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A. H. SQUIER.

HORSESHOE.

APPLICATION FILED OCT. 13, 1904.

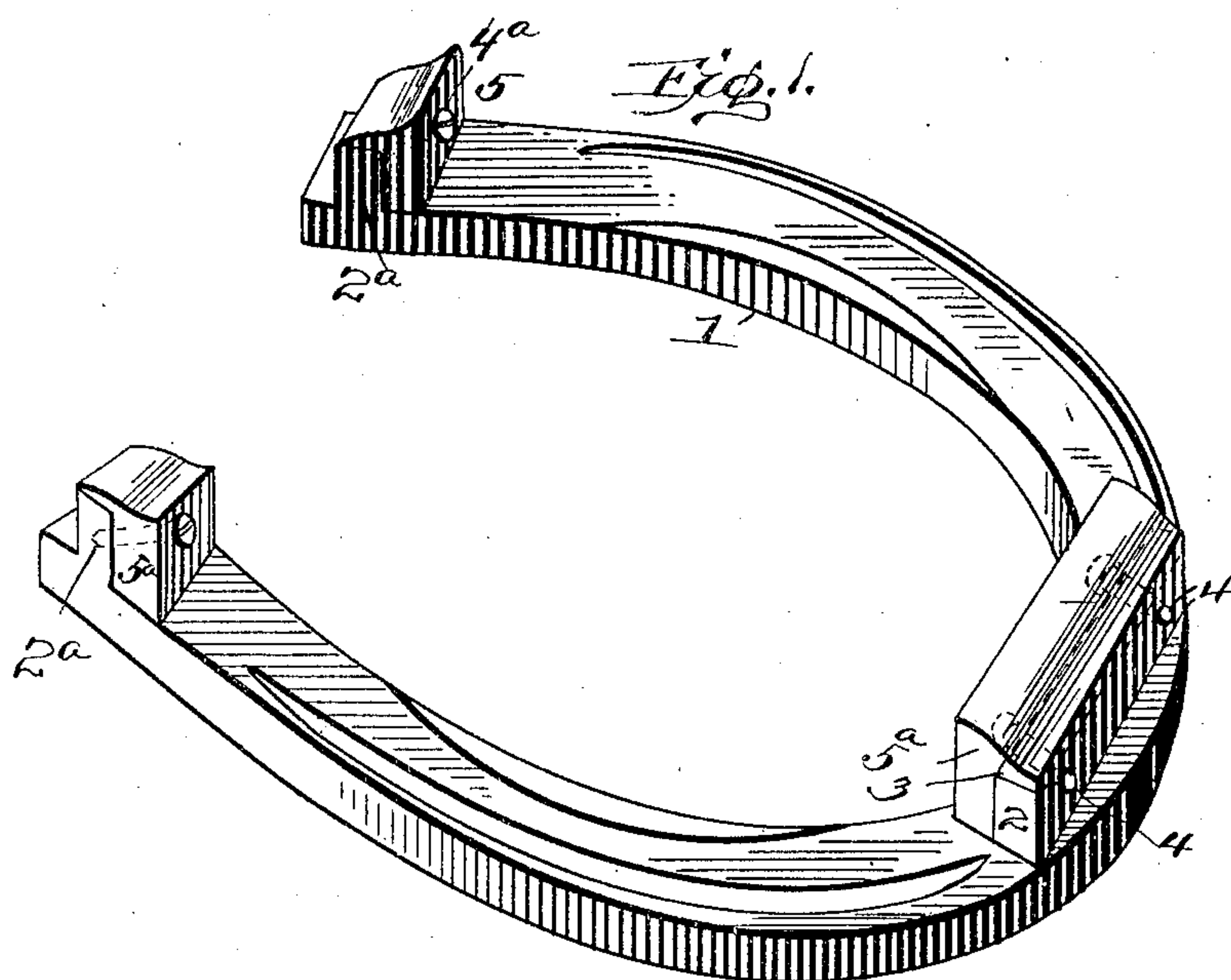


Fig. 2.

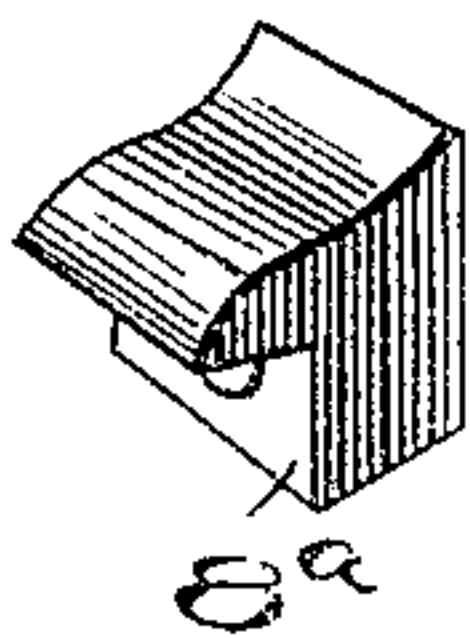


Fig. 3.

