June 30, 1964 G. E. MAYA 3,138,882

HEELS AND COMPONENT TOP LIFT-POST UNITS THEREFOR

Filed March 22, 1962 2 Sheets-Sheet 1

Fig. 1

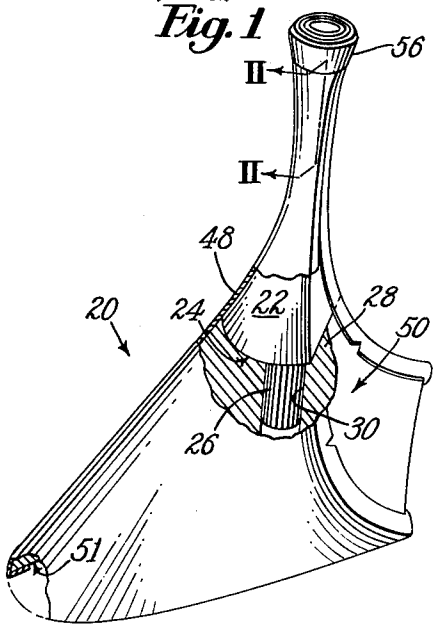


Fig. 2

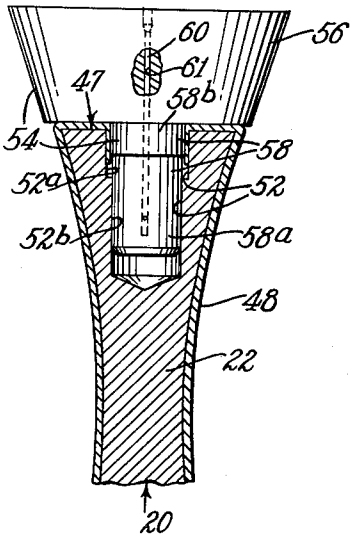


Fig. 3

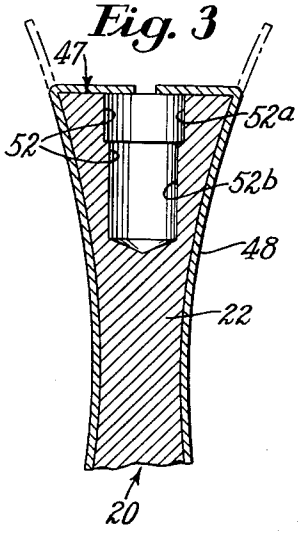


Fig. 4

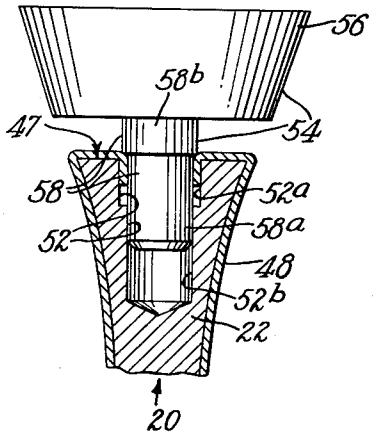
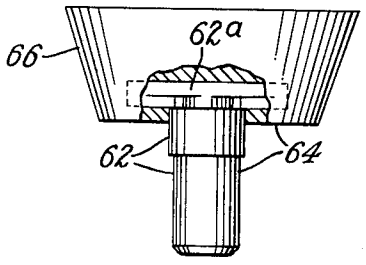


