

(No Model.)

E. S. MORTON.
LAST BLOCK FASTENER.

No. 468,087.

Patented Feb. 2, 1892.

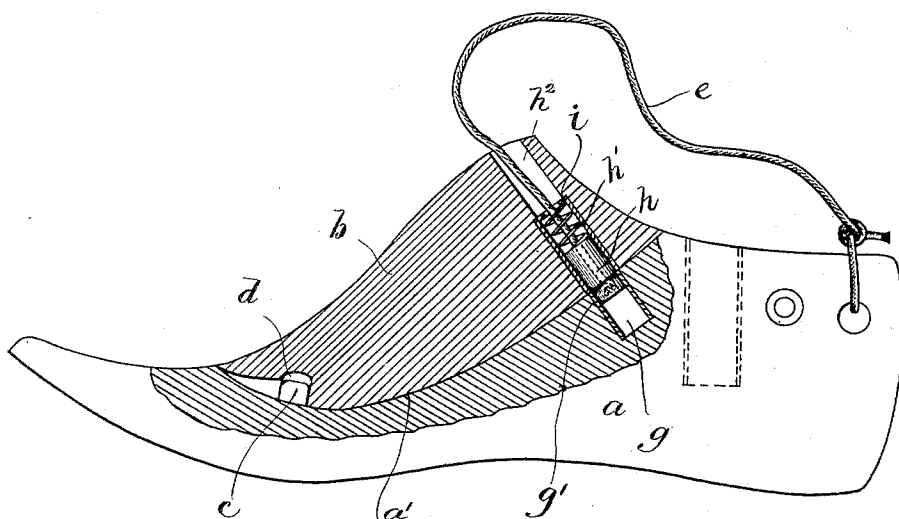


FIG. 1.

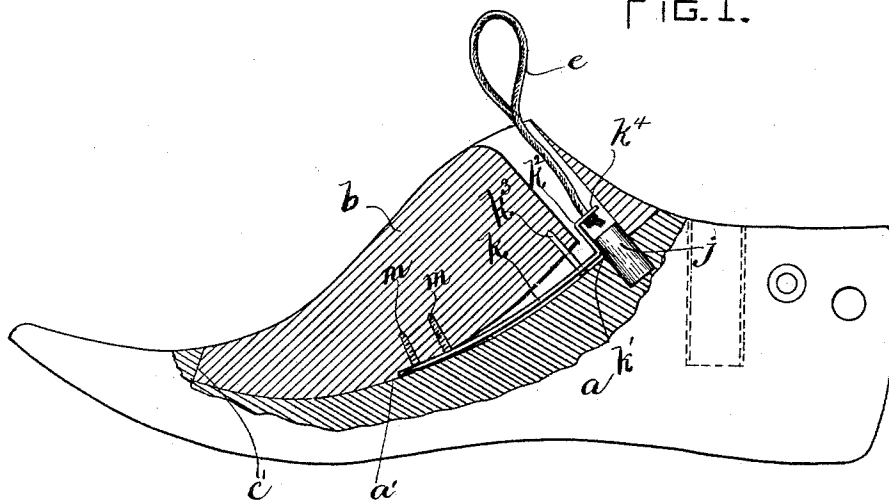


FIG. 2.

WITNESSES:

Swing W. Hamlen
A. J. Harrison

INVENTOR:

E. S. Morton
by Knight Brown Crossley
Atty.

UNITED STATES PATENT OFFICE.

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

LAST-BLOCK FASTENER.

SPECIFICATION forming part of Letters Patent No. 468,087, dated February 2, 1892.

Application filed August 5, 1891. Serial No. 401,774. (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 improved means for quickly securing or latching a last-block to the last to which it belongs and as quickly releasing said block; and 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 partial side elevation and partial sectional view of a last and its block provided with my improvements. Fig. 2 represents a similar view showing a modification.

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

In the drawings, *a* represents a last having a seat *a'* formed to support the bottom or under surface of the block *b*. The last is shown in Fig. 1 as provided near the lower portion of said seat with a pin or dowel *c* projecting diagonally upward from the seat, said pin engaging a correspondingly-formed hole or socket *d* in the lower portion of the block. In Fig. 2 the last has a shoulder *c'* engaging the lower end of the block, said shoulder being an equivalent for the pin *c*.

In carrying out my invention I provide a last and last-block of the general construction above described with two fastening members, one of which is affixed to the last and the other to the block. Said members are formed and arranged to interlock or engage each other, and when so interlocked or engaged to co-operate with the pin *c* and socket *d* or with the shoulder *c'* and the end of the block in securing the block to the last, said fastening members being arranged so that they prevent the movement of the block in the direction required to disengage it from the pin *c* or shoulder *c'*. The fastening member supported by the block is self-acting, so that it automatically engages the fastening member of the last and is provided with a flexible handle *e*, which projects through a hole *h*² in the block above the upper surface of the block. Said

handle is preferably a flexible cord *e*, one end of which is shown in Fig. 1 as suitably attached to the last, the arrangement being such that when the last is engaged with the block an outward pull on said cord will displace the self-acting fastening member supported by the block and disengage it from the fastening member attached to the last, thus permitting the block to be moved in the direction required to remove the socket *d* from the pin *c*. The cord *e*, as shown in Fig. 1, not only serves as a means for displacing the self-acting fastening member, but also constitutes a connection between the last and the block when the latter is disengaged from the last, the flexibility of the cord enabling it to project permanently outside of the last-block without injuring the upper of the boot or shoe and without being injured by external pressure and the rough usage to which it is liable to be subjected, the handle being always accessible. The construction of the said fastening members may be variously modified.

