(No Model.)

D. JAFFRAY.

HORSESHOE.

No. 301,721. Patented July 8, 1884.

Fig. 1.

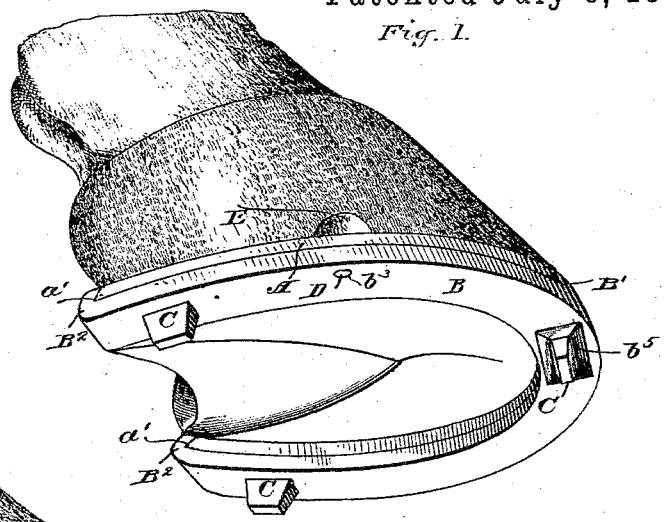


Fig. 2.

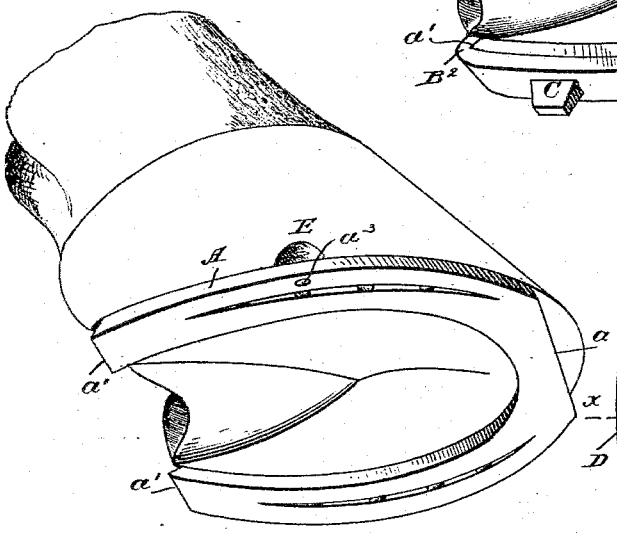


Fig. 4.

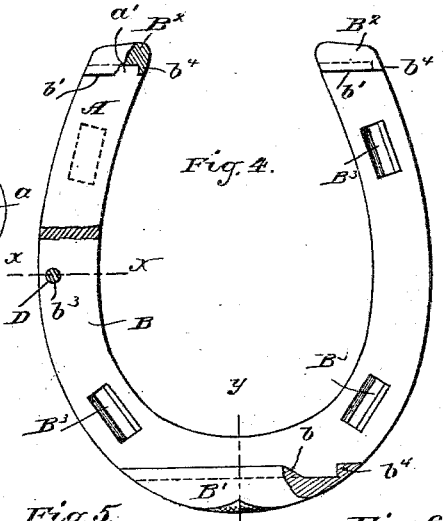


Fig. 3.

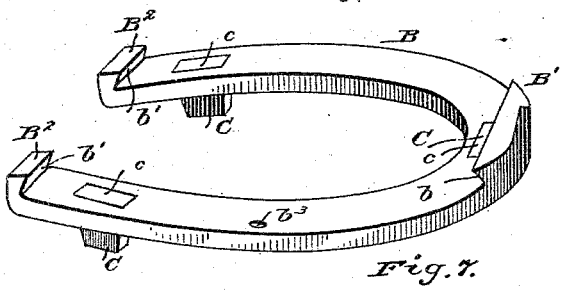


Fig. 5.

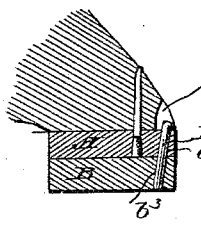


Fig. 6.

