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H. F. LOEWER,

LAST

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FIG. 1

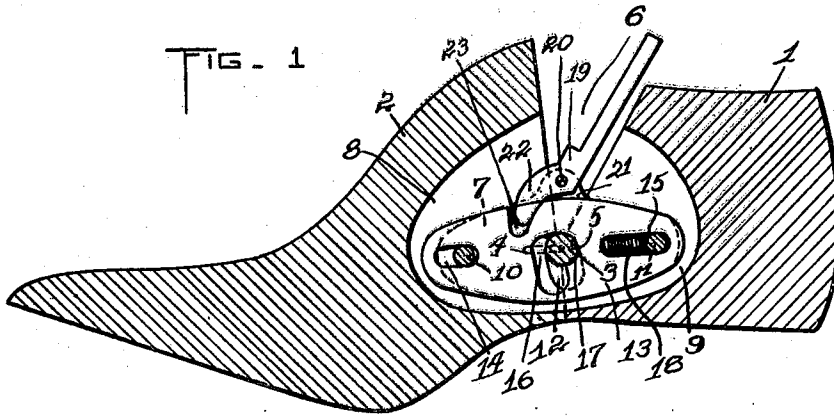


FIG. 2

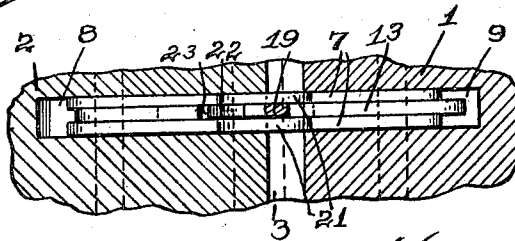
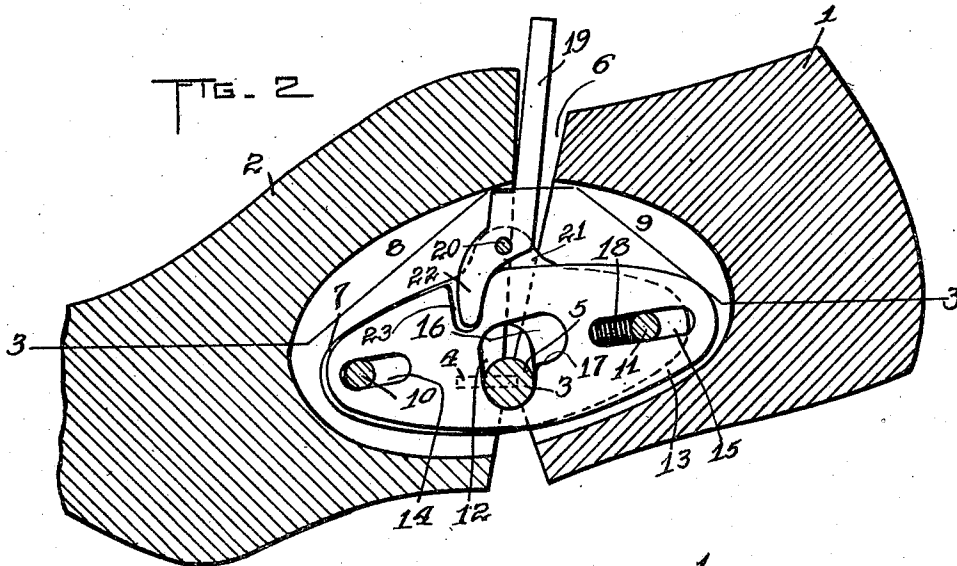


FIG. 3

INVENTOR.

Henry F. Loewer
BY Davis & Simm
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

HENRY F. LOEWER, OF ROCHESTER, NEW YORK.

LAST.

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To all whom it may concern:

Be it known that I, HENRY F. LOEWER, a citizen of the United States, and resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Lasts, of which the following is a specification.

