May 24, 1960 J. F. TRELA 2,937,461

DETACHABLE TOP LIFT

Filed July 16, 1957

FIG. 1.

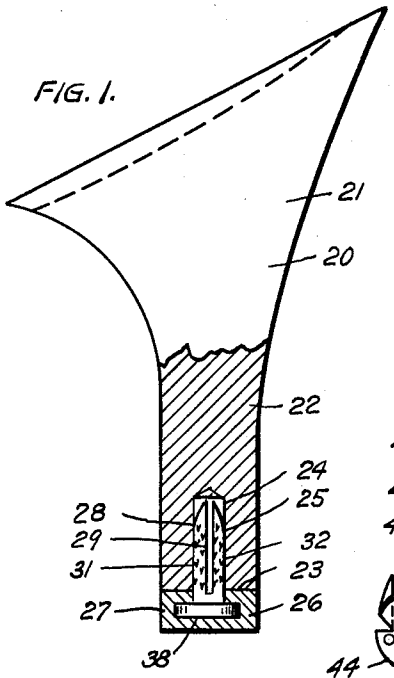
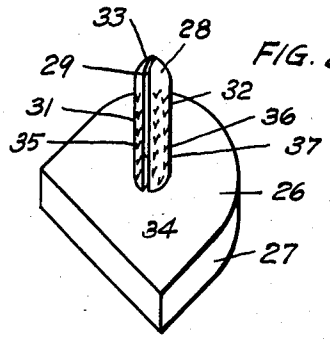


FIG. 2.



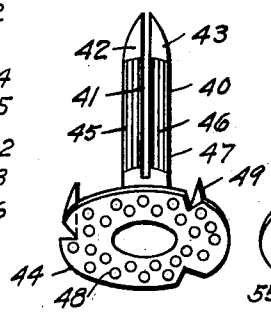


FIG. 3.

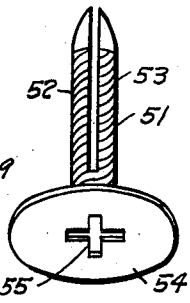


FIG. 4.

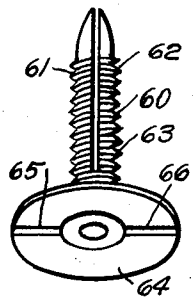


FIG. 5.

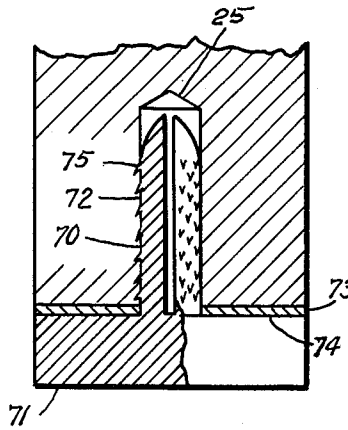


FIG. 6

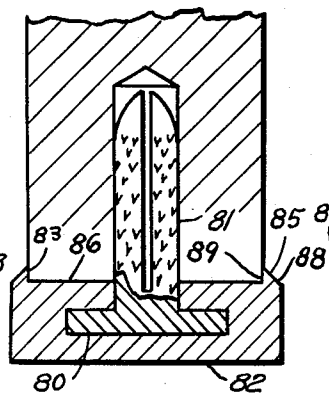


FIG. 7.

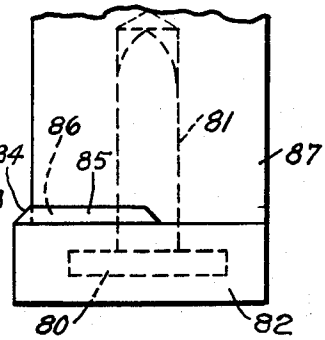


FIG. 8.

INVENTOR.
JOSEPH F. TRELA.

BY

Pearson & Pearson

ATTORNEYS.

