

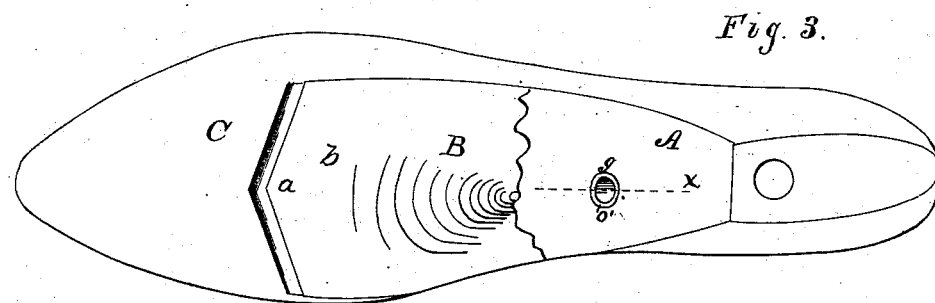
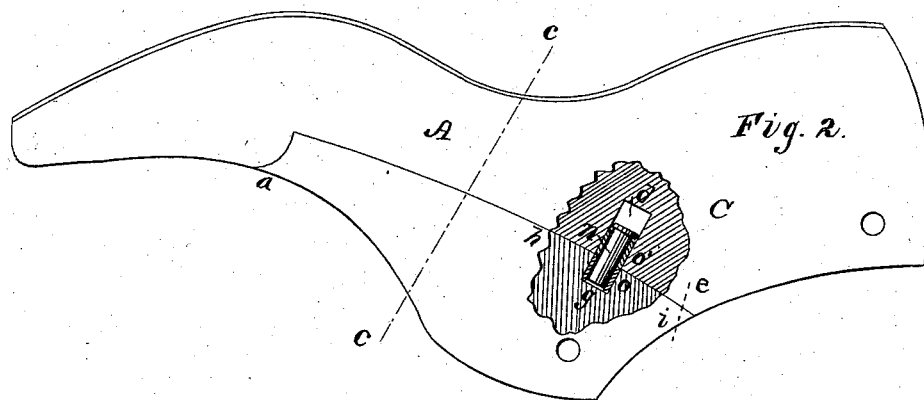
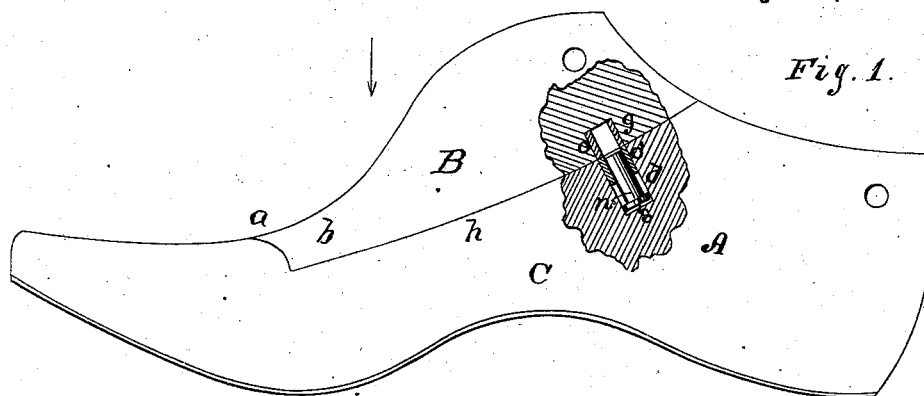
(No Model.)

J. A. MULROONEY & W. J. BROWN.

LAST,

No. 302,155.

Patented July 15, 1884.



Attest:

M. D. Phillips.  
C. J. Troner

Inventors:

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# UNITED STATES PATENT OFFICE.

JOHN A. MULROONEY AND WILLIAM J. BROWN, OF ROCHESTER, N. Y.

## LAST.

SPECIFICATION forming part of Letters Patent No. 302,155, dated July 15, 1884.

Application filed April 18, 1884. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN A. MULROONEY and WILLIAM J. BROWN, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Shoe-Lasts, which improvement is fully set forth in the following specification and accompanying drawings.

