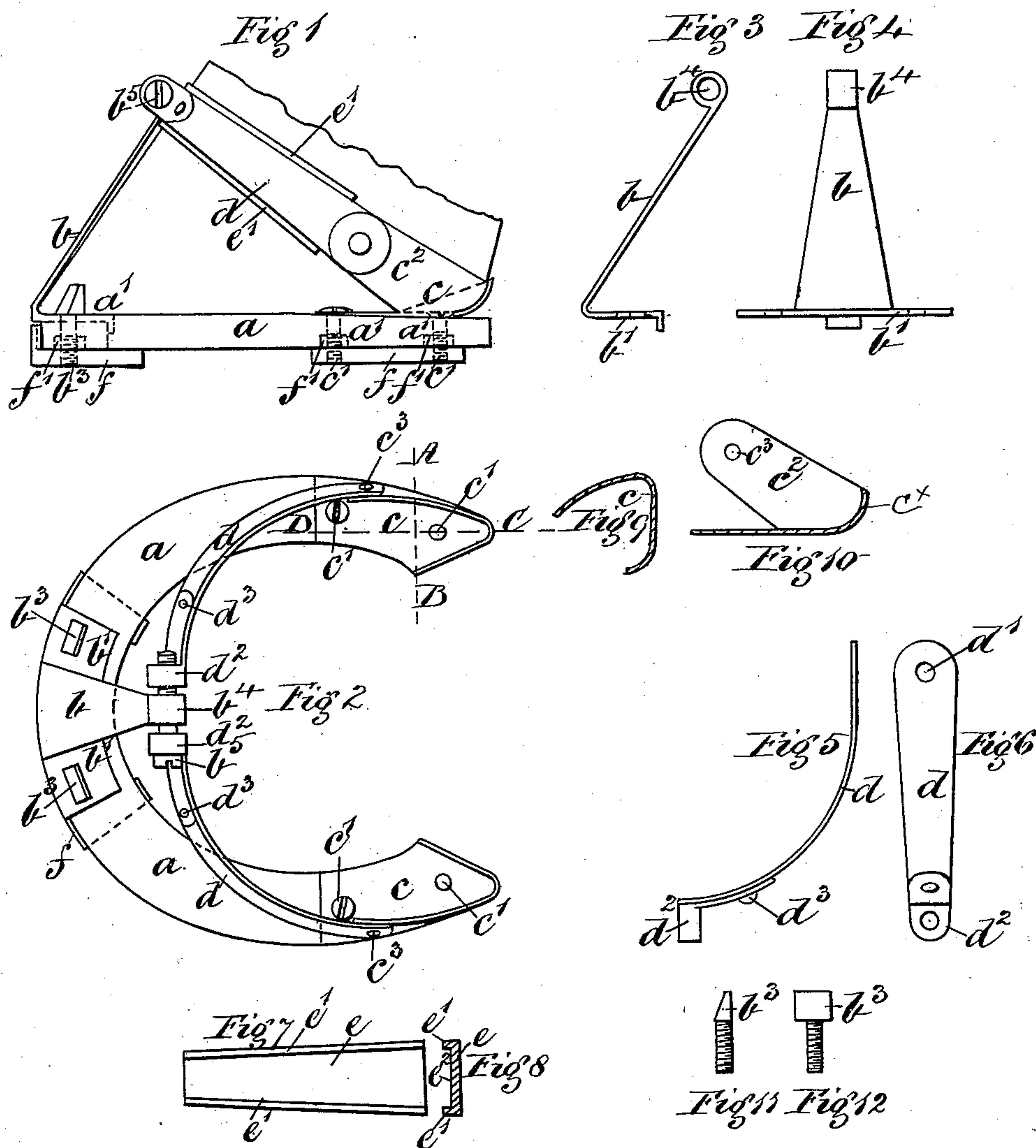


(No Model.)

R. D'ANVERS.
NAILLESS HORSESHOE.

No. 507,420.

Patented Oct. 24, 1893.



Witnesses:

Richard Edward Rawnsley
Sybil Mary Hughes

Inventor:

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UNITED STATES PATENT OFFICE.

ROLAND D'ANVERS, OF HASTINGS, NEW ZEALAND.

NAILLESS HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 507,420, dated October 24, 1893.

Application filed October 5, 1892. Serial No. 448,923. (No model.)

To all whom it may concern:

Be it known that I, ROLAND D'ANVERS, a subject of the Queen of Great Britain, residing at Hastings, in the provincial district of Hawke's Bay, in the Colony of New Zealand, have invented new and useful Devices for Attaching Horseshoes, of which the following is specification.

My invention relates to improvements in means for attaching shoes to the hoofs of horses or mules without the use of nails; and my invention consists in the construction and combination of devices hereinafter described and particularly pointed out in the claims whereby a nailless shoe can be firmly and securely attached to the foot.