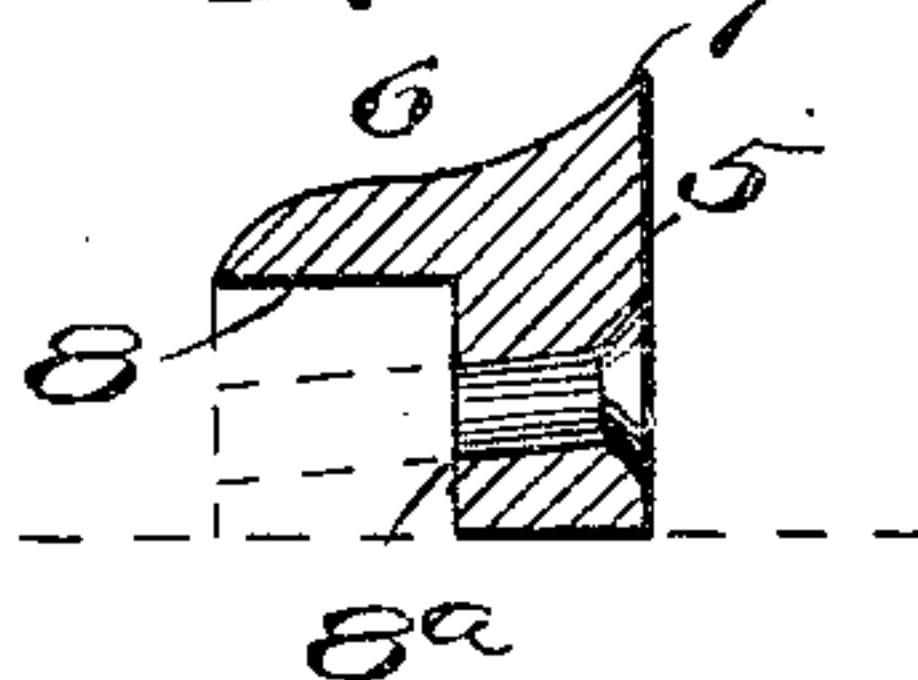


Fig. 4.

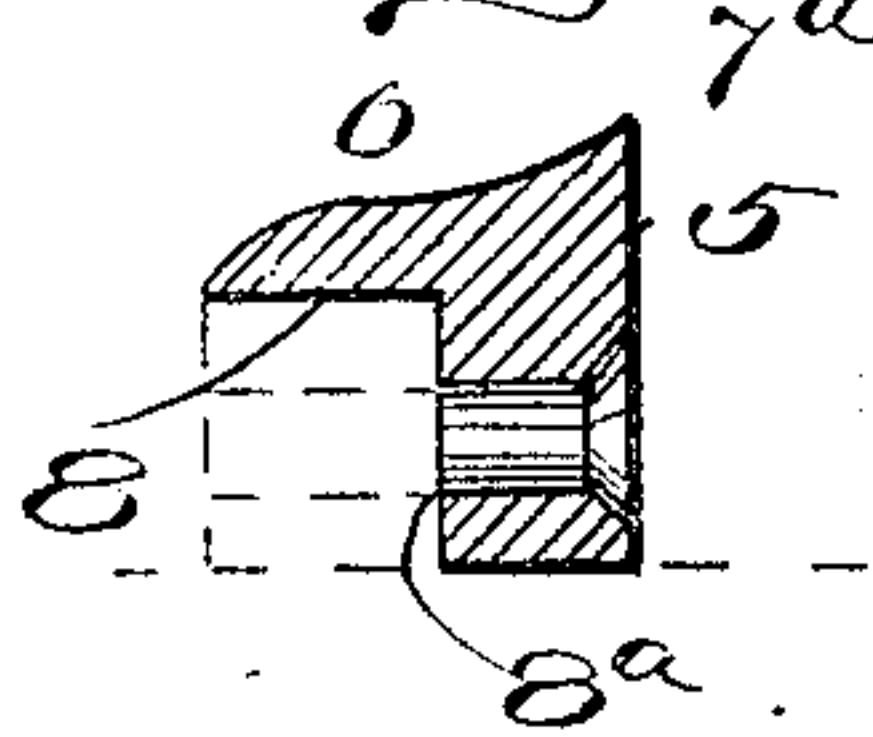


Fig. 5.

