

Aug. 20, 1957

P. PASSIDOMO ET AL

2,803,070

SHOE CALK

Filed June 7, 1956

Fig. 4

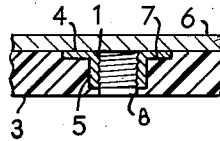
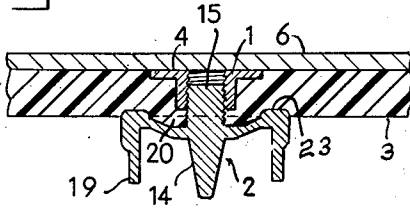


Fig. 5

Fig. 1

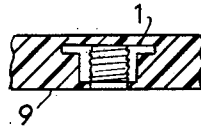
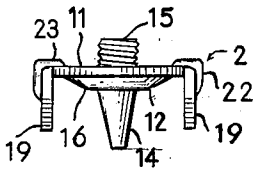


Fig. 8

Fig. 2

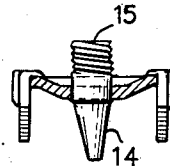
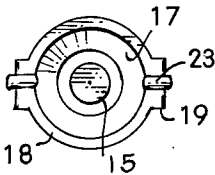


Fig. 10

Fig. 3

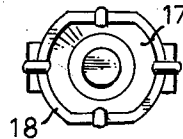
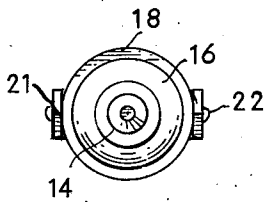


Fig. 9

Fig. 7

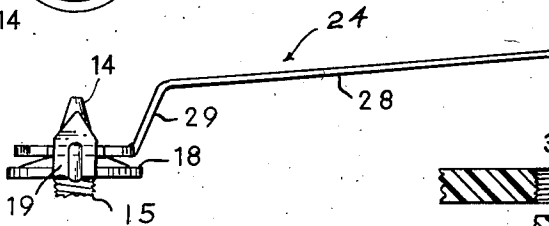


Fig. 11

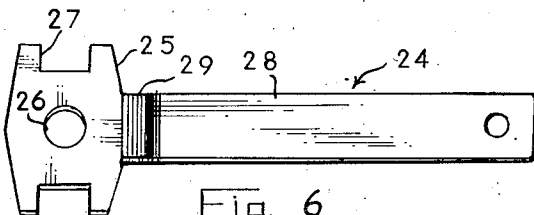
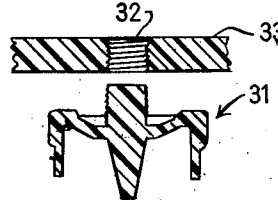


Fig. 6

INVENTORS:
PASQUALE PASSIDOMO
FRANK CARDONE
BY *Nicholas J. Garofalo*
ATTORNEY

1

2,803,070

SHOE CALK

Pasquale Passidomo, Bronx, and Frank Cardone,
Yonkers, N. Y.

Application June 7, 1956, Serial No. 590,022

5 Claims. (Cl. 36—59)

This invention pertains to new and useful improvements in shoe calks. It is particularly concerned with a calk of an improved and practical nature having many desirable advantages.

The function of a calk is to provide means for a shoe that will bite into and grip the ground so as to prevent the wearer from slipping. Accordingly, calks are commonly found on the soles of shoes worn by people in various pursuits wherein a sure hold of the feet to the ground is desired. They are particularly found on the soles of shoes used in games of sport; such as, golf, baseball, football, track, and others.

A principal fault among others found in conventional calks is their impracticability. They do not afford adequate ground gripping characteristics; and they are difficult to securely fasten to a shoe, so that they readily loosen and fall off. While shoe traction or non-slipping is important in various sports, it is of special significance in golf. In this sport it is essential that good and adequate shoe traction to the ground is had. This is needed to prevent slipping on wet grass, to facilitate hill climbing, and to insure a strong, non-slippable grip of the golfer's feet to the ground. This is of vital importance in addressing the ball. To insure an even and calm disposition of the golfer during his game, it is necessary that he will not be troubled by loose calks, or calks that have loosened and dropped off.

Now, we have invented a shoe calk of a practical and improved nature which does not have the faults mentioned. A feature of the calk of the present invention is an arrangement of a multiple number of prongs, whereby considerable traction is provided to prevent slipping and to enable a sure hold of the feet to the ground. Another feature of the calk of the present invention is a certain construction thereof which enables it to be rigidly anchored to a shoe without danger of loosening or dropping off.

Accordingly, an object of this invention is to provide a shoe calk of a practical and improved nature which will provide a desired amount of traction to a shoe for gripping the ground, and which will not readily become loose.

