May 4, 1965 S. T. SHEARS 3,181,216

ADJUSTABLE SNAP FASTENER BUCKLE

Filed Dec. 20, 1962

Fig. 1.

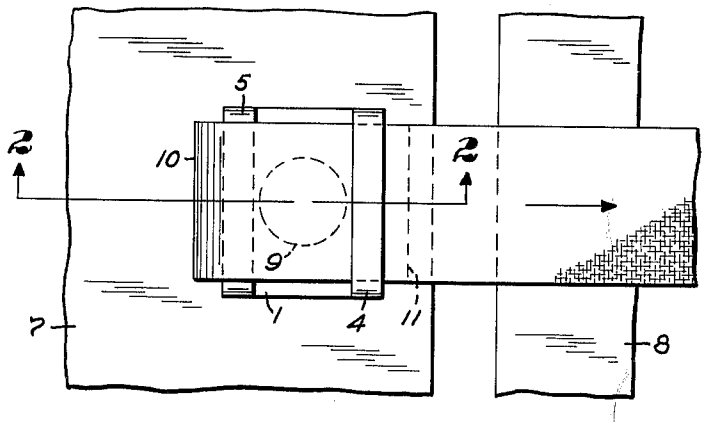


Fig. 2.

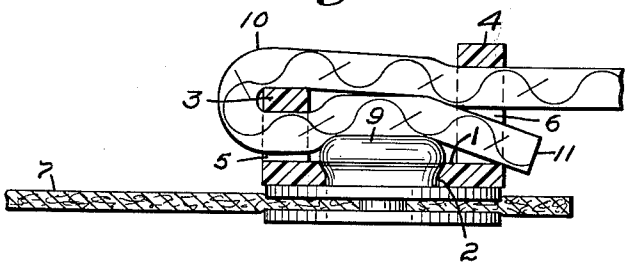


Fig. 3.

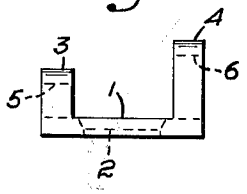


Fig. 4.

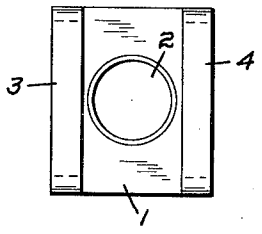


Fig. 5.

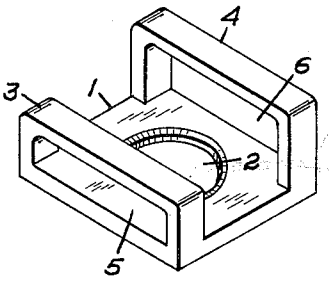
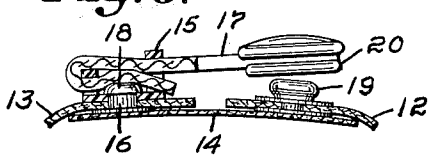


Fig. 6.



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3,181,216

ADJUSTABLE SNAP FASTENER BUCKLE

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1 Claim. (Cl. 24—77)

The invention relates to improvements in adjustable strap buckle installations and improved buckles for the same.

An object of the invention is to provide an adjustable buckle installation which includes an improved slide buckle socket that, when attached to a strap and snapped to a stud, will provide a non-slip construction for use on shoes, gloves and other suitable articles of commerce.

Another object of the invention is to provide a simple, improved slide buckle snap fastener socket construction that may be snub-attached to a strap, especially an elastic strap, and, when in use, co-operates with a snap fastener stud and binds the strap against accidental slipping of the buckle.

A further object of the invention is to provide a simple, one-piece slide buckle socket of flexible synthetic plastic material that will be easily combined with a strap to prevent slippage relative to the strap of elastic material particularly when the buckle is snapped into engagement with a snap fastener stud member.

A still further object of the invention is to provide a simple adjustable buckle member for use with straps as a closure device particularly where adjustment may be necessary from time to time and where it is desirable to thread the strap to the buckle so that the free end is concealed and at the same time the buckle is snub-attached to the strap in such a manner as to prevent slippage.

In the drawings:

FIG. 1 is a plan view of a partial installation of one end of a strap and snap fastener buckle arrangement;

FIG. 2 is a section taken on the line 2—2 of FIG. 1;

FIG. 3 is a side elevation of the buckle member per se;

FIG. 4 is a plan view of the buckle shown in FIG. 3;

FIG. 5 is a perspective of the buckle shown in FIG. 3; and

FIG. 6 is a view, partly in section, showing a modified arrangement of the parts on a portion of a shoe upper.

An improved snap fastener adjustable buckle is best shown in FIGS. 3, 4, and 5. In the construction illustrated, the buckle is formed as a single piece device preferably made of synthetic flexible plastic material. This buckle is provided with a base portion 1 having a stud receiving socket aperture 2 and at opposite ends of the base portion 1 are provided outwardly projecting opposed flanges 3 and 4 having strap receiving slots 5 and 6. It has been found that the slot 6 should be of such dimensions as to receive two thicknesses of a strap while the slot 5 is of such dimensions as to receive only a single thickness of a strap. Furthermore, the flange 3 is shorter in height than the flange 4 for purposes to be described hereinafter.

