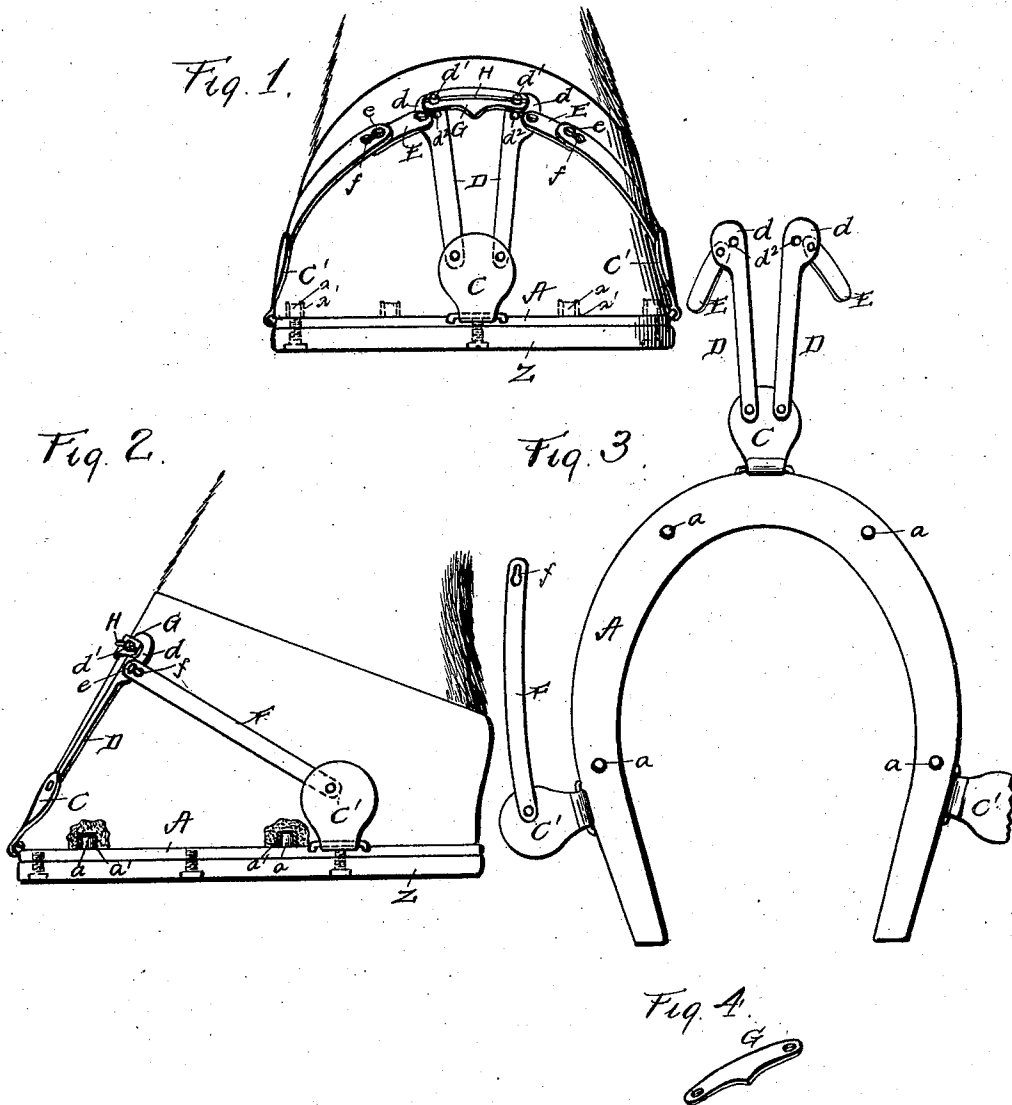


(No Model.)

C. W. CRANNELL.
NAILLESS HORSESHOE.

No. 577,009.

Patented Feb. 16, 1897.



WITNESSES
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NAILLESS HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 577,009, dated February 16, 1897.

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To all whom it may concern:

Be it known that I, CHARLES W. CRANNELL, a citizen of the United States, and a resident of Holton, in the county of Jackson and State of Kansas, have invented certain new and useful Improvements in Nailless Horseshoes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a front view showing a horse's hoof with the invention applied thereto. Fig. 2 is a similar view in side elevation. Fig. 3 is a plan view of the device detached and the securing devices opened out. Fig. 4 is a detail perspective view of the lock-plate G.

This invention has relation to nailless horseshoes, and has for its object the provision of improved means or "harness" whereby the shoe may be properly secured and held in place.

The invention consists in the novel construction and combination of parts, all substantially as hereinafter described, and pointed out in the appended claims.