The object of our invention is to supply a fastener for the block or movable piece of a last, that corresponds to the instep of the foot, to prevent said piece or block sliding back during the operation of lasting a shoe; and it consists in parts and devices, hereinafter fully described, and more particularly pointed out in the claim.

Referring to the drawings, Figure 1 is a side elevation of a shoe-last having a portion broken away and parts centrally sectioned as on the dotted line *x* in Fig. 3, to show more fully the invention; Fig. 2, an elevation of the opposite side of the last, the latter being inverted, or in the position occupied during the process of lasting, parts being sectioned and broken away to show the locking-bolt in position to hold the block; and Fig. 3, a plan of the last, viewed as indicated by arrow in Fig. 1.

Referring to the parts, A is a last of common form, consisting of a main part or body, C, the usual removable block or piece, B, fitted thereto, forming the instep of the last. The block B is fitted at the thin end *b* to the body of the last with the usual V point or angle, *a*, to prevent said block from sliding or swinging laterally on its seat or bearing against the last during the process of lasting shoes. When the cloth or leather is drawn tightly across the last along the part indicated by the broken line *c c*, there is a great tendency to draw the block B back or in a direction away from the toe of the last to the position shown in Fig. 3, which causes the shoe to be formed too small across the instep, seriously to the injury of the fit of the same. In practice, nails are frequently driven temporarily through its rear thin edge, *i*, of the block into the last, as indicated by the dotted line *e*, to hold said block to place during the process of lasting, which, for many reasons, is a very objectionable practice.

To supply a permanent automatic lock or fastener for the block, consisting of an adjustable piece to reach across the joint *h*, between said last and block, in lieu of nails or other objectionable devices, and so hold the block from sliding, is what we aim to accomplish in our invention. We prefer the sliding pin or bolt shown at *n*, resting in both pieces C and B, for this purpose, though any other device having a bearing in or against both parts simultaneously would answer the purpose.

In using the pin *n*, opposing cavities *d* and *g* are formed in the last and block, respectively, having a common axis crossing the joint *h* between them at about right angles. Short metallic tubes *o'* and *o* are snugly inserted in the respective cavities, so that their outer ends shall be just even with the surfaces of the last and block at the joint *h*. The pin *n* is provided with a head, *s*, within the last, the tube *o'* being shorter than the depth of the hole *d*, so as to allow-space for the head of the pin to move in. The diameter of the pin is such that it fills without binding the bore of the tubes. Thus constructed, the pin is a permanent fixture of the last, but it may move longitudinally, so as to have its point project beyond the surface at the joint *h*, so as to enter the tube *o*, as shown in Fig. 2. The pin is designed to move within the tubes wholly by gravity, and when dropped to the bottom of the hole *d* to be wholly within the last, having its point about even with the joint *h* between the parts of the last. When the last rests upon its sole, as shown in Fig. 1, the pin drops wholly within the part C, out of the way; but when inverted for the purpose of performing the operation of lasting shoes, the pin will fall downward partly within the block B, across the joint *h*, as shown in Fig. 2, which will effectually prevent the block sliding in any direction on its bearing with the last. The pin *n* is placed in the opening *d*, head downward, before the tube *o'* is inserted, and the head of the pin when thus placed in the last forms a means to prevent the pin from dropping out of the last and getting lost, at any time, from handling.

The tubes *o'* *o* may be made of hard rubber

or other suitable material instead of metal, if desirable, the object being, in part, to line the holes in the wood to prevent wear.

What we claim as our invention is—

- 5 In a shoe-last, the combination of the main part A and block B, provided with corresponding opposing openings, *d* and *g*, with a sliding pin, *n*, adapted to be retained wholly within the last or part A in said opening *d*,  
10 when the last is in one position, and to slide

automatically, so as to rest with a portion of its length in each of said parts of the last, when the last is reversed to hold said parts of the last from displacement, substantially as specified.

JOHN A. MULROONEY.  
WILLIAM J. BROWN.

Witnesses:

E. B. WHITMORE,  
C. J. TOWNER.