Fig. 5



Inventor

Gregario Estrada Maya

By his Attorney

Douglas R. Buchanan

June 30, 1964 G. E. MAYA 3,138,882

HEELS AND COMPONENT TOP LIFT-POST UNITS THEREFOR

Filed March 22, 1962 2 Sheets-Sheet 2

Fig. 6

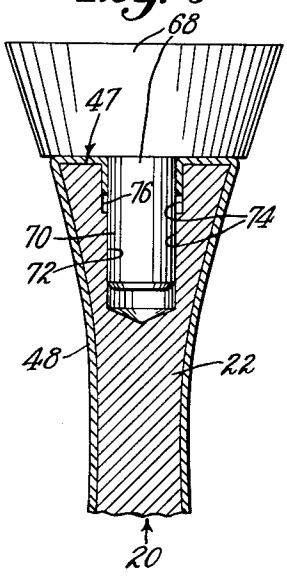


Fig. 7

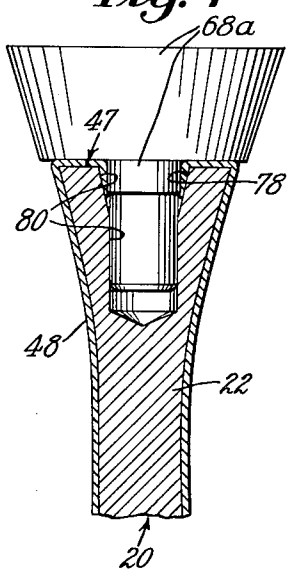


Fig. 8

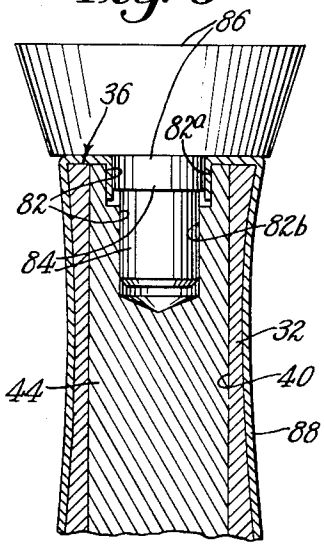
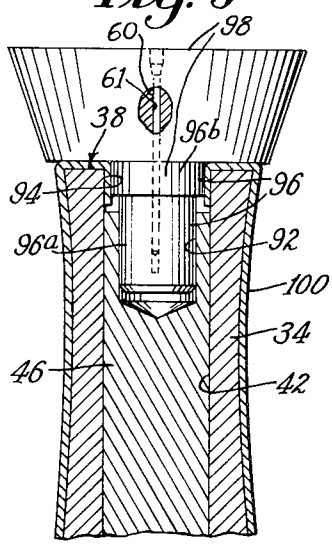


Fig. 9



United States Patent Office 3,138,882 Patented June 30, 1964

3,138,882

HEELS AND COMPONENT TOP LIFT-POST UNITS THEREFOR

Gregorio Estrada Maya, Montreal, Quebec, Canada, assignor, by mesne assignments, to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed Mar. 22, 1962, Ser. No. 181,637
11 Claims. (Cl. 36—34)

This invention relates to women's high style heels and more particularly to an improved heel construction cooperative with a post secured to a top lift of the heel in the effective securement of said top lift to the heel.

In the manufacture of a high style women's heel of the Louis type, for example, it is customary to cement a one-piece plastic or leather cover to the rear and side faces of the heel as well as to the margins of the breast and the top lift receiving face of the heel, a separate breast cover or flap forming part of the attached outsole of the shoe being cemented to the breast of the heel after the attachment of the heel to the shoe.

One type of conventional heel has a top lift receiving face in which is formed a cylindrical bore, which is of uniform diameter throughout its depth and is adapted to receive a cylindrical post formed integral with and secured to a top lift, it being common practice to inturn the lower portion of the cover cemented to the side and rear faces of the heel onto and to cement it to the top lift receiving face of the heel, said cover terminating just short of the cylindrical bore formed in said top lift receiving face. The margin of the cover which is to be inturned upon the top lift receiving face of the heel is usually manually trimmed after the application of the cover to the side and rear faces of the heel but before it has been inturned upon said top lift receiving face. In the conventional construction it is desirable that the trimmed cover shall overlie substantially the entire top lift receiving face of the heel but shall stop short of the cylindrical bore formed in such face. In order to insure that no "bunching" of the cover shall occur on the top lift receiving face of the heel because the cover has been trimmed too wide, there is always a tendency on the part of the operator to trim the cover so that it can be wrapped only a short distance onto the top lift receiving face of the heel and this commonly results in the cover not being effectively secured to said top lift receiving face.

