

T. TOYAMA.
SHOE FASTENER.
APPLICATION FILED DEC. 3, 1920.

1,369,064.

Patented Feb. 22, 1921.

Fig. 1.

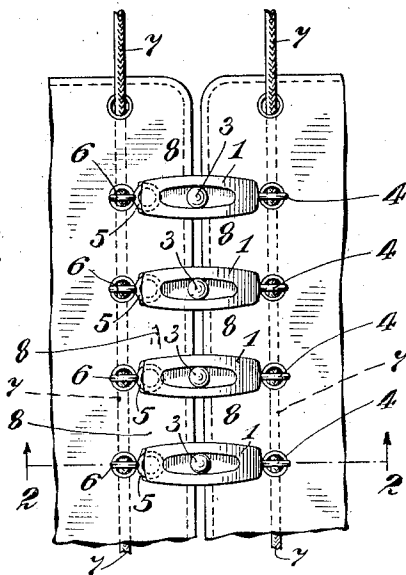


Fig. 2.

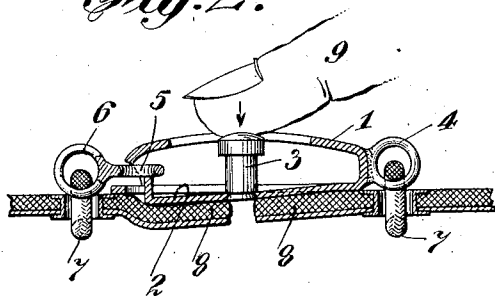


Fig. 3.

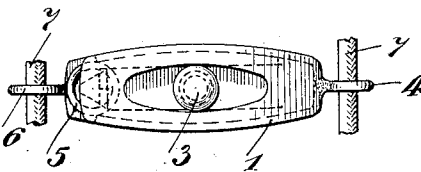
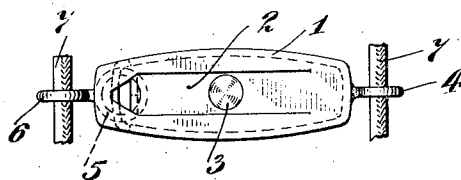


Fig. 4.



Inventor
Takeo Toyama

By his Attorney
Fetherstonhaugh & Co.

UNITED STATES PATENT OFFICE.

TAKEO TOYAMA, OF NEW YORK, N. Y.

SHOE-FASTENER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, TAKEO TOYAMA, a citizen of Japan, residing in New York city, county of the Bronx, and State of New York, have invented certain new and useful Improvements in Shoe-Fasteners, of which the following is a clear and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to shoe fasteners and more particularly to such devices as are utilized to secure the uppers of the shoe about the leg above the ankles.

My invention has for its object to provide an improved arrangement of the lacing, to provide improved securing means and to improve the facility of operation and the general appearance of the shoe fasteners. Other objects will appear as the description proceeds.

In a preferred embodiment of the invention the shoe strings are passed through the lowest eyelets of the shoe from the inside. Each end of the shoe string 7 is passed out through an eyelet of the shoe through one of the eyelet rings at an end of the metallic fastener and returned through the eyelet of the shoe. Each end is then passed underneath the shoe to the next higher eyelet, brought out and passed through the ring of another fastener and then returned through the same eyelet, and so on until the top eyelets are reached. Then the ends of the strings are brought out and tied in the usual manner.

Reference is made to the drawings for a description of a preferred embodiment of this invention in which like numerals of reference refer to like parts throughout the figures.

Figure 1 is a front view showing a portion of the top of a shoe with the fasteners in place and the leather uppers of the shoe drawn tightly together.

Fig. 2 is a cross section taken on the line 2—2, looking in the direction of the arrows. The finger is shown in position pressing down on the stud which releases the fastener.

Fig. 3 is a plan view, similar to that of Fig. 1, of one of the metallic fasteners on an enlarged scale, and

Fig. 4 is a bottom view of one of the metallic fasteners showing the locking spring cut out from the body of the fastener.

Aside from the ornamental features of my invention the mechanical features serve to greatly enhance the facility of operation by providing two fastening means entirely independent of one another in operation, and yet so related to each other that they provide first, a means for loosening or tightening the uppers about the foot or ankle to make the shoe snugly fit the foot and second, separate means