July 30, 1935. J. A. DAHLIN 2,009,876

SEPARABLE FASTENER

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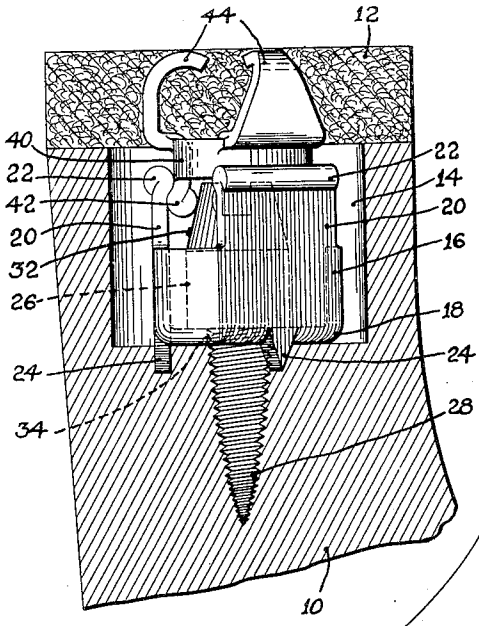


Fig. 1

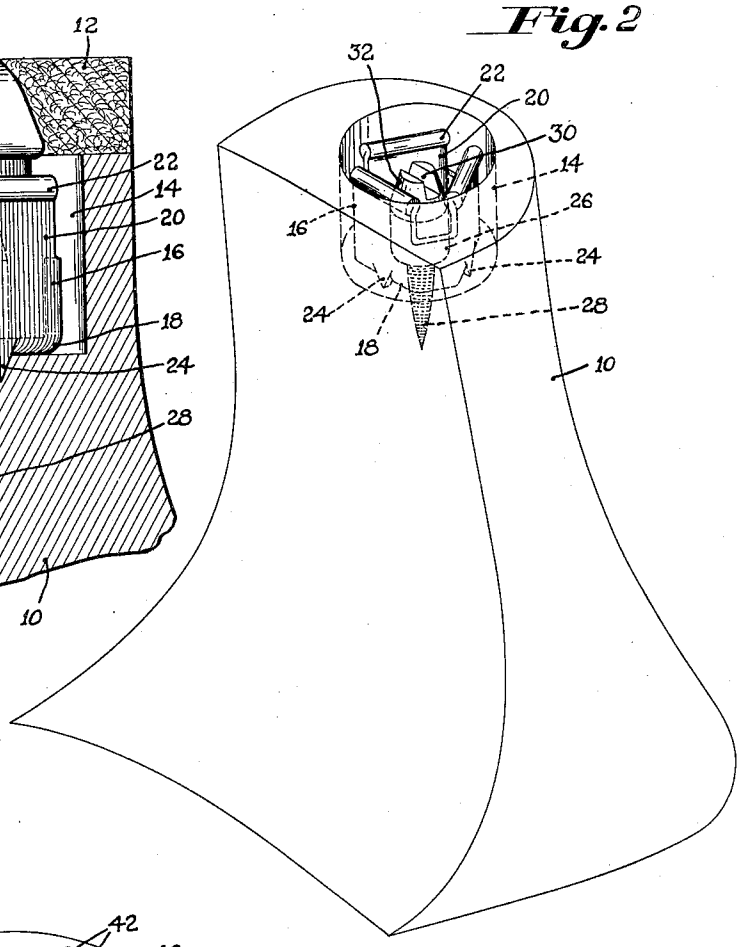


Fig. 2

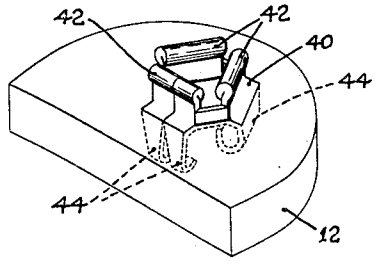


Fig. 3

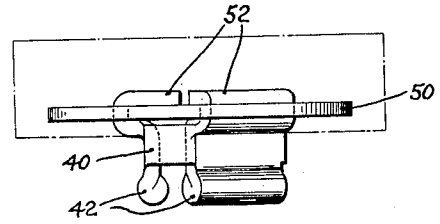


Fig. 4

Witness

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SEPARABLE FASTENER

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Application August 12, 1932, Serial No. 628,523

3 Claims. (Cl. 24—217)

The present invention relates to fastening devices particularly designed for detachably securing a top lift to a heel base in a secure and predetermined position.

The object of the present invention is to provide a compact and relatively simple form of snap attachment which shall permit the removal of a worn or broken top lift and facilitate the application of a new replacement top lift, holding the top lift securely in a predetermined relationship to the heel base after application.

With these and other objects in view, the various features of the invention consist in certain novel features of construction, combinations and arrangements of parts hereinafter described and claimed, the advantages of which will be obvious to those skilled in the art from the following description.

In the accompanying drawing illustrating the preferred form of the invention, Fig. 1 illustrates an elevation partly in section of a heel base with applied top lift, illustrating the relationship of the cooperative parts of the fastener in operative position; Fig. 2 is a perspective of the heel base before application of the top lift, showing the fastener embedded therein; Fig. 3 is a view of the top lift with the complementary portion of the fastener secured thereto; and Fig. 4 represents a slight modification in the method of attaching the upper portion of the fastener to a plate or the like for embodiment in a rubber top lift.

