

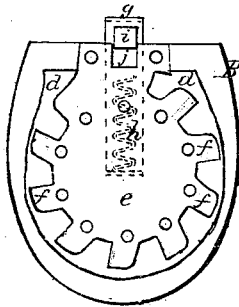
*C. W. Bailey,*

*Boots Shoe Keel.*

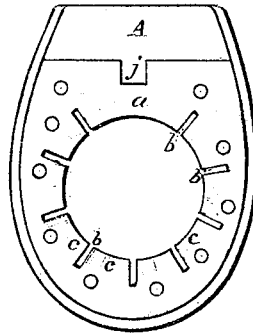
*No. 106,984.*

*Patented Sept. 6. 1870.*

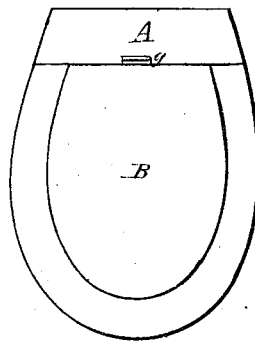
*Fig. 2*



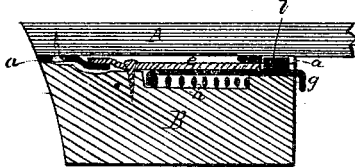
*Fig. 1*



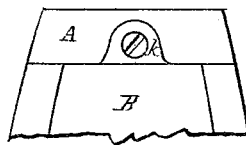
*Fig. 4*



*Fig. 3*



*Fig. 5*



*Fig. 6*



*Witnesses.*

*Herbert T. Whitman.*

*Warren A. Thomas*

*Inventor.*

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*Atty*

# United States Patent Office.

CHARLES W. BAILEY, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 106,984, dated September 6, 1870.

## IMPROVED DETACHABLE BOOT AND SHOE-HEEL.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern :

Be it known that I, CHARLES W. BAILEY, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Detachable Boot and Shoe-Heels; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to which it appertains to practice it.

This invention relates to an improved device by which the heel is firmly secured to the sole, yet allowing a capability of ready removal for the purpose of change from one shoe to the other in case of uneven wear, or other purposes; and

The invention consists in two clamping-plates secured respectively to the sole and the heel; that attached to the sole conforming in outline thereto, and having a central circular portion cut away; around which circle radial slots are cut, the tongues of metal between the slots having one edge raised above the plane of the adjacent surface, the plate secured to the heel having formed upon it, around a common center, radial tongues, which also are raised at one edge, giving them a slight "pitch," whereby they are, by a rotary movement of the heel, locked into the tongues formed upon the opposite plate, and when thus locked are secured in place by a spring catch, or other equivalent device, as will be hereinafter more fully described.

Figure 1 is an under-side view of the sole, with its clamping-plate secured thereto;

Figure 2 is a top view of the heel, with its clamping-plate secured upon it;

Figure 3 is a longitudinal vertical section, taken in the axis of the shoe, and showing the heel locked to the sole by the clamping-plates;

Figure 4 is an under-side view, showing the heel and sole as united by my invention;

Figure 5 shows a modification of the locking-device; and

Figure 6 is a side elevation or edge view of the clamping-plate which is attached to the heel, and showing the pitch of the radial tongues formed upon the plate.

Similar letters of reference indicate corresponding parts in the several figures.

In the drawing—

A represents a section of the sole, and

B is the heel.

*a* is a thin metallic plate, having its curved outline corresponding to sole A, as shown; a central circular portion of this plate is cut away, as shown, and around this circular space short radial slots, *b*, are cut in the remaining metal.

The tongues of metal marked *c*, thus formed by slots *b*, are twisted slightly out of the plane of plate *a*, so that they have a pitch in the same direction as a right-hand screw.

This plate is secured to sole A by a series of screws

or nails passing through it into the sole near its outer periphery, as shown.

The heel B has a shallow recess or cavity formed in it, as shown at *d*, fig. 2, in which is secured, by nails, as shown, the serrated plate *e*, the projections *f* upon which being formed around a common center, and at the same distance from each other as the slots in plate *a*, while the diameter of plate *e*, inside the bases of projections *f*, corresponds to the circular opening in plate *a*.

The projections *f* are like tongues *c*, slightly twisted out of the plane of plate *e*, and so as to impart to them the same pitch as tongues *c*, the pitch of both being plainly shown in fig. 6.

The plates *a* and *e* being thus correspondingly formed, and secured in their respective places, the heel is readily and firmly clamped to the sole by the simple process of engaging the projections *f* in the slots *b*, and then imparting to the heel a right-hand rotary movement, when, by the action of the two inclines, before described, the heel is drawn closely to the sole; the relative positions of the clamping-devices upon the heel and sole being so arranged as that, when the latter are thus closely united, they occupy such positions as that their outlines correspond, each with the other, and the contact of projections *f* and tongues *c* is plainly shown in fig. 3.

For the purpose of locking the heel in position when thus clamped to the sole, a narrow slide, *g*, is fitted in the heel beneath plate *e*, while a zigzag spring, *h*, is inserted in the heel beneath the slide, and, by its expansive action, tends constantly to draw the slide within the heel.

In fig. 3 the arrangement of slide *g* and spring *h* is plainly shown, the spring acting between a shoulder in the heel and a descending angle of the slide, while outside the heel a similar angle of the slide serves as the means of drawing it forward when the heel is to be removed.

A stud, *i*, attached to slide *g*, enters slots, *j*, formed in plates *a* and *e*, thereby locking them in position.

In fig. 5 the clamping-plates *a* and *e* are shown, formed with a projection, *k*, through which a screw passes into the sole, thus securing the heel from becoming loose by rotating, and accomplishing the same result as slide *g*.

I do not claim the slide *g* and spring *h*; nor do I claim the heel B, substantially the same having been patented by me on the 9th day of November, 1869; but

What I do claim as new, and desire to secure by Letters Patent, is—

The clamping-plates *a* and *e*, when constructed with the radial inclined-catches *c c* and *f f*, and arranged to operate substantially as and for the purposes specified.

Witnesses:

CHARLES W. BAILEY.

E. F. HALL,

T. W. PORTER.