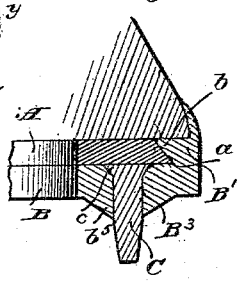
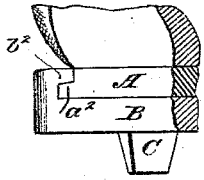


Fig. 7.



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UNITED STATES PATENT OFFICE.

DAVID JAFFRAY, OF CHICAGO, ILLINOIS.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 301,721, dated July 8, 1884.

Application filed March 7, 1884. (No model.)

To all whom it may concern:

Be it known that I, DAVID JAFFRAY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Horseshoes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in that class of horseshoes consisting of a part which is attached permanently to the horse's foot, and a second removable part which is attached to the permanent part in such manner that it may be readily removed for the purpose of repairing or replacing calks attached thereto, or for other purposes.

The objects of this invention are to provide an improved means for detachably connecting the parts of a two-part horseshoe, and for securing calks in such shoes; and it consists in the matters hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a horse's foot and a two-part shoe of a form proposed by my invention attached thereto. Fig. 2 is a similar view of the part of the shoe which is permanently attached to the foot. Fig. 3 is a perspective view of the removable part of the shoe detached. Fig. 4 is a plan view showing another form of the same. Fig. 5 is a fragmentary sectional view of the two parts of the shoe, and of adjacent portions of the hoof, taken upon line *x x* of Fig. 4. Fig. 6 is a similar sectional view taken upon line *y y* of Fig. 4. Fig. 7 is a detail view, which will be hereinafter described.

A is the inner or stationary part of the shoe, which is attached by means of nails, in the usual manner, to the hoof, and is intended to be removed only at such times as it becomes necessary on account of the growth of the hoof.

B is the outer or removable part of the shoe, which is made of the same size as the part A, and preferably flat upon its upper surface, so as to fit upon the corresponding flat lower surface of the part A, and is preferably provided with removable calks C, secured thereto in a manner hereinafter described.

As an improved means of removably securing the part B to the part A, the curved portion at the front or toe end of the bar, comprising the part A, is cut off transversely, so as to form a straight face, *a*, and the rear ends of its side portions are made slightly shorter than the corresponding portions of the part B, and are formed with transverse end faces, *a'*, in alignment with each other and generally parallel with the face *a*. The opposite faces *a a'*, above mentioned, are beveled downwardly and outwardly, as shown in Fig. 2, and the part B of the shoe is provided at its front and rear with upwardly-extending portions B' and B^2, provided upon their inner and adjacent sides with inclined or beveled faces *b b'*, corresponding with the faces *a* and *a'*, the said projecting portions B' and B^2 being of the same height as the thickness of the part A, so that the two parts may be placed together with the bevel engaged in the manner of a dovetail in order to securely hold the two parts together. The adjacent beveled faces of the portions B' and B^2 are preferably parallel with each other, so that when the two parts of the shoe are placed together by being slipped or moved sidewise, one upon the other, there will be no tendency of the plates to become loosened by a slight relative lateral movement.

Instead of making the faces of the projections B' and B^2 and the faces of the part A engaged therewith inclined or beveled, as above described, the same result may obviously be effected by providing the parts with interlocking projections of other shape, as is, for instance, indicated in the detail view, Fig. 7, in which a part of the rear ends of the parts of the shoe are shown as provided with interlocking rectangular projections a^2 and b^2.

The plates, when held together in the manner above described, may be held from lateral movement by a pin, D, inserted through apertures a^3 and b^3 in the plates A and B, respectively, or in any other well-known or desired manner.