The illustrated embodiment of the invention comprises essentially a snap fastener having complementary portions which are adapted for attachment respectively to the top lift and the heel base to which it is secured. That portion of the fastener connected to the heel base is embedded within a recess or opening formed in the end of the heel base to permit the complementary portion of the fastener to enter therein and secure the top lift in close contact with the attaching face of the base. The two parts of the fastener are provided essentially with resilient interengaging arms spaced uniformly about an axis and generally equi-distant therefrom, and designed through lateral yielding movement to permit interengagement with subsequent interlocking. The interengagement of the two portions of the fastener with subsequent interlocking is facilitated according to the present invention through the employment of a centering and wedging post or the like, which is adapted upon penetration of the socket fastener portion to engage and laterally spread the arms of the entering fastener portion in a manner not only to accurately center the top lift secured thereto, but securely interlock the two portions of the fastener. Although this construction results in securing the top lift firmly to the heel base, nevertheless the rounded interengaging ends of the fastener permit detachment of the two parts of the fastener and removal of the top lift when desired.

Referring particularly to the drawing, it will be observed that the heel base is indicated at **10** as provided with a top lift **12**. Mounted in a circular recess **14** formed in the heel base and projecting lengthwise thereof is a socket fastener portion **16**, which comprises a generally triangular base **18** provided with upstanding resilient arms **20** disposed uniformly thereabout and having rounded upper ends **22**. The base of the socket is provided with tangs **24**, which are adapted for penetration into the material of the heel base to retain the socket member in a predetermined and definite angular position with relation to the opening and the heel base. The socket portion is locked within the heel base by a threaded post **26**, having a tapered threaded stem **28** which enters the material of the heel base and secures the socket in place. The upper end of the post is provided with a slot **30** for the reception of an operating instrumentality, and is tapered at **32** to provide the necessary outward wedging of the cooperating fastener arms as presently described. The post is inserted through an opening **34** formed in the base of the socket.

The cooperating fastener member **40** is similarly triangular in shape, and is provided with three resilient arms **42**. These arms are designed to enter within the series of arms **20** and spread these arms to interlock the two parts of the fastener. Upon penetration of the socket fastener by the entering fastener, the arms **42** engage about the periphery of the tapered surface **32**, spreading the arms into interlocking engagement with the arms **20**, and in addition accurately centering that portion of the fastener which carries the top lift **12**. This portion of the fastener is secured to the top lift either through tangs **44**, which are designed to penetrate and to be bent over within the top lift, or in the case of a rubber top lift the tangs may be secured to a metal plate **50** and bent thereover at **52**, the plate in turn being molded into the rubber or like composition in a manner obvious to those skilled in the art.

It will be observed that with this construction the non-circular arrangement of the cooperat-

ing fastener members insures a predetermined angular position of the top lift with relation to the heel base to avoid non-alignment of the two members. In addition, the rigidly mounted centering and wedging post insures proper centering of the top lift with relation to the heel base regardless of the relative lateral position of the interengaging spring arms, the latter merely serving as a snap fastener to prevent accidental disengagement of the top lift from the base, the centering post further serving as a means for wedging the arms into interlocking engagement and insuring a tighter and more rigid contact between the top lift and heel base than could otherwise be secured. The rigid centering member is regarded as an important aspect of the use of a snap fastener in this type of construction where accurate and precise location of the two members with relation to one another as well as secure fastening is desirable.

It is to be understocd that the present construction is designed to be removed and replaced as desired by the wearer, and to this end it is of importance that the additional top lifts with the cooperating fastener portion secured thereto shall be compact and relatively simple in order that they may be readily carried in a hang-bag or the like. The present form of fastener serves this purpose admirably, as the projection of the fastener from the top lift represents a minimum to secure the necessary interlocking engagement of the top lift to the heel base.

What is claimed is:

1. A separable fastener particularly adapted for securing a heel shaped member to a correspondingly shaped base in registering relation comprising a socket portion of non-circular formation having resilient arms, a rigid centering member disposed within the arms, and a cooperating fastener portion having resilient arms arranged to comform to the socket and adapted to enter between the centering member and the first-mentioned arms and to be spread into interlocking engagement therewith while accurately positioned by the centering member.

2. A fastener particularly adapted for securing a heel member to a base in registering relation comprising a socket member of non-circular formation having resilient arms uniformly disposed about a common center, a rigid centering member disposed within the arms and equi-distant therefrom, the centering member being circular in cross-section and having an outer wedging surface, and a cooperating fastener member having resilient arms uniformly disposed about a common center and designed to enter between the centering member and first mentioned arms upon engagement of the two members and to be wedged outwardly by the centering member into interlocking relationship with the first-mentioned arms.

3. A snap fastener installation of the class described including a part having a single shallow bore therein, a single snap fastener member located in said bore, a second part, a snap fastener member attached to the second part and engaging with the fastener member in the bore of the said first part by direct axial movement, each of said fastener members having a plurality of ccoperating straight sided portions, the side portions of one member being yieldable for snap fastening engagement with the other whereby the parts are secured together against accidental separation and rotation and a projection extending from one of said fastener members in the same direction as the straight sided portions of said member and cooperating with the straight sided portions of the other fastener member to prevent contraction of the yieldable side portions when the fastener members are engaged.

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