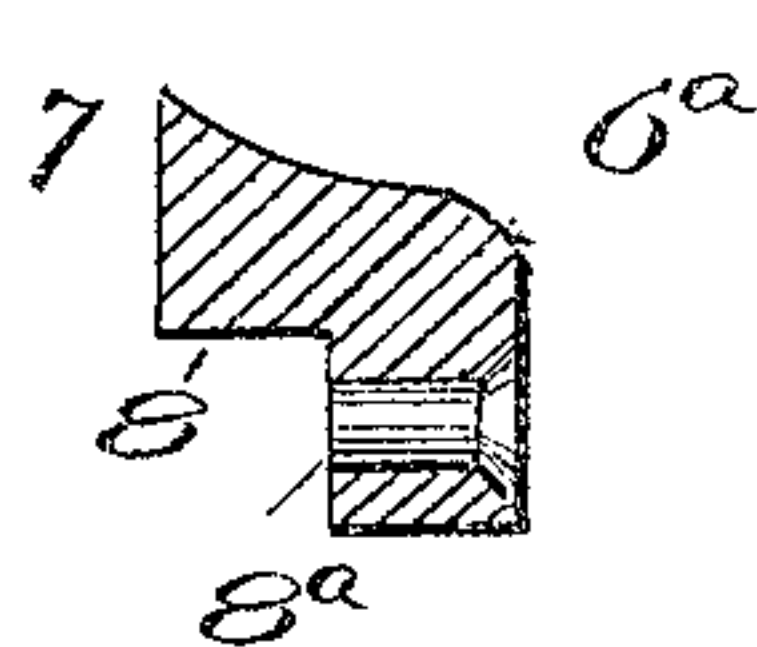
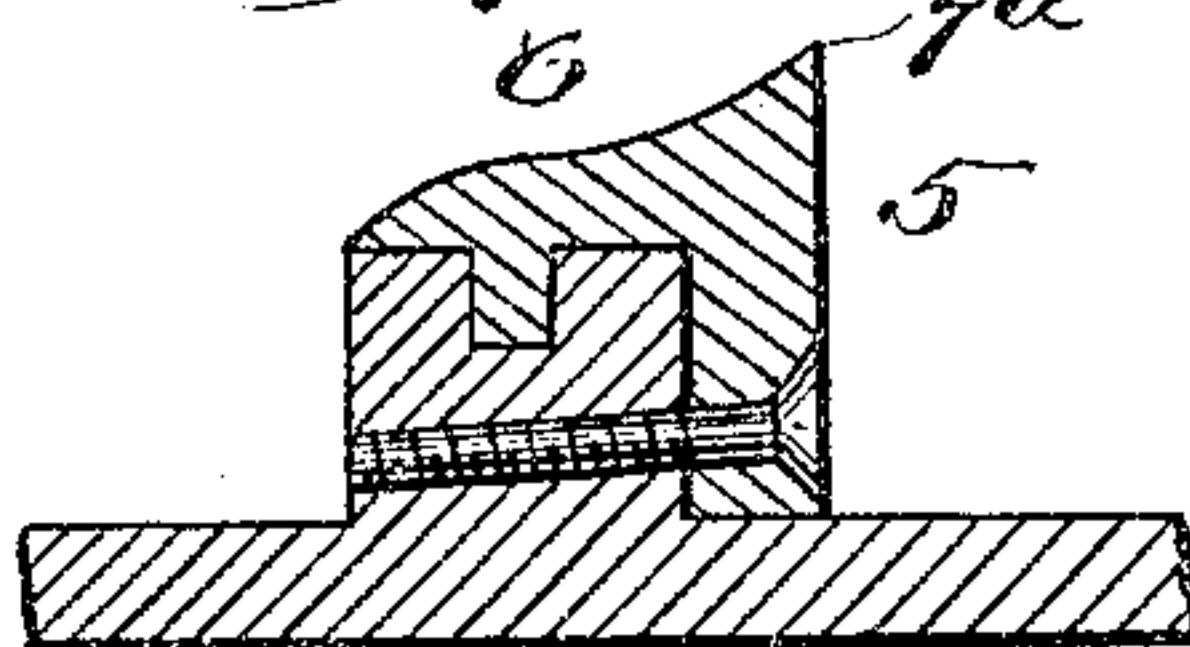


Fig. 6.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## HORSESHOE.

No. 804,063.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed October 13, 1904. Serial No. 228,311.

*To all whom it may concern:*

Be it known that I, ARTHUR H. SQUIER, a citizen of the United States, residing at Tunkhannock, in the county of Wyoming and State of Pennsylvania, 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.