As illustrated in Figs. 1, 2, and 3 the parts of the shoe are held together by the pin D only; but in the form of the shoe illustrated

in Fig. 4 the projections B′ and B² are provided with stops b^4 to limit the relative lateral movement of the plates in one direction, the pin D being depended on to hold the plates from movement in a direction away from the stops only. The pin D, as shown more clearly in Fig. 5, is preferably located at one side of the shoe, and adjacent to the outer edge of the bars or plates comprising the latter, a small notch, E, being preferably cut in the hoof at a point adjacent to the upper end of the pin, whereby a punch or other implement may be applied for driving out the pin. When stops b^4 are used, they are preferably placed upon the side of the shoe which is located at the inner side of the hoof, so that the part B of the shoe may be slipped in place from the outer side thereof; and the pin D is preferably located at the same or outer side, so as to be readily accessible to the operator. The calks C are, as herein shown, provided with enlarged portions or heads *c*, and inserted in apertures B^3 in the part B of the shoe, the head *c* being countersunk or fitted in recesses in the shoe, so as to be flush with the upper surface thereof, and to rest against the lower surface of the part A when the parts of the shoe are placed together. The walls of the apertures B^3 are preferably made parallel, as shown more clearly in Fig. 6, and the portion of the calks located within the apertures of corresponding shape, the object of this construction being to prevent any slight end movement of the calks from loosening them, as is liable to be the case when the body of the calks is tapered, as in a construction heretofore used in a two-part shoe. As illustrated in Figs. 1, 3, and 6, three calks are used, the portion of the shoe adjacent to the toe-calk being shown as re-enforced by a raised portion, b^5, surrounding the aperture B^3. In Fig. 4 the part B is represented as being provided with apertures for four calks. Any desired number of calks may, however, be used, and they may be arranged in any desired or preferred manner.

An important advantage in the construction in the means for connecting the two parts of the horseshoe above described is that the projections B′ and B², being arranged transversely of the shoe, are in a position to more effectually resist the strains having the greatest tendency to separate the parts of the shoe, such strains being those produced by the pull or strain caused by the efforts of the horse to draw the load and those caused by the contact of the shoe with stones or the ground when the foot is thrown forward.

Another advantage derived from the construction set forth is that the calks are firmly and securely held in place, and may be quickly and readily removed and replaced or new ones inserted.

Other advantages are that the parts being exceedingly simple in construction they may be easily manufactured to fit to each other, it being possible, on account of the simplicity of the structure in the lower and movable parts, to make it of cast-steel, whereby it will be much stronger and more durable than when forged of iron in the usual manner. By making the projections B′ and B², by which the upper and lower parts are connected, upon the lower part, the upper part or plate attached to the hoof is left perfectly plain and flat upon its lower side, so that when the lower or detachable part is removed the horse may rest upon the said upper part without injury thereto, and the said upper part being comparatively light and thin, the horse is practically shoeless when the said lower part is removed.

A great benefit may be obtained by removing the lower part when the horse becomes lame or is to stand some time without use, the foot, on account of the thinness of the plate, being permitted to rest upon the ground in the natural manner and with the frog in contact therewith.

It is found advantageous to remove the lower part of the shoe, containing the calks, when the horse is to stand for some time, for the reason, also, that the liability of the horse to strike and injure himself with the calks is thereby avoided.

I am aware that two-part horseshoes have heretofore been made in which the parts thereof have been fastened together by transverse dovetailed projections upon one part which enter correspondingly-shaped recesses in another part. The appended claims are not therefore intended to cover, broadly, such dovetailed connections; but my invention is limited to a construction in which one plate or part composing the shoe is flat, and is provided with transverse end faces constructed to interlock with transverse projections upon the other part, as set forth in the following claims.

I claim as my invention—

1. The combination, with the stationary part A of a two-part horseshoe having transverse end faces, of a removable part, B, provided with projections B′ B², having transverse inner faces constructed to interlock with the end faces of the part A, and means constructed to secure the parts A and B from lateral movement, substantially as described.

2. The combination, with the parts A and B of a horseshoe provided, respectively, with transverse interlocking faces, of stops b^4, constructed to hold the parts from movement in one direction, and means for holding the parts from movement in the opposite direction, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

DAVID JAFFRAY.

Witnesses:
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OLIVER E. PAGIN.