

(No Model.)

E. S. MORTON.
LAST BLOCK FASTENER.

No. 468,356.

Patented Feb. 9, 1892.

FIG. 1.

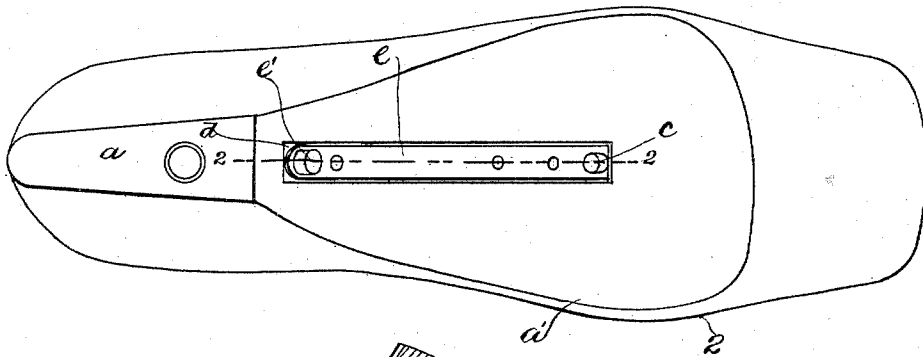


FIG. 2.

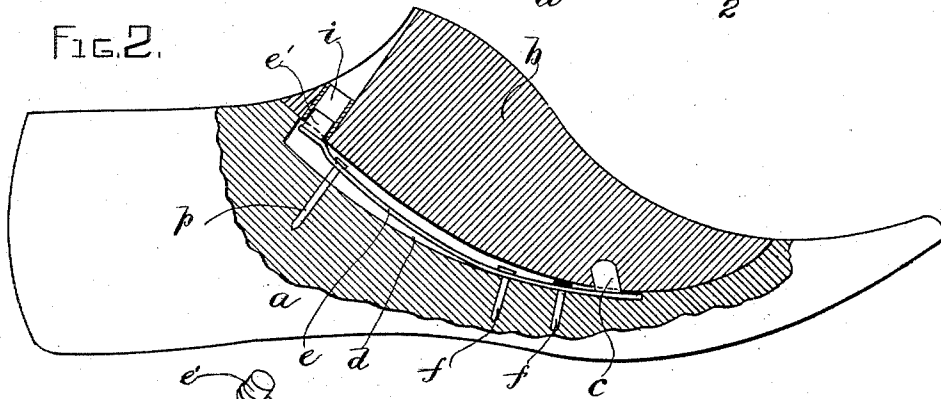


FIG. 3.

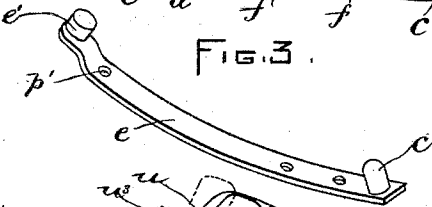


FIG. 4.

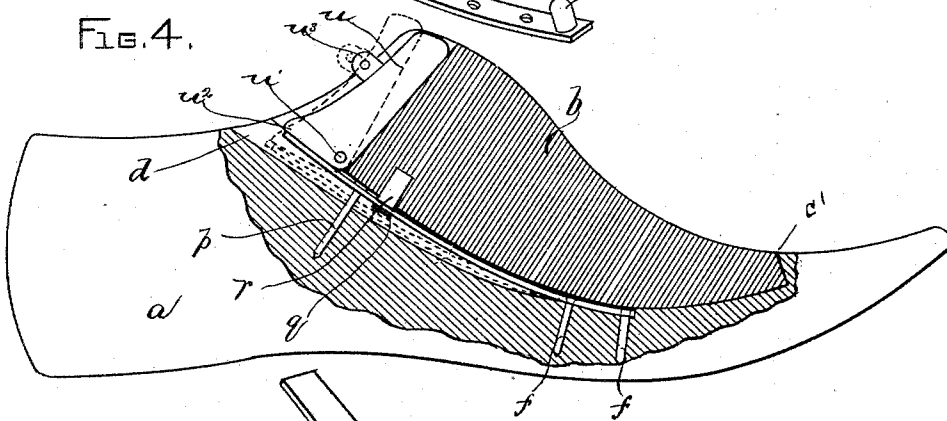
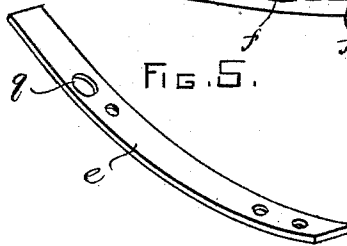


FIG. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EPHRAIM S. MORTON, OF BROCKTON, MASSACHUSETTS, ASSIGNOR TO ANDREW H. BAKER, OF SAME PLACE.