This invention relates to improvements in horseshoes, and more particularly to the construction of a shoe which is provided with a removable calk.

The object of this invention is to improve the construction of a detachable calk which is light in weight and simple and durable in structure.

Another object of the invention is to improve the construction of a calk which is comparatively small in size and to provide means on a shoe whereby said calk may be secured thereto near the ends of the shoe.

A still further object of the invention is the provision of means formed integrally upon a horseshoe whereby calks may be secured to said shoe in different positions.

With these and other objects in view the invention consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the claims hereto appended.

In the drawings, Figure 1 is an inverted perspective view of a shoe constructed in accordance with the present invention. Fig. 2 is a perspective view of a calk constructed in accordance with the present invention. Figs. 3 and 4 are vertical central sectional views of calks constructed in accordance with the present invention, showing different angles of forming the screw-receiving aperture therein. Fig. 5 is a vertical central sectional view of an embodiment of the invention. Fig. 6 is a fragmentary vertical longitudinal sectional view of an embodiment of the invention.

Referring to the drawings by reference-numerals, 1 designates a body portion of a horseshoe or the like, to which is integrally secured near the head portion thereof an extension or stub-calk 2. The shoe 1 is also provided near each end or toe with an integral extension or stub-calk 2<sup>a</sup>, which are similar in general construction to the head-calk 2. The head stub-calk or front extension 2 com-

prises an approximately oblong solid body portion, having a flat base-surface 3 and a plurality of screw-threaded apertured portions 4 4. The heel or end stub-calks 2<sup>a</sup> 2<sup>a</sup> are similarly constructed to head stub-calk 2, except that it is preferable, as depicted in the drawings, to only provide said extensions 2<sup>a</sup> with one screw-threaded apertured portion 4<sup>a</sup>, although it will be obvious that the number of apertures to be placed in the extensions 2<sup>a</sup> is entirely optional with the constructor.

The extensions or stub-calks 2<sup>a</sup> 2<sup>a</sup> are positioned near the end for the purpose of placing the same at approximately the terminus of the rear portion of the hoof of the horse when the shoe is attached thereto, placing the toe-calks 5 when secured to the stub-calks under the hoof in a position for receiving the greatest weight brought to bear upon the shoe. This is of advantage over calks positioned upon the ends of the shoe, as the weight is greatly equalized upon the body portion of the shoe more than would be the case if the calks were positioned at the extreme end. The apertured portions of the extensions or stub-calks 2 and 2<sup>a</sup> are provided with screw-threaded apertured portions for receiving screws which are positioned within the removable calks 5 and 5<sup>a</sup> when it is desired to positively secure said removable calks to the integral extensions or stub-calks formed upon the body portion 1 of the shoe. The apertured portions of the extensions or stub-calks 2, as well as the apertures formed upon the removable calks, may be formed at different angles, as will be seen upon referring to Figs. 3 and 4 of the drawings.

The removable calks are provided with a beveled base-surface 6, which is preferably shown in full line as being slightly concaved intermediate of its width.

Referring to Fig. 5, the beveled edge or base-surface 6<sup>a</sup> is formed in the opposite direction to that in which the similar surface of the removable calks which are depicted in Figs. 3 and 4 is formed, thereby placing the highest point 7 in a reverse position to that in which point 7<sup>a</sup> is constructed.

All of the calks are provided with a shouldered portion 8, which is formed for engaging the outer flat surface 3 of the stub-calks 2 and 2<sup>a</sup>, integrally formed upon the body portion 1 of the shoe. Formed at right angles to the flat shouldered portion 8 of the removable calks is a similarly-constructed surface 8<sup>a</sup>, which engages one side of the stub-calks 2



and 2<sup>a</sup> when secured by means of the screw in a fixed position therewith.

While in the drawings the removable calks are shown positioned upon the similar side of each stub-calk or extension 2 and 2<sup>a</sup>, it will be obvious that the removable calks may be positioned upon the opposite side of the integral extensions or stub-calks, provided the apertured portion of the calks and their stub-calks are formed in the same plane, if it is desired to secure the removable calks to the body of the shoe by means of screws.

In Figs. 1, 2, 3, and 6 the registering apertures formed upon the integral extension or stub-calk and the removable calks are shown extending diagonally therethrough.

The apertured portion of each of the removable calks is provided with a beveled portion upon the outer surface for receiving the head of the screw when one is positioned therein, so that said head may lie flush with the outer surface of the calks.

