

C. W. CRANNELL.
HORSESHOE.
APPLICATION FILED MAR. 18, 1908.

929,395.

Patented July 27, 1909.

Fig. 1.

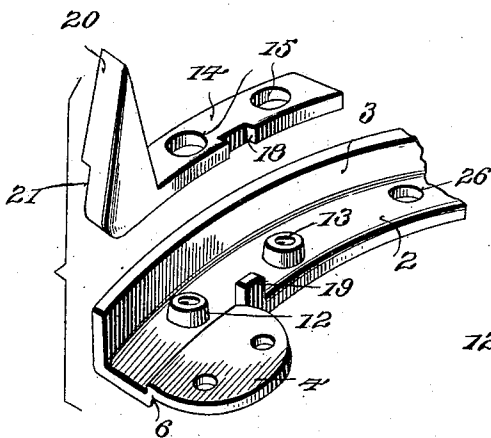
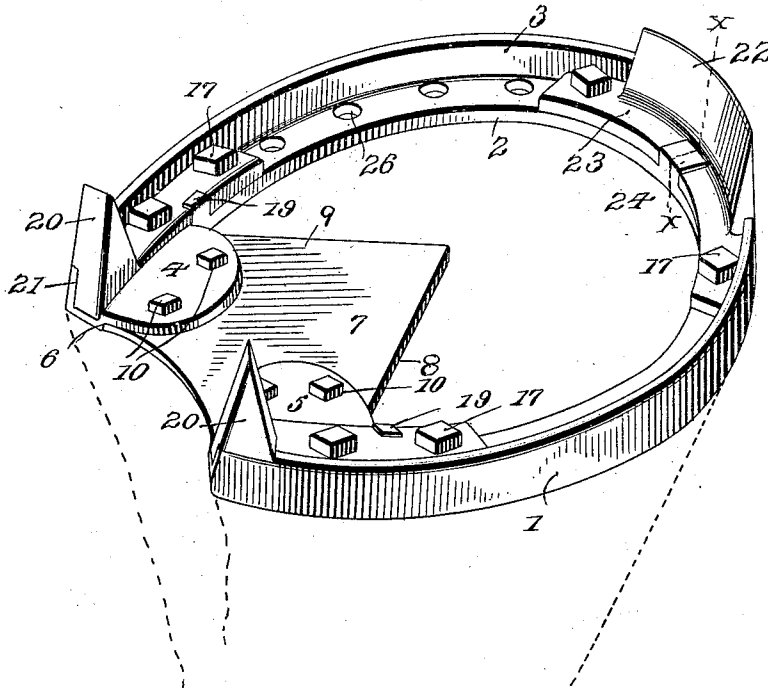
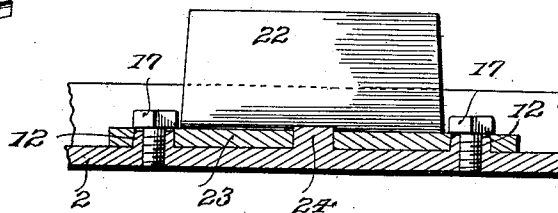


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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HORSESHOE.

No. 929,395.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed March 18, 1908. Serial No. 421,867.

To all whom it may concern:

Be it known that I, CHARLES W. CRANNELL, a citizen of the United States, residing at Lebanon, in the county of Lebanon and State of Pennsylvania, have invented certain new and useful Improvements in Horse-shoes, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in horse shoes.

The object of my invention is to provide a shoe in which the calks may be readily detached and new ones placed therefor, and in which the securing means is relieved of all the lateral strain of the calk.

Another object of my invention is to provide a frog-support for the shoe, whereby the plantar-border of the hoof is relieved of the entire weight of the horse, and thus allowing two-thirds of the weight to be on the plantar-border, and one-third on the frog which is the more normal and natural position of the hoof.

Another object of my invention is to provide a more simple, cheap and effective shoe to accomplish the above results.

