(No Model.)

W. L. JUDSON.

CLASP LOCKER OR UNLOCKER FOR SHOES.

No. 504,038. Patented Aug. 29, 1893.

Fig. 1.

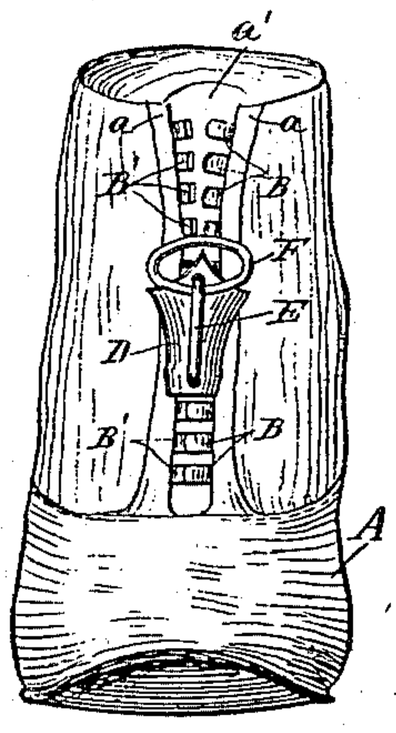


Fig. 2.

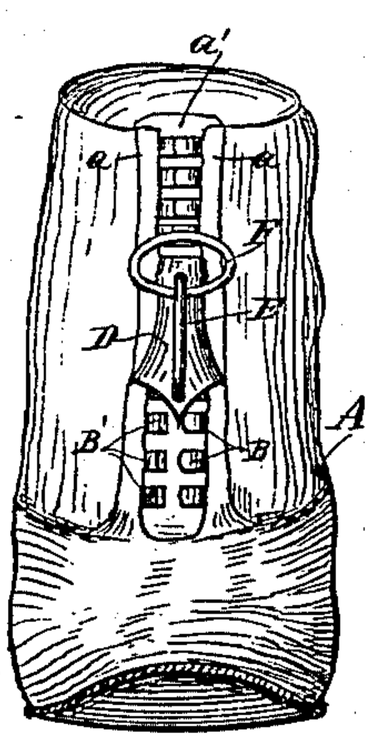


Fig. 6.

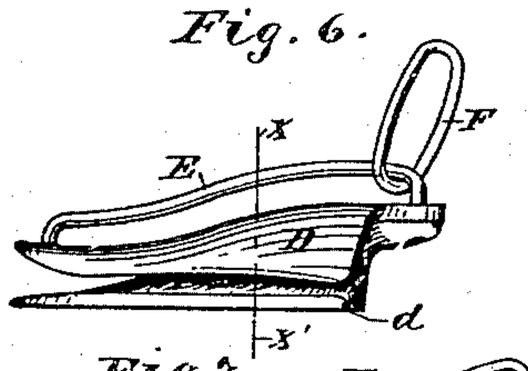


Fig. 7.

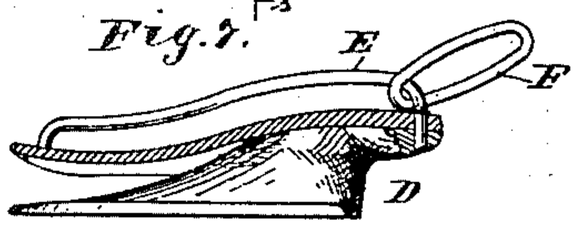


Fig. 8

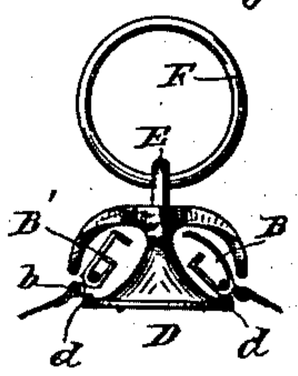


Fig. 9.

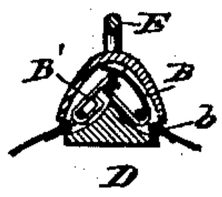


Fig. 10.

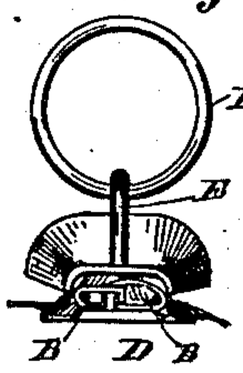


Fig. 5.