LAST-BLOCK FASTENER.

SPECIFICATION forming part of Letters Patent No. 468,356, dated February 9, 1892.

Application filed July 29, 1891. Serial No. 401,097. (No model.)

To all whom it may concern:

Be it known that I, EPHRAIM S. MORTON, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Last-Block Fasteners, of which the following is a specification.

This invention has for its object to provide a simple, inexpensive, and efficient means for locking or securing a last-block to the main portion or body of a last in such manner as to permit the ready unlocking and removal of the block; and to this end it consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top view of a last constructed in accordance with my invention, the block being removed. Fig. 2 represents a section on line 2 2, Fig. 1, the last-block being in place and also shown in section. Fig. 3 represents a perspective view of the spring which locks the last-block. Fig. 4 represents a longitudinal section of a last, showing a modification of my invention. Fig. 5 represents a perspective view of the block-locking spring shown in Fig. 4.

The same letters of reference indicate the same parts in all of the figures.

Referring first to Figs. 1, 2, and 3, *a* represents the last, and *b* the block. The last is provided with the usual seat *a'* for the block, a pin *c* projecting diagonally upward from the lower portion of said seat, a recess *d* extending lengthwise of the seat and preferably made deepest at its upper end, as shown in Fig. 2. *e* represents a spring, which is located in the recess *d*, and is rigidly secured at or near one end to the last by any suitable means, as by one or more nails or screws *f f*. The upper end of said spring normally stands above the bottom of the recess, so that it may be depressed by inward pressure, and thus caused to sink into the recess. On said upper end of the spring is formed an upwardly-projecting stud *e'*, which, when the spring is in its normal position, projects above the seat *a'* and is adapted to enter a socket or orifice *i*, formed in the upper part of the block *b*, said socket extending through the block to the up-

per surface thereof, as shown in Fig. 1. The stud *e'* is arranged at a different angle from the pin *c*, the socket *i* being arranged at the same angle as the stud, so that when the stud is engaged with the socket the stud and pin form jaws which co-operate in locking the block in place on the seat *a'*, it being impossible to remove the block while the pin *e'* is projected, as will be clearly seen by reference to Fig. 2.

When it is desired to remove the block, a last-hook or any other suitable implement is inserted in the socket *i* and pressed downwardly upon the stud *e'*, the latter being thus forced out of the socket and into the recess *d*, thus releasing the block and permitting it to be readily raised from the seat.

To prevent the free end of the spring *e* from being accidentally raised too far when the block is not in place, I provide a stop which limits the upward movement of the spring. Said stop is here shown as a headed pin *p*, inserted in the last at the bottom of the recess, said pin passing through a hole *p'* in the spring near the free end thereof and having a head which bears on the upper surface of the spring. It is obvious that any other suitable device may be used as a stop to limit the upward movement of the spring.

In Figs. 4 and 5 I show a modification in which the stud *e'* on the free end of the spring is dispensed with, the spring being provided with an orifice *q* near its free end adapted to receive a stud *r*, affixed to the upper portion of the block and projecting downwardly from the under side of the block in position to enter the orifice *q*. In this modification the spring is disengaged from the stud *r* by pressure of the last-hook against the free upper end of the spring, said upper end coinciding with the orifice *i* in the block.

It will be seen that the stud *r*, affixed to the block, and the spring provided with an orifice to receive said stud, constitute an equivalent of the spring, provided with the upwardly-projecting stud *e'* and the block having the socket arranged to receive said spring. In both cases the block is secured to the last by pressing it downwardly upon its seat until it reaches the position required to enable the free end of the spring to rise to its

normal position, said spring being depressed by contact of the bottom of the block with the stud e' in the construction first described and by contact of the stud r with the spring in the modification when the block is being moved to place on its seat, the movement of the spring to its normal position locking the block in both forms.

The pin c may be formed on or affixed to the lower end of the spring e instead of making it in a separate piece attached to the last independently of the spring. By thus providing for the attachment of the pin c to the last by the same operation which attaches the spring e I reduce the expense of labor, as will be readily seen. I do not limit myself, however, to forming the pin c on the spring, as said pin may be formed and applied separately in the usual way.

