

G. KNAPP & D. CRUICE.
HORSESHOE PAD.
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1,051,851.

Patented Jan. 28, 1913.

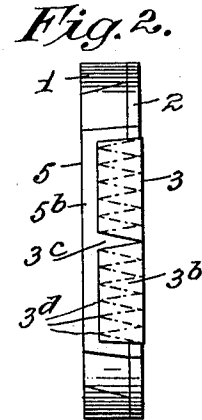
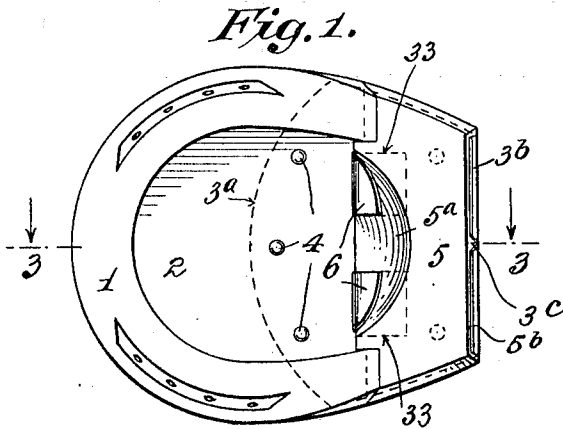


Fig. 3.

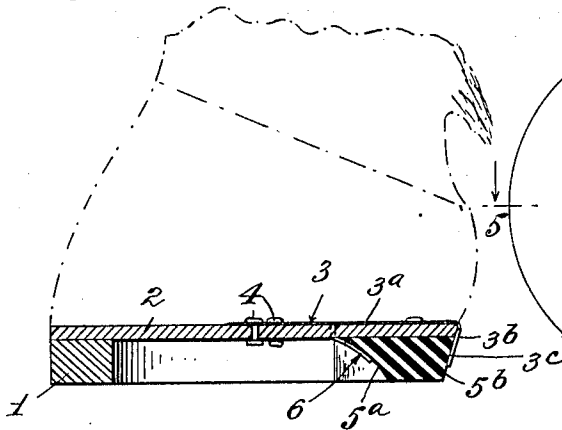


Fig. 4.

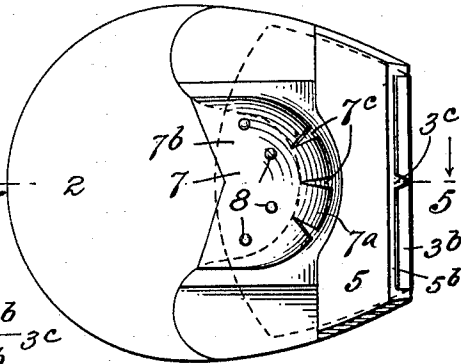
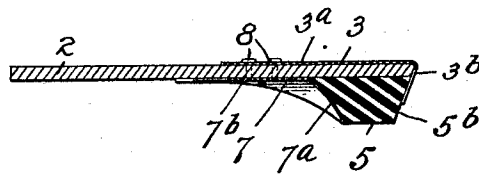


Fig. 5.



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UNITED STATES PATENT OFFICE.

GRANT KNAPP AND DANIEL CRUCE, OF NEW YORK, N. Y., ASSIGNORS TO JACOB M. EHRLICH, OF NEW YORK, N. Y.

HORSESHOE-PAD.

1,051,851.

Specification of Letters Patent.

Patented Jan. 28, 1913.

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To all whom it may concern:

Be it known that we, GRANT KNAPP and DANIEL CRUCE, citizens of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Horseshoe-Pads, of which the following is a specification.

Our present invention relates to a horse shoe pad, especially designed and adapted for a three-quarter shoe where the heel of the pad supports the heel of the foot and not the heel-calks of the shoe. It is only in this type of pad that there is any difficulty in securing the heavy heel-piece of the pad permanently in position so that it cannot work or break loose and flop. The means shown in the annexed drawings accomplishes in a cheap but efficient manner both these results of securing the heel portion of the pad to the rest of the pad and of preventing it from flopping. Further it accomplishes this and at the same time provides for flexibility in the heel of the pad. In the drawings which show two of the forms which our invention may take, Figure 1 is an underneath plan view of one form of our pad, shown as if it were on the foot with the three-quarter shoe in place; Fig. 2 is a rear end view of the pad as same appears looking at the right-hand end of Fig. 1; Fig. 3 is a vertical section on the line 3-3 in Fig. 1 looking in the direction of the arrows, the horse's foot being shown in dotted lines; Fig. 4 is an underneath plan view of a modified form of pad, it being similar to Fig. 1, except that it omits the horse's shoe, and Fig. 5 is a vertical section on the line 5-5 in Fig. 4, looking in the direction of the arrows.