One possible installation of the improved slide buckle is shown in FIGS. 1 and 2. In that installation there is disclosed a supporting structure having two adjacent portions 7 and 8 forming an opening such as is found in the instep portion of a shoe. The portions 7 and 8 may overlap in some installations. The closure for the opening at the adjacent portions 7 and 8 may be held in a closed position by a snap fastener and strap combination or several such combinations as desired. In this case a snap fastener stud member 9 is attached to the edge portion 7 and a strap 10 extends from the other portion 8 over the opening and carries an above described slide buckle which is snapped into engagement with the stud 9.

For the illustrated construction the strap 10 passes through the slot 6 and then over the outer end of the flange 3 and back through the slot 5 with the free end passing through the slot 6 underneath the main portion of the strap as shown in FIG. 2. A reversed threading of the strap may be used with the free end portion 11 on top, but, with the threading arrangement illustrated, a neater installation results because of the fact that the free end of the strap is concealed.

When the strap is made of elastic material the snubbing arrangement with the buckle will prevent a certain amount of slippage of the strap relative to the buckle, when the strap is placed under tension. However, the tendency of the strap to stretch and slip is corrected when the buckle is snapped into engagement with the stud 9 as clearly shown in FIG. 2. In this case the stud 9 is of such dimensions that it snaps through the aperture 2, in the flexible base 1 of the buckle, and it presses the strap 10 out of its normal plane against the base 1 thereby jamming the double thickness of the strap against the flange 4 to positively prevent slippage of the buckle relative to the strap when tension is exerted on the strap in the direction of the arrow shown in FIG. 1.

An important feature of the invention is to construct a simple adjustable slide buckle snap fastener socket member that is compact and dimensioned to co-operate with a suitable stud and a flexible strap to give the desired result when used. It will be noted that the end of the buckle carrying the flange 3 is relatively flat so that when it co-operates with the strap the buckle is held in alignment with the strap when it is snapped in position on the stud 9. Thus, though there may be a swivel action between the stud and the slide buckle when assembled, the shape of the buckle is such that it co-operates with the strap to hold the parts against relative swivel action and thus prevent an unsightly appearance.

The modified installation illustrated by FIG. 6 is included in the drawings to show that the invention may be used in a different combination of elements than described above. In this case two portions 12 and 13 representing the upper instep portion of the shoe at the opening is illustrated in FIG. 6 along with a portion of a tongue 14. At the portion 13 a buckle member 15 similar to the snap fastener buckle described above is attached permanently to the portion 13 by means of a rivet 16. A strap 17 is threaded into engagement with the buckle 15 in the same manner as shown and described in connection with FIG. 2. Furthermore, the end of the eyelet is curled or riveted over to form a portion 18 which is somewhat similar in shape to the head of the stud 9 and operates in the same manner to press the strap into locking engagement with the buckle to prevent slipping. It will be seen, therefore, that the strap buckle engagement with the portion 13 is more or less permanent but the strap may be adjusted relative thereto, when desirable. A snap fastener stud 19 is attached to the shoe portion 12 and may be engaged by a socket member 20 which is attached to an end of the strap 17 as shown in FIG. 6. In the illustration the socket 20 is shown unsnapped from the stud 19 for better illustration of the fastener arrangement. Thus with the installation shown in FIG. 6 it will be obvious that a shoe or other article might be equipped with the improved buckle of the invention other than using it as a snap fastener socket buckle as will be obvious to anyone skilled in the art.

While the drawings and description relate to particular constructions that have been found to provide satisfactory results and neat appearances it should be understood that minor changes in construction and different assemblies of the strap buckle and article with which the strap and buckle are used may be made without depart-

ing from the spirit of the invention which is best defined by the following claim.

I claim:

An adjustable fastener installation comprising, in combination, a supporting structure such as a shoe, glove, and the like, having edge portions adjacent an opening, and an adjustable elastic strap extending from one edge portion over another edge portion and fastened to both edge portions by fastening devices, at least one of said fastening devices having a buckle of molded plastic material attached in superposed relation to one edge portion and adjustably associated with said elastic strap, said buckle being in the form of a one piece snap fastener socket having an apertured base portion for snap fastener engagement with a cooperating snap fastener stud on the associated edge portion located beneath said buckle and having spaced strap receiving slots and said strap being threaded through said slots in a manner whereby a free edge portion of the strap passes through both slots and another portion of the strap passes over a snubbing flange portion adjacent one of the slots and through a second slot only, said threading arrangement permitting sliding adjustment of the strap relative the buckle when desired while preventing slippage when the shoe, glove and the like, are in use and the strap is placed under strain.

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