Top lifts of high style heels wear out rapidly and accordingly have to be replaced frequently. Such replacement commonly results in the cover inturned upon the top lift receiving face of the heel breaking loose from the heel even back to where it has been wrapped around the margin of this face. When this occurs attempts are made upon the part of the shoe repairmen to cement the above-mentioned portion of the loose cover to the heel but this is not always satisfactory partly due to the fact that the cover does not overlie a sufficient area of the top lift receiving face of the heel and partly to the fact that the cement is not always properly distributed and/or is not allowed to dry before the new top lift is attached to the heel and this often results in a loose cover bulge being formed in the vicinity of a margin of the top lift receiving face of the heel. Such a bulge is unsightly and after a short while results in the cover being torn in the vicinity of said bulge.

It is an object of the present invention to provide a high style heel which is of the general type above referred to and which is not subject to the above-mentioned drawbacks.

With the above objects in view applicant has provided in a heel comprising side, rear and top lift receiving faces, a cover secured to said faces, a recess formed in said

top lift receiving face and in accordance with a feature of the present invention a top lift forced against the cover on the top lift receiving face and having secured to it a post which is force-fitted into said recess and cooperates with walls of said recess to clamp a margin of the cover against displacement.

By forming in the top lift receiving face of the heel a cover receiving recess of substantial depth the operator may trim the lower margin of the cover, as above described, with the assurance that it will overlie the entire top lift receiving face of the heel and will be received in the recess for the purpose explained. Accordingly the condition never exists where the cover is inturned only a slight distance onto the top lift receiving face of the heel with the attendant drawbacks above-mentioned. The clamping of the margin of the cover against displacement between the post, which is secured to the top lift, and the wall of the recess insures that said cover, after it has been recemented to the heel as above explained during the course of the replacement of the top lift of the heel, will remain tightly wrapped around the lower end of the heel and accordingly no unsightly bulge will be formed such as above referred to when the top lift has been replaced.

The present invention consists in the above novel feature and in novel features hereinafter disclosed, reference being had to the accompanying drawings which represent several embodiments of the invention selected for purposes of illustration, said invention being fully disclosed in the following description and claims.

In the drawings,

FIG. 1 shows in perspective a composite Louis heel to which a cover has been secured, said heel being broken away to show a lower metal shank portion thereof and to show the attachment of said shank portion to an upper wood or plastic heel seat portion of the heel;

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

FIG. 3 is a section similar to FIG. 2 but showing the heel before inserting a post, which is secured to a top lift of the heel, into a stepped recess or bore formed in a top lift receiving face of the heel;

FIG. 4 shows the post, which is secured to the top lift, in the process of being force-fitted into the recess or bore formed in the top lift receiving face of the heel, a stepped base portion of said post being illustrated as starting to wipe a margin of the cover, which has been applied to the top lift receiving face of the heel, into an entrance or counterbored portion of said recess;

FIG. 5 illustrates a top lift which is made of plastic and has secured to it a metal post a head of which has the top lift molded onto it;

FIG. 6 is a view corresponding to FIG. 2 but showing a post which is secured to the top lift and is of the same diameter throughout its length;

FIG. 7 is a view similar to FIG. 2 but showing a heel provided with a countersunk recess instead of with a stepped or counterbored recess;

FIG. 8 is a view corresponding to FIG. 2 and illustrating a lower or shank portion of a wood or plastic heel into a bore of which a metal dowel has been driven, said dowel having its outer end in alinement with a top lift receiving face of the heel and having formed in said end a recess or bore similar to the corresponding bore illustrated in FIGS. 2, 3 and 4, a post which is attached to a top lift of the heel and is similar to the post in FIG. 2 being driven into the recess formed in the dowel; and

FIG. 9 shows a lower or shank portion of a wood or plastic heel having a bore into which has been driven a metal dowel an outer end of which is spaced from a top lift receiving face of the heel and has formed in it a cylindrical recess of uniform diameter, a post attached

to a top lift of the heel being generally similar to the post shown in FIG. 2 but being driven partly into the dowel receiving bore of the heel and partly into the recess of the dowel.