A still further object of this invention is to provide a practical and improved type of metal calk which may be securely anchored to the sole of a shoe and which may be replaced when desired.

A more particular object of the invention is to provide a replaceable calk having a novel arrangement of ground engaging prongs and means whereby the calk may be anchored in an efficient and practical manner to a shoe so as not to work itself free therefrom.

A further particular object is to provide a novel arrangement of prongs in a replaceable shoe calk, and to also provide a tool for engaging the prongs so that the calk may be securely anchored in a socket member embedded in the sole of the shoe.

A still further object of the invention is to provide a

2

novel and practical shoe calk for golfers, which does not have the faults mentioned above.

The invention further lies in the particular structure of its component parts as well as in their general arrangement and cooperative association with one another to effect the benefits and advantages intended herein.

The foregoing and other objects and advantages of this invention will appear more fully hereinafter from a consideration of the detailed description which follows, taken together with the accompanying drawings wherein an embodiment of the invention is illustrated. It is to be expressly understood, however, that the drawings are for purposes of illustration and description and are not to be construed as defining the limits of the invention.

In the drawings:

Fig. 1 is a side elevational view of a shoe calk embodying the invention;

Fig. 2 is a bottom plan view thereof;

Fig. 3 is a top plan view;

Fig. 4 is a sectional view of the calk in engagement with the sole of a shoe;

Fig. 5 is a sectional view of the anchor member embedded in the sole of a shoe;

Fig. 6 is a wrench for tightening the calk in the anchor member;

Fig. 7 shows the wrench engaging the calk for tightening the same;

Fig. 8 is a view of an anchor member and a sole of a shoe molded to one another;

Fig. 9 is a bottom plan of a modified form of the calk;

Fig. 10 is a sectional view of a further form of the calk; and

Fig. 11 is a plastic form of the calk sectioned and engaged in a complementary socket of the sole of a shoe.

In describing the invention in further detail, reference is directed to the drawings, and especially to Figs. 1 to 7 wherein there is shown a metal calk anchoring member 1 which is engageable by a metal calk 2. The anchor or socket member 1 is adapted to be embedded in the outsole 3 of a shoe.

The anchor member (Figs. 4, 5) comprises a preferably rectangular base plate 4 from the underside of which depends an internally threaded socket portion 5. The base plate is normally disposed between the outsole 3 and the next adjacent body portion 6 of the shoe. It is fitted preferably in a complementary rectangular recess 7. The socket 5 projects into a complementary hole 8 that opens out to the outside of the sole. It is desired that the terminal end of the socket will extend to a point a little short of the outside of the sole, as appears in Fig. 5.

The anchor member is an element apart from the sole of the shoe, and is subsequently assembled therein when the sole is mounted to the shoe. It may, however, be formed as a unitary part of the outsole, molded therein when the outsole is formed, as appears in Fig. 8. In this form, it is to be appreciated that the outsole 9 is formed of moldable material; such as, rubber or plastic.

The calk member 2 has a base plate 11 from the center of the outer face 12 of which extends a conical prong 14; and from the center of the opposite or inner face of which extends a threaded stud 15. The prong and stud may be an integral member formed apart from the base plate and subsequently press fitted in an opening of the base plate, as in the form in Fig. 10. In the preferred form, as appears clearly in Fig. 4, the prong and stud are integrally formed with the base plate by casting or other suitable manner. The cast one-piece form of the calk is of particular advantage in that it is simple to manufacture, does not require further assembly after it has been formed, and consequently it is economical to make. A further advantage of the cast form of the calk is that the integral

center prong cannot work itself loose under foot pressure, as might otherwise occur in the assembled form of prong and base in Fig. 10.

The base plate 11 of the calk is preferably circular, though it may be substantially rectangular, as in Fig. 9. In either case, it is slightly convexed in the central area 16 of its outer face; the opposite face is, as a consequence, slightly concaved so as to provide a shallow well 17 in its central area. The marginal edge 18 surrounding the central area of the base plate is horizontally disposed and flat. This structural form of the calk not only provides a strong base portion, but also affords other advantages effective in obtaining a secure attachment of the calk to the outsole of the shoe and to the anchor member.

Depending integrally from diametrically opposite positions of the base plate is a pair of substantially flat prongs 19. The vertical axes of these are parallel to the vertical axis of the center prong. The free ends of these prongs taper to a point 21. The outer surface of each side prong is formed with a strengthening rib 22. The latter extends down the middle of the prong and continues radially across the underside of the marginal section 18. The underside portions 23 of the ribs are an aid in effecting a rigid hold of the calk to the outsole of the shoe.

