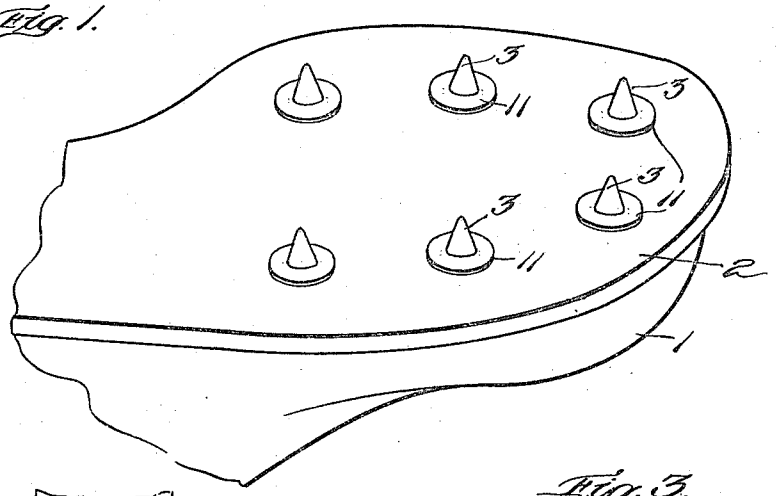
C. H. RICHARDSON.

BOOT OR SHOE CALK.

APPLICATION FILED JAN. 6, 1916.

1,280,302. Patented Oct. 1, 1918.

Fig. 1.



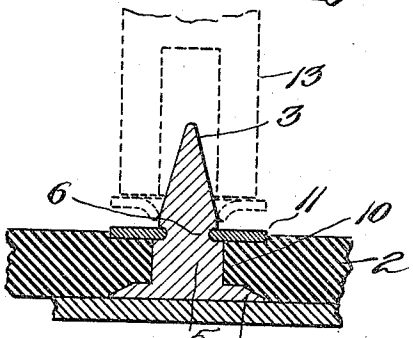


Fig. 2.

Fig. 3.



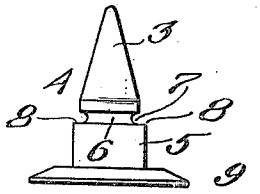


Fig. 4.

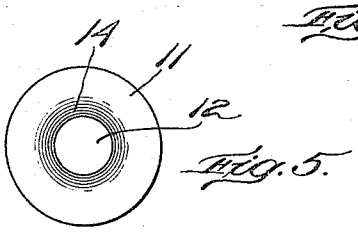
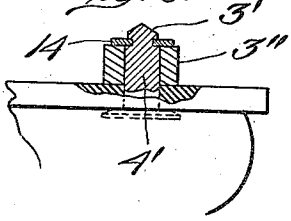


Fig. 5.

Fig. 6.



Inventor:
Charles H. Richardson
by Wilbur F. Randall
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES H. RICHARDSON, OF NAHANT, MASSACHUSETTS.

BOOT OR SHOE CALK.

1,280,302. Specification of Letters Patent. Patented Oct. 1, 1918.

Application filed January 6, 1916. Serial No. 70,553.

To all whom it may concern:

Be it known that I, CHARLES H. RICHARDSON, a citizen of the United States, residing at Nahant, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Boot or Shoe Calks, of which the following is a specification.

My invention relates to improvements in boots and shoes and particularly to boots and shoes of that class which have the tread side of the sole provided with projections or calks which prevent slipping.

The projections or calks of shoes of this class are usually in the form of spikes or transverse strips and various methods have heretofore been proposed for fastening them to the sole. In most cases, however, the proposed constructions have either involved complication and expense or have made the interior of the shoe uneven and therefore uncomfortable to the wearer even when an inner slip sole is used.

My invention has for its object to improve the construction of shoes of the class indicated so as to avoid the objections referred to, and also to provide an easily and quickly applied stud for shoe soles which may either be made with an integral spike or be employed to fasten a separate piece to the bottom of the sole, which will be of simple and inexpensive construction and which will withstand very rough usage.

To these ends my invention consists of the improvements set forth in the following description and particularly pointed out and defined in the claims at the close thereof.

In the accompanying drawings:

Figure 1 is a perspective view of the forepart of a shoe constructed in accordance with my invention.

