

A. W. REDIN.

LAST.

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Fig. 1.

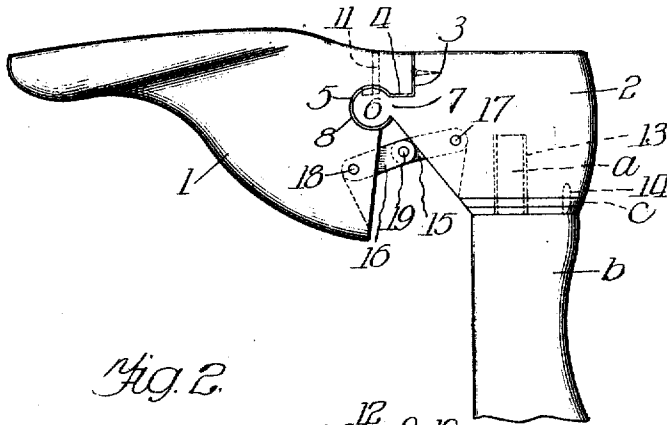


Fig. 2.

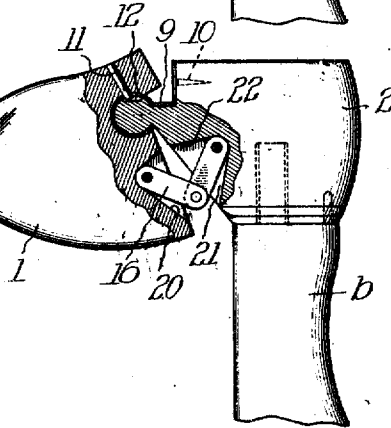
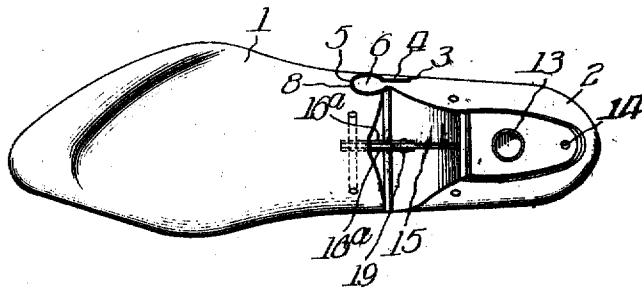


Fig. 3.



Witnesses:

Robert H. McE...

George L. Chindahl

Inventor:

Andrew W. Redin

By Luther S. Walker, Atty.

UNITED STATES PATENT OFFICE.

ANDREW W. REDIN, OF ROCKFORD, ILLINOIS, ASSIGNOR TO CLAUS G. PETERSON, OF
ROCKFORD, ILLINOIS.

LAST.

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To all whom it may concern:

Be it known that I, ANDREW W. REDIN, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Lasts, of which the following is a specification.

This invention relates to lasts upon which shoes are made, as distinguished from the followers used in shoes during the finishing operation.

The invention relates to a hinge and a lock for divided lasts, hinges and locks embodying my invention being especially adapted to effectively resist the stresses placed upon said parts during the various spindle operations. Followers, on the contrary, require no lock, and the hinge is not subjected to such severe usage as are the hinges of lasts.

The object of the invention, generally stated, is to produce a hinge and a lock for divided lasts which shall be strong and thoroughly reliable. To this end, I have provided a lock which is not liable to open up or become released accidentally; in which screws and springs are dispensed with; and which can be released while the shoe containing the last is in an upright position, and before placing the last on the spindle; and have produced a ball and socket hinge, the ball of which hinge is strongly connected to its section of the last.

In the accompanying drawings, Figure 1 is a side elevation of a last embodying the features of my invention, the last being shown in operative position upon a spindle. Fig. 2 is a view similar to Fig. 1, but showing the last open and with parts in section. Fig. 3 is a top plan view of the last in closed position.

The last is divided by a saw-cut into a forepart 1 and a heel-piece 2. Said saw-cut comprises a vertical portion 3 extending inwardly from the bottom of the last, a forwardly-extending horizontal portion 4, and a portion 5 curved upon the arc of a circle. The segmental portion 5 of the saw kerf forms a rounded projection 6 connected to the heel-piece by a neck 7, the projection 6 lying within a socket 8 in the fore part 1. The material removed in forming the saw-cut is replaced by a sheet-metal strip 9 bent to conform to said saw-cut and secured in place by fastening means 10.

In order to prevent lateral displacement

of the last sections, a pin 11 is fixed in the fore part in position to extend into a curved groove 12 in the projection 6. In the heel-piece 2 is secured a thimble or bushing 13 to receive the stud *a* of a spindle *b*. said thimble extending inwardly from the upper surface of the heel-piece. Another opening 14 is provided in the heel-piece to receive a pin *c* upon the spindle.