The present invention relates to lasts and more particularly to the type in which two last parts are pivotally connected together to permit the collapse of the last for insertion into a shoe, an object of this invention being to provide a locking means of novel construction which is inexpensive to manufacture and durable and effective in use.

To this and other ends, the invention consists of certain parts and combinations of parts all of which will be hereinafter described, the novel features being pointed out in the appended claims.

In the drawings:

Fig. 1 is a longitudinal section through a last embodying the present invention, the parts being shown in the positions they occupy when the last is in expanded condition;

Fig. 2 is an enlarged longitudinal section showing the last in a collapsed condition; and

Fig. 3 is a section on the line 3—3, Fig. 2.

In the illustrated embodiment of the invention 1 and 2 indicate the last parts, the one indicated at 1 being the heel part and the one indicated at 2 being the toe part. These parts are movably connected together preferably through a pivot pin 3, which is held against turning on the toe part 2 by pins 4 and has the heel part mounted to rock thereon through curved bearing surfaces 5, the last parts being cut away above the pivot pin to provide a notch 6 which permits the collapsing of the last.

The last parts are held together by a bonding means which, in this instance, comprises two plates 7 arranged in opposed kerfs 8 and 9 in the last parts 1 and 2 and held therein by pins 10 and 11 bridging said kerfs and having the bonding plates 7 pivotally mounted thereon. These pivot pins 10

and 11 lie on opposite sides of the pivot pin 3, and the bonding plates are provided with slots 12 through which the pivot pin 3 extends in order to permit the swinging of the bonding plates relatively to the pivot pin 3.

For effecting the locking of the last in an expanded condition a locking member 13 is provided in the form of a detent which is preferably of plate formation and is situated between the two bonding members 7, being guided for a sliding movement on the pivot pins 10 and 11, and to this end having slots 14 and 15 through which the pins 10 and 11 extend. This arrangement causes the detent to shift with the bonding means and permits it to slide relatively to the bonding means. The locking detent cooperates with the pivot pin 3 to hold the last locked in expanded condition, and to this end it is provided with an L-shaped slot or opening 16, one wall 17 of which cooperates with the under side of the pivot pin 3 in the manner illustrated in Fig. 1. This wall is so formed that in the event of wear between the said wall and the pivot pin, the detent will permit binding action to be maintained. When the last is collapsed, as shown in Fig. 3, the pivot pin 3 lies in the lower portion of the vertical arm of the slot 16 and is held against return to locking position until the upper part of the vertical portion is reached, when the detent is shifted automatically to locking position, preferably through a spring 18 which may be of helical formation and arranged in the slot 15 between the pivot pin 11 and the end of the slot. In this way the spring is housed between the two bonding plates 7.

Movement of the detent from locking position may be effected in any suitable manner, in this instance, an actuating device is provided in the form of a lever 19 having an operating portion lying in the notch 6, said lever being pivoted at 20 to two ears 21 projected upwardly from the bonding plates 7, the lever having a nose 22 depending therefrom and operating in a notch or recess 23 in the detent. It is apparent that the movement of the upper portion of the actuat-

ing lever 19 in a forward direction will shift the detent 13 rearwardly so that a relative movement of the last parts 1 and 2 may be effected. When the last is expanded, the
 5 spring 18 will shift the detent 13 forwardly as soon as the upper part of the vertical portion of the L-shaped notch is entered by the pivot pin 3, thus bringing the pivot pin in engagement with the locking surface 17 of
 10 the detent, the pivot pin acting as the abutment for the detent.

From the foregoing it will be seen that there has been provided a last which is held in expanded position by a detent which
 15 shifts with the bonding means relatively to both last parts and has a movement relatively to the bonding means. This result is secured by mounting the detent on the pivot pins by which the bonding means connects
 20 with both last parts, the locking action being obtained by engaging the detent with the pivot pin between the last parts.

What I claim as my invention and desire to secure by Letters Patent is:—

25 1. A last comprising two last parts, a pivot pin connecting said last parts, and a detent having a sliding and pivotal movement on both of said last parts on opposite sides of the pivot pin, and cooperating with
 30 said pivot pin to lock the last in an expanded condition.