In Fig. 6 the stub-calk and its removable calks are similar in construction to that depicted in the other figures of the drawings, except that a recess is drilled upon the stub-calk or integral extension of the body portion of the shoe, within which a dowel-pin formed upon the removable calks is positioned. By this construction the rigidity of the assembled detachable calks is greatly increased, as well as the durability of the structure of the shoe in general.

The point of the calks may be as sharp as desired or be made more blunt by increasing or decreasing the angle of the bevel as climatic conditions may require.

The shoulder on the detachable calks covers the base of the stub-calk on the shoe, which prevents any wearing or weakening of the stub-calk, thereby keeping the detachable calks firm at all times.

From the foregoing description it will be apparent that there is provided a detachable shouldered calks resting on a stub-calk, which is a part of the shoe, and extending down the side of the stub-calk to the body portion of the shoe and is fastened by machine-screws running straight or diagonal, as may be desired, through the detachable calks and screwing through the stub-calk, the holes in the detachable calks being countersunk, so that heads of the screws fit in flush with the outer surface of the removable calks.

The tips or removable calks are to be made of uniform size to fit the toe or head, as the case may be, so as the changing or placing of the removable calks upon the stub-calks is greatly facilitated as the removable calks become worn or it is required to place new calks in position upon the shoe.

While I have described in the foregoing description and illustrated in the accompanying drawings the preferred construction of my invention, it will be obvious to one versed in the

art to which this invention relates that certain alterations, modifications, and changes may be made, and I therefore reserve the right to make such alterations, modifications, and changes as shall fairly fall within the spirit and scope of the present invention.

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

1. In combination with a shoe, of stub-calks formed integral thereon, a removable calks positioned upon each of said stub-calks, said stub-calks provided with longitudinal apertures, each of said stub-calks provided with a recessed portion formed upon the base of the same, each of the removable calks comprising a body portion of the same length as the stub-calks, an integral extension formed upon the body portion of said calks of the same length as the width of the stub-calk, said extension provided with a right-angled projection of the same length as, and adapted to be positioned in the recessed portion of the stub-calk, the removable calks being provided with an angular base-surface of the same length as the thickness of the body and the length of its integral right-angled extension.

2. In a device of the character described, the combination with a shoe, of integral extensions formed upon said shoe, each of said extensions provided with an apertured portion and a recess, a removable calks positioned upon each of said extensions, comprising a body portion provided with a right-angled extension, said calks having an aperture, an integral pin formed upon said calks, said pin adapted to be positioned within the recess formed upon said extension, and means positioned within the apertures formed upon said extension and calks for positively securing the same together.

3. The combination with a shoe provided with a stub-calk, said stub-calk provided with a recess formed in its outer face, of a removable calks positioned upon said stub-calk, said removable calks provided with a body portion of the same length as the stub-calk, an integral, right-angled extension projecting from the body portion of said removable calks, said extension of the same length as the width of the stub-calk, a depending projection formed upon said right-angled extension, said projection adapted to be positioned within the recess formed upon said stub-calk, and means for securing said removable calks upon said stub-calk.

4. In combination with a shoe provided with a stub-calk, of a removable calks positioned upon said stub-calk, said removable calks comprising an apertured, vertical body portion of the same length as said stub-calk, and an integral, right-angled, comparatively thin extension projecting from the lower part of said body portion and of the same length as the width of said stub-calk, said extension



and body portion having a curved or beveled base extending the entire length of the extension and the width of the body portion, the upper face of the body of the removable calk bearing against the lower face of the shoe and the free end of the extension projecting to the plane in which the unengaged side of the stub-calk is formed, and means positioned within the apertured portion of the stub-calk and the body of the removable calk for securing the same together.

5. A calk, comprising a comparatively wide body portion and a thin, right-angled extension, said body portion provided with a flat, upper face formed in a plane parallel to the plane in which the upper face of the right-angled extension is formed, said body portion provided with a transverse aperture, and said body portion and extension formed with a beveled or curved lower face extending the entire length of said extension and the width of said body.

6. In combination with a shoe provided with a stub-calk, of a removable calk positioned

upon said stub-calk, said removable calk comprising a comparatively large, vertical body portion, a comparatively small, integral, right-angled extension projecting from the lower part of said body portion, and of the same length as the width of said stub-calk, said body portion and extension having a curved or beveled base extending the entire length of the extension and the width of said body portion, said beveled base terminating at one end in the same vertical plane in which the outer side of said body portion is formed, the upper face of the body of the removable calk bearing against the lower face of the shoe and the free end of the extension projecting to the plane in which the unengaged side of the stub-calk is formed, and means securing said removable calk to the stub-calk.

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

ARTHUR H. SQUIER.

Witnesses:

W. W. BAYLOR,  
D. W. WRIGHT.