The present invention is described (FIGS. 1–4, 6 and 7) as embodied in a high style heel **20** comprising a shank or lower portion **22** which is made of aluminum for example, and which has an upper ledge face **24** (FIG. 1) and a longitudinally ridged spool **26** projecting heightwise from the central portion of said ledge face, and a wood or plastic heel seat block **28** a lower face of which has formed in it a hole **30** into which the spool of the metal shank or lower portion of the heel is force-fitted. The invention is also described (FIGS. 8 and 9) as embodied in high style wood or plastic heels **32, 34** which are generally similar in shape to the heel **20** and top lift receiving faces **36, 38** of which are provided with bores **40, 42** respectively in which dowels **44, 46** are press-fitted.

The heel **20** has applied to it a leather or plastic cover **48** which is first cemented to the rear and side faces of the heel and after being trimmed manually by the use of scissors (not shown) is inturned upon and cemented to a top lift receiving face **47** of the heel as well as to margins of the breast **50** and the attaching or cup face **51** of the heel. The margin of the portion of the cover **48** inturned upon the top lift receiving face **47** of the heel may or may not be beveled in accordance with the manufacturers' practice. The entire breast **50** of the heel **20**, including that portion to which the inturned margins of the cover **48** have been applied, is subsequently covered by a heel breast covering flap (not shown) which is split from and forms part of the rear portion of an outsole (not shown) of a shoe to which the heel is attached, said flap usually being cemented to the breast of the heel after the attachment of the heel to the shoe and usually having its end trimmed flush with the top lift receiving face **47** of said heel.

Having in view the difficulties encountered in the securing of the cover **48** to the lower end of the heel, as outlined in the above statement of invention, the top lift receiving face **47** of the heel disclosed in FIGS. 1–4 has formed in its central portion a bore or recess **52** which has a stepped entrance portion **52***a* of relatively large diameter and accordingly large cross sectional area, and an inner portion **52***b* which is of relatively small diameter and accordingly small cross sectional area. The heel **20** has secured to it a plastic top lift-post unit **54** comprising a top lift **56** formed integral with a post or stem **58** having a cylindrical outer end portion **58***a*, which may be force-fitted into the inner portion **52***b* of the recess or bore **52**, and a cylindrical stepped base portion **58***b* terminating in a circular corner, the periphery of said base portion being spaced slightly from a wall defining the entrance portion **52***a* of the bore **52** formed in the heel.

The cover **48** in its application to the heel **20** is commonly manually trimmed by the use of scissors (not shown) at the time it is projecting beyond the rim of the top lift receiving face **47** of the heel (see dash-line position of the cover margin in FIG. 3) and is thereafter inturned upon and adhesively secured by the use of cement, for example, to said top lift receiving face, the margin of the cover overlying a portion of the recess **52** as shown in FIG. 3. The outer end portion **58***a* of the post **58** of the top lift-post unit **54** is then force-fitted into the inner portion **52***b* of the recess **52** and the corner of the stepped base portion **58***b* of the post wipes, as best shown in FIG. 4, the already inturned margin of the cover under substantial pressure against the wall of the entrance portion **52***a* of the recess. As the top lift-post unit **54** is being applied to the heel **20**, the periphery of the base portion **58***b* of the post **58** cooperates with the wall of the entrance portion **52***a* of the recess **52** to hold the cover securely in place, the cover margin being tensioned during this process. When the top lift **56** has been forced against the portion of the cover **48** upon the top lift receiving face **47** of the heel **20**, the stepped base portion **58***b* of the post **58** will have tensioned the cover margin and will have secured it firmly in place against the wall of the entrance portion **52***a* of the bore.