In the accompanying drawings, Figure 1, is an inverted perspective view of my improved shoe showing the hoof in dotted lines. Fig. 2, is an enlarged perspective view of the heel portion of the shoe, showing the calk removed. Fig. 3, is a vertical sectional view taken on the line $x-x$ of Fig. 1.

Referring now to the drawings, 1 represents my improved shoe which is made of an L-shaped bar having the portion 2 resting against the hoof of the horse, while the portion 3 extends downwardly around the outer edge of the shoe. The portion 2, at the heel portions, is enlarged inwardly, as indicated at 4 and 5, and said enlarged portion having an offset, as indicated at 6, as will be now described. Resting upon the offset enlarged portions 4 and 5, is a steel plate 7 which is of a thickness equal to the offset, whereby the upper face of the plate 7 and the portion 2 are in the same plane or flush with each other, thus serving as unbroken frog supports. This plate, as before stated, is of steel, and is slightly concaved downwardly in order that the frog will have a springing action on the plate. The plate,

as shown, is of approximately a wedge shape, having the slanting walls 8 and 9 which rest on the offset enlarged portions 4 and 5, and are secured thereto by rivets or screw-bolts 10. By this arrangement it will be seen that the frog supports some of the weight, and the plate is so positioned and shaped that one-third of the weight is supported by the frog and two-thirds by the plantar-border, of the hoof which rests upon the shoe proper, and thus producing a shoe having a more natural means of supporting the weight of the animal.

The horizontal portion 2 of the shoe is provided on its lower face at the heel and toe portions with the bosses or sleeves 12. These bosses are provided with screw-threaded openings 13 therethrough and through the portion 2 of the shoe. Shoes of this character have to be made very thin, in order to be practical, and heretofore it has been difficult to provide a screw-connection for holding the removable calks on the shoes. This boss, as shown, lengthens the threaded connection and also receives all the lateral strain of the calk, which I will now proceed to describe. The calks, the heel calks now being referred to, are formed of an elongated portion 14 which rests upon the portion 2 of the shoe, and is provided with openings 15 through which the sleeves or bosses pass, and whereby the lateral strain is on the bosses. The boss is of a length slightly less than the thickness of the portion 14 of the calk, and when the screw-bolts 17 are firmly screwed into the bosses the heads rest upon the member 14 and hold it against outward movement. The screw-bolts are held in the boss against accidental unscrewing by a lost thread, as is readily understood.

The portion 14 is provided with a notch 18 in one edge, into which fits a lug 19 carried by the portion of the shoe. This lug as shown, is slightly longer than the thickness of the portion 14 of the shoe, and extends slightly thereabove, and by driving the said lug inwardly, the portion 14 is driven against the flange 3 of the shoe, and also lightly against the bosses to prevent any movement whatever of the calk. The rear end of the portion 14 is provided with the calk proper 20, which is provided with a cut-away portion 21 which receives the flange 3 of the shoe.

The toe calk 22 is of the usual form, having the curved base portion 23 which is connected to the shoe in the same manner as the heel calks, but the lug 24 is made considerably wider so that it extends approximately over to the calk proper 25, and it being above the portion 23, of the calk, it can be driven over directly against the calk proper and firmly clamp the same against the flange of the shoe, and also tightening the connection with the boss.

The shoe is fastened to the hoof by nails, passing through the openings 26 in the usual manner.

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

1. A horseshoe comprising a body portion having a downwardly-extending flange at its outer edge, bosses carried by the body portion, removable calks resting against the flange and having openings receiving the bosses, means secured in the bosses for securing the calk on the shoe, and inwardly-extending ears carried by the body portion and bearing against the inner edge of the calk.

2. A horse shoe comprising a body portion having a downwardly-extending flange at its outer edge, bosses carried by the body portion; removable calks resting against the flange and having openings receiving the bosses, screw-bolts passing through the calks and entering said bosses, inwardly-extending ears carried by the body portion and bearing against the inner edge of the calk, and a plate secured to said ears and forming a frog support.

