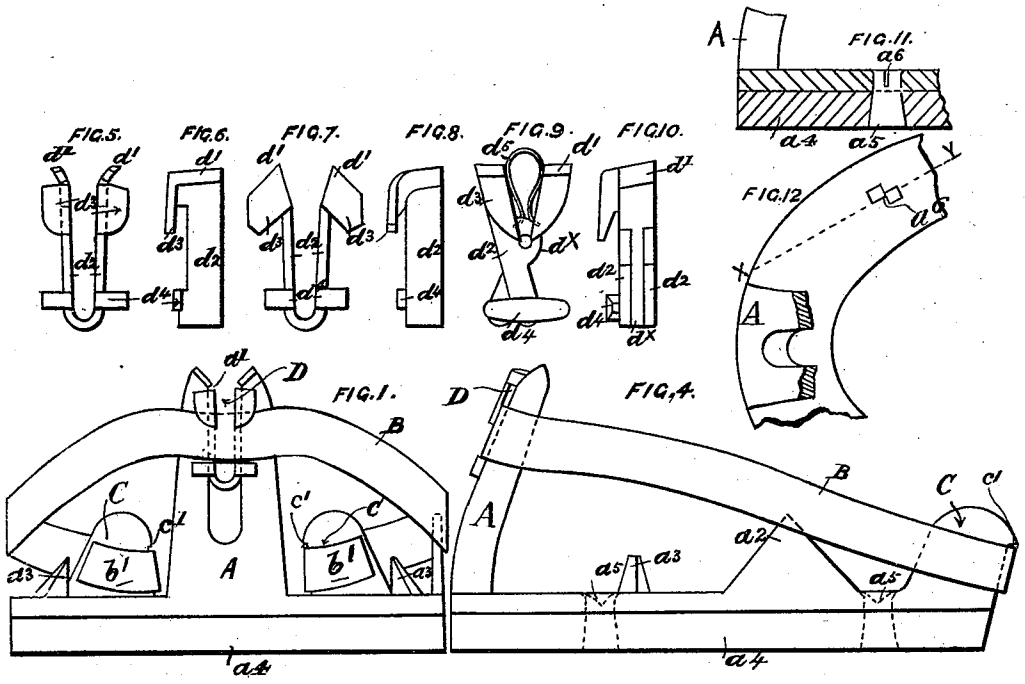
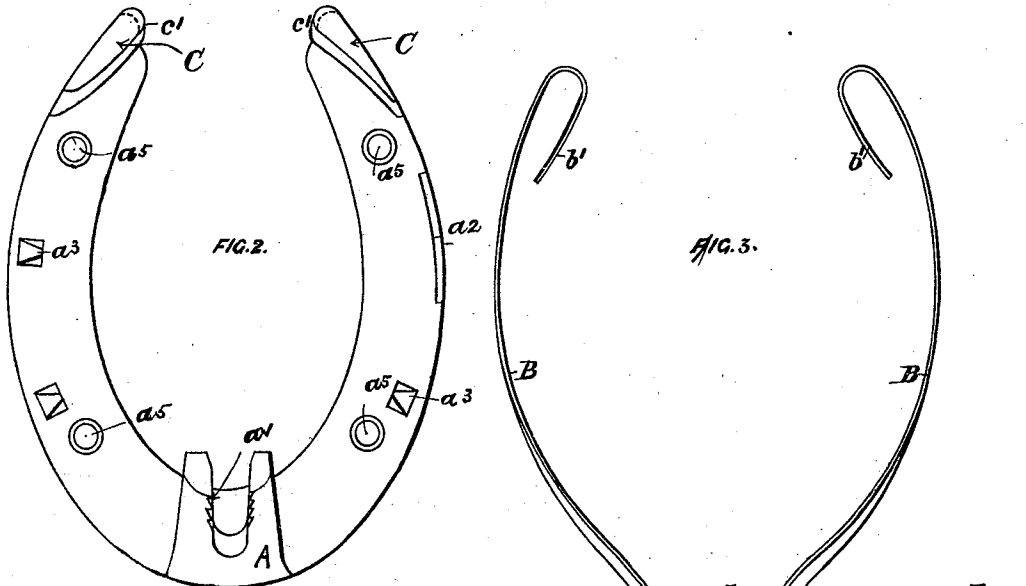
(No Model.)

W. H. WAKFER.

NAILLESS HORSESHOE.

No. 545,559. Patented Sept. 3, 1895.





Witnesses.
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WILLIAM HENRY WAKFER, OF LONDON, ENGLAND.

NAILLESS HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 545,559, dated September 3, 1895.

Application filed May 17, 1895. Serial No. 549,690. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY WAKFER, engineer, a subject of the Queen of Great Britain, residing at No. 16 Hermitage Road, Green Lanes, Finsbury Park, in the county of Middlesex, in England, have invented new and useful Improvements in and Connected with Shoes for Horses and other Animals, of which the following is a specification.

My invention relates to improvements in that class of shoes for horses and other similarly-hoofed animals in which nails are dispensed with, one or more side clips and a band being substituted therefor, and the easy application and removal of the shoe accomplished at desire.

Figure 1 of the accompanying drawings represents in front elevation my improved shoe. Fig. 2 is a plan thereof. Fig. 3 is a plan view of the band or strap; Fig. 4, a side elevation. Fig. 5 is a front view of a spring-clip to hold the band down on the front lug of the shoe. Fig. 6 is a side elevation thereof. Fig. 7 is a modified form of spring-clip in front elevation. Fig. 8 is a side elevation thereof. Fig. 9 is another modification of spring-clip in front elevation, and Fig. 10 is a side elevation thereof. Fig. 11 is a section on line X Y, Fig. 12; and Fig. 12 is a plan.