United States Patent Office 2,937,461 Patented May 24, 1960

2,937,461

DETACHABLE TOP LIFT

Joseph F. Trela, 332 Jackson St., Lawrence, Mass.

Filed July 16, 1957, Ser. No. 672,222

1 Claim. (Cl. 36—36)

This invention relates to detachable top lifts of the type having a single central post slideably fitting a corresponding axial bore in a heel.

With the advent of transparent plastic ladies' heels of extremely pointed outline, the problem of affixing top lifts thereto has become acute. It is still the general practice in the shoe industry to use three or four nails to affix a lift of greater area than the heel and to then shave the periphery of the lift down to the size of the heel. The nails tend to spoil the appearance of a transparent heel and tend to crack a plastic heel. The shaving operation may also mar the heel and if the lift is dislodged it is time consuming to renail the same. Various central and multiple post type detachable lifts have been proposed in the art but with unusually small top lifts multiple posts weaken the heel and central posts cannot be cumbersome or involve numerous minute parts.

Many proposed detachable top lifts include a sleeve, or lining, which is fitted in the axial bore of the heel in order that the post may be secured thereto but such sleeves also weaken the heel by requiring a larger bore and of course the sleeve must be seated in the bore as an additional operation.

It is the principal object of this invention to provide a one piece, detachable top lift especially usable with sharp pointed heels wherein a single, integral slotted central post retains the lift in an unlined, axial bore of the heel from undesired axial or rotational movement.

Another object of the invention is to provide a detachable top lift which can be molded in one piece, from elastomeric material such as rubber, and yet will have the characteristics of more complicated structures of the prior art.

A further object of the invention is to provide a detachable unitary, top lift of moldable material having a single integral, central post embedded therein capable of gripping the unlined, bore of a heel frictionally, resiliently and abrasively.

Still another object of the invention is to provide such a detachable top lift wherein worn top lifts expose a screw driver slot whereby the post may be turned to remove the same with a rotating movement.

Other objects and advantages of this invention will be apparent from the description of the drawing, the claims and from the drawings in which.

Fig. 1 is a side view in section of the preferred embodiment of the invention.

Fig. 2 is an enlarged perspective view of the detachable top lift shown in Fig. 1.

Figs. 3, 4 and 5 are perspective views, still further enlarged of modified forms of posts.

Fig. 6 is a side view in section of a one piece detachable top lift in accordance with the invention.

Fig. 7 is a front view in section and

Fig. 8 is a side view in section of a modification.

As shown in Figs. 1 and 2, 20 represents the heel of a lady's shoe which may be of wood or plastic in the upper portion 21 and of metal such as aluminum in the

lower portion 22. The portion 22 of currently popular heels may be only about three eighths of an inch in cross section, creating a heel underface 23 of small area. When the heel 20 is entirely of transparent plastic material it will be apparent that interior attaching mechanism for a top lift will be disclosed and must not be unattractive. When the lower portion 22 is of plastic, the driving of nails thereinto or the drive fitting of a sleeve into an axial bore in the heel may tend to fracture the material of the heel.

In this invention, regardless of the material of the portion 22 of heel 20, only a single, unlined axial bore such as 24 is provided which may be conveniently achieved by a drilling operation. The bore 24 extends at least one half inch into the heel and its inner face 25 is smooth and of uniform circular cross section.