Referring to the accompanying drawings, the letter A designates the hoof-plate of the harness, which is in the general form of an ordinary horseshoe, but somewhat thinner. Secured in said plate and projecting from the upper or inner face thereof are a series of studs or dowel-pins *a*, (usually two upon each side,) which are designed to engage with metallic sockets *a'*, set in the hoof. These sockets are usually screwed into the hoof, being provided with a quick-trained external thread for the purpose. They are designed to remain permanently in the hoof.

The letters C C' C' designate three lugs or clip-plates, which are hinged or pivoted to the plate A, the plate C being at the toe, while the plates C' C' are at the side near the heel. These plates are somewhat concave upon their inner faces, in order that they may seat neatly against the hoof.

D D designate two equalizing draw-straps which are pivoted to the upper lateral por-

tions of the clip-plate C, and which extend up upon the front portion of the hoof, one at each side of the center. The upper ends of these straps are provided each with a laterally-offset portion *d*, to which is pivotally secured a short link E, having at its opposite end portion a headed stud *e*, which is designed to engage a keyhole-shaped slot *f* in the forward end portion of a draw-strap F, which is pivotally connected to the clip-plate C' upon that side.

The upper end portion of each of the straps D has also a stud *d'* for engagement with a removable transverse lock-plate G, by means of which the harness, when properly adjusted, is secured. H is a spring-latch which engages said studs to secure the lock-plate. I usually provide a number of these lock-plates for each harness, the holes in the different plates being at different distances apart. In this manner the harness-straps may be adapted to different hoofs, or it may be differently adjusted as to tension upon the same hoof.

Each of the straps D has therein a small hole *d''*, and by means of a pair of pliers or other suitable implement adapted for engagement with these holes the straps may be drawn together to the proper tension and held until the lock-plate is put in place.

Z indicates the shoe proper, which is fitted to the plate A and is secured thereto by means of suitable removable screws or rivets. When worn, it can be removed and sharpened or replaced.

It will be observed that the connection between the straps D and the clips C' C', consisting of the links E and the draw-strap F, is of such character that when the straps D are drawn together the hoof-plate is drawn tightly up against the hoof and is securely held. At the same time the links E render the connections non-rigid, whereby the harness may adapt itself to the expansion and contraction of the foot while in motion.

To remove the harness, the lock-plate is first removed. The straps F can then be easily disengaged from the links E. The three clip-plates can now be turned down away from the hoof. If necessary, a thin blade or implement is next inserted between the plate and the hoof in order to disengage the dowels.

If desired, thin strips or lining-pieces of

any suitable character may be interposed between the several straps and the hoof. The straps are usually made of spring-steel and quite thin, so that the harness has but little weight. As the parts fit neatly upon the hoof, the harness is not at all objectionable or cumbersome in appearance.

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

1. The combination of the hoof-plate, the side and toe clip-plates hinged or pivoted thereto, the two straps pivotally connected to the toe clip-plate, the short links pivoted one to the upper portion of each of said straps, the side draw-straps, pivotally connected to the side clip-plates at one end portion and having at their opposite end portions means whereby they may be detachably engaged with said links, and the transverse lock-strap, substantially as specified.

2. In a nailless horseshoe, the combination with a hoof-plate of shoe form, and to which the shoe proper is designed to be removably secured, said plate having studs or dowels upon its upper face, of sockets set in the hoof to receive said studs or dowels, and means for holding said plate to the hoof, substantially as specified.

3. In a nailless horseshoe, the combination with a hoof-plate of shoe form, and having the studs or dowels, of the clip-plates hinged

or pivoted thereto, one at the toe, and one at each side portion, the two equalizing draw-straps pivoted to the toe clip-plate, the side draw-straps pivoted one to each of the side clip-plates, the links pivotally connected to said equalizing draw-straps and having means whereby they may be detachably and loosely connected with the side draw-straps, and means for locking said straps in the proper adjustment, substantially as specified.

4. The combination of the hoof-plate of shoe form, and having dowels arranged to engage sockets in the bottom of the hoof, the shoe proper removably secured to said hoof-plate, the toe clip-plate and the two side clip-plates hinged or pivoted to said hoof-plate, the side draw-straps having the slotted openings, the front or equalizing draw-straps having the studs at their upper portions, the links pivotally connected to said front or draw straps and having headed studs designed to loosely and detachably engage the slotted openings of the side draw-straps, and the transverse lock-plate arranged to engage the studs of the front draw-straps, all substantially as and for the purpose specified.

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

CHARLES W. CRANNELL.

Witnesses:

EDWARD T. ELLIS,

G. E. HULTON.