No. 740,518. PATENTED OCT. 6, 1903.

H. BOOTH.

SNAP FASTENING.

APPLICATION FILED FEB. 27, 1903.

NO MODEL.

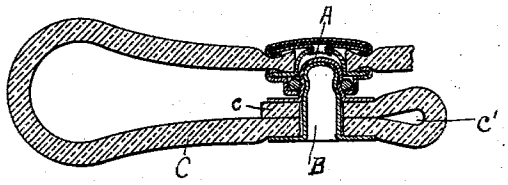


Fig. 1.

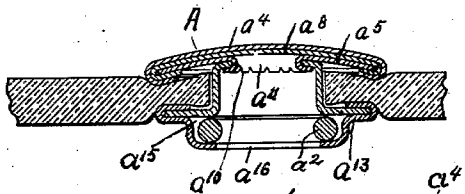


Fig. 2.

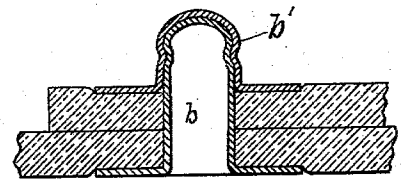


Fig. 3.

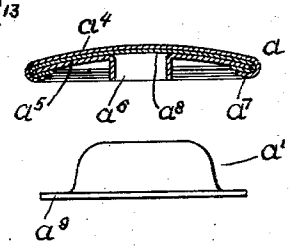


Fig. 4.

WITNESSES.

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No. 740,518. Patented October 6, 1903.

UNITED STATES PATENT OFFICE.

HOBERT BOOTH, OF BRISTOL, CONNECTICUT, ASSIGNOR TO THE BOOTH MANUFACTURING COMPANY, OF BRISTOL, CONNECTICUT, A CORPORATION OF CONNECTICUT.

SNAP-FASTENING.

SPECIFICATION forming part of Letters Patent No. 740,518, dated October 6, 1903.

Application filed February 27, 1903. Serial No. 145,442. (No model.)

To all whom it may concern:

Be it known that I, HOBERT BOOTH, a citizen of the United States, residing at Bristol, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Snap-Fastenings; 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.

The present invention relates to a snap-fastening of that type comprising a ball member and a socket member and which are now generally known as "ball-and-socket" fastenings; and it has particular reference to a snap-fastening designed for use in manufacturing suspender-loops. These loops are made of a strip of leather doubled over at one end to form a loop, by means of which it is engaged with the buckle, which loop will be hereinafter called the "buckle-loop." The doubled end of the leather strip is provided with one member of the fastening, usually the ball or stud member, which holds the doubled end in place, forming the buckle-loop. The other end of the leather strip is provided with the other member of the fastening, the socket member, and when the two members of the fastening are engaged with each other there is thereby formed a loop through which the strap or cord carrying the button-engaging holes or eyes, usually called the "tab," is passed and in which it is designed to be freely slidable in order to secure the proper adjustment of the tab. This loop will be hereinafter called the "tab-loop." As is generally known, this tab-loop is constantly being opened and closed to release and engage the suspender-end. For this purpose the ball-and-socket fastening is employed.

Many forms of such fastenings have been produced; but none of them are especially designed or adapted for use in manufacturing suspender-loops, as their construction is such as to cause a binding of the suspender-tab in the tab-loop, which prevents the free sliding of the tab and, further, prevents a positive and certain engagement of the members of the fastening, and, furthermore, by reason of the construction of the socket member and the thickness of the leather in which it must be fastened or riveted an objectionable bunch or protuberance is formed upon the front of the suspender-loop.

The object of the present invention is to produce a snap-fastening in which the socket member shall be so formed as to permit a positive and sure engagement of the stud member therewith, forming a tab-loop which is large enough to permit a free sliding movement of the tab therethrough without the necessity of unduly increasing the length of said tab-loop.

A further object is to provide an improved means for fastening the socket member to the end of the material forming the loop in such a manner as to prevent the formation of the objectionable bunch or protuberance.

A further object is to greatly simplify the construction of the socket member and to render its attachment easy of accomplishment.

To the above ends the present invention consists of the improved snap-fastening, which will now be described, and particularly pointed out in the claim.

The present invention is shown in the accompanying drawings, in which for a better understanding the parts are shown on a very much enlarged scale.

