G. D. PAUL.

Last-Block Fasteners.

No. 203,764. Patented May 14, 1878.

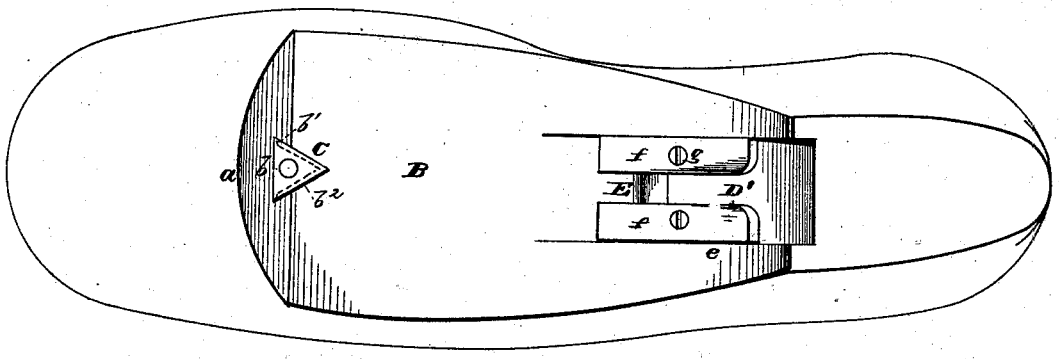


Fig. 1.

Fig. 2.

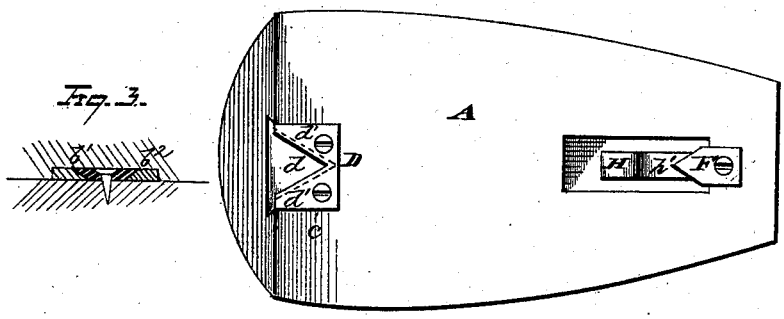


Fig. 3.

Fig. 4.

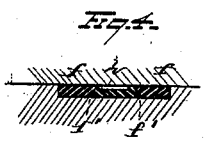
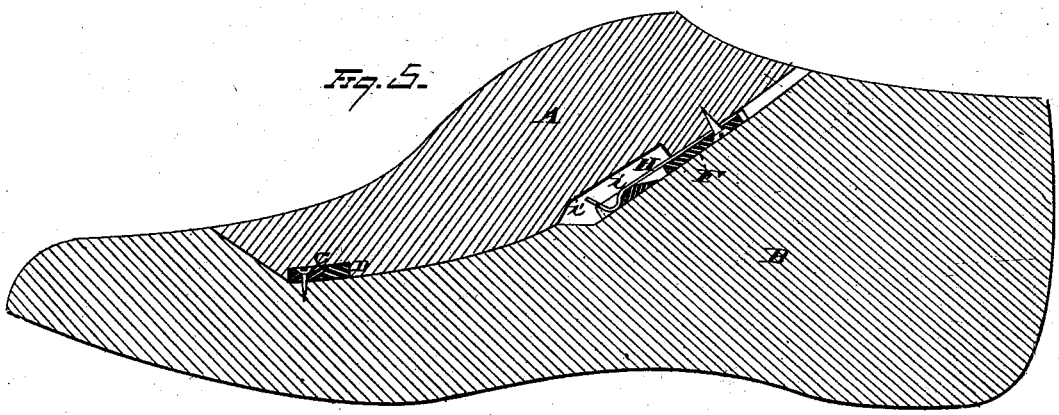


Fig. 5.



WITNESSES

Edm. F. Nottingham

A. W. Bright.

INVENTOR

Geo D. Paul.

By Leggett and Leggett,

ATTORNEYS

UNITED STATES PATENT OFFICE.

GEORGE D. PAUL, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF HIS RIGHT TO PARKER P. PAUL, OF SAME PLACE.

IMPROVEMENT IN LAST-BLOCK FASTENERS.

Specification forming part of Letters Patent No. **203,764**, dated May 14, 1878; application filed May 4, 1878.

To all whom it may concern:

Be it known that I, GEORGE D. PAUL, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Shoe-Lasts; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in automatic locks for last-blocks, the object being to provide last-blocks with a durable self-locking mechanism that shall serve to secure the two parts of a last against accidental lateral or vertical displacement.

Heretofore the forward part of the lower block has ordinarily been bored partly through, to give a space for the play of the end of a saw as the block is sawed from each side, the saw-kerfs intersecting at the bore formed in the toe of the last. This form of last is tedious and expensive in its manufacture, and, by reason of the last being cut away at its forward portion, the last is materially weakened at that point, and the wood is liable to split off, thus destroying the same.

