E. HUBER.

HORSESHOE CALK.

APPLICATION FILED NOV. 11, 1908.

957,212. Patented May 10, 1910.

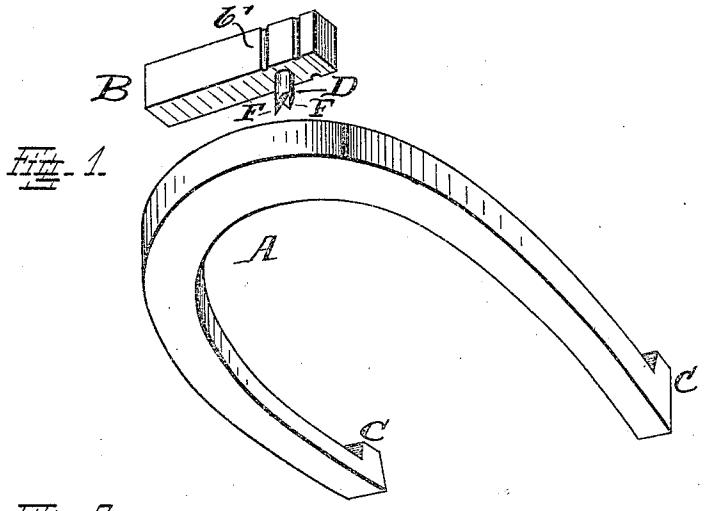

Fig. 1.

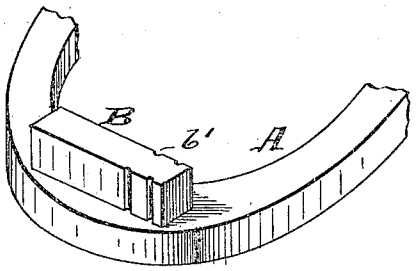

Fig. 2.

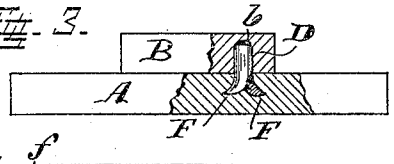

Fig. 3.

Fig. 4.

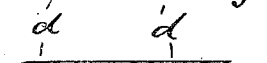

Fig. 5.

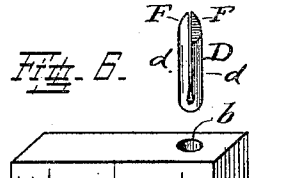

Fig. 6.

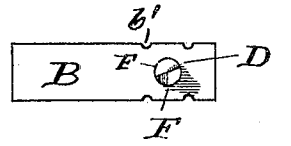

Fig. 7.

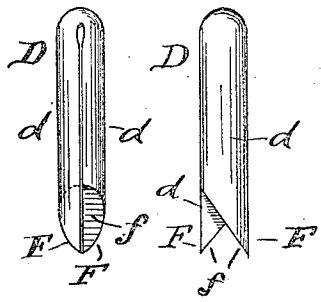

Fig. 8. Fig. 9.

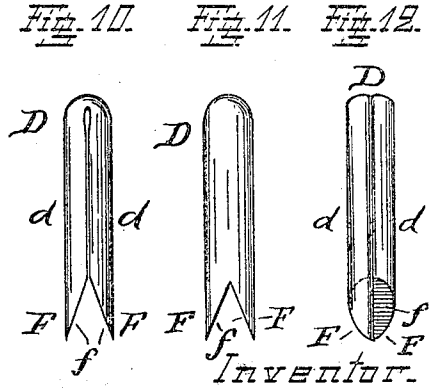

Fig. 10. Fig. 11. Fig. 12.

Witnesses.

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UNITED STATES PATENT OFFICE.

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HORSESHOE-CALK.

957,212. Specification of Letters Patent. Patented May 10, 1910.

Application filed November 11, 1908. Serial No. 462,016.

To all whom it may concern:

Be it known that I, EDWARD HUBER, a citizen of the United States, and a resident of Newport, Campbell county, State of Kentucky, have invented certain new and useful Improvements in Horseshoe-Calks; and I do declare the following to be a clear, full, and exact description of the invention, attention being called to the accompanying drawing, with the reference characters marked thereon, which forms also a part of this specification.

This invention concerns improvements in toes for horse-shoes, sometimes also called calks, being projections on the underside of the shoe which prevent slipping and provide for a secure foothold.

It relates more particularly to such toes which consist of a separate piece of metal, connected to the shoe by means of a welded joint.

The invention furnishes certain means whereby such a piece of metal is held in proper position on the shoe until the welded joint is formed, and it consists also of a toe which is manufactured accordingly.

In the following specification and particularly pointed out in the claims at the end thereof, will be found a full description of my invention, together with its manner of use, parts and construction, which latter is also illustrated in the accompanying drawing, in which:—

Figure 1, shows in perspective view a horse-shoe in inverted position, a calk to be attached to the underside thereof being shown ready to be placed. Fig. 2, in a similar view shows the calk placed in position and ready to be welded to its shoe. Fig. 3, shows the parts in this position in a front-view, partly in section, of the horse-shoe. It also shows the means used to hold the calk in such position until the welding joint is formed and the manner in which it is so held. Figs. 4 and 5, show in top and side views respectively, a piece of metal used in connection with my invention. Fig. 6, shows in perspective view a calk in process of construction. Fig. 7, is a top-view of it. Figs. 8 and 9, in views at right angles to each other and at enlarged scale show the metal illustrated in Figs. 4 and 5, formed to the intended shape. Figs. 10, 11 and 12, show in similar views modified forms of this part.