The shoe is provided with a front lug A, which is divided part of the distance down, as shown in Figs. 1, 2, and 4, and it has internal ratchet-teeth a' in such manner that when a metal strap or band B (the ends of which are bent round and hooked over heel-lugs C C) is forced down over and in front of the said front lug A the shoe is held securely on the animal's hoof. The band is kept down in its proper position by means of the spring-clip D, the construction of which is shown more plainly in Figs. 5 to 10.

Referring to Figs. 5 and 6, the form of clip there shown consists of a piece of flat elastic metal or material bent round to form a V or U shaped spring, the upper ends d' d' being sharpened and so fashioned as to take into the ratchet-teeth a' in the front lug of the shoe when the clip has been contracted by pressing together its two upright sides d^2 d^2, introduced between the said ratchet-teeth and released from pressure. The clip is further provided with outwardly and downwardly projecting parts d^3 d^3, which take over the strap or band B when it is in position on the shoe, as shown more particularly in Figs. 1 and 4. The turned-over and bent-down parts d^3 d^3 prevent the strap or band B from moving up out of position, and the outwardly and backwardly projecting parts d^4 d^4 prevent the band from slipping down and away from the clip, besides which they serve to make the clip and the band move downward together when the latter is forced down over the front lug A and round the hoof in putting the shoe on. The heel-lugs C, Figs. 1, 2, and 4, are, as shown, provided with projecting parts c' c', which prevent the band from slipping up and off the lugs, round which latter the ends of the band are, as shown, formed hook-shaped; but these hook-shaped parts b' (see also Fig. 3) are of such a size that when the band is released in front of the shoe at A they may easily be unhooked from the heel-lugs C C. In front the band is made, as far as possible, to conform to the contour of the animal's hoof by being bent, as at b^2, and this bent part goes over the front lug A and is there held by the projections d^3 d^3 and d^4 d^4 of the clip D. The shoe is provided with one or more side clips a^2 to assist in keeping the shoe in its proper place on the animal's hoof, and in practice one is generally found to be sufficient when it is, so to speak, supplemented by sharp points or spikes a^3.

Figs. 7 and 8 show another spring-clip only slightly differing in form from that described with reference to Figs. 1, 4, 5, and 6, and Figs. 9 and 10 illustrate a clip consisting of two parts d^2 $d^\times$, hinged together in the middle, each having an outwardly and downwardly projecting part d^3 to take over the band or strap B and a projecting part d^4 on one of the parts d^2 to prevent the band from moving downward without causing the clip to move with it. The upper parts of the members d^2 $d^\times$ are made sharp at d', as aforesaid, with reference to Figs. 5 to 8. The members d^2 $d^\times$ are kept sprung apart by means of a bent spring d^5, (shown only in Fig. 9,) the ends of which spring take into recesses in the inside of the members d^2 $d^\times$. The lower or wearing part a^4 of the shoe is made easily removable for renewal from time to time when worn out, and I have devised a convenient mode of ef-

fecting this by providing it with a suitable number of taper-studs a^5, either made separate or integral with said wearing part. The upper end of each of these studs is provided with a small hole or recess. The holes in the upper part of the shoe corresponding with these studs are also made slightly tapered, as shown, so that when the upper and lower parts of the shoe are in position with regard to each other a comparatively slight blow or blows with a center punch in the holes in the upper parts of the studs a^5 will cause them (the studs) to fill the tapered holes in the upper part of the shoe and hold the wearing part a^4 securely thereon.

Figs. 11 and 12 represent modified forms of studs, each of which is provided with a nick in the middle above. In securing the wearing part a^4 to the upper part of the shoe the metal on one side of the nick a^6 is bent over on one side, while the metal on the other side of the nick is bent over on the opposite side. Although I have shown the wearing part a^4 made in one piece, it is evident that it may be made in parts, so that the toe part, for instance, might be renewed before it was necessary to renew the side or heel parts, if there be such; or, on the contrary, one or more of the side parts might be renewed before the toe part, if need be.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a shoe for horses and other hoofed animals, the combination of an upper part, with one or more side clips a^2 and projections a^3 and having heel lugs C, and front lug A with ratchet teeth a', a spring clip D, and a band B, with a wearing part a^4, substantially as set forth.

2. A nailless horse shoe provided with a bifurcated toe pillar having serrations or teeth in the proximate faces of its limbs, and a strap adapted to be connected with the heel ends of the shoe and fitting over the bifurcated portion of said pillar, of a locking clip adapted to seat in the fork of the aforesaid pillar and engage the serrations thereof, said clip provided with abutments for the opposite edges of the strap to hold the same against vertical displacement on the pillar, for the purpose set forth.

3. A nailless horse shoe provided with a bifurcated toe pillar having serrations or teeth in the proximate faces of its limbs, and a strap detachably connected with the respective heel ends of the shoe and fitting over the bifurcated portion of the pillar, in combination with a spring clip adapted for insertion between the limbs of the pillar and constructed to interlock with the serrations thereof, said clip provided with a transverse abutment for the lower edge of the strap and with locking lugs projecting downwardly over the upper edge of said strap, substantially as and for the purpose set forth.

4. A nailless horse shoe provided with a bifurcated toe pillar having serrations or teeth in the proximate faces of its limbs, and shouldered heel projections C, and a strap bent upon itself and adapted to hook under the shoulders of the heel projections and fit over the bifurcated portion of the toe pillar, of an expansible locking device adapted to seat between the limbs of the toe pillar and interlock with the serrations of its limbs, said locking device provided with abutments adapted to lock the strap against vertical displacement on the pillar, for the purpose set forth.

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