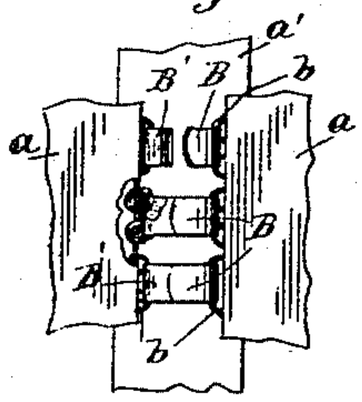


Fig. 3.



Fig. 4.



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UNITED STATES PATENT OFFICE.

WHITCOMB L. JUDSON, OF CHICAGO, ILLINOIS.

CLASP LOCKER OR UNLOCKER FOR SHOES.

SPECIFICATION forming part of Letters Patent No. 504,038, dated August 29, 1893.

Application filed November 7, 1891. Renewed February 18, 1893. Serial No. 462,923. (No model.)

To all whom it may concern:

Be it known that I, WHITCOMB L. JUDSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Clasp Lockers or Unlockers for Shoes, &c.; 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 appertains to make and use the same.

My invention relates to clasp lockers or unlockers for automatically engaging or disengaging an entire series of clasps by a single continuous movement.

The invention was especially designed, for use as a shoe-fastener; but is capable of general application wherever clasps consisting of interlocking parts may be applied, as for example, to mail-bags, belts, and the closing of seams uniting flexible bodies. To these ends, the clasps are made with interlocking parts, which when in position, can only engage with each other when at an angle to the line of strain. The clasps have underreaching and overlapping projections or lips at their forward ends, which prevent the engagement or disengagement of the hook-portions of the clasps, except when thrown upward, so that the parts stand at an angle to each other of about ninety degrees. These clasps or fasteners, when in position on the flaps of a shoe or other adjacent parts which are to be united, may be engaged one at a time in succession, by bringing the two parts of the clasp into their proper angular relation to each other, by hand. But this is a tedious operation; and makes it difficult to draw the adjacent parts together, under the proper strain. I therefore provide a hand device, consisting of a movable guide, having cam-ways for permitting the passage of the clasps, by the movement of the guide from one end to the other of the series; and the cam-ways are so shaped and related that by the passage of the guide in one direction, the clasps will be drawn together and engaged, while by the passage of the guide in the other direction, the clasps will be disengaged and separated. In other words, one end of the guide has two channels or grooves, for receiving the parts of the fasteners when open or disengaged, and this may be called the forward end of the guide. The other or back end of the guide has a single channel or cam-way, into which the two channels from the forward end converge over an angular center ridge or instep. By moving the guide, so that the separate parts of the clasp enter the respective channels or cam-ways at the front of the guide the entire series of clasps will be delivered from the other or rear end of the guide properly engaged together. If the clasps be engaged and the united set be introduced at the rear end of the guide, and the guide moved over the same, the clasps will be delivered, disengaged from each other, at the forward end of the guide.

The invention, as applied to fasten shoes, is illustrated in the accompanying drawings, wherein, like letters referring to like parts throughout, Figure 1 is a front view of a shoe embodying my invention, showing the guide as applied to close the fastenings. Fig. 2 is a similar view, showing the guide, as applied to open the fastenings. Fig. 3 is an end view of one of the clasps detached, shown as in the locked position of the parts. Fig. 4 is a similar view, showing the angle which the parts of the clasps must assume, to lock or unlock. Fig. 5 is a plan, showing several clasps in position, on portions of the flaps of a shoe. Fig. 6 is a side elevation of the guide, the right hand end of the figure, being the front end of the guide. Fig. 7 is a longitudinal section of the guide. Fig. 8 is a front end view of the same, showing the entering position or delivering position of the unlocked clasps. Fig. 9 is a vertical cross-section on the line X X of Fig. 6, showing the clasps at their engaging or disengaging position, at the top of the ridge. Fig. 10 is a rear end view of the guide, showing the entering or delivering position of the clasps when engaged.

A is the body of the shoe, and *a a* are the flaps of the same. *a'* is the tongue underlying the flaps.

B B' are the two parts of the clasp, constructed with hook-portions and underreaching and overlapping parts, as before stated. The clasps are attached to the flaps of the

shoe in any suitable way, shown as by wires *b* in Fig. 5, and as by lacing-strings C, in Fig. 11.