When the top lift-post unit **54** has to be replaced in order to change a worn out top lift **56**, the repairman immediately after applying, cement to the inner face of the cover **48** (where the cover has separated from the lower end portions of the side and rear faces of the heel **20** and from the top lift receiving face **47** of the heel) and manually applying the cover to these faces presses the post **58** of the top lift-post unit **54** into the recess **52** formed in the heel, the outer end portion **58***a* of the post being drive-fitted into the inner portion **52***b* of the recess and the stepped base portion **58***b* of the post tensioning the margin of the cover about the top lift receiving face of the heel as it presses with a wiping action, the cover against the wall of the entrance portion **52***a* of the bore, the top lift finally being forced with substantial pressure against the cover of said top lift receiving face.

It has been found that a press-fit is sufficient to hold the top lift-post unit **54** in place on the heel **20** but in order further to insure that the post or stem **58** of said unit shall be securely attached to the heel, a nail **60** is preferably driven into an undersized bore **61** extending along the axis of the top lift-post unit whereby to cause said post to expand so that it will be forced with additional pressure against the walls of the recess **52**.

Instead of providing the integral plastic top-lift post unit **54**, a post **62** (FIG. 5) of a modified top lift-post unit **64** may be made of aluminum, for example, in which case a plastic top lift **66** is molded onto a head **62***a* of said post.

In FIG. 6 there is shown a modified embodiment of the invention comprising an integral plastic top lift-post unit **68** including a post **70** which is cylindrical throughout its length. In such a construction the post **70** does not have a stepped base portion corresponding to the stepped base portion **58***b* of the top lift-post unit **54**. The post **70** of the top lift-post unit **68** is press-fitted into an inner portion **72** of a stepped bore of a recess **74** similar to the recess **52**, an inturned margin of the cover **48** of the heel being pressed against a wall, which defines an entrance portion **76** of the recess, by the peripheral face of said post. The construction illustrated in FIGS. 1 to 4 is considered preferable to the construction illustrated in FIG. 6 since the top lift-post unit **54** can be secured quicker and more effectively to the heel **20** than can the top lift-post unit **68**.

FIG. 7 illustrates an embodiment of the invention in which an entrance portion **78** of a recess **80** formed in the top lift receiving face **47** of the heel **20** is formed by countersinking instead of by counterboring the margin of the cover **48** being held in place by a top lift-post unit **68***a*. Such a construction has special utility where the margin of the cover **48** has been beveled.

In the manufacture of high style wood or plastic heels **32** such as illustrated in FIG. 8 the shank or lower portion of the heel has formed in it the cylindrical bore **40** and into said bore is driven the metal dowel **44** which is prevented from rotating in the heel by ridges or flutings (not shown) formed on the periphery of said dowel. The dowel **44** is driven into the bore **40** of the heel **32** until an outer end of the dowel is in register with the top lift receiving face **36** of the heel, said outer end of the dowel in fact constituting part of the top lift receiving face of the composite heel. The outer end of the dowel **44** has formed in it a recess or bore **82** which is similar to the stepped bore or recess **52** of the embodiment illustrated in FIGS. 1–4, and comprises an entrance portion **82***a* of relatively large diameter and an inner portion **82***b* of relatively small diameter, a post **84** of a top lift-post unit **86**, which is substantially identical with the top lift-post unit

54, being pressed into the recess 82 as above explained in connection with the first described embodiment, and forcing against a wall constituting said entrance portion 82*a* of the recess 82 the margins of a cover 88 adhesively secured to side, rear and top lift receiving faces of the heel 44 which is of the same general shape of the heel 20 illustrated in FIG. 1. As above explained, the post 84 of the top lift-post unit 86 may be forced with additional pressure against the walls of the stepped or counterbored recess 82 by the use of a nail (not shown) driven in the manner illustrated in FIG. 2 into the post pressed into its operating position in the composite heel.

