

Patented July 11, 1911.

997,329.

Fig. 1.

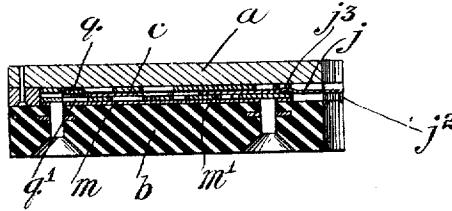


Fig. 2.

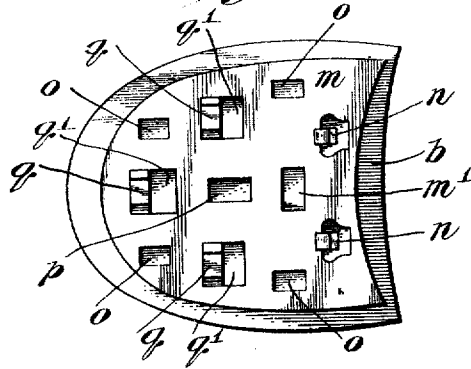
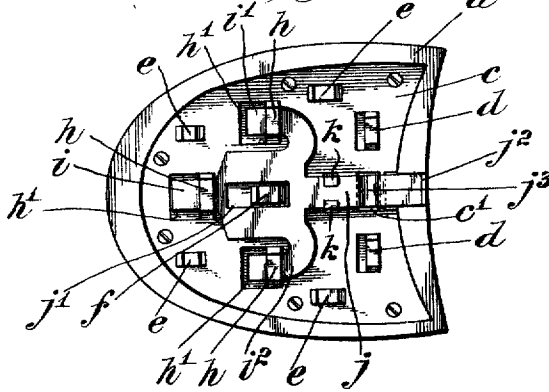


Fig. 3.



Attest:
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by Frank P. Wentworth
his Atty.

UNITED STATES PATENT OFFICE.

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DETACHABLE HEEL.

997,329.

Specification of Letters Patent.

Patented July 11, 1911.

Application filed December 8, 1910. Serial No. 596,220.

To all whom it may concern:

Be it known that I, CHARLES SCHLAYER, a citizen of the United States, residing at the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Detachable Heels, of which the following is a specification, reference being had therein to the accompanying drawings, which form a part thereof.

My invention relates to detachable heels for boots and shoes, and more particularly to a type thereof employing interlocking plates adapted to be carried by different lifts of the heel.

The main object of the invention is to provide a detachable heel embodying therein plates adapted to interlock to secure the lower lifts to the main body of the heel, which plates will be so constructed as to sustain, without distortion, the weights placed thereon and thus preserve the original dimension of the plate and make all plates interchangeable, thereby facilitating the removal of a worn lift and the substitution of a fresh one therefor.

A further object is to provide a heel of this character wherein the relative position of the interlocking plates will be determined irrespective of the lock bolt, the function of said bolt being merely to prevent the separation of the plates.

A still further object is to provide a heel of this character wherein the interlocking plates will offer resistance to any strain tending to displace same under the ordinary stresses of use, thus causing said plates when united to be perfectly rigid.

A still further object is to provide a heel of this character wherein the bolts tying the two plates together will automatically lock themselves in the closed position without employing independent locking means.

A still further object is to provide in a heel of this character, interlocking plate members embodying therein only three separate elements. And a still further object is to provide a device of this character which may be inexpensively produced so as to be applicable for use upon either shoes as turned out by a factory, or upon shoes which in their manufacture are not provided with such plates, as in the case of ordinary rubber heels.

The invention consists in the novel fea-

tures of construction and combination of parts, as are hereinafter set forth and described, and more particularly pointed out in the claims hereto appended.

Referring to the drawings:—Figure 1 is a vertical section through a heel embodying my invention; Fig. 2 is a plan view of the lower lift with the plate in position thereon; and Fig. 3 is a bottom plan view of that portion of the heel attached to the shoe, showing the other interlocking plate in position thereon.

Like letters refer to like parts throughout the several views.

In the embodiment of my invention shown in the drawings, I have shown at *a* the upper lifts of an ordinary heel for a boot or shoe, and at *b* a thick detachable lower lift, the heel thus comprising two sections, one of which is permanently attached to the shoe and the other of which is detachably connected to said first named section.