In Fig. 1 I show the fastening member attached to the last made as a socket *g*, which is preferably formed by boring a hole into the seat *a'* near the upper end of the latter and lining or reinforcing said hole by a short metal tube or bushing *g'*. The self-acting fastening member carried by the block is in this case a bolt *h*, which is fitted to slide in a casing *h'*, affixed to the block, said casing being inserted in a hole formed for its reception in the upper portion of the block. The lower end of the bolt is formed to enter the socket *g* and is normally pressed downwardly to the extent required to retain it in the socket by means of a spring *i*, inserted in the casing *h'* and bearing on the outer end of the bolt *h*. The socket *g* and bolt *h* are arranged diagonally and at a different angle from the pin *c* and shoulder *c'*. The handle *e* is attached to the bolt *h* in any suitable way, preferably by being inserted in a longitudinal hole made in the bolt.

In securing the block to the last the socket *d* is first placed on the pin *c* and the block is pressed downwardly toward its seat, the lower end of the bolt *h* bearing first on the seat and being caused to yield to the downward pressure of the block until its lower end coincides with

the socket *g*, whereupon the bolt is projected by its spring into said socket, thus completing the locking of the block to the last. When it is desired to disengage the block, the operator pulls upwardly on the handle *e*, thus withdrawing the bolt from the socket, so that the block is free to be lifted from the pin *c*. As shown in Fig. 1, the orifice is provided with a shoulder at the upper end of the casing *h'*, which prevents said casing and its bolt from being accidentally pulled through the orifice.

In the construction shown in Fig. 2 the fastening member affixed to the last is a stud *j*, projecting upwardly from the block-seat *a'* near the upper end of the latter, and the self-acting fastening member carried by the block is a resilient strip *k*, preferably of steel, attached by screws or rivets *m m* to the under side of the block and having one of its ends free to spring up and down, its free end being bent at *k'* and again at *k''*, the strip *k* being thus provided with a shoulder *k''*, formed to engage one side of the stud *j*, and an ear *k'*, formed to be secured to one end of the handle *e*. The shoulder *k''* and the side of the stud with which said shoulder engages are beveled, so that when the block is in place on the last the shoulder *k''* will engage the stud *j* in such manner as to prevent the separation of the upper end of the block from the last until the shoulder *k''* is forcibly depressed by an upward pull on the cord. The spring of the strip *k* holds it normally in the position shown in Fig. 2, so that when the block is being applied to the last the shoulder *k''* springs into engagement with the stud *j* when the block comes to its full bearing on the seat *a'*. It will be seen that in either case the self-acting fastening member is wholly below the exposed surfaces of the block, so that it is protected by the block and cannot be injured by the rough usage and pressure to which the last is subjected when in use.

In the form shown in Fig. 2 the upper portion of the recess for the strip *k* forms means for preventing the excessive withdrawal of the bolt.

The handle *e* is shown in Fig. 2 as attached only to the fastening member of the block, said handle being preferably formed as a loop adapted to receive the operator's finger.

It will be seen that in both constructions shown the fastening member on the block is self-acting, so that when the block is pressed to the seat its fastening member automatically engages the fastening member on the last. It will also be seen that in both constructions the self-acting member is permanently secured to the block and forms a part

thereof, so that there is no liability of loss of said fastening member; whether it is engaged with the handle *e* or not.

The movable fastening member permanently fastened to the block and located wholly below the exposed surfaces of the latter and its flexible handle permanently projecting above the block constitute a simple, durable, and effective means for automatically locking the block to the last and for readily unlocking and releasing the block.

I am aware that a pin wholly detachable from the block and connected to the last by a cord has been used to fasten the block, as shown in Patent No. 403,982; but said pin does not operate automatically in locking the block, but has to be pushed in by the operator after the last has been placed on the block. I am also aware that a self-acting fastening member has been permanently connected to a last-block and adapted to automatically engage a fastening member on the last; but in all devices of this kind heretofore it has been necessary to employ a hook or other tool entirely separate from the last to withdraw or extract the movable fastening member. In some cases a last-block has had a self-acting fastening member provided with a handle projecting outside of the block, as in the Wright patent, No. 438,671; but in this case the handle is rigid and is liable both to injure the upper by contact therewith and to be injured by the rough usage and pressure to which the last is subjected.

In my improvement the device which extracts or withdraws the self-acting fastening member is permanently connected with the last-block and is always ready for use, its flexibility enabling it to bear on the outer surface of the block without injuring, as already stated.

I claim—

A last having a block-seat provided with a fixed fastening member, combined with a block having a hole extending from its upper to its lower surface, a self-acting fastening member movable in said hole and arranged to engage the fixed member on the last, and a flexible handle attached to the said self-acting member and projecting from the same through said hole above the block.

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

EPHRAIM S. MORTON.

Witnesses:

A. H. BAKER,
F. P. CHURCHILL.