In the modified form shown in FIG. 9 there is illustrated the heel 34 having formed in it the bore 42 into which has been driven the metal dowel 46 in the outer face of which is formed a cylindrical hole, recess or bore 92. It will be noted that the outer end of the dowel is spaced a considerable distance from the top lift receiving face 38 of the heel 34, the upper end portion of a wall of the bore 42 and the outer end of the dowel 46 forming a cavity 94 corresponding generally in size and shape to the entrance portion 52*a* of the bore or recess 52 of the embodiment disclosed in FIGS. 1–4. When an end portion 96*a* of a post 96 of a top lift-post unit 98 is forced into the bore 92 of the dowel 42 a base or step portion 96*b* of said post forces a margin of a cover 100, which has been adhesively secured to side, rear and top lift receiving faces of the heel, against the upper end of the wall of the dowel receiving bore 42 in the heel. If desirable a nail 60 such as shown in FIG. 2 of the drawings may be driven into the top lift post unit 98 for the purpose of further insuring that this unit will be securely attached to the heel.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A heel comprising side, rear and top lift receiving faces, a cover adhesively secured to said faces, a recess formed in said top lift receiving face, said cover having marginal portions extending over said recess, a top lift forced against the cover on the top lift receiving face and having secured to it a post an outer end portion of which is force-fitted into said recess and a base portion of which is spaced from a wall portion of said recess and cooperates with said wall portion to clamp in the recess, said marginal portions of the cover against displacement.

2. A heel having a cover adhesively secured to it and having formed in a top lift receiving face thereof a recess comprising entrance and inner portions of relatively large and small transverse cross section respectively, a top lift having a post secured to it, said top lift being in forced engagement with a portion of the cover inturned upon the top lift receiving face of the heel, said inturned cover portion having a margin extending over said recess, said post having an outer end portion which is drive-fitted into the inner portion of the recess and having a base portion which is spaced from an opposing wall portion of said entrance portion of the recess and forces said margin of the inturned portion of the cover against said wall portion and accordingly secures said margin against displacement in the recess.

3. A heel comprising a cover adhesively secured to side, rear and top lift receiving faces thereof, a recess formed in said top lift receiving face and having entrance and inner portions of relatively large and small cross sectional areas respectively, said cover having a marginal portion extending over said recess, a top lift having secured to it a post which is anchored securely in the inner portion of said recess and which cooperates with walls defining the entrance portion of said recess to hold by pressure in said recess said marginal portion of the cover securely in place.

4. A heel comprising a top lift receiving face, a stepped recess which is formed in said face and has an inner portion of relatively small transverse cross sectional area and an entrance portion which is of relatively large cross sectional area and is adapted to receive a margin of a cover inturned upon the top lift receiving face of the heel, and a top lift having secured to it a longitudinally stepped post an outer stepped portion of which is force-fitted into said inner portion of the recess and a base stepped portion of which is spaced from a wall defining the entrance portion of the recess and is adapted to force under pressure said margin of the cover against said wall.

5. A heel comprising side, rear and top lift receiving, faces, a cover adhesively secured to said faces, a bore which is formed in said top lift receiving face and has a counterbored entrance portion, a top lift having secured to it a post which is adapted to be press-fitted into said bore and is spaced from a wall of the entrance portion of the bore to provide a pocket adapted to receive a margin of the cover which is forced by said post against said wall.

6. A heel comprising a top lift receiving face having formed in it a bore inner and entrance portions of which have relatively small and large diameters respectively, a cover which is adhesively secured to side and rear faces of the heel as well as to the top lift receiving face of the heel, and a top lift which is in forced engagement with the cover upon the top lift receiving face and has secured to it a stepped post an outer end portion of which is force fitted into the inner portion of said bore and a base portion of which is spaced from a wall of the entrance portion of the bore and is adapted to force a projecting margin of said cover against said wall.