The unitary, detachable top lift 26 of the invention includes the lift portion 27, usually of plastic, rubber or similar material, and the integral, upstanding central post 28. Post 28 is of uniform circular cross section and includes an axial slot 29 of uniform cross section forming two identical bifurcated portions 31 and 32, each of parti circular cross section. Post 28 is of resilient material such as metal or rubber whereby the portions 31 and 32 may be flexed toward each other upon slideably entering bore 25 and will then tend to spring outwardly to resiliently engage the inner face 25 of the bore. The slot 29 extends from the free, terminal, tapered tip 33 of post 28 down to the plane of the upper face 34 of the lift 27. A plurality of spaced, sharp protuberances such as 35 and 36 are provided on the outer face 37 of post 28 preferably in the form of minute teeth, barbs, serrations or similar elements of an abrasive nature. The diameter of post 28 and bore 24 is substantially identical whereby the post must be forced into the bore with the portions 31 and 32 yielding toward each other until the post is entirely seated in the bore. Accidental axial withdrawal, or rotation of the lift around the heel axis is prevented by the combined frictional, resilient and abrasive engagement of the protuberances 35 and 36 with the smooth inner face 25 of the bore. When it is desired to replace a worn detachable top lift, the application of a pull by mechanical means on the exposed portion of post 28 will dislodge the same, permitting the substitution of a new unit.

Preferably the post 28 is of metal such as aluminum and is provided with a disc-like head 38 which is embedded in the material of lift 27 intermediate of the height thereof. The lift 27 may be of any suitable moldable material, such as rubber, plastic, metal or nylon and it is molded to exactly fit the the heel 20 in order to eliminate the above mentioned shaving and fitting step during manufacture.

A modification is shown in Fig. 3 in which the post 40 is slotted at 41, bifurcated at 42 and 43 and headed at 44 in a manner similar to post 28. However, longitudinally extending relatively sharp flutes 45 and 46 are provided on the outer face 47 for engaging the inner face 25 of the bore 24. The head 44 is apertured as at 48 to form webs of the moldable material of the lift and a plurality of integral prongs such as 49 are bent upwardly from the head to prevent turning thereof relative to the lift.

Another modification is shown in Fig. 4 wherein a post 51 similar to post 28 is provided with sharp pointed protuberances in the form of the helical drive screw threads 52 and 53. The head 54 includes a screw driver slot 55 which becomes exposed when the lift wears down to permit rotational removal. The post 51 is applied to the bore 24 by hammering in the usual manner of a drive screw, the hammer blows being applied to the lift in which the head is embedded.

In Fig. 5, a post **60** is shown similar to posts **28**, **40** and **51** except that machine screw threads **61** and **62** form the sharp protuberances on the outer face **63**. The head **64** is slotted at **65** and **66** for receiving a turning instrument such as a screw driver.

In Fig. 6 a unitary, detachable top lift **70** is constructed in accordance with the invention by molding both the lift **71** and the post **72** from the same resilient material such as metal, rubber, plastic or nylon. A layer of adhesive **73** is provided on the upper face **74** of lift **71** to affix the same to the heel and prevent rotation thereof. The protuberances **75** on the outer face **76** of post **72** rake rearwardly to permit advance and resist withdrawal of the post in a bore **25**.

In Figs. 7 and 8 a device similar to that shown in Fig. 2 is illustrated wherein the head **80** of post **81** is embedded in the lift **82**. Lift **82** is of moldable material and provided with an integral upstanding rim of the moldable material as at **83**, **84** and **85**. The rims **83**, **84** and **85** extend on at least three sides of, or in at least three quadrants around, the lift **82** in order to form a three walled pocket or recess **86** for receiving the heel **87**. Preferably the rims **83**, **84** and **85** are beveled on their outer faces **88** and vertical on their inner faces **89** to present a novel and attractive appearance.

I claim:

A detachable top lift comprising a one piece body of elastomeric material in the shape of a lift, said body having a single integral, bifurcated, post upstanding centrally therefrom and the outer face of said post having a plurality of sharp protuberances integrally formed thereon for affixing said top lift in a heel bore.

References Cited in the file of this patent

UNITED STATES PATENTS

2,428,259	Anstett	Sept. 30, 1947

FOREIGN PATENTS

19,561 of 1891	Great Britain	Jan. 9, 1892
170,868	Great Britain	Oct. 24, 1921
339,460	Great Britain	Dec. 11, 1930
341,244	Great Britain	Jan. 15, 1931
845,769	Germany	Aug. 4, 1952