The heel section *a* is preferably hollowed out centrally thereof, the cavity following in contour the outer edge of the heel. This construction permits the countersinking of the interlocking plate carried by this section so as to bring the bottom surface of the upper lift flush with the top surface of the detachable section *b* while concealing the attachment means. Secured to said section *a* by means of pegs, rivets, or any other desired means, is a metallic plate *c* having formed thereon, adjacent to the forward edge thereof, a plurality of raised straps *d* forming sockets above the plane of the plate. Said plate also has punched up therefrom a plurality of studs *e* for use in securing the proper alinement of this plate and of the cooperating interlocking plate, and at the same time resisting lateral or longitudinal strains thereon tending to separate the lower lift from the main body of the heel. These studs *e* are of a height sufficient to project into engagement with the other heel section *b* and support the lower lift in a manner to resist the vertical stresses placed thereon. Approximately centrally of the plate *c* is a guide stud *f* which also serves as a brace in the same manner as the other studs *e*. Pressed up from the body of the plate *c* are three divergently arranged straps *h* each having a space *h'* toward the rear thereof, and slidably mounted in these straps are a plurality of bolts *i*, *i'*, *i''*, having simultane-

ous movement under the control of an integral stem *j* common to all of such, said bolt being composed of a single stamped metallic part. Formed up from the plate *c* are the oppositely disposed prongs *k* adapted to be closed over the stem *j* to serve as a guide therefor. The stem *j* has an elongated opening *j'* therein adapted to inclose the stud *f* and form a guide aligned with the prongs *k* to afford a bearing, intermediate the prongs *k* and the guide straps *h*, for the plate constituting the several bolts and their stem.

This construction and arrangement prevents any such loss of alinement of the bolts as might tend to cause such a binding thereof as would interfere with their free sliding movement when it is desired, after use, to remove one bottom lift and replace it with another.

The end of the stem *j* is turned up to form a hook *j²* adapted to project beyond the forward edge of the heel to facilitate the reciprocation of the said stem in attaching and detaching the lower lifts. Adjacent to this hook, a nub *j³* is formed upon the stem *j*, which nub is adapted to enter a recess *c'* in the plate *c* to hold said stem against movement when the bolts are locked, and to lock the bolts in the closed position through engagement with the edges of the recess *c'*. Said stem possesses sufficient resiliency to permit the disengagement of said nub from this recess when a pull is exerted upon the stem.

Carried by the heel section *b*, or secured thereto in any desired manner, is a plate *m*. This plate has formed thereon, adjacent to the forward edge thereof, the tongues *n* adapted to enter and engage the sockets formed by the straps *d*, these parts forming immovable interlocking means for securing the proper adjustment of the plates *c* and *m* relative to each other. The plate *m*, adjacent to the tongues *n*, is cut away to accommodate the straps *d*, which pass through the plate *m* and engage the lower lift *b*. The plate *m* is also cut away at divergent points to form pockets *o* coinciding in position with, and adapted to receive, the studs *e*, this construction not only permitting said studs to engage with the lower lift and thus cause any strains upon the heel section *b* to be transmitted directly to the plate *c* through these studs; but at the same time inclosing these studs in a manner to prevent any relative movement of the two plates *c* and *m*, when the lower lift is in place. The said plate *m* is also cut away substantially centrally thereof to form a pocket *p* adapted to receive the guide stud *f* which is high enough to cause the detachable lift to engage directly therewith in the same manner as with the studs *e*.

Formed up from the plate *m* are three

divergently arranged straps *q* having a space *q'* cut away forwardly of each. These straps form bolt sockets adapted to be alined with the straps *h* respectively, and to receive the bolts *i*, *i'*, and *i²*. The straps *h* and *q* are sufficiently high to engage the lift sections *b* and *a* respectively, so as to supplement the studs *e* in sustaining the weight placed upon the heel, said studs preventing crushing of the straps *h*, *q* in a manner to prevent the free reciprocation of the said bolts. The said plate *m* is also cut away to provide the proper clearance for the prongs *k*, and thus prevent any such pressure upon the prongs, exerted by the weight resting upon the lower lift section *b*, from causing them to bind or tighten upon the stem *j*.