Figure 1 shows a longitudinal sectional view of a suspender-loop provided with my improved snap-fastening. Fig. 2 shows a sectional view of the free end of the tab-loop and the socket member of the fastening on a larger scale than Fig. 1. Fig. 3 shows a sectional view through the doubled end forming the buckle-loop and also of the stud or ball member of the fastening. Fig. 4 shows the parts forming the socket member of the fastening separated from each other, the cap being shown in section.

Similar reference characters will be employed to designate corresponding parts.

In the drawings, A is the socket member, B the stud or ball member, and C the material forming the loop. The end *c* of the material is doubled over upon the body portion and fastened by the stud or ball member B, as clearly shown in Figs. 1 and 3, in a manner

well known to those skilled in this art, forming the buckle-loop c'. The stud member B, as shown in the drawings, comprises the parts b and b', the part b passing up through the material C and entering and fastened within the part b', thus confining the two layers of material and forming a ball or stud adapted to be engaged by the socket member A. The stud member shown forms no part of the present invention, and any other suitable form of such member may be used in lieu thereof. The socket member A consists of the cap a, the dome a', the spring-ring a^2, and the base a^3. The cap a comprises a convex plate a^4, forming the top or face and which may be embossed or ornamented in any suitable manner, and a convex plate a^5, provided with a short centrally-disposed downwardly-extending tubular post a^6, the plates a^4 and a^5 being secured together in any suitable manner, as by flanging the edge of the plate a^4 over and beneath the plate a^5, as clearly shown at a^7. If desired, an intermediate filling and strengthening plate a^8 of cheaper metal may be interposed between the plates a^4 and a^5.

It will be noted that when the plates forming the cap a are secured together there is formed a cap having a convex outer face and a convex inner face and that the lower end of the centrally-disposed tubular post a^6 is substantially in the plane of the under side of the peripheral edge.

The dome a' is struck up from sheet metal and rises from a narrow flange a^9 and at its apex is provided with an opening a^{10}, through which the end of the tubular stud a^6 is passed and spread or clenched, as shown at a^{11}, in order to secure the socket member to the material C.

The spring-ring a^2 is an ordinary spring-wire split ring.

The base a^3 comprises a vertical wall a^{12}, a horizontal flange a^{13}, and a depressed boss a^{14}, forming a chamber a^{15} for the reception of the spring-ring a^2, the boss a^{14} being provided with a central opening a^{16}, through which the stud member is adapted to pass and be engaged by the spring-ring a^2.

The ring a^2 is seated loosely in the chamber a^{15} and the flange a^9 of the dome a' seated upon the flange a^{13} of the base a^3, the wall a^{12} of the base being then turned over the flange a^9 of the dome a', thus confining the spring-ring a^2 in the chamber a^{15}.

It will be noted that the diameter of the dome a' is such that when the parts are assembled it overlaps the spring-ring a^2, thus confining said ring in its chamber a^{15}, but that said ring is not clamped, but is held loosely, whereby its elasticity is not affected, as it would be if the parts were tightly clamped. In short, the ring is securely held in its proper relation to the central opening a^{16} in the chamber a^{15}, and yet at no point is it clamped or fastened. Thus it is free to expand throughout—a valuable feature of my invention.

It will be noted that when the socket member is secured in place the cap a lies close to the material, which is received in the space surrounding the dome a', and the boss a^{14}, projecting below the surface of the material, besides forming the chamber a^{15} for the ring acts to keep the end of the loop C raised, thus forming a free passage for the suspender-tab, and, further, said boss acts as a guide whereby the ball or stud member may be more readily inserted in the opening a^{16}.

The important results secured by the present invention are the comparatively shallow projection of the head above the fabric, the ball-chamber having the loosely-held spring-ring, and the guiding boss on the under side.

Having described my invention, I claim as new and desire to protect by Letters Patent of the United States—

A socket member having in combination, a cap, a dome and a base, the base consisting of an outwardly-projecting annular boss provided with an opening and a flange which bears upon and is turned over a complementary flange on the dome, together with a spring-ring loosely confined between the base and dome within the chamber formed by said boss, substantially as described.

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

HOBERT BOOTH.

Witnesses:
ALICE E. BROWN,
ROGER S. NEWELL.