Again, the forward ends of the upper and lower portions of the last have been secured together by means of a pin secured to the forward edge of the upper part of the last, said pin entering a hole in the lower or body portion of the last. This method of locking the parts of the last together is defective, owing to the fact that unless time is taken to enter the pin in this opening the pin will be soon broken off, and hence the parts rendered useless.

My invention consists, first, in the combination, with the upper and lower parts of a last, of an undercut angular tongue-piece, secured to one of said parts, and a corresponding socket formed in the other part of the last, whereby the parts of the last are guided to their proper position, and, when secured, are prevented from accidental vertical or lateral displacement; secondly, in the combination, with the upper and lower portions of a last, of an undercut guideway and a catch-bar, secured to one of said parts, and a tongue-piece formed with beveled edges, and a spring-catch secured to the opposite part of the last, whereby the parts of the last are automatically locked together, and, when in a locked position, the vertical or lateral strain is sustained by the tongue-piece and guide.

In the accompanying drawings, Figure 1 is a plan view of the last with the upper part removed. Fig. 2 is a bottom view of the upper part of the last. Fig. 3 is a transverse section through the toe-locking mechanism. Fig. 4 is a transverse section through the heel-locking mechanism; and Fig. 5 is a vertical section of the last when the several parts are locked together.

A represents the upper, and B the lower, portion of the last. Part B is cut across its forward portion at *a* in an incline toward the rear portion of the same. To the base of the cut-away portion *a* is secured, by a screw or otherwise, a tongue-piece, C, which is preferably triangular in shape, the base *b* of the tongue-piece resting against the inclined side *a*. The sides b^1 b^2 of piece C are undercut. The upper portion A of the last is provided with a rectangular mortise, *c*, located in close proximity to its forward end. Within the mortise *c* is secured a socket, D, having a V-shaped opening, *d*, the sides *d'* of which are undercut, to snugly fit the triangular tongue-piece C.

It will be observed that when the upper portion A is applied to the lower portion B of the last the parts are guided in place without any special attention being taken to secure the parts in place, and when these parts are secured they are firmly held against either vertical or lateral displacement. Again, owing to the manner in which the last is cut, the forward portion of the same is not materially weakened, and hence will withstand much wear without disturbing the grain of the wood.

The heel portion of part B is mortised at *e* for the reception of a guide-piece, D', which latter consists of the jaws *f*, each formed with undercut inner edges *f'*. Near the forward part of the piece D' the jaws or guides are connected by a beveled top cross-bar or catch-piece, E. Piece D' is secured to the last by means of screws *g*, or in any other desired manner.

To the rear portion of the upper part A is secured a tongue-piece, F, having undercut edges *h*, the forward portion of the tongue-piece terminating in a point, *h'*, to allow of the ready insertion of the tongue-piece between the jaws *f* of the guide D'. H is a spring, of any desired material, and either flat or round in form. The spring has one end secured beneath the tongue-piece F, while the forward or free end of the same projects into a slot formed in the last. The forward portion of the spring is bent to form a square shoulder, *i*, while the extreme end *i'* inclines in an upward direction, so that it may ride over the cross-bar or catch-piece E, when the shoulder on the spring engages with the catch-piece, and prevents the accidental displacement of the parts of the last.

As the upper part A is placed upon the lower part B of the last, the tongue-piece F enters between the jaws of the guide D'; and as the corresponding edges of these parts are undercut, it prevents the vertical or lateral displacement of the parts. As part A is forced toward the toe of the last the spring rides over the catch-piece E, and, pressing firmly against the forward flat face of the same, prevents the retraction and disengagement of the upper part A, unless considerable force is exerted to cause the spring to be raised clear of the catch-piece.

It will be observed that all vertical or lateral strain is borne by the tongue and guide, and hence there is no liability of bending or breaking the spring.

The locking or engaging edges of the parts composing the toe-locking mechanism of the last may be made semicircular instead of being angular, as shown and described, and still effect the desired object.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the upper and lower parts of a last, of an angular-shaped tongue, constructed with undercut engaging edges, and a V-shaped socket, likewise provided with undercut edges, substantially as set forth.

2. The combination, with the upper and lower parts of a last, of a guide-piece having inner undercut edges, and a cross-bar or catch-piece joining the jaws of the guide, a tongue-piece formed with undercut edges, and a spring having a shoulder formed on its free end, substantially as set forth.

3. The combination, with the two parts of a last, of a tongue-piece, C, and socket D, secured to the forward parts of the last, and guide-piece D', provided with the catch-bar E, tongue-piece F, and spring H, secured to the heel portions of the last, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of July, 1877.

GEORGE D. PAUL.

Witnesses:
A. G. BUELL,
WM. H. BLAIN.