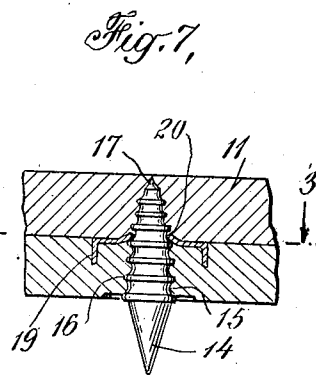
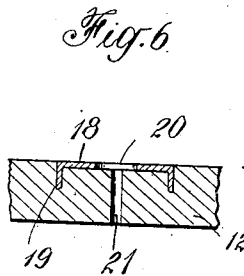
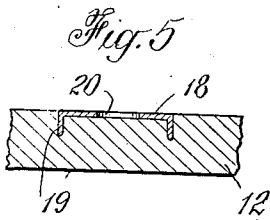
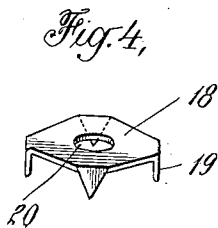
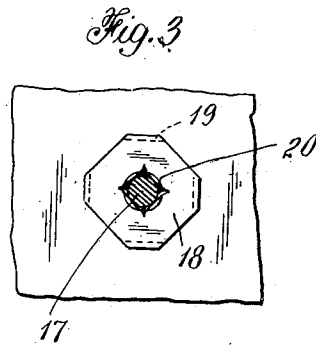
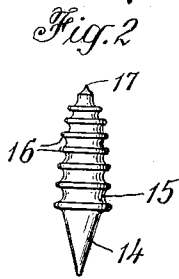
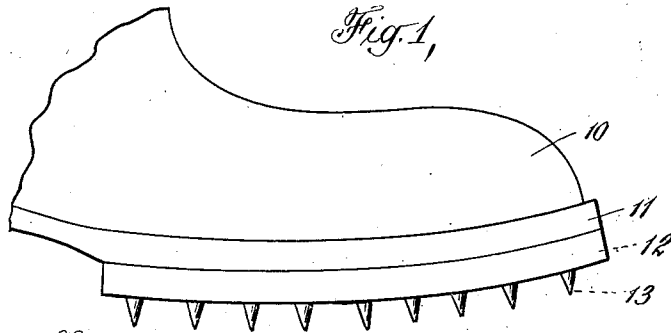


D. S. WILLIAMS.
SHOE CALK.
APPLICATION FILED APR. 25, 1919.

1,355,201.

Patented Oct. 12, 1920.



David S. Williams, INVENTOR

BY
Pennie, Davis, Marvin & Edmunds,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

DAVID S. WILLIAMS, OF PORTLAND, OREGON, ASSIGNOR TO C.-W. SHOE MANUFACTURING COMPANY, A CORPORATION OF OREGON.

SHOE-CALK.

1,355,201.

Specification of Letters Patent.

Patented Oct. 12, 1920.

Application filed April 25, 1919. Serial No. 292,711.

To all whom it may concern:

Be it known that I, DAVID S. WILLIAMS, a citizen of the United States, residing at Portland, in the county of Multnomah, State of Oregon, have invented certain new and useful improvements in Shoe-Calks; 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 shoe calks, and particularly to an improved arrangement for holding in place in the soles of shoes, calks of the type having a tapering shank formed with grooves and rings adapted to be embedded in the leather when the calk is driven in place. Under the hard usage to which the calks are subjected in service, they frequently are forced through the soles into the shoe, or become loose and are bent to one side, or even fall out. In attempts to overcome these defects, various arrangements have been proposed, such as riveting the calks in place, or providing threaded members into which cooperating shanks of the calks are screwed. These arrangements are at best unsatisfactory, require special forms of calks, and employ parts which must be more or less accurately machined, thus increasing the cost of manufacture and the labor of applying the calks.

It is an object of this invention to overcome the disadvantages of prior devices by providing an arrangement for holding in place a calk of the type having a tapering shank provided with grooves and ridges, by a simple form of clamp adapted to cooperate with the shank of the calk to securely retain the same in place. The clamp is of such construction that it may be easily and cheaply manufactured and applied to a shoe, and when in place the calk may be placed in operative relation therewith by the simple operation of applying the calk to the shoe, thus eliminating extra operations and increasing the rapidity with which the calks may be applied.

The particular nature of the invention, as well as other objects and advantages thereof, will appear more clearly from a description of a preferred embodiment, as

shown in the accompanying drawings, in which:

Figure 1 represents a shoe with the calks in place in the sole;

Fig. 2 shows one of the calks;

Fig. 3 is a plan view showing the clamp in place on the outer sole, the calk being shown in section.