The calk 2 is intended to engage the anchor member 1 (Fig. 4). In this respect, the stud of the calk is screwed by hand into the socket of the anchor member. Subsequently, a wrench 24 formed for the specific purpose of tightening and loosening the calk in its socket, is applied to the calk in order to tighten the latter securely in its socket and to the face of the outsole of the shoe. In this tightening process, the marginal edge 18 of the calk is caused to abut the face of the outsole of the shoe after the stud has been screwed partway into its socket. As the stud is further screwed into the socket with the aid of the wrench, the marginal edge 18 presses into the sole of the shoe, the outsole being preferably of a slightly yieldable material; such as, rubber, plastic, or leather. With this action the ribs 23, which have a rounded surface, press into the sole without cutting the latter. Further, that portion 20 of the resilient outsole in the area above the cavity 17 of the calk is protuberated or deformed into the cavity 17 by the surrounding pressure of the calk against the outsole and by the reactant force of the anchor member upon tightening of the calk in the socket of the latter. By this arrangement, it is clear that the calk will be securely anchored not only in its socket, but also to the face of the outsole. The calk will not turn, nor loosen. The counter pressures of the resilient sole and the calk and socket react through the threads of the socket and calk stud to bind these to one another against loosening.

The wrench member 24 comprises a plate 25 having a center hole 26 adapted to closely receive the center prong 14 of the calk, and having diametrically located notches 27 in its edges which are formed to closely receive the side prongs 19. A handle 28 is offset as at 29 from the rear of the wrench plate. It is clear that when the wrench plate has been applied to engage the prongs of the calk, and is then turned manually in one direction or the other in a horizontal plane, it will accordingly tighten or loosen the calk in its socket.

It is customary to attach a plurality of calks to the sole of a shoe. So that these may be conveniently attached or replaced without danger of the sharp prongs of the calks injuring the hand, the offset 29 in the handle of the wrench and a slight angular elevation of the handle (Fig. 7) serve to position the handle sufficiently from

the prongs so that it may be operated without allowing the surface of the fingers of the operator contacting the sharp prongs.

While the calk and associated socket member are preferably formed of metal, they may be formed of tough, wear resistant plastic material; such as are commonly called nylon, Teflon, and others. Such a form is shown in Fig. 11, wherein the calk 31 is molded of plastic material and is engageable with a threaded socket 32 formed in a plastic sole 33.

A further feature of the invention is to be noted in the relative lengths of the center prong and the side prongs (Figs. 1, 10, 11). It is to be noted that the center prong which is relatively thicker in body than the side prongs, depends beyond the latter. This is of advantage when the shoes are walked over cement and other very hard surfaces; such as around the clubhouse. The extended dependency of the center prong brings it into contact with the hard surface while the side prongs remain free thereof; whereby damage that might otherwise occur to the side prongs is avoided.

While an embodiment of the invention has been illustrated and described in detail, it is to be expressly understood that the invention is not limited thereto; and it is our intent, therefore, to claim the invention not only as shown and described, but also in all such forms and modifications thereof as may reasonably be construed to fall within the spirit of the invention and the scope of the appended claims.

We claim:

1. A shoe calk comprising a base plate having a convex central area and a marginal flat flange horizontally disposed around the convex area; a prong depending from the center of the convexed area; a pair of diametrically opposed prongs depending in parallel relation from the edge of the flange; and a screw stud upstanding from the convexed area adapted to engage the threaded bore of a socket member, the marginal flange being adapted to press against an outsole when the calk is applied to the outsole.

2. A shoe calk as defined in claim 1 wherein the center prong is conical, and each of the other prongs has a flat rectangular body and a tapering free end.

3. A shoe calk as defined in claim 1 wherein the diametrically opposed prongs each have a substantially flat body and a strengthening rib formed medially of its outer face and extending down the face of the prong and integrally across the said marginal flat flange to press into the outsole upon tightening of the calk.

4. A calk as defined in claim 1 wherein a plurality of rounded ribs extending transversely of the marginal flat flange on the stud side thereof are adapted to press into the outsole, when the calk is tightened.

5. A calk as defined in claim 1 wherein the center prong depends beyond the diametrically opposed prongs a short distance so that when the center prong is in contact with a very hard surface the other prongs will be clear of such surface.

References Cited in the file of this patent

UNITED STATES PATENTS

180,578	Gunsalus	Aug. 1, 1876
730,957	Newell	June 16, 1903
1,270,705	Croad	June 25, 1918
2,207,476	Bernstein	July 9, 1940
2,258,805	Phillips	Oct. 14, 1941
2,491,596	Zoleski et al.	Dec. 20, 1949
2,624,128	Phillips	Jan. 6, 1953
2,697,288	Wilcox	Dec. 21, 1954