In the drawing A, indicates a horse-shoe of conventional shape, and wherever it is shown, it is presented in inverted position.

B and C, C, are the calks, projecting from the underside of the shoe. These calks, particularly the one under the front-part of the shoe, also called toe, are made of a separate piece of metal, which is connected to the shoe by a welded joint. This front-calk, or toe only, is considered in this description. It is desirable that shoe and calk be brought simultaneously to a welding-heat and it is preferable that while being so heated, the calk occupies its intended position on the shoe. It is also necessary to hold the calk to this position until the welding operation has sufficiently progressed to fix and secure the position of the calk. This is not readily accomplished without some provisional means which prevent displacement of the calk and hold it in place sufficiently long until the first hammer blows have determined and secured its position on the shoe. Plain calks and calks with means to hold them temporarily in such position on a shoe until a welding joint is formed between them whereby they are permanently connected, are the objects of special lines of manufacture and are sold as such to horse-shoers who use them by welding them to the horse-shoes as required. My invention concerns such calks which are made ready for use, that is for connection to a shoe, by being provided with certain holding means whereby they are held to the shoe to which they are to be attached, until the permanent welding joint between them is completed. These means consist of a pin, as shown at D, which pin is secured to the calk so as to project from the upper side thereof, the projecting part being intended and adapted to enter the underside of the shoe. For such purpose a hole *b* (Fig. 6) is provided in the upper side of the calk, and the pin D is set into it, so that a part of it projects as shown in Fig. 1. The pin is fitted snugly so that it will not drop out while the calk is handled. Its position may however be rendered more secure by compressing the metal of the calk around the opening, such being done by a suitable die or tool, placed against opposite sides of the calk and on each side of the opening therein, as shown at *b'* (Fig. 7), after which the metal is compacted by hammerblows directed upon the tool used. When a calk is to be connected to a horse-

shoe, this latter is heated, particularly that part of it to which the calk is to be attached, next it is placed upon an anvil, bottom-side up, and the calk is held above it as shown in Fig. 1. With a few hammerblows against the underside of the calk, this latter is now flatly seated against the underside of a shoe, as shown in Fig. 2, and so as to occupy its proper position thereon. The projecting part of the pin is thereby driven into the shoe so that, acting like a dowel-pin, it occupies simultaneously calk and shoe the object being to hold one to the other until the calk is permanently welded to its shoe. For such purpose the two are placed again into the fire and brought together to a welding heat, after which the calk is welded to its shoe in the usual way. It has been found in practice that this temporary engagement of the calk to its shoe, by seating the projecting part of the pin thereon in the shoe in the manner described is not sufficient to hold the calk in place during this subsequent handling of shoe and calk while the shoe is heated the second time and manipulated upon the anvil for the purpose of forming the permanent welding joint, and calks frequently drop off. To prevent this I increase the temporary holding engagement of the pin, until the permanent welding joint is formed by providing at the free end thereof prongs F, F, two being considered sufficient, they having oppositely inclined surfaces *f f*, see Fig. 11, which, when the pin is driven into the shoe, cause the prongs to spread laterally therein as shown in Fig. 3, whereby the connection is rendered so secure that no disengagement need be apprehended during the second heating and until the permanent welding joint is formed and completed. The formation of these prongs may be accomplished in various ways. For instance, pieces of metal shown flat-wise in Fig. 4, and edge-wise in Fig. 5, may be cut off as shown in Fig. 4, that is slantingly, from a rod approximately semicylindrical, after which the pieces are bent double with the flat side of the halves *d—d*, against each other as shown in Figs. 8 and 9, also in Fig. 6. The slanting line on which these pieces are cut off provides for the inclined surfaces *f—f*. The slanting surfaces may be formed also as shown in Fig. 10. Or each prong may be formed at one end of an independent piece *d*, as shown in Fig. 12, after which a number of such pieces, being all of equal length, are placed into hole *b*.

Having described my invention, I claim as new:

1. As an article of manufacture, a horse-shoe calk provided with a socket-opening and a pin seated therein and serving to hold the calk temporarily to its shoe until permanently welded thereto, said pin consisting of two parts substantially semi-cylindrical and seated with their flat sides against each other in the opening mentioned and beyond which they project, the projecting end of each part being cut to slant transversely from one of its edges to the other, the slant of one end being opposite to that of the other, whereby said projecting ends, when forced into a horse-shoe, are adapted to be forced edgewise apart in a direction parallel to their flat sides.

2. As an article of manufacture, a horse shoe calk provided with a tubular socket and with a substantially cylindrical pin which is fitted to this socket and which consists of contiguous, but laterally separable parts terminating each in a pointed end, the length of the pin exceeding the depth of the socket so as to permit the projecting portion of its parts to spread in a direction transverse to the axis of the pin when forced into a horse-shoe, whereby the calk is held to the shoe in position for welding by the projecting portion of the pin after being spread and embedded in the shoe and by its other portion which is seated in the socket of the calk to which it is fitted and which prevents it from spreading.

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

EDWARD HUBER.

Witnesses:
C. SPENGEL,
T. LE BEAU.