7. A heel comprising a top lift receiving face having formed in it a central stepped bore an inner portion of which is of one diameter and an outer portion of which is of a larger diameter, a cover which is applied to side and rear faces of the heel as well as to the margin of the top lift receiving face of the heel, a top lift which is in forced engagement with the cover upon the top lift receiving face of the heel and has secured to it a stepped post an outer portion of which is force-fitted into the inner portion of said bore and a base portion of which forces a projecting margin of the cover with substantial pressure against a wall defining the outer portion of said bore, and a nail which is driven into the plastic top lift and extends heightwise along the post and insures that the post is forced with substantial pressure against walls defining the inner portions of the bore and against the cover which is supported by walls defining the outer portion of said bore.

8. A high style heel having formed in a top lift receiving face thereof a bore extending heightwise along a shank of the heel, a dowel which is drive-fitted into said bore and has an outer end thereof arranged substantially flush with the top lift receiving face of the heel, a cover which is adhesively secured to side and rear faces of the heel as well as to the top lift receiving face of the heel, said dowel having formed in an outer end thereof, a counterbored hole an outer portion of which is adapted to receive a margin of the cover, and a top lift which is in forced engagement with the cover upon the top lift receiving face of the heel and has secured to it a post an outer end portion of which is force-fitted into an inner portion of the hole and a base portion of which is adapted to force under pressure a projecting margin of the cover against a wall defining an outer portion of said hole.

9. A heel comprising a top lift receiving face having formed in it a bore extending heightwise of a shank of the heel, a cover which is applied to the side and rear faces of the heel as well as to the top lift receiving face of the heel, a metal dowel which is drive-fitted into and is held against rotation in said bore and which has an outer end face thereof spaced a substantial distance from the top lift receiving face of the heel and has a hole formed in its outer end face, a top lift which is in forced engagement with the cover upon the top lift receiving face of the heel and has secured to it a stepped post an

outer end portion of which is force-fitted into said hole in the dowel and a base portion of which is spaced from a wall defining the outer end portion of the bore and cooperates with said wall to clamp in position a projecting margin of the cover against movement.

10. A heel comprising a top lift receiving face, a bore which is formed in the top lift receiving face of the heel and extends heightwise of said heel along its shank, a dowel which is drive-fitted into said bore and is held against rotation in the bore and which has an outer end face thereof spaced a substantial distance from the top lift receiving face of the heel and has a hole formed in said outer face, a cover which is adhesively secured to the side and rear faces of the heel as well as to the top lift receiving face of the heel, and a top lift which is in forced engagement with the cover upon the top lift receiving face of the heel and has secured to it a stepped post an outer end portion of which is drive-fitted into the hole formed in the outer end of the dowel and a base stepped portion of which forces a projecting margin of the cover against a wall defining the outer portion of said bore, and a nail which extends heightwise through the central portion of the top lift and said associated post and when driven into said post causes the post to expand laterally thus insuring that said post is forced with suitable pressure against walls of the hole in the dowel and against said margin of the cover backed up by a wall of the outer end of the bore in the heel.

11. A heel which has a cover secured to its side, rear

and top lift receiving faces and which has formed in its top lift receiving face a bore including concentrically arranged inner and entrance portions of relatively small and large diameters respectively, and a top lift having secured to it a post comprising cylindrical outer end and base portions centered about a common axis and having peripheries which are separated by a shoulder and are substantially the same diameter as and substantially less diameter than the inner and entrance portions respectively of said bore, walls defining said inner portion of the bore and the outer end of the post cooperating to secure the top lift in forced engagement with the cover applied to said top lift receiving face, and the base portion of the post and a wall defining said entrance portion of the bore cooperating to clamp between them in said bore a margin of the cover extending inwardly over the top lift receiving face of the heel.

References Cited in the file of this patent

UNITED STATES PATENTS

2,263,186	Parkhurst	Nov. 18, 1941
2,836,906	Josephi	June 3, 1958
3,041,744	Brauner	July 3, 1962
3,041,747	Pfeil	July 3, 1962
3,055,125	Ronci	Sept. 25, 1962

FOREIGN PATENTS

1,187,333	France	Mar. 2, 1959
1,235,297	France	May 23, 1960