In order to lock the fore part 1 and the heel-piece 2 in operative position, wherein said parts are alined with one another, as shown in Fig. 1, I provide two links 15 and 16, the link 15 being pivotally supported at one end upon a pin 17 fixed in the heel-piece, and the link 16 being pivoted at one end upon a pin 18 fixed in the fore part. The other ends of said links being pivotally united by means such as a rivet 19. To accommodate the links 15 and 16, slots 20 and 21, are formed in the fore part 1 and in the heel piece 2 respectively. The link 16 consists of two members 16^a, each of which may be of less thickness than the link 15. In order to lock the last in its closed position, I arrange the links 15 and 16 so that when the last is fully closed the pivot between the links 15 and 16 is slightly over center; that is to say, the pivot 19 is slightly inwardly of a straight line joining the pins 17 and 18. The operative position of the lock is determined by impingement of the link 15 upon the bottom wall 22 of the slot 21, said wall forming a stop shoulder to arrest the movement of the links in one direction. It will be understood that the movement over center of the links 15 and 16 is very limited in extent, the extent of movement indicated in Fig. 1 being perhaps somewhat exaggerated for the sake of clearness.

The links 15 and 16 are symmetrical and adapted to flex in either direction, hence in assembling the last no care need be taken to insure that any particular edge of the links be uppermost.

The lock and the hinge are so designed with relation to one another that when the lock is in operative position, as shown in Fig. 1, the last is fully closed, the last then being of the desired length and there being no opening in the bottom side of the last between the last sections.

The locking device being without springs or latches, it may be operated to break the last by merely inserting a hook or the like

beneath the joint between said links and pulling upon said joint. This may be conveniently done with the shoe held in upright position, after which the last may be placed on the spindle and the shoe pulled off.

By reference to the drawings, it will be seen that the pivot 19 connecting the links 15 and 16 is nearer to the heel-piece than to the fore part, consequently the stop shoulder 22 is very near said pivot when the lock is in the closed position, and is thus in the most advantageous position to resist stress tending to cause the links 15 and 16 to flex or buckle inwardly. Said shoulder is contacted by the link 15 and therefore is less likely to be worn or damaged than if it were contacted by the narrower members of the link 16.

It will be seen in Fig. 1 that the links 15 and 16 are inclined with relation to a horizontal line, and therefore, will not be flexed downwardly into the open position by reason of pressure or jars imparted to the last when on the spindle, as would be the case were the links horizontally disposed.

The lock is so constructed and arranged that the blows to which the last is subjected during the twelve or more spindle operations involved in the making of the shoe will not cause the lock to yield or open. Any such accidental operation of the lock causes a change in the length of the last, with consequent lack of uniformity in the shoes made thereon.

I claim as my invention:

1. A last for use in making shoes, comprising a fore part and a heel piece pivotally connected together, said heel piece having a spindle-stud-receiving opening therein, and a lock comprising two links pivotally connected together and each pivoted to one of the last sections, said links being adapted to flex slightly over center to securely lock the last, one of the last sections having a stop shoulder thereon arranged to be contacted by one of said links to determine the locking position of said links, a straight line joining the pivots for said links being inclined with relation to a horizontal line.

2. A last for use in making shoes, comprising a fore part and a heel piece pivotally connected together, said heel piece having a spindle-stud receiving opening therein, and a lock comprising two links pivotally connected together and each pivoted to one of the last sections, said links being adapted to flex slightly over center to securely lock the last, one of the last sections having a stop shoulder thereon arranged to be contacted by one of said links to determine the

locking position of said links, the pivot uniting said links being close to said shoulder.

3. A last for use in making shoes, comprising a fore part and a heel piece pivotally connected together, said heel piece having a spindle-stud-receiving opening therein, and a lock comprising two links pivotally connected together, said links being adapted to flex slightly over center to securely lock the last, one of said links consisting of a single member and the other link consisting of two members, the first mentioned link being pivoted to the heel piece and the second mentioned link being connected to the fore part, said links being symmetrical and invertible, the heel piece having a stop shoulder thereon arranged to be contacted by the first mentioned link to determine the locking position of said links, the pivot uniting said links being close to said shoulder.

4. A last for use in making shoes, comprising a fore part and a heel piece pivotally connected together, said heel piece having a spindle-stud-receiving opening therein, and a lock comprising two links pivotally connected together, said links being adapted to flex slightly over center to securely lock the last, one of said links consisting of a single member, and the other link consisting of two members, the first mentioned link being pivoted to the heel piece and the second mentioned link being connected to the fore part, said links being symmetrical and invertible, the fore part and the heel piece being slotted to receive said links and the bottom of the slot in the heel piece constituting a stop shoulder arranged to be contacted by the first mentioned link to determine the locking position of said links, the pivot uniting said links being close to said shoulder, a straight line joining the pivots for said links being inclined with relation to a horizontal line.

5. A last for use in making shoes comprising a fore part and a heel part having pivotal association with the fore part, the said parts having alining kerfs in the upper portions of their mutually adjacent faces and a lock for holding the said parts in extended relation, the lock comprising a pair of links pivoted to one another and each pivoted in a respective kerf, the base of the kerf in the heel part serving as a stop shoulder to limit the movement of the links over center, the mutual pivot of the links being close to the adjacent end of the stop shoulder.

ANDREW W. REDIN.

Witnesses:

SAMUEL STONEFIELD,
WILLIAM JOHNSON.