Fig. 2 is a sectional view of one of the calks of the shoe shown in Fig. 1.

Fig. 3 is a sectional view of the washer hereinafter referred to.

Fig. 4 is an elevation of the stud hereinafter referred to.

Fig. 5 is a plan view of the washer shown in Fig. 3.

Fig. 6 shows a modification.

Having reference to the drawings, 1 represents the upper of my improved shoe and 2 the sole thereof, said sole being provided upon its tread side with a plurality of calks in the form of spikes 3. Each spike 3 is an integral conical part of a stud 4, Fig. 4, and constitutes the head of the latter, said stud 4 also comprising a cylindrical shank portion 5 with which the spike-head 3 is connected by a relatively small cylindrical neck 6 which provides an annular groove or recess 7 between spike-head 3 and shank 5. The base end of spike-head 3 is larger in diameter than the neck 6 but smaller in diameter than the shank 5 which provides an annular washer bending shoulder or anvil surface 8 at the outer end of shank 5. The inner end of shank 5 is formed with a thin flange 9 to bear against the inner side of the sole 2 and prevent the stud from being pulled out of the latter.

In making my improved shoe the sole of the latter is formed with a plurality of holes 10, one for each stud, and in each of these holes a stud 4 is inserted from the inner side of the sole and secured strongly in that position by means of a washer 11 that is forced down over the spike head 3 into position against the anvil surface 8 and the outer side of the sole where it automatically interlocks with the neck portion of the stud so that the two are securely and permanently connected. Each washer is a disk of metal formed at its middle with a hole 12 which is of about the same diameter as the larger inner end of spike-head 3.

The inner marginal portion of the washer 11, that is, the portion of the washer immediately bordering the hole 12, is bent or curved outwardly or sidewise and in applying the washer to the stud it is placed on the head of the latter as shown by dotted lines in Fig. 2 and driven down into its final position by means of a suitable tool such as is indicated by dotted lines at 13.

As the outwardly bent inner marginal portion 14 is brought to bear upon the anvil surface 8 the pressure of the tool 13 acts to flatten the washer thereby contracting the hole 12 and driving the inner marginal portion 14 into the annular groove 7 between head 3 and shoulder 8 thus securely and permanently fastening the stud to the sole so that it is held against rotary movement or endwise displacement in either direction.

Of course this washer applying operation is performed while the inner end of the stud rests upon a suitable abutment and in practice the driving pressure of the tool 13 acts to embed both flange 9 and washer 11 into the sole 2, more or less, so that the inner side of said sole presents a smooth surface to the

foot of the wearer of the shoe and the washers 11 are not prominently exposed upon the exterior.

In Fig. 6 I have shown a modification in which the stud 4′ is constructed as above described except that its head 3′ is not formed as a spike but is made smaller so that it serves only to interlock with the washer 11, a separate piece calk 3″ being provided that is held in position upon the tread side of the sole by said washer.

While my new stud above described is particularly adapted to be applied directly to the soles of boots and shoes as set forth above, it is to be understood, nevertheless, that its use is not limited in this respect as it is equally as well adapted to be applied to attachments for the soles of boots and shoes, to dog collars, etc.

What I claim is:

1. A stud of the character described comprising a relatively large shank adapted to extend through the article to which the stud is applied and formed with an enlargement or head at one end thereof, a relatively small neck integral with the opposite end of said shank, a head integral with said neck that is larger than the latter but smaller than the shank so as to provide a groove between the head and shank and an anvil surface at the adjacent end of the latter, and a washer surrounding said neck and contracted into said groove by bending.

2. As a new article of manufacture, a stud of the character described comprising a relatively large shank adapted to extend through the article to which the stud is applied and formed with an enlarged inner end, a relatively small neck integral with the smaller end of said shank, and a head integral with the neck that is larger than the latter but smaller than the shank so as to provide a groove between the head and shank and an anvil surface at the outer end of the latter, and a washer formed with a hole adapted to permit the passage therethrough of the head of the stud, the inner marginal portion of said washer being bent outwardly so that when forced against the anvil surface of the stud it will be contracted into the groove between the head and shank.

CHARLES H. RICHARDSON.

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