D is the guide. The base-piece of the guide is flat on its under surface, and has on its margin upturned lips *d*. The top-plate of the guide is concave or bell-shaped, and the connecting-body or center-piece uniting the two plates is angular in cross section, as before stated, and extends from the forward end of the guide to a point near the center of the same, and serving to divide the space between the base and top pieces into two channels or camways at the front end of the guide, which terminate as before stated, in the common channel or camway, at the back of the guide. A bail E is fixed to the top piece of the guide and carries a ring F, which serves as a finger-pull to operate the guide. In virtue of the bail, the ring or finger-pull may be shifted, so that the strain may be applied near the forward end of the guide, for moving the guide forward, and near the rear end of the guide, when moving the same backward.

The operation of this device has already been described.

The clasps may be easily and cheaply made of any suitable metal, and may be finished in any desired manner, so as to give an ornamental appearance. They may be very small in size and when properly applied to a shoe, will give the same a neat appearance and be comfortable to the wearer. It should be noted that the clasps are placed sufficiently close together on the flaps of the shoe, so that they cannot be disengaged by an endwise movement of the same.

The guide or hand-device may be made relatively small, as compared with the drawings, so that it may be readily inserted at the lower end of the series of fasteners, working on the tongue of the shoe, as a base or trackway. It should be noted that the guide acts not only to engage the clasps in its forward motion, but serves also to draw the flaps together, and the parts of the shoe tightly about the foot.

The practicability of the invention herein described has been demonstrated by actual usage of the same.

It will be noted, that in the construction shown in Fig. 11, the shoe is provided with top or overlapping flaps *c*, for concealing the fasteners from view.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A device for engaging and disengaging a series of two-part clasps upon a shoe or other article, consisting of a guide-block, having two guide-ways, which are separated at one end thereof, and converge into a single guide-way, at the other end thereof, said guideways being adapted to engage and carry the interlocking parts of the clasps into or out of engagement with each other, as the block is moved forward or backward over the same, substantially as described.

2. A device for engaging and disengaging a series of two-part clasps, upon a shoe or other article, the interlocking members of which are engageable or disengageable by an angular movement of the same, the said device consisting of a guide-block having a pair of camways or guide-channels, in angular relation to each other at one end of the block, and converging and blending into a common cam-channel or guideway at the opposite end of the block, substantially as described.

3. A hand-device, for engaging or disengaging a series of two-part clasps, upon a shoe or other article, by a single continuous movement, the said device consisting of a movable guide-block having a pair of diverging camways or guide-channels, at one end of the block, which converge and blend into a single camway or guide-channel at the other end of the block, over an angular surface, located at the junction of the said ways, and extended outward on an incline toward the end of the single camway, substantially as and for the purpose set forth.

4. A device for engaging and disengaging a series of clasps upon a shoe or other article, the interlocking parts of which engage or disengage by an angular movement of the same, the said device consisting of a guide-block, having two bell-mouthed guideways in angular relation to each other, on opposite sides of the block, at one end thereof, and converging and blending over an angular surface into a single bell-mouthed guideway at the other end of the block, substantially as described.

5. A hand device for locking or unlocking a series of two-part clasps or similar interlocking parts, which engage or disengage by an angular movement, the said device consisting of a movable guide-block provided with a pair of divergent camways or guide-channels, at one end of the block with bell mouths at an angle to each other in the vertical plane, the said channel converging over an angular surface at the junction of the ways into a single camway or guide channel at the other end of the block having a bell mouth in the horizontal plane, whereby, under a single continuous movement of the hand device, the clasps may be drawn together and engaged or be disengaged and separated at will.

6. A device for engaging and disengaging a series of two-part clasps upon a shoe or other article, the same consisting of a block having two guideways which are separated at one end thereof and converge into a single guideway at the other end and a shifting finger-pull connected with the block and arranged to slide to either end for applying power to pull the block in either direction, substantially as and for the purpose set forth.

7. A device for engaging and disengaging a series of two-part clasps upon a shoe or other article, the same consisting of a block having two guideways which are separated

at one end thereof and converge into a single guideway at the other end, said block being provided with a staple extending from end to end thereof and a ring upon the staple constituting a shifting finger-pull to draw the block in either direction, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WHITCOMB L. JUDSON.

Witnesses:
JAS. F. WILLIAMSON,
CHARLES O. HENTHORN.