Fig. 4 shows the clamp;

Fig. 5 is a view in section showing the clamp in place on the outer sole of the shoe;

Fig. 6 is a similar view showing the provision of a hole to indicate where the calk is to be inserted, and

Fig. 7 is a sectional view showing the relation of the parts when the calk is in place.

The shoe 10 shown in Fig. 1 is of any preferred construction and is provided with an inner sole 11 and an outer sole 12 from which the calks 13 project. The calks themselves are provided with a sharply pointed portion 14 and a shank formed with grooves 15 and rings 16 of gradually decreasing diameter, thus imparting a tapered form to the shank, the end of which is pointed as at 17 to facilitate the insertion of the calk into the leather.

The clamp for holding the calk in place comprises a flat plate 18 which may be of soft steel, hard sheet iron, or any other suitable material. The plate is preferably square, although it may be of any other desired shape. The corners of the plate are bent to form prongs 19 adapted to be embedded in the leather to retain the clamp in place. The clamp is provided with a central aperture 20 of a diameter corresponding to the diameter of the intermediate portion of the shank of the calk.

In the operation of applying the device to the soles of shoes, a number of clamps corresponding to the number of calks which are to be used are fastened in place upon the inner face of the outer sole by hand or machinery, the prongs being embedded in the leather, as shown in Fig. 5. After the clamps are in place, or during the operation of applying them, holes are bored through the sole at the center of the aperture in each clamp, as indicated at 21 in Fig. 6. These holes will serve as guides to show

the points at which the calks should be applied after the outer sole has been attached to the inner sole with the clamps lying between the two soles. The calks are applied by inserting the points 17 into the holes 21 and driving the calks into the leather. The rings 16 near the point of the shank will pass through the aperture without engaging the plate, but as the rings of larger diameter enter the aperture, they will tend to bend the metal of the clamp upwardly as indicated in Fig. 7, and even rupture it at several places around the edge of the aperture, thus forming in effect prongs which, owing to the resiliency of the metal, will spring into a groove of the shank and hold the calk securely in place, resisting any tendency of the calk to be driven further into the sole, as well as to prevent it from becoming loosened. The calks may be applied to the shoe after the outer sole is in place, as described above, or they may be applied to the outer sole and then the latter may be attached to the inner sole, the shanks of the calks being driven into the latter. In any case, when the calks are in place they will be held securely by the upwardly bent prongs of the clamp, which will also be slightly embedded in the leather of the inner sole, thus resisting any tendency for further bending which might allow the calk to pass further into the shoe. When the calk is in place, the rings and grooves will be embedded in the leather, and the engagement of the prongs of the clamp with one of the grooves of the calk will increase the security with which the calk is held in place and prevent it from working loose under all conditions of use. The prongs 19 will prevent the clamp from moving relative to the sole of the shoe so that all parts of the device will be held securely in place.

I claim:

1. A device of the character described, comprising a shoe calk having a shank provided with grooves and rings adapted to be embedded in the sole of a shoe, and a clamp, consisting of a flat plate adapted to be placed between the layers of the sole and provided with a central aperture within which the shank of the calk may be inserted with the surrounding portions of the plate caught in a groove of the shank.

2. A device of the character described,

comprising a shoe calk having a tapering shank provided with grooves and rings adapted to be embedded in the sole of the shoe, and a clamp consisting of a plate provided with prongs and adapted to be placed between the layers of the sole and having a central aperture within which the shank of the calk may be inserted with the surrounding portions of the plate bent upwardly and caught in a groove of the shank.

3. A retaining device for shoe calks having tapering shanks provided with grooves and rings, comprising a plate adapted to be inserted between the layers of the sole of a shoe and provided with an aperture through which the shank of the calk may be driven to break the plate at the edge of the aperture to form prong-like portions, which will engage a groove of the calk to hold the same in place.

4. A retaining device for shoe calks having tapering shanks provided with grooves and rings, comprising a plate adapted to be inserted between the inner and outer soles of a shoe and provided with prongs adapted to be embedded in one of the soles, said plate having a central aperture through which the shank of a calk may be driven to break the plate and bend it inwardly at the edge of the aperture to form prong-like portions which engage a groove of the calk to hold the same in place.

5. A device of the character described comprising a calk, adapted to be embedded in the article to which the calk is to be applied, and provided with encircling ribs, and a plate provided with an aperture through which the calk may be forced to cause the surrounding portion of the plate to spring over the ribs and engage the calk between two of the ribs to hold the calk in place.

6. A device of the character described comprising a calk adapted to be embedded in the article to which the calk is to be applied, and provided with surrounding ribs, and a plate having an aperture of lesser diameter than some of the ribs, whereby the surrounding portion of the plate springs over the ribs as the calk is driven into the article and finally engages the calk between two of the ribs to hold the calk in place.

In testimony whereof I affix my signature.

DAVID S. WILLIAMS.