We will first describe the pad of Figs. 1 to 3 inclusive, although it may be here said that corresponding letters of reference have been used in the drawings for both forms of the pad wherever the parts are duplicated in the two pads. 1 is a three-quarter horse shoe; 2 is a pad-plate of some material conveniently designated "pad-material" such as rubber, fabric or fiber, having the general outline of the bottom of the horse's foot. Its location is between the top of the shoe and the bottom of the foot, and its margin receives the nails from the shoe through it. The rear portion of this pad-plate 3 projects under the heel of the foot

and beyond the rear ends of the shoe. 3 is a metal plate consisting of a main portion 3^a and a flange portion 3^b. The main portion is shown resting flat on top of the heel portion of the pad-plate 2, and extends forwardly beyond where the pad-plate begins to overlie the horse shoe. (See the curved dotted line in Fig. 1 which is the forward edge of this metal plate 3. Also compare Fig. 3.) The result is that the metal plate is clamped at the sides between the rim of the hoof and the pad-plate 2. Further it is secured in position by the rivets 4 passing through it and the pad-plate 2. The flange portion 3^b of the metal plate extends downwardly and forwardly therefrom at the rear edge of the pad-plate into clamping contact with the rear side of the heel-pad 5, next to be described. The heel-pad 5 consists of an elongated piece of rubber or other suitable pad material to take the jar off the foot. This heel piece extends across the rear ends of the horse's shoe under the heel portion of the pad-plate 2. Its thickness is equal to or somewhat greater than the horse's shoe. Its front and rear sides 5^a and 5^b incline or converge downwardly toward each other. The front side 5^a in Figs. 1 and 3 is shown scooped out or concave. The rear side is shown flat. 6 designates a front flange consisting of lugs cut out and bent down from the metal plate 3. The dotted lines 33 in Fig. 1 show the lugs before being bent down. These lugs 6 pass downwardly through slits in the pad-plate 2 and project below it into clamping contact with the front side of the heel-pad 5.

By the foregoing it will be seen that the heel-pad 5 is not only secured to the body of the pad, but is prevented from flopping, because the metal plate 3 provided with the flanges 3^b and 6 extends forwardly to a point where the pad-plate 2 overlies the horse-shoe. Finally we secure flexibility for the heel of the pad by the means next to be described, said flexibility being very important to make the heel of the pad conform to the varying manner in which the foot contacts with the ground. We accomplish this flexibility by slitting the flanges vertically as at 3^c in Figs. 1 and 2, or otherwise making these flanges longitudinally discontinuous. Further this greatly safeguards the clamping effect of the flanges on the heel-pad, because it provides a plurality of pairs of

flanges along the heel-pad, the clamping action of each pair being independent of the others. On the other hand, where there is only one long pair of clamping flanges, if the metal plate 3 spring or yield at one side more than the other (as it does continuously when the horse is in action) it may tend for the instant to relax the grip of the flanges on the heel-pad, which relaxation will extend to the entire length of the flange,—whereas when the flanges are longitudinally discontinuous the relaxation of any pair of flanges does not affect the grip of the others. The dotted lines in Fig. 2 show this “discontinuous flange” idea carried to the extreme of reducing the flange to a series of points 3^a. Figs. 4 and 5 show a modification wherein the front flange instead of being lugs bent down from the metal plate 3 consists of a downwardly and rearwardly extending portion 7^a of a separate plate 7, whose main portion 7^b rests flat against the underside of the pad-plate 2 and is riveted through it to the main portion of the metal plate 3 by the rivets 8. The piece 7 is stamped out of sheet-metal and will be seen to have the form of a fragment of the bottom and sides of a shallow cup. 7^c in Fig. 4 designates slits in the flange portion of this piece 7, which are provided for the same purpose already described.