2. A last comprising two last parts, a pivot pin pivotally connecting said last parts, a bonding means, two pivot pins each
 35 pivotally connecting the bonding means with one of the last parts, and a detent slidably mounted on the two last mentioned pivot pins and cooperating with the first mentioned pivot pin to lock the last in an
 40 expanded condition.

3. A last comprising two last parts, a pivot pin pivotally connecting said last parts, two bonding plates, two pivot pins each pivotally connecting the two bonding
 45 plates to one of the last parts, and a detent situated between the two bonding plates, slidably mounted on the two pivot pins and cooperating with the first mentioned pivot pin to lock the last in an expanded con-
 50 dition.

4. A last comprising two last parts, a pivot pin pivotally connecting said last parts, two bonding plates, two pivot pins each pivotally connecting the two bonding
 55 plates to one of the last parts, the bonding plates having slots through which the first mentioned pivot pin extends permitting the bonding plates to swing relatively to the first mentioned pivot pin, and a detent arranged between the bonding plates and hav-
 60 ing slots through which the two second mentioned pivot pins extend and having an L-shaped slot through which the first mentioned pivot pin extends, one wall of the
 65 L-shaped slot connecting with the first men-

tioned pivot pin to lock the last in an expanded condition.

5. A last comprising two last parts, a pivot pin pivotally connecting said last parts, two bonding plates, two pivot pins each
 70 pivotally connecting the two bonding plates to one of the last parts, the bonding plates having slots through which the first mentioned pivot pin extends permitting the bonding plates to swing relatively to the
 75 first mentioned pivot pin, a detent arranged between the bonding plates and having slots through which the two second mentioned pivot pins extend and having an L-shaped slot through which the first mentioned pivot
 80 pin extends, one wall of the L-shaped slot connecting with the first mentioned pivot pin to lock the last in an expanded condition, and a spring arranged in one of the slots of the detent cooperating with one of
 85 the pivot pins and one wall of the slot to move the detent to locking position.

6. A last comprising two last parts, a pivot pin pivotally connecting said last parts, two bonding plates, two pivot pins
 90 each pivotally connecting the two bonding plates to one of the last parts, the bonding plates having slots through which the first mentioned pivot pin extends permitting the bonding plates to swing relatively to the
 95 first mentioned pivot pin, a detent arranged between the bonding plates and having slots through which the two second mentioned pivot pins extend and having an L-shaped slot through which the first mentioned pivot
 100 pin extends, one wall of the L-shaped slot connecting with the first mentioned pivot pin to lock the last in an expanded condition, and an actuating member pivotally mounted on the two bonding plates and co-
 105 operating with said detent to shift the latter to unlocking position.

7. A last comprising two last parts pivotally connected together, and a detent for locking said last in an expanded condition
 110 slidably and pivotally mounted on both of the last parts.

8. A last comprising two last parts pivotally connected together, bonding means pivotally connected to both of the last parts,
 115 and a detent shiftable with the said bonding means as the latter pivots on the two last parts, and slidable in a straight line with reference to the bonding means for effecting the locking and unlocking of the
 120 last.

9. A last comprising two last parts, bonding means pivotally connected to both of the last parts, and a detent shifting with
 125 said bonding means and also having a straight line sliding movement relatively thereto for effecting the locking and unlocking of the last.

10. A last comprising two last parts, bonding means connecting said last parts to
 130

permit their relative movement, a retaining
pin for the bonding means, a detent formed
with a slot through which the retaining pin
passes, and a spring interposed between said
5 retaining pin and one wall of the slot for
moving the detent toward detaining posi-
tion.

11. A last comprising two last parts,
bonding means pivotally connected to both
last parts and a detent for effecting the lock- 10
ing and unlocking of the last having a slid-
ing movement on both of the pivots of the
bonding means.

HENRY F. LOEWER.