My invention is illustrated in the annexed drawings in which—

Figure 1. is a side view of a horse's hoof with my improved horse shoe attached. Fig. 2. is a plan of the horse shoe and its attachments. Fig. 3. is a side view of the front strap or clip. Fig. 4. is a front view of the same. Fig. 5. is a side view of one of the half bands. Fig. 6. is a front view of the same. Fig. 7. is a side view of the elastic packing. Fig. 8. is a section of the same. Fig. 9. is a section of the heel shoe taken through the line A B. of Fig. 2. Fig. 10. is a section of the same taken through the line D C. of Fig. 2. Fig. 11. is a side view of the toe spikes. Fig. 12. is a front view of the same.

Similar letters of reference indicate like parts in all the figures.

a. represents the shoe plate having a plain upper and under surface, except that the ends of the upper surface are slightly beveled for a purpose to be hereinafter described; this shoe plate has six perforations *a'* for the passage of the bolts or rivets by which the accompanying parts are attached.

b. is the front strap or clip having a broad foot *b'* by which it is attached to the front of the shoe plate (as shown in Fig. 2.) and by means of screws *b³* which have their upper ends so formed as to form toe spikes. At the upper end of this strap or clip is formed an eye or hook *b⁴* to receive the screw *b⁵*.

c c. are the heel shoes which rest upon the ends of the shoe plate *a* and are fastened to the upper surface of the same by screws or

rivets *c' c'*. These heel shoes are so formed as to project upward on both sides so as to clip the outer wall of the hoof and also the inside of the bar at the same time that they also project upward at the back of the heel, the rear of the base plate being turned up at *c^x*, Fig. 10, and *c²* is a lug projecting upward and fitting to the contour of the hoof, and it has a hole *c³* to receive a screw or rivet. The ends of the shoe on their upper surface are by preference slightly beveled to receive the heel shoes *c*, but it will be evident that they can be formed on the shoe plate itself provided always that the walls of the heel shoe are of such a thickness as to be readily bent and bedded so as to form abutments to prevent the hoof working backward out of the shoe by the action of the horse.

d d. are half bands having holes *d'* by which they are attached by a suitable rivet to the heel shoe as shown in Fig. 1, and they extend around the hoof and are fitted with ears or lugs *d²* through which the screw *b⁵* passes clipping them firmly on either side of the eye or hook *b⁴*. The ears or lugs *d²* are shown riveted on with rivets *d³* but can be made in one piece with the half bands if desired. These bands I prefer to make of copper or a metal which can be readily bedded to the correct form of the outside of the hoof.

e. is a packing of india rubber placed underneath the half bands *d* to give elasticity and so allow of the half bands being more readily bedded to the hoof with an equal bearing and without undue pressure. These packings I prefer to make with flanges *e'* so as to form a groove *e²* in which the half bands are incased; and I also prefer that these be cemented to the said bands.

b³ b³ are spikes with screwed ends to unite the foot *b'* of the front strap *b* firmly to the shoe plate. They are formed at their upper ends in a chisel shaped form so as to enter the hoof behind the hard part of the shell. These upper ends I prefer to be beveled at the front so as to correspond with the angle of the front of the hoof and to be perpendicular at the back as shown.

fff. are toe and heel calks held in position by the screws or bolts *c'* and *b³*. These calks can easily be renewed when worn, or a false

shoe may be fixed on by the screws c' and b^3 which can be readily replaced when worn in consequence of the easy removal of the shoe proper.

5 In shoes of this description the difficulty has been to keep the shoes firmly on the hoof without unduly straining the foot or causing undue pressure or injury, and I have found that the pressure on the toe when the horse
10 is moving quickly causes a backward tendency of the hoof so that the heel gradually works itself upward and outward and thus the shoe becomes loose. These defects are prevented by the elasticity of the packing e and
15 the form of the heel shoe c .

What I claim as my invention is—

1. In combination, the shoe plate a , the front strap b and the half bands d connected therewith, and the heel shoes c , each of which
20 has a base plate attached to the shoe plate and a side lug c^2 attached to the half bands, said base plate having its rear inclined end

turned up at c^x to fit the hoof, substantially as described.

2. In combination, the shoe plate a , the 25 front strap b , the half bands d , the heel shoes connected to the rear ends of said bands and to the heel shoes, and the flanged rubbers e adapted to be placed on the under sides of the half bands, substantially as described. 30

3. In combination, the shoe plate, the front strap, and the half bands connected thereto and to the rear of the shoe plate, the said front strap having a broad base with perforations therein, and the screws passing 35 through the same into the shoe plates, said screws having spikes on their upper ends which are beveled on their front sides, substantially as described.

ROLAND D'ANVERS.

Witnesses:

HENRY HOWORTH,
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