It will be seen that the spring e is adapted by the described arrangement and construction to rise and fall at its free end in a direction substantially at right angles with the seat a' and the bottom of the block. Hence the spring can be readily disengaged from the block by direct downward pressure on its free end.

The recess d , extending along the seat a' and exposed along its entire length, enables the spring to be readily applied to the last by means of the nails or screws $f f$ and to be readily removed and replaced in case of breakage.

The stop p is an important feature, because it limits the outward movement of the free end of the spring, and thus prevents the spring from being accidentally pulled out of the recess and injured by the rough handling to which the last is liable to be subjected when the block is not in place. When the block is in place, said stop prevents the free end of the spring and the last-block engaged therewith from swinging outwardly, the last-block being therefore more rigidly and securely held than it would be without said stop.

I do not limit myself to the use of the inclined pin c on the last and the corresponding socket in the under side of the block as the means for engaging the lower part of the block with the last. An equivalent of said pin and socket is shown in Fig. 4, in which the last is represented as formed with a shoulder c' , which has the same inclination as the pin c and engages the correspondingly-inclined lower end of the block. In either case the last has a projection at the lower portion of the block-seat and the block is formed to co-operate with said projection in engaging the lower portion of the block with the last.

In Fig. 4 I show a different device for depressing the spring to release the last-block, said device being a lever u , inserted in a slot cut to receive it in the upper end of the block b and pivoted at u' to said block. The lower end of said lever is extended from the pivot u' and formed to constitute a cam or foot u^2 , which, when the lever is swung to the posi-

tion shown by the dotted lines in Fig. 4, presses downwardly on the free end of the spring, and thus disengages it from the block. The lever has an ear w , which may be grasped by the operator's thumb and finger when it is desired to move the lever to the dotted-line position. Said ear may have an orifice w^1 to receive a last-hook.

As shown in the drawings, the block is of such length relative to the spring that at its upper end it entirely covers the spring, whereby the latter is inaccessible except by means of a specially-formed device. Therefore the block-locking spring cannot be accidentally displaced.

I claim—

1. A last having a seat for the block, a projection or shoulder extending upwardly from the lower portion of the seat, said seat having a recess, a spring secured at or near one end to the last and located in said recess, one end of said spring standing normally above the bottom of the upper end of the recess, a block formed at its lower portion to engage said projection or shoulder and with an orifice in its upper portion coinciding with the upper portion of the spring, a stop for limiting the upward motion of the spring, and means for engaging the upper end of the spring with the upper portion of the block, as set forth.

2. A last having a seat for the block, a projection or shoulder extending upwardly from the lower portion of said seat, said seat having a recess extending lengthwise thereof, a spring located in the said recess and having one end standing normally above the bottom of the upper end of the recess, a block formed at its lower portion to engage said projection or shoulder and with an orifice in its upper portion coinciding with the upper end of the spring, said spring having a projection for engaging the upper portion of the block, and a stop secured to the last and arranged to limit the outward or upward movement of the free end of the spring, as set forth.

3. A last having a seat for the block, a projection or shoulder extending upwardly from the lower portion of the seat, said seat having a recess, a spring secured at or near one end to the last and located in said recess, one end of said spring standing normally above the bottom of the upper end of the recess, a block having its lower portion formed to engage said projection or shoulder and extending entirely over the spring and provided with an orifice in its upper portion coinciding with the upper portion of the spring, and means for engaging the upper end of the spring with the upper portion of the block, as set forth.

4. A last having a seat for the block, a projection or shoulder extending upwardly from the lower portion of the seat, said seat having a recess, a spring secured at or near one end to the last and located in said recess, one end of said spring standing normally above the bottom of the upper end of the recess, a block having its lower portion formed to engage said

projection or shoulder and provided with an
orifice in its upper portion coinciding with
the upper portion of the spring, means for en-
gaging the upper end of the spring with the
5 upper portion of the block, and a cam-lever
pivoted to the block and formed to depress the
spring and thus release the block, as set
forth.

In testimony whereof I have signed my
name to this specification, in the presence of 10
two subscribing witnesses, this 27th day of
July, A. D. 1891.

EPHRAIM S. MORTON.

Witnesses:

A. H. BAKER,

F. P. CHURCHILL.