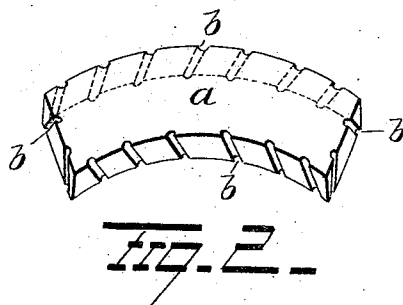
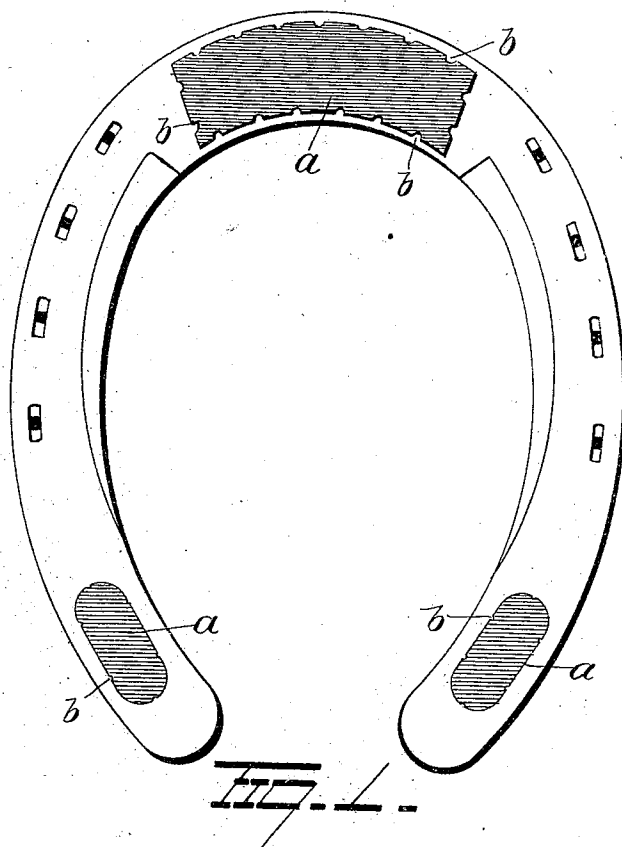


(No Model.)

C. C. JEROME.
HORSESHOE.

No. 514,753.

Patented Feb. 13, 1894.



Witnesses
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CHARLES C. JEROME, OF CHICAGO, ILLINOIS.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 514,753, dated February 13, 1894.

Application filed August 12, 1893. Serial No. 482,993. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. JEROME, a resident of Chicago, in the State of Illinois, have invented certain new and useful Improvements in Horseshoes; and I do hereby 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.

My invention relates to an improvement in horseshoes, the object being to produce a light and at the same time durable horseshoe which may be made at a comparatively small cost.

With these objects in view my invention consists in certain novel features of construction and combinations of parts which will be hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of my improved shoe. Fig. 2 is a detached view of one of the bearings.

It has been found from experiments that aluminium cannot be alloyed with any other metals to render it fit for horseshoes as any metals with which it may be alloyed render it brittle and absolutely useless for this purpose. I propose to harden the horseshoe under a drop hammer or under any pressure sufficient to compress and condense the metal. This I find to be the only way in which aluminium can be treated to consolidate it and render it strong enough to stand under a horse's foot. In my experiments I applied the blows from a five hundred pound hammer gradually increasing up to fifteen hundred pounds, and until the fifteen hundred pound hammer was reached I failed to get the material sufficiently solid and dense to prevent bending out of shape. To obtain the desired pressure I find it necessary to use very expensive dies. These dies have to be made of at least a cubic foot of solid steel and made in the form of male and female dies, the male entering the female die to a nice fit so that the metal cannot flush or be forced out between the dies. In this manner the metal has to compress and I have found that nothing less than a fifteen hundred pound hammer with a ten-foot drop will consolidate

and force the grains of this metal together sufficiently to render it fit for a horseshoe.

In addition to forming a horseshoe of aluminium by compression, I may insert steel bearings *a a* in the lower face of the shoe. When these bearings are used they are preferably provided on their edges with diagonal grooves *b b* as shown in Fig. 2, these grooves extending in opposite directions on the opposite edges usually and one in each direction on the ends if desired. The bearings being thus constructed they are laid in the die and before the metal is consolidated or while it is being consolidated by the blows which are required to strike it up, the steel plates are pressed into the aluminium shoe as shown in Fig. 1, and the aluminium is driven into the diagonal grooves thus making it absolutely firm and solid.

In treating the shoe as I do, the aluminium is rendered more dense and stronger than steel; and by the addition of the bearings the shoe will wear even longer, as the bearing plates are made of the best steel and hardened as hard as fire and water can make them, which would be impossible if the entire shoe were made of hardened steel.

It is evident that slight changes might be made in the details of construction without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth, but,

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

1. As an article of manufacture, an aluminium horseshoe having a bearing plate of different material sunk into one face of the shoe, said bearing plate having roughened edges and said edges entirely surrounded by the aluminium in which the bearing plate is embedded, substantially as set forth.

2. The combination with a horseshoe composed of aluminium, of steel bearing plates having diagonal grooves in the edges, said plates pressed in the aluminium shoe, substantially as set forth.

3. As an article of manufacture, a horse-

shoe the body of which is composed of one
variety of metal which has bearing plates of
another variety embedded therein, with their
outer faces flush with the outer faces of the
5 body of the shoe, and having their edges
grooved and surrounded by the metal form-
ing the body of the shoe, substantially as set
forth.

In testimony whereof I have signed this
specification in the presence of two subscrib- 10
ing witnesses.

CHARLES C. JEROME.

Witnesses:

A. B. ELLIOTT,
WM. F. STEPHENSON.