In assembling the device, the stem *j* and with it the bolts *i*, *i'*, and *i²*, is drawn outwardly, the plates *c* and *m* having first been attached to the heel sections *a* and *b*. The tongues *n* are then inserted in the sockets formed by the straps *d* and the section *b* brought to place, the various studs and sockets insuring an absolutely accurate positioning of the two plates, such as is required to bring the detachable heel section *b* flush with the section *a* to secure the proper, neat exterior finish. The parts having been thus assembled, the stem *j* is driven inwardly until the nub *j³* enters and engages the recess *c'*, which will prevent the accidental return movement of this stem, the inward movement of which stem causes the bolts *i*, *i'* and *i²* to enter and engage the bolt sockets formed by the straps *q*. It will be observed that the studs *e* and *f* and the straps *d* and *q* form distance studs adapted to hold the plates *c* and *m* apart sufficiently to afford the proper clearance for the bolts and their stem and that the disposition and number of these straps is such as to prevent any weight placed upon the heel from causing the guide or socket straps to collapse and bind the bolts. It will be further observed that each of the plates and the bolt mechanism may be severally struck up from a single piece of sheet metal, thus lending economy to the production of the article. It will also be observed that the interlocking studs and sockets of the two plates will prevent a lateral or longitudinal displacement of the detachable heel section *b*.

While I have described the section *a* as having a cavity therein, to permit the countersinking of the plate *c*, the heel section *b* may be hollowed out instead, if desired; it being merely necessary that one of the plates *c* and *m* shall be countersunk in its section. When using a rubber lift, as shown in the drawings, the last described arrangement may be preferable, as it would effect a substantial saving of an expensive material.

Preferably the plates *c* and *m*, and the bolts

and stem section are made of pressed steel which may, if desired, be brass or copper plated to prevent corrosion thereof.

Having described my invention, what I claim as new and desire to have protected by Letters Patent, is:—

1. In a detachable heel for boots and shoes, a plurality of interlocking plates, adapted to be attached to a fixed and a removable section of a heel respectively, one of which plates has a plurality of fixed tongues and the other of which has a plurality of fixed raised straps forming sockets adapted to be engaged by said tongues, said plates being respectively provided with bolt sockets, and a slidable bolt adapted to enter said sockets.

2. In a detachable heel for boots and shoes, a plurality of interlocking plates, adapted to be attached to a fixed and a removable section of a heel respectively, one of which plates has a plurality of fixed tongues and the other of which has a plurality of fixed raised straps forming sockets adapted to be engaged by said tongues, said plates being respectively provided with bolt sockets, a plurality of slidable bolts, having a stem in common, adapted to enter said sockets, and a nub formed on said stem, adapted to enter and engage a recess in one of said plates.

3. In a detachable heel for boots and shoes, a plurality of interlocking plates, adapted to be attached to a fixed and a removable section of a heel respectively, one of which plates has a plurality of fixed tongues and the other of which has a plurality of fixed raised straps forming sockets adapted to be engaged by said tongues, said plates being respectively provided with bolt sockets, and a slidable bolt adapted to enter said sockets, one of said plates having a plurality of cut away portions and the other of said plates having a plurality of raised portions, whereby vertical strains will be transmitted directly from one of said plates to the heel section to which the other is attached.

4. In a detachable heel for boots or shoes a plurality of interlocking plates adapted to be attached to a fixed and a removable section of a heel respectively, one of which plates has a plurality of fixed tongues and the other of which has a plu-

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rality of fixed raised straps forming sockets adapted to be engaged by said tongues, one of said plates being provided with bolt sockets, and the other of said plates being provided with raised straps so positioned as to be adapted to be alined with said sockets, and a slidable bolt retained by said straps and adapted to enter said sockets.

5. In a detachable heel for boots and shoes, a plurality of interlocking plates adapted to be attached to a fixed and to a removable heel section respectively, one of which plates has a plurality of fixed tongues and the other of which has a plurality of fixed raised straps forming sockets adapted to be engaged by said tongues, said plates being respectively provided with bolt sockets, a plurality of slidable bolts having a stem in common adapted to enter said sockets, said stem having an opening therein and one of said plates having a raised guide stud projecting through said opening and adapted to engage the other section of the heel, and a nub formed on said stem adapted to enter and engage a recess in one of said plates.

6. In a detachable heel for boots and shoes, a plurality of interlocking plates adapted to be attached to a fixed and to a removable heel section respectively, one of which plates has a plurality of fixed tongues and the other of which has a plurality of fixed raised straps forming sockets adapted to be engaged by said tongues, said plates being respectively provided with bolt sockets, a plurality of slidable bolts having a stem in common adapted to enter said sockets, said stem having an opening therein and one of said plates having a raised guide stud projecting through said opening and adapted to engage the other section of the heel, a nub formed on said stem adapted to enter and engage a recess in one of said plates, and a plurality of independent tongues, on the plate carrying said bolts, adapted to be bent over and act as guides for said stem.

In witness whereof, I have hereunto affixed my signature, in the presence of two witnesses, this 2nd day of December, 1910.

CHARLES SCHLAYER.

Witnesses:

EUGENE WENING,
P. FRANK SONNEK.