3. A horseshoe comprising a body portion, bosses carried by the body portion, removable calks having an enlarged base resting upon the body portion, having recesses to receive the bosses, screws passing through the calks and entering the openings in the bosses, and a lug carried by the body portion and turned downwardly into a recess in the base of the calk.

4. A horse shoe comprising a body portion, bosses carried thereby, removable calks having an enlarged base resting upon the body portion and having openings to receive the bosses, screw-bolts passing through the calks and screwed into the bosses, the heads of the bolts bearing against the body of the calk, the body of the calk having a notch, and a lug extending upwardly from the body portion of the shoe and entering the notch in the calk, whereby the calk may be wedged against the vertical portion of the shoe and against the bosses.

5. A horse-shoe comprising a body portion having a flange around its outer edge, inwardly-extending ears carried by the inner edge of the body portion and having off-set portions extending parallel with the flange, removable calks resting upon the body por-

tion between the flange and the off-set portion of the ears, and a frog supporting plate secured to the upper face of said ears.

6. A horse shoe comprising a body portion formed of an L-shaped bar, bosses carried by the horizontal portion of the L-shaped bar, removable calks resting upon the horizontal portion of the bar and having openings to receive the bosses, screw-bolts passing through calks and screwed into the bosses, the heads of the bolts bearing against the calks inwardly-extending offset ears carried by the heel portion of the shoe, a spring plate resting upon the upper face of the off-set ears and spanning the space between the heel portions of the shoe, and means for securing said plate to the ears.

7. A horse-shoe comprising a body portion, a downwardly-extending flange carried by the outer edge of the body portion, inwardly-extending off-set ears carried by the heel portion of the shoe, calks carried by the body portions between the flange and the off-set ears, a spring plate resting upon the upper face of the off-set ears and spanning the space between the heel portion of the shoe and having a forwardly-extending wedge-shaped portion, and means for securing the plate to the ears.

8. A horse-shoe comprising a body portion having a downwardly-extending flange surrounding the outer edge thereof, downwardly-extending bosses carried by the body portion, inwardly-extending off-set ears carried by the heel portion of the shoe, calks having openings to receive the bosses and fitting between the flange and the off-set portion of the ears, screw-bolts passing through the openings of the calks and entering said bosses, and having their heads bearing against the lower face of the calks, a spring-plate resting upon the upper face of the off-set ears and spanning the space between the heel portions of the shoe and having its upper face flush with the upper face of the body of the shoe, and means for securing the plate to the shoe.

9. A horseshoe comprising a body portion having a flange around its outer edge, inwardly-extending ears carried by the inner edges of the body portion and having off-set portions extending parallel with the flange, removable calks resting upon the body portion between the flange and the off-set portions of the ears, lugs carried by the inner edge of the body portion and entering recesses in the calks, and a frog supporting plate secured to the upper face of the off-set portions of the ears between the heel portions of the shoes.

10. A horse shoe comprising a body portion inwardly-extending ears carried by the heel portion of the shoe, a spring steel plate carried by the ears and spanning the space between the heel portion of the shoe and the

upper face of the plate being flush with the upper face of the body portion of the shoe, and calks carried by the lower face of the body portion and engaging a portion of the
5 ears.

11. A horseshoe comprising a body portion having a flange around its outer edge, inwardly-extending ears carried by the inner edge of the body portion and having off-set
10 portions extending parallel with the flange, bosses carried by the lower face of the shoe, removable calks resting upon the body portion and having openings to receive the bosses and between the flange and the off-set

portion of the ears, lugs carried by the inner 15 edge of the body portion and entering recesses in the calks, and a frog-supporting plate secured to the upper face of the off-set portion of the ears between the heel portions of the shoe, and the upper face thereof flush 20 with the upper face of the body portion.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES W. CRANNELL.

Witnesses:

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