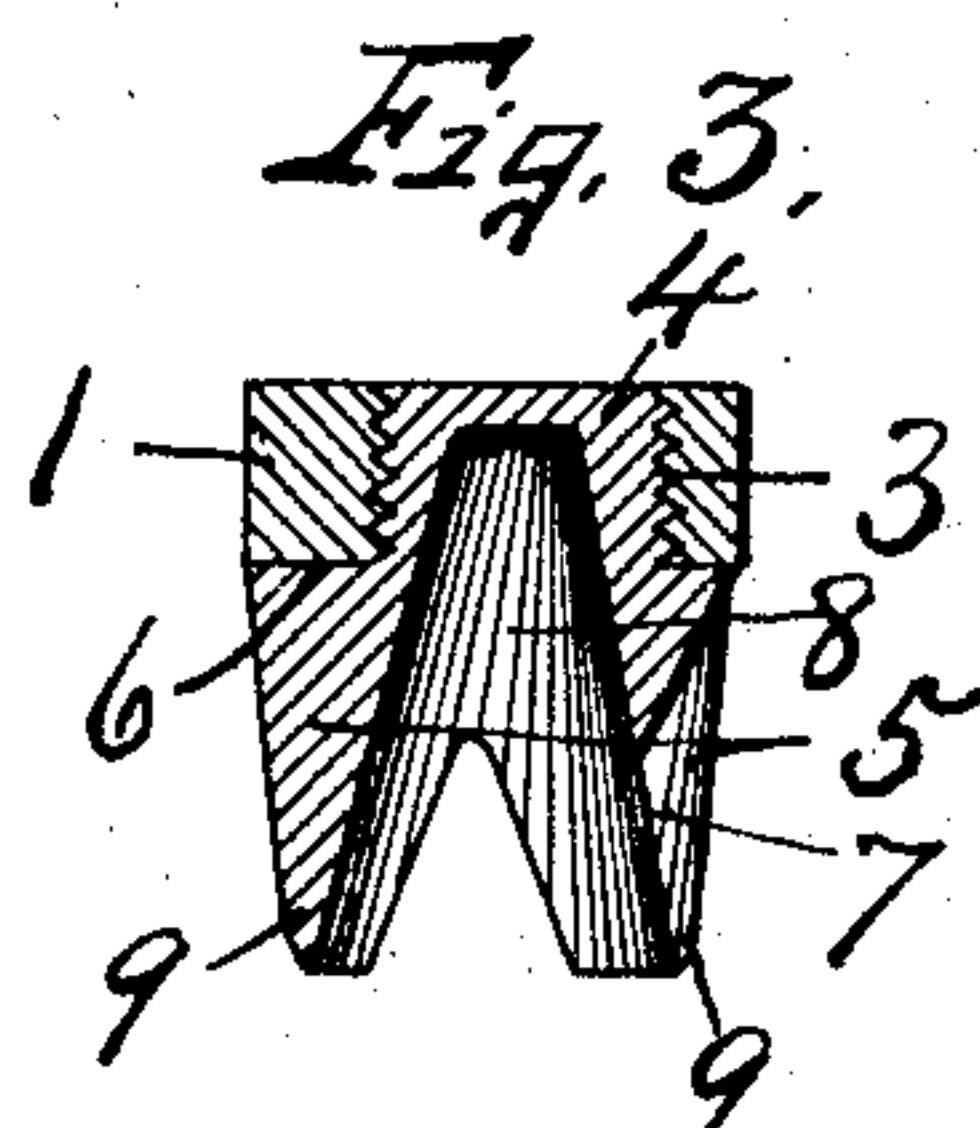
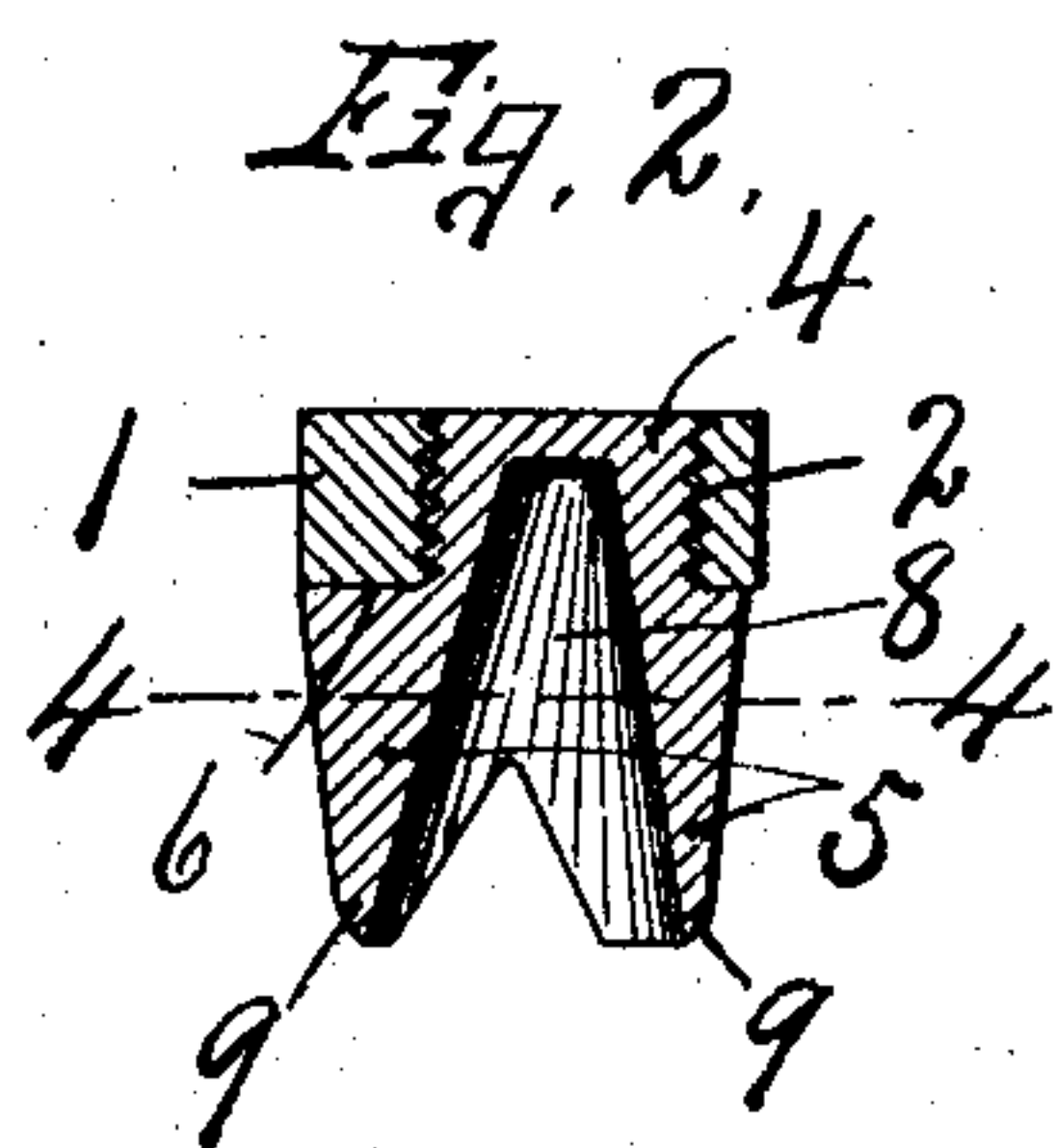
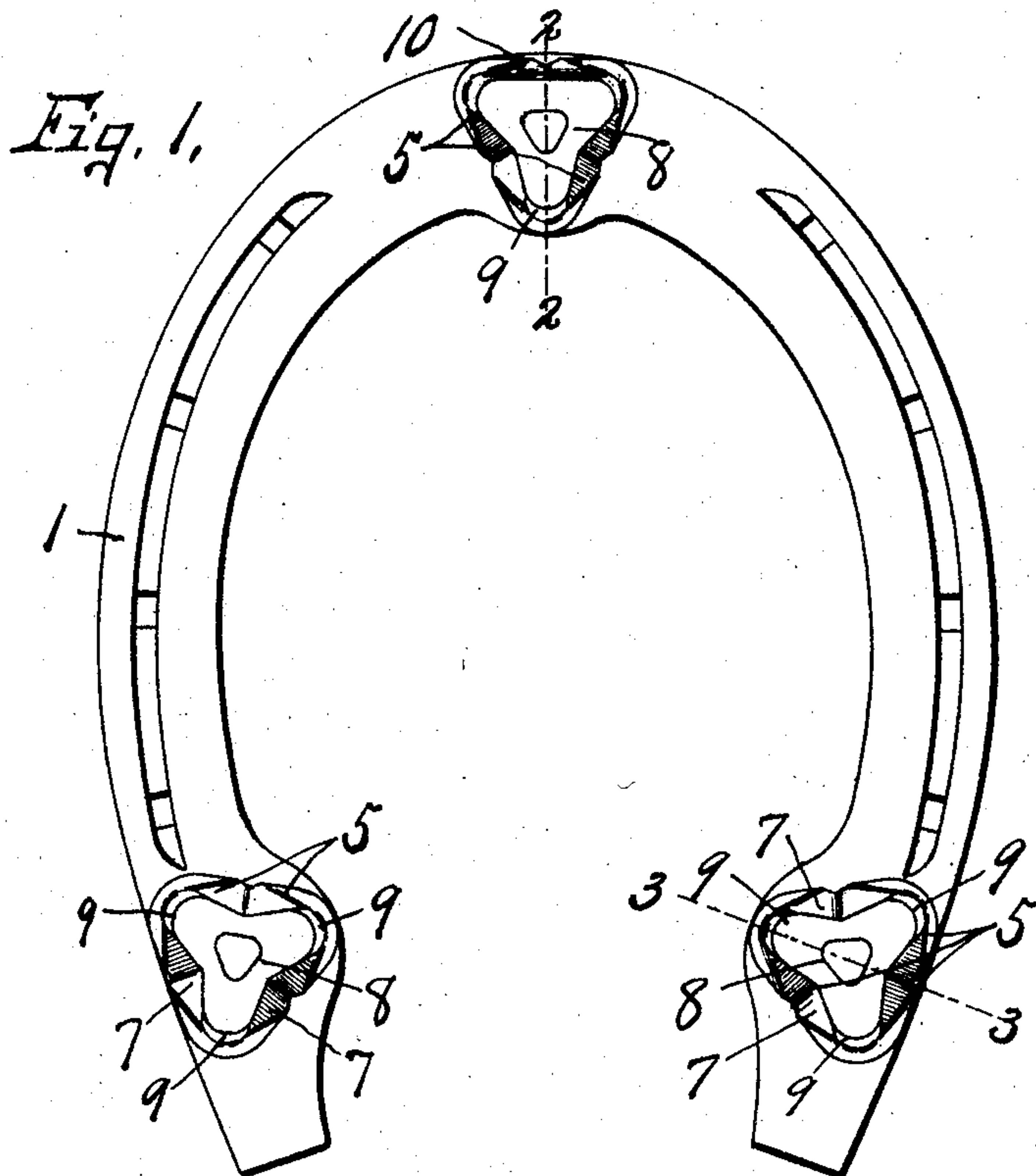
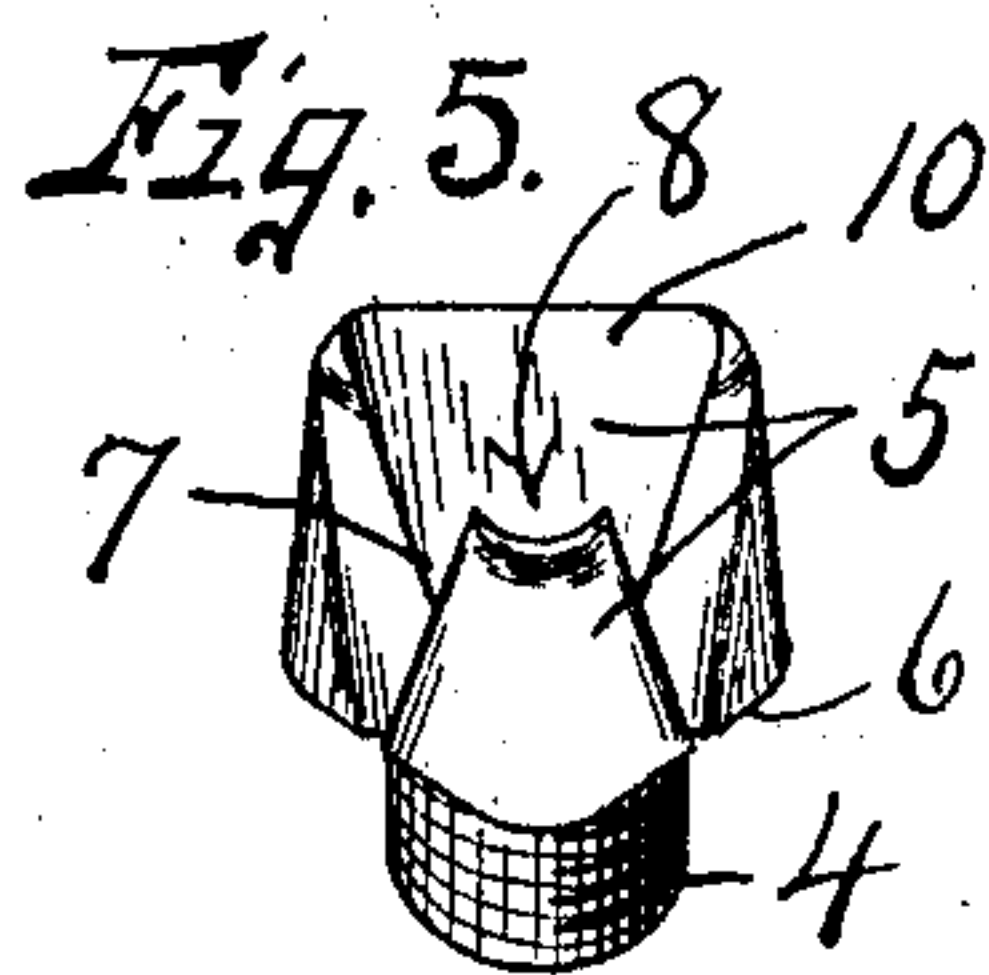
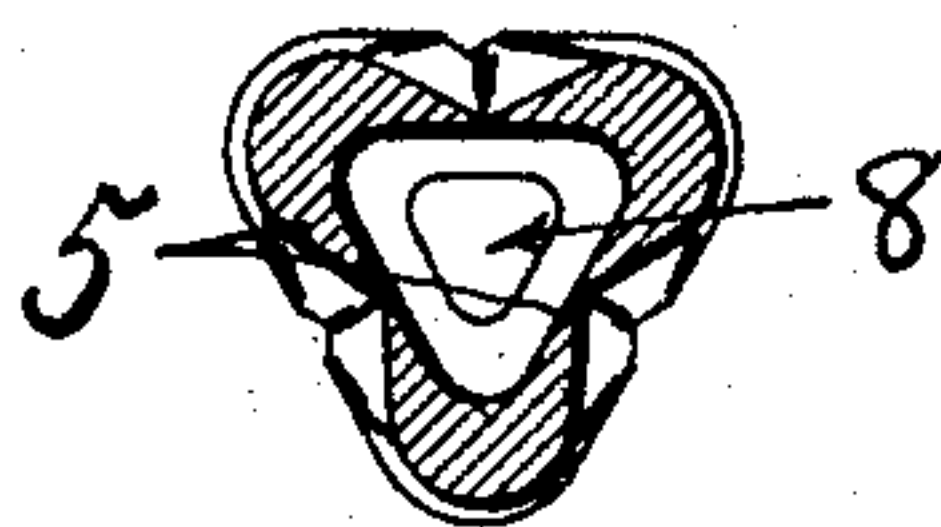


Fig. 4.



WITNESSES.

B. C. Robinson.
H. C. Chase

INVENTOR.
Frank Singer

BY
Howard P. Austin
ATTORNEY.

UNITED STATES PATENT OFFICE.

FRANK SINGER, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF TO
CHARLES A. SHERFF, JR., OF SYRACUSE, NEW YORK.

HORSESHOE-CALK.

SPECIFICATION forming part of Letters Patent No. 780,583, dated January 24, 1905.

Application filed February 9, 1904. Serial No. 192,804.

To all whom it may concern:

Be it known that I, FRANK SINGER, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Horseshoe-Calks, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in horseshoe-calks of the hollow central stud type which is adapted to be screwed or otherwise secured in suitable apertures in the shoe.

The object is to produce a light, strong, and durable calk which is self-sharpening, and therefore capable of continual use for a long period of time without removal from the shoe, and also prevents the accumulation of snow or other foreign matter which might interfere with its successful operation.

Another object is to make the exterior and also the interior angular in cross-section to permit the application of a wrench to either surface for securing the calk to or removing it from the shoe.

Other objects will appear in the following description.

In the drawings, Figure 1 is an inverted plan of a horseshoe, showing my improved calks operatively secured thereto. Figs. 2, 3, and 4 are sectional views taken, respectively, on lines 2-2 and 3-3, Fig. 1, and 4-4, Fig. 2. Fig. 5 is a perspective view of the calk shown at the toe of the shoe in Fig. 1. Fig. 6 is a perspective view of one of the calks shown at the heel of the shoe in Fig. 1.

A horseshoe 1 is shown as provided with threaded apertures 2 and 3 in the toe and heel, respectively, for receiving threaded studs 4 of my improved calk 5. These studs are of less cross-sectional area than the body of the calk for forming a substantially flat annular shoulder 6 and are preferably of substantially the same length as the thickness of the shoe where it is applied, so that when the calk is screwed in place the shoulder 6 abuts against the under face of the shoe, while the end of the stud is substantially flush with its upper face, thereby making the calks practically integral with the shoe when in place.

The body of the calk, which projects below the shoe, is tapering in general outline and is formed with a substantially central socket 8, the body and its socket being angular (in this instance triangular) in cross-section to permit the application of a suitable wrench to either the exterior or interior surface for applying the calks to or removing them from the shoe. The exterior corners of the body are rounding in cross-section, and the socket 8 tapers upwardly from the lower end face of the calk, and therefore the walls of the hollow body are thicker at the top than at the bottom. This gives considerable strength and rigidity to the calk, and at the same time the calk is rendered comparatively light by reason of the socket. The walls of the body gradually diminish in thickness from the upper end to a substantially sharp edge at the bottom, and as these sharp edges wear internally and externally, as well as at the edge, it is apparent that they are self-sharpening when in use. This feature of maintaining sharp edges on the head of the calk is further augmented by cutting away the portions of the sides of the body of the calk from the bottom edge upwardly to form a series (in this instance three) of spurs 9 at the corners of the triangular body, each of said cut-outs, as 7, being in the form of an inverted V, and therefore the sides of each spur taper toward the bottom and are preferably beveled transversely to render the edges sharp. The cut-outs in the sides of the body serve to permit the escape of any snow or other foreign matter which may tend to accumulate in the socket 8 and also serve to lighten the calk without materially weakening the spur. It is now apparent that when these calks are used on icy pavements the sharp bottom and side edges of the spurs cut deeply into the ice and afford a firm grip both at the bottom and sides of the spurs, and the tapering form of the body causes it to wedge into the pavement and further assures a more reliable foothold for the horse.

I have shown the modified form of calk seen in Fig. 5 as applied to the toe of the shoe in Fig. 1, the essential difference being that this calk is formed with a web 10, connecting the

spurs at the front and gradually decreasing in thickness from the top to a sharp edge at the bottom, said edge being in the same plane as the bottom edges of the spurs. The object of
 5 this is to afford a broader tread at the toe, where the greatest pull or strain is often applied. It will now be seen that when these calks are in use on icy or frozen pavements the sharp bottom and side edges of the spurs
 10 cut and wedge into the pavement, and owing to the fact that the side cutting edges of the spurs are disposed at an angle with the line of draft or pull they afford a more reliable grip. It will also be seen that the wedge shape of
 15 the spurs both longitudinally and transversely causes the spurs to wear at the sides as well as at the bottom, which tends to keep the calks sharp by use, thereby extending the life of the calk and obviating the necessity for re-
 20 moving the same from the shoe until it is practically worn to the shank.

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

- 25 1. A horseshoe-calk tapering inwardly externally from top to bottom and having a socket opening from its lower face and tapering upwardly, the lower edge of the calk being beveled inwardly.
- 30 2. A horseshoe-calk tapering inwardly from top to bottom and having a socket opening

from its lower face and tapering upwardly, the sides of the calk having cut-outs with sharpened edges extending upwardly from the bottom edge. 35

3. A horseshoe-calk tapering longitudinally inwardly from its point of juncture with the shoe to its lower edge and having a lengthwise socket opening from the bottom and angular in cross-section. 40

4. A hollow horseshoe-calk tapering longitudinally from its base gradually to its lower edge and of angular exterior cross-section.

5. A hollow horseshoe-calk tapering longitudinally from its base inwardly on its outer surface and outwardly in its inner surface and of angular exterior and interior cross-section. 45

6. A horseshoe-calk consisting of a main body having an integral threaded stud at its top and tapering inwardly toward its bottom 50 and provided with an upwardly-tapering socket opening from the bottom, said body being angular in cross-section both exteriorly and interiorly and having V-shape cut-outs with sharpened edges in its sides extending 55 upwardly from the bottom.

In witness whereof I have hereunto set my hand this 30th day of January, 1904.

FRANK SINGER.

Witnesses:

HOWARD P. DENISON,
 M. M. NOTT.