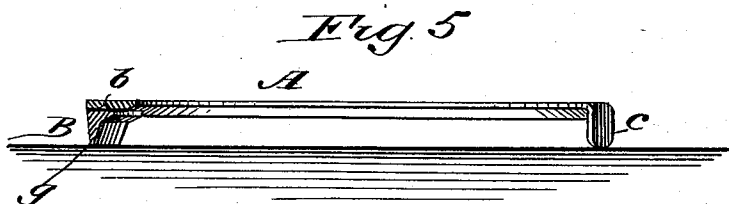
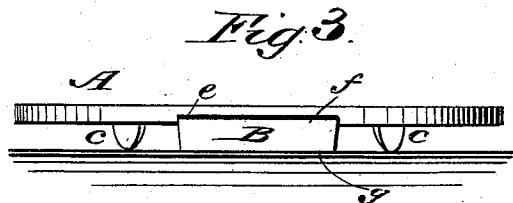
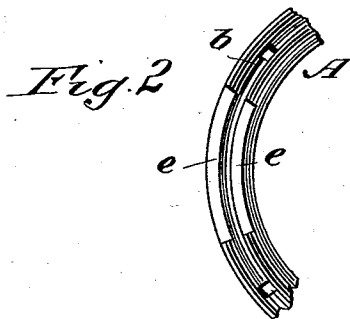
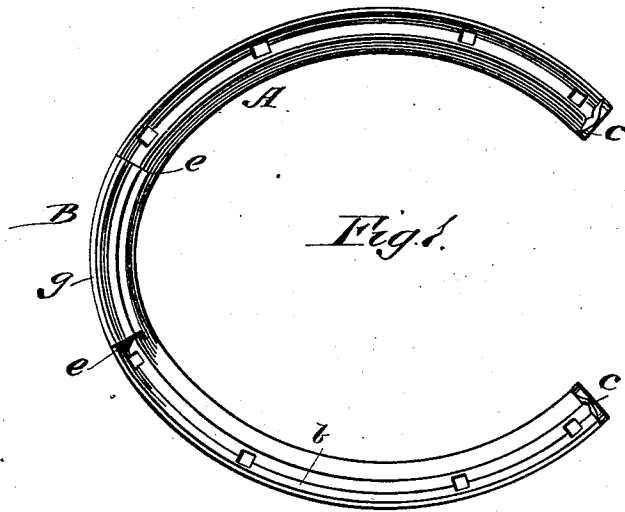


(No Model.)

C. E. HOWARD.
HORSESHOE.

No. 471,864.

Patented Mar. 29, 1892.



WITNESSES:

V. M. Arnold.
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UNITED STATES PATENT OFFICE.

CHARLES E. HOWARD, OF LEIGHTON, IOWA.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 471,864, dated March 29, 1892.

Application filed February 12, 1891. Serial No. 381,173. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. HOWARD, of Leighton, in the county of Mahaska and State of Iowa, have invented a new and useful Improvement in Horseshoes, of which the following is a full, clear, and exact description.

This invention relates to metal horseshoes of light construction, more especially shoes for race-horses, in which it is desirable to add as little weight as possible to the horse's feet, in order to insure speed. Such shoes are not usually provided with steel front calks or toe-pieces.

The object of my invention is to use a much lighter plate for the shoe than is practicable where the steel toe-piece has to be welded or be secured by screws onto the plate or shoe and to obtain a firmly-set and more-efficient toe-piece to facilitate the horse's travel, either on a hard dry track to lessen the jar on a horse's legs or on a wet or muddy and frozen track to give a firm footing and to prevent slipping.

The invention embraces a sharp toe-piece or calk of novel shape or construction and special attachment of the same to the shoe, substantially as hereinafter described, and more particularly described in the claim, whereby a very light racing-shoe possessing the above-named requirements in a superior degree is or may be produced.

Heretofore for traveling on muddy roads only the shoes or plates have had toes made of soft iron, which are unfit for a hard track or road, and these are removed, when required, to travel on a dry track. This frequent removal exposes the horse's feet to injury, and now, as a rule, or sometimes, at least, race-horseshoe-plates are made without heels and toes.

My improved shoe with permanent toe-piece made of steel does away with the necessity of removal and adapts the shoe to any kind of road.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents an under face view of a horse racing-shoe constructed in accordance with my invention. Fig. 2 is a similar view of the toe portion of the shoe with the front calk or toe-piece removed; Fig. 3, a front view of the shoe with toe-piece attached; Fig. 4, a view in perspective of the front steel calk or toe-piece before it is permanently attached to the shoe; and Fig. 5 is a longitudinal sectional elevation taken through the center of the shoe from toe to heel.

A indicates the body or horseshoe proper, made of iron, or preferably steel, as light as it is practicable to make it, and which it is desirable to make so that it will not weigh more than from one and a half to three ounces, or thereabout. To such a light shoe it would be extremely difficult or impossible to secure by welding or by screw the toe-piece or front calk. Said plate-body or shoe A is made on its under side with the usual nail-groove *b* and heel-calks *c c*. In the toe or front portion of the shoe—that is, through the outer and inner walls of the groove *b*—is cut or impressed a countersink or recess *e*, of suitable length and shape to receive closely within it a steel front calk or toe-piece B. This toe-piece, which is of curved construction in direction of its length, corresponding to the curvature of the shoe in front, and of width to fit the recess *e* in the outer and inner walls of the groove *b*, is constructed with a flat upper face *f* to lie snugly against or under the bases of the recess *e* and with a lower projecting front sharp edge or margin *g* to dig into or take the necessary hold upon the ground as a front calk or toe-piece. Such toe-piece is permanently and firmly secured to its place in the shoe by soldering or brazing, which is the only practical method of uniting such a toe-piece or calk to so light a shoe. The toe-calked shoe as thus made combines lightness and strength with good hold and purchase.

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

As an improved article of manufacture, a racing-shoe consisting of the thin flat plate A,

having its lower face at the toe recessed from front to rear edge across the nail-groove, as shown at *e*, the front end of the recess being wider than its rear end, and the steel toe-
5 piece B, of the same shape as the recess, fitting snugly therein and having a flat upper face *f*, brazed or soldered to the base of the

recess *e* and formed with the depending sharp edge *g*, substantially as set forth.

C. E. HOWARD.

Witnesses:

ADOLPH STRAUS,
JOHN HUFFMAN.