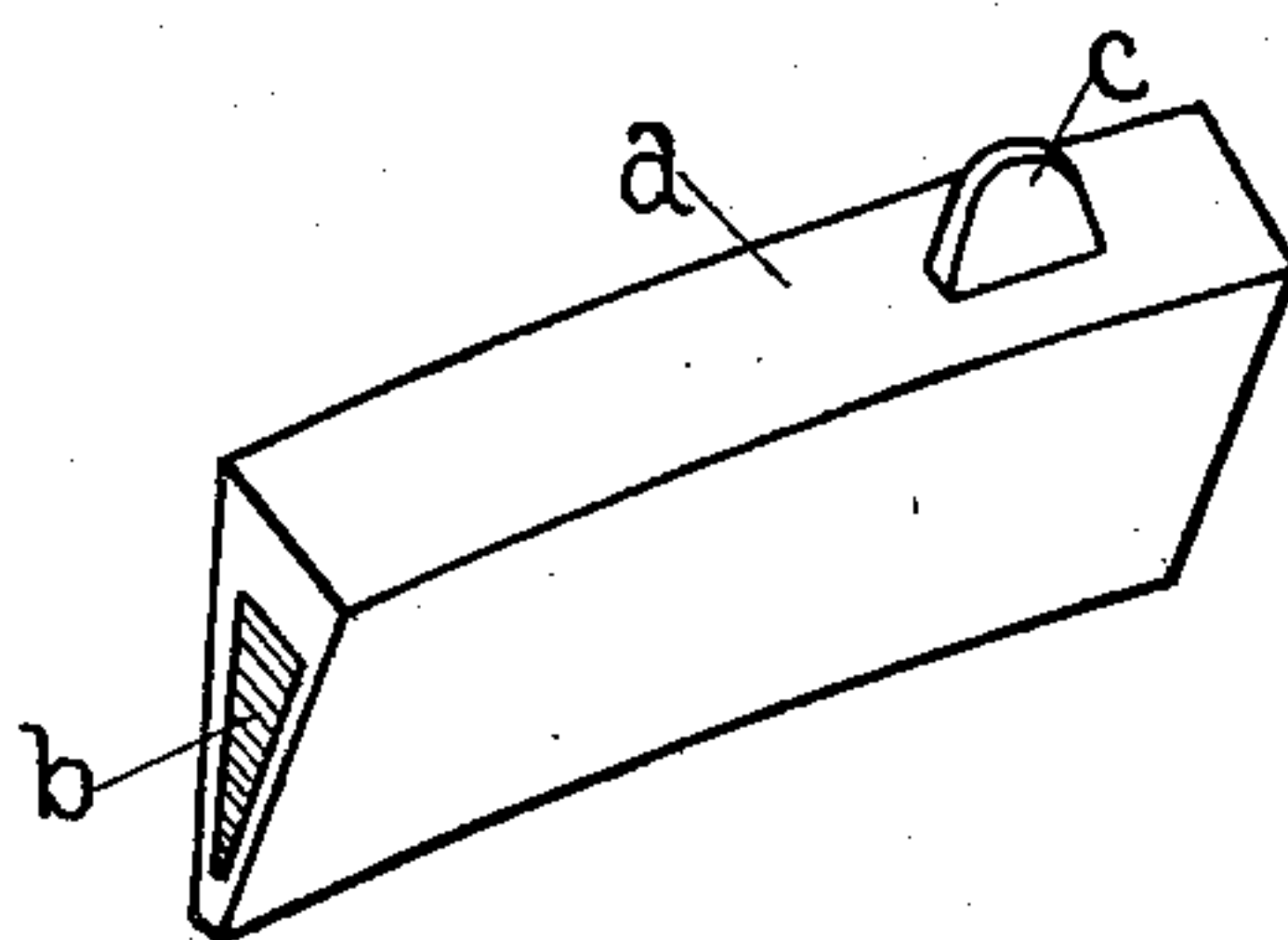


R. W. COMSTOCK, JR.
SELF SHARPENING HORSESHOE CALK.
APPLICATION FILED APR. 26, 1910.

999,700.

Patented Aug. 1, 1911.



WITNESSES
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SELF-SHARPENING HORSESHOE-CALK.

999,700.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed April 26, 1910. Serial No. 557,682.

To all whom it may concern:

Be it known that I, RICHARD W. COMSTOCK, Jr., a citizen of the United States, residing at the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Self-Sharpener Horseshoe-Calks, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to calks for horseshoes, of that type in which the interior of the calk is made of steel, while the outer portion is of softer metal such as wrought iron which will wear away in use so as to result in the calk becoming self-sharpening by wear, the steel core lasting longer of course and always presenting a sharper edge to the ground or ice than would be the case if the calk were entirely of one kind of metal. Calks of this type are well known, but some difficulty has been experienced in attaching them to the shoes, because when the blacksmith welds the calk to the shoe the steel is liable to become more or less carbonized or rendered too brittle when the whole is raised to a heat sufficient for welding the wrought iron.

The object of this invention is to provide a calk in which a steel core of a very high grade may be employed, but will be so protected by the wrought iron casing or envelop, as to entirely avoid the liability of carbonizing.

In carrying out my invention when being welded to a shoe I incase the steel in a wrought iron envelop, said envelop or casing not only extending over the top and sides of the core, but also under the lower or calk-forming edge of the steel core.

The accompanying drawing illustrates in perspective, a calk constructed according to my invention.

The steel core *b* may be of any form preferred, the lower edge being more or less sharp according to requirements. Some styles of calks are made quite sharp and others quite blunt. The drawing indicates a somewhat intermediate form. The casing or envelop of wrought iron is indicated at *a*,

and a spur by means of which the calk is to be attached to the shoe, is indicated at *c*.

In the manufacture of the calks, a long piece of steel of suitable shape in cross section is assembled with pieces of wrought iron to form a pile with the iron around the steel, and the whole is heated and passed through a rolling mill so that the wrought iron will be caused to completely inclose the core. Since steel will fuse at a lower temperature than wrought iron, the iron casing forms a protective envelop for the steel which will prevent the latter from fusing or becoming injured by the intense heat before the iron has been raised to a sufficient temperature to enable it to be welded to a horseshoe.

It will be readily understood of course that the best wearing results can be attained when the steel employed is of a high grade quality. Such steel however cannot be welded because it will disintegrate at a welding temperature. Since for the same reason such a piece of steel could not be welded to a horseshoe, my invention provides means whereby such steel not only can be secured to a horseshoe, but will be so held that it cannot get out of position in use. By inclosing the steel core within the wrought iron, and the two being rolled together in the manufacture, the core is retained in place, its shape preserved during the operation of attaching the calk to the shoe and its durability in use preserved. Such of the core as might possibly be carbonized at the ends of the calk during the operation of welding the calk to the shoe, will not be sufficient to materially reduce the effectiveness of the calk. As soon as a shoe, having my improved calk attached thereto, is put to use, the portion of the envelop or casing under the edge of the core soon wears away so as to expose the lower and sharper edge of the steel core. The wrought iron sides continuing to wear soon brings the calk into its automatic self-sharpening condition.

It will be understood that the wide upper surface of the calk, being entirely of wrought iron, provides the best surface for welding

to the horseshoe. The preferred form in cross section is of course to have the sides of the core and the sides of the casing, inclined or tapered downwardly toward the edge which bears on the ground.

Having thus described my invention, what I claim is:

A horseshoe calk comprising a steel core and a wrought iron casing inclosing the top,

bottom and sides of said core, said wrought iron casing being provided with a wide welding base and an integral attaching spur.

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

RICHARD W. COMSTOCK, JR.

Witnesses:

HOWARD E. BARLOW,

E. I. OGDEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