What we claim is:

1. A horse shoe pad for a three-quarter shoe consisting of the combination of a pad-plate of the general shape of the bottom of the horse's foot, located between the bottom of the foot and the top of the shoe so that the nails for the shoe pass through its margin, said pad-plate extending under the heel of the foot beyond the rear ends of the three-quarter shoe; a metal plate consisting of a main portion and a flange portion secured in position with its main portion located flat against the pad-plate and extending across the heel portion thereof and forwardly to where the pad-plate overlies the shoe, and its flange portion inclining downwardly and forwardly at the rear edge of the pad-plate; a heel-pad located under the heel portion of the pad-plate between the rear ends of the horse shoe and the flange portion of the metal plate, the front and rear sides of said heel-pad converging downwardly toward each other; and another metal flange secured under the main portion of the metal plate inclining downwardly and rearwardly, said pair of flanges clamping the downwardly converging side portions of the heel-pad between them.

2. A horse shoe pad for a three-quarter shoe consisting of the combination of a pad-plate of the general shape of the bottom of the horse's foot, located between the bottom of the foot and the top of the shoe so that the nails for the shoe pass through its mar-

gin, said pad-plate extending under the heel of the foot beyond the rear ends of the three-quarter shoe; a metal plate consisting of a main portion and a flange portion secured in position with its main portion located flat against the pad-plate and extending across the heel portion thereof and forwardly to where the pad-plate overlies the shoe, and its flange portion inclining downwardly and forwardly at the rear edge of the pad-plate; a heel-pad located under the heel portion of the pad-plate between the rear ends of the horse shoe and the flange portion of the metal plate, the front and rear sides of said heel-pad converging downwardly toward each other; and another metal flange secured under the main portion of the metal plate inclining downwardly and rearwardly, said pair of flanges clamping the downwardly converging side portions of the heel-pad between them, said flanges being longitudinally discontinuous to give flexibility to the heel of the pad.

3. A horse shoe pad for a three-quarter shoe consisting of the combination of a pad-plate of the general shape of the bottom of the horse's foot, located between the bottom of the foot and the top of the shoe so that the nails for the shoe pass through its margin, said pad-plate extending under the heel of the foot beyond the rear ends of the three-quarter shoe; a metal plate consisting of a main portion and a flange portion secured in position with its main portion located flat against the pad-plate and extending across the heel portion thereof and forwardly to where the pad-plate overlies the shoe, and its flange portion inclining downwardly and forwardly at the rear edge of the pad-plate; a heel-pad located under the heel portion of the pad-plate between the rear ends of the horse shoe and the flange portion of the metal plate, the front and rear sides of said heel-pad converging downwardly toward each other; and another metal flange secured under the main portion of the metal plate inclining downwardly and rearwardly, said pair of flanges clamping the downwardly converging side portions of the heel-pad between them, the flange in front of the heel-pad being an integral part cut out and bent down from the main portion of the metal plate, said metal plate overlying the pad-plate and said last named front flange passing through a slit in said pad-plate and projecting below it into clamping contact with the front side of the heel-pad.

4. A horse shoe pad for a three-quarter shoe consisting of the combination of a pad-plate of pad-material located between the bottom of the foot and the top of the shoe so that the nails for the shoe pass through its margin, said pad-plate extending under the heel of the foot beyond the rear ends

of the three-quarter shoe; metal plate means
secured on the pad-plate having a longitudi-
nally discontinuous flanged portion incli-
ning downwardly and forwardly at the
5 rear end of the pad-plate; a heel-pad located
under the heel portion of the pad-plate be-
tween the rear ends of the horse shoe and
the flanged portion of the metal plate means,
and means for maintaining the heel pad in
10 position.

5. A horse shoe pad for a three-quarter
shoe consisting of the combination of a pad-
plate of pad-material located between
the bottom of the foot and the top of the
15 shoe so that the nails for the shoe pass
through its margin, said pad-plate extend-
ing under the heel of the foot beyond the
rear ends of the three-quarter shoe; metal
plate means secured on the pad-plate hav-

ing a longitudinally discontinuous flanged 20
portion inclining downwardly and for-
wardly at the rear end of the pad-plate;
a heel-pad located under the heel portion of
the pad-plate between the rear ends of the
horse shoe and the flanged portion of the 25
metal plate means, and another longitudi-
nally discontinuous metal flange secured to
the pad-plate and inclining downwardly and
rearwardly, the aforesaid flanges clamping
the front and rear sides of the heel-pad be- 30
tween them.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

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DANIEL CRUCE. [L. s.]

Witnesses:

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NORA A. KROUCKE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."