(No Model.)

C. E. DEVINE & G. LA CHAPELLE.

HORSESHOE.

No. 481,932. Patented Sept. 6, 1892.

FIG. 1.

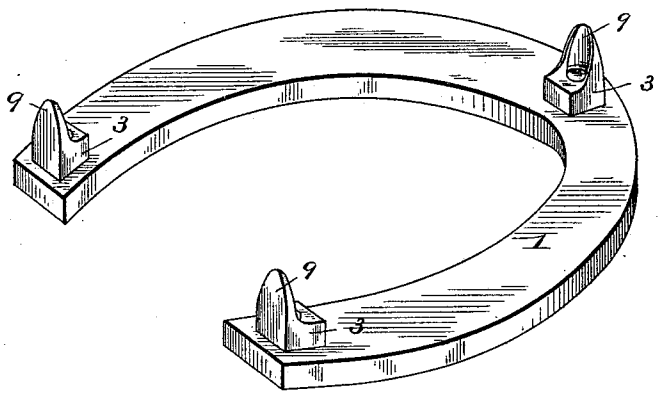

FIG. 2.

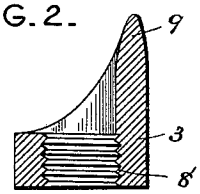

FIG. 5.

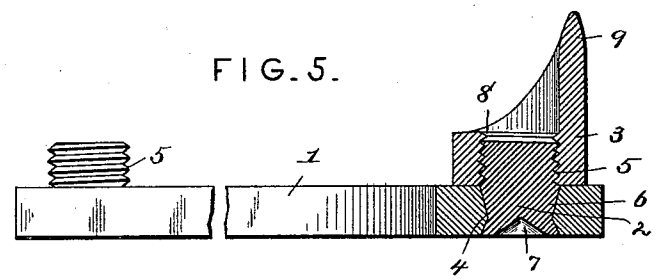

FIG. 4.

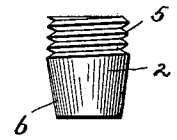

FIG. 3.

Witnesses

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By their Attorneys,

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UNITED STATES PATENT OFFICE.

CHARLES E. DEVINE AND GEORGE LA CHAPELLE, OF WILLIAMSPORT, PENNSYLVANIA.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 481,932, dated September 6, 1892.

Application filed May 7, 1892. Serial No. 432,184. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. DEVINE and GEORGE LA CHAPELLE, citizens of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Horseshoes, of which the following is a specification.

Our invention relates to farriery, and has particular reference to a new and improved horseshoe.

The objects of our invention are to provide a cheap and simple shoe having calks secured therein in such manner as to prevent them from afterward becoming loose and so as to permit of a ready removal of the calks for the purpose of sharpening or replacement by new calks, and, furthermore, to provide such means as will permit of the calks being set close to the toe and heels of the shoe.

Other objects and advantages of our invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

Referring to the drawings, Figure 1 is a bottom perspective of a shoe provided with a toe-calk constructed in accordance with our invention. Fig. 2 is a transverse section through one of the calks detached. Fig. 3 is a transverse section of the shoe previous to the application of the calk and after the formation of the holes for the calk-studs. Fig. 4 is a detail in elevation of the stud previous to its application. Fig. 5 is a sectional view of the calk and shoe.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the horseshoe, and the same is provided with a perforation at the toe and heels thereof for the accommodation of the calk-studs 2, which support removably upon the shoe the calks 3. The perforations are tapered from the opposite sides of the shoe toward the centers, as shown at 4, and into these perforations the studs 2 are set and are tapered to agree with the perforations, so that after being once inserted they cannot be withdrawn either from the front or rear.

The operation of inserting the studs into the shoe is as follows: The shoe is first heated and given the proper shape to fit the foot of the animal to which it is to be applied, after which a conical punch is employed to form the perforations and the shoe is reversed, placed upon the anvil, and the punch introduced from the opposite side so as to render the perforation conical or flared at each side. The stud 2, which is provided with a thread 5 and an opposite conical end 6, is now introduced from the under side of the shoe and driven tightly into the perforation and the shoe is reversed, a conical punch inserted into the cavity 7, with which the end of the stud is provided, and by a few taps of the hammer said end is spread so as to fit the perforation. The shoe is now permitted to cool and shrinks tightly around the stud, so that the latter is prevented from becoming loose and is incapable of being withdrawn from either side. By our invention these studs may be set as close to the toe and heels as may be desired, and thus a better effect or more efficient calk is provided. The calks 3 are provided with threaded bores 8 and are beveled at one side to form points 9.

Having described our invention, what we claim is—

1. The herein-described improved shoe, the same being provided with a perforation flared from the center toward each end, the tapered stud inserted into the perforation, the rear end of the stud being spread, and the toe-

calk threaded on the stud, substantially as specified.

2. The herein-described improved shoe, the same being provided with a perforation flared from the center toward each end, the tapered stud inserted into the perforation, the rear end of the stud being spread and the outer end of the stud being threaded, and the hollow calk having its outer end inclined from front to rear and its inner end internally threaded and removably mounted on the stud, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

CHARLES E. DEVINE.

GEORGE his × mark LA CHAPELLE.

Witnesses to signature of Charles E. Devine:

THOMAS HARPER,
HENRY S. MEYER.

Witnesses to signature of George La Chapelle:

NAPOLEON BOUDRIA,
HURDY W. HARRINGTON.