

(No Model.)

W. J. KENT.
HORSESHOE.

No. 553,586.

Patented Jan. 28, 1896.

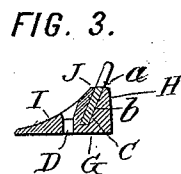
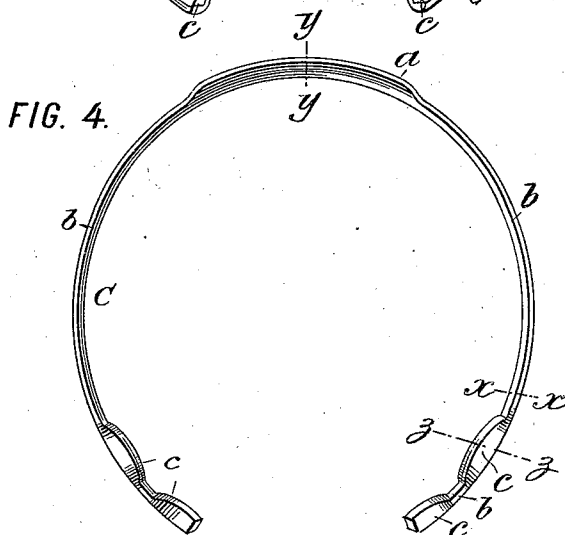
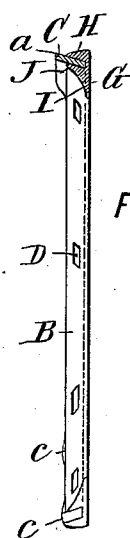
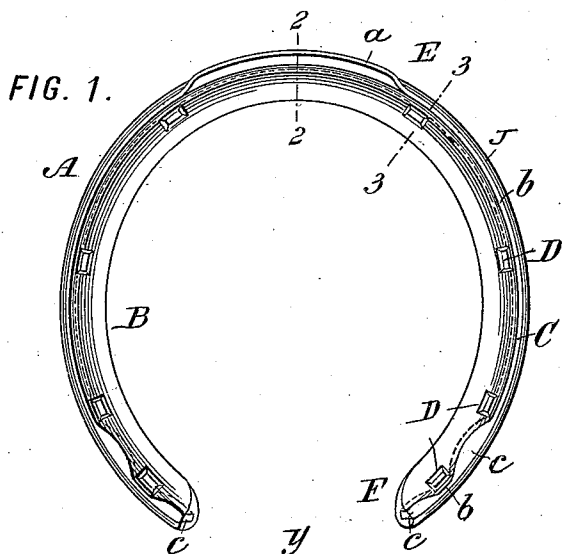


FIG. 5



FIG. 7.

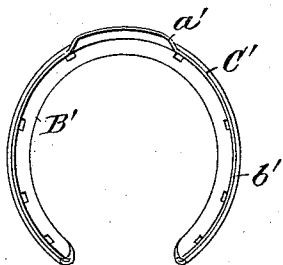


FIG. 6.

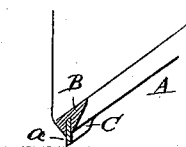
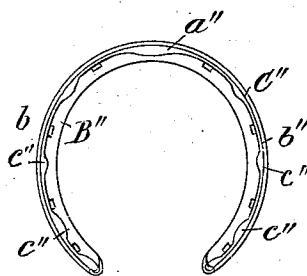


FIG. 8.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM J. KENT, OF BROOKLYN, NEW YORK.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 553,586, dated January 28, 1896.

Application filed May 23, 1895. Serial No. 550,308. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. KENT, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Horseshoes and Racing-Plates, of which the following is a specification.

This invention relates to horseshoes, and may be employed in connection either with such shoes when constructed for general use or with those of special construction known as "racing-plates."

The invention aims to provide improvements in horseshoes composed of two different metals, or of different qualities of metal. Such shoes are usually constructed of a relatively soft or light metal constituting the body and a relatively hard or heavy metal constituting a wearing portion. One example of such horseshoes is shown in my Letters Patent No. 530,643, dated December 11, 1894, in which is disclosed a shoe having a hard-metal wearing-strip exposed at the lower or bottom face between the nail-holes and outer wall, constituting the wearing portion of the shoe.

My present invention provides an improved construction of wearing-strip designed to increase the effectiveness of or the life of the shoe.

In its preferred form, in carrying out the invention, I vary the sectional area of the strip at one or more parts of its length, disposing its portions of greater sectional area at the point or points on the bottom face of the shoe where the circumstances of use render this desirable. Preferably at the toe of the shoe the sectional area of the strip is increased by an increase in the width of the strip, and its additional width is projected downwardly beyond the bottom face of the shoe and serves as a toe-calk therefor, and at or near the heels the sectional area of the strip is increased by thickening it between the nail-holes, and exposing these thickened portions at the points where the shoe is subjected to greater wear.

In the accompanying drawings, which illustrate the invention in its preferred adaptation and in certain modifications, Figure 1 is a bottom face view of a front plate or shoe

for the fore foot of a horse, constructed according to the preferred form of my invention. Fig. 2 is a cross-section thereof on the line 2 2 of Fig. 1. Fig. 3 is a cross-section thereof on the line 3 3 of Fig. 1, but on a larger scale. Fig. 4 is a bottom view of the wearing-strip removed. Fig. 5 represents cross-sections of the strip on the three different planes indicated by the lines $x x$, $y y$, and $z z$ of Fig. 4, respectively. Fig. 6 is a diagrammatic view showing the shoe in use. Fig. 7 is a view corresponding to Fig. 1, showing a modification, and Fig. 8 is a similar view showing another modification.

Referring to the drawings, let A indicate the plate or shoe as a whole; B, the body thereof; C, the wearing-strip thereof; D, the nail-holes through the body; E, the toe of the shoe, and F the heels thereof.

The body B may be of any usual or suitable construction. That shown consists of a soft-metal body having a flat top face G, downwardly-extending front wall H, rearwardly and upwardly inclined bottom wall I, and bottom bearing edge J at the intersection of the front and bottom walls.

The wearing-strip C is of relatively-hard metal, carried by the body, in the construction shown, by being embedded therein at its upper edge between the nail-holes and the front of the wall and exposed at the bearing edge J as the wearing portion of the shoe. It may be of any convenient or suitable construction, and may be applied to the body in any desired manner.

According to my present invention I vary the cross-sectional area of the wearing-strip at one or more points to increase its utility or durability at such part or parts of the shoe as circumstances render desirable, and according to another feature of the present improvement I cause the wearing-strip to project downwardly beyond the bottom face of the shoe at such part of the latter as is advantageous. Both of these features are preferably provided for by the variation of the cross-sectional area of the strip, the variation being caused by increasing the thickness of the strip where greater durability is desired and increasing the width of the strip where downward projection below the bottom face of the shoe is desired.

In the construction shown in Figs. 1 to 6, inclusive, the strip C is widened at the toe of the shoe at *a*, on its lower side between the two front nail-holes, which widened portion projects downwardly and, in the construction shown, forwardly and serves as a toe-calk for the shoe. Beyond this portion the strip has thin narrow portions *b*, traversing the body of the shoe outside of the nail-holes. Near the heels the strip has thickened portions *c*, preferably disposed only between or beyond the nail-holes at this part of the shoe and here exposed as relatively broad wearing parts. Opposite the nail-holes, where desirable, the strip is preferably thin and narrow, but still has all the strength necessary at these points, while its thickened portions between the nail-holes are preferably wide and thick or corrugated on their inner and lower sides and edges, so that they are broad enough to give good wearing portions and project somewhat below the body at these parts as calks or gripping-calks.

In use, in the construction shown in Figs. 1 to 6, when the shoe is resting on the ground as the horse stands, it will be supported in the main by the downwardly-projecting strip at front and the thickened portions of the strip at the heels, and in running as the hoof strikes the ground the projecting portion of the strip will be the first to contact with the ground and will serve as an efficient toe-calk or gripping edge for the shoe. It will possess great stability as a toe-calk, as its upper edge is embedded in the metal of the body and it is reinforced by the remainder of the strip attached thereto. Preferably the projecting part of the strip is inclined downwardly and forwardly in substantially the direction of thrust as the shoe strikes the ground in running, as shown in Fig. 6, so that the strain as the toe strikes the ground is received in the direction of inclination of the strip.

It will be seen that my invention provides improvements in horseshoes which can be easily availed of, and serve to materially increase the utility and durability of the shoe, and it will be understood that the invention is not limited in its adaptation to the particular combination of features, construction, or arrangement set forth as constituting the preferred form of the invention, since it can be variously availed of in whole or in part, according to such modifications or adaptations as circumstances or the judgment of those skilled in the art may dictate without departing from the spirit of the invention.

Fig. 7 illustrates a modification in which the toe-calk alone is employed. In this construction the wearing-strip (lettered C') is of uniform cross-section throughout its end portions (lettered *b'*) and widened only at its center to form a toe-calk *a'*, which projects beyond the bottom face of the shoe.

Another modification is shown in Fig. 8, in which the strip (lettered C'') does not project below the bottom face of the shoe, but

has a thickened portion *a''* at the toe of the shoe, thin portions *b''* opposite the nail-holes, and intermediate thick portions *c''* between the holes throughout its length.

What I claim is—

1. A horse-shoe having a body of relatively soft metal, and a wearing strip of relatively hard metal carried by said body, and covered at top by the soft metal thereof, extending longitudinally thereof, exposed and projecting below the soft metal of the body at the bottom face of the shoe, where it constitutes the wearing portion thereof, of greater cross sectional area at one part than at another, and disposed with its part of greater cross sectional area at the portion of said body subjected to the greatest wear.

2. A horse-shoe having a body of relatively soft metal, and a wearing strip of relatively hard metal carried by said body, of uniformly varying lateral thickness throughout its length, and exposed at its thicker part at the bottom face of the shoe and constituting at such part the wearing portion thereof.

3. A horse-shoe having a body of relatively soft metal, and a wearing strip of relatively hard metal carried by said body, said strip having a portion of greater width, and adjacent thereto portions of less width, and projecting at its portion of greater width downwardly beyond the bottom face of the shoe and beyond the soft metal of the body and there constituting a calk for the latter.

4. A horse-shoe having a body of relatively soft metal, and a calk of relatively hard metal carried thereby and consisting of a metallic piece of greater height than width, embedded edgewise in the metal of said body at its upper edge, and exposed and projecting beyond the soft metal of the body and the bottom face of the shoe as a calk therefor.

5. A horse-shoe having a body of relatively soft metal, having nail holes through it, and a strip of relatively hard metal carried by said body covered at top by the soft metal thereof and extending longitudinally thereof between its outer edge and said nail holes, said strip having portions of relatively great cross section and exposed at the bottom face of the shoe and constituting the wearing portion thereof, and having portions of relatively small cross section opposite said holes.

6. A horse-shoe having a body of relatively soft metal, having nail holes through it, and a wearing strip of relatively hard metal carried by and embedded in said body between its front edge and said nail holes, said strip exposed at the bottom face of said body and constituting there a wearing face therefor, and said strip at the toe of said body having a relatively wide portion projecting downwardly beyond the soft metal of said body and the bottom face of the shoe and constituting a toe calk therefor.

7. A horse-shoe having a body of relatively soft metal, and a wearing strip of relatively hard metal embedded in said body and ex-

tending longitudinally thereof, exposed at the bottom face of the shoe and there constituting the wearing portion thereof, said strip having relatively thick portions near the heels of the shoe, and relatively thin portions intermediate of the heels, said strip disposed at the outer edge of the bottom face of the shoe, substantially as and for the purpose set forth.

10 8. A horse-shoe having a body of relatively soft metal, and a wearing strip of relatively hard metal embedded at its upper edge in said body and projecting at its lower edge below the bottom face thereof and beyond the soft
15 metal of the body.

9. A horse-shoe having a body of relatively soft metal and a toe calk therefor, consisting of an elongated strip of relatively hard metal of greater width than thickness, embedded at
20 its upper edge in and covered at top by the

metal of the body of said shoe at the toe thereof and projecting at its lower edge beyond the bottom face of said shoe and below the soft metal of the body.

10. A horse shoe having a body of relatively soft metal, and a wearing strip of relatively hard metal carried thereby, said strip having regularly disposed corrugated portions exposed at the bottom face of the shoe, projecting below the soft metal of the body and beyond such face, and constituting wearing portions of the shoe.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM J. KENT.

Witnesses:

GEORGE H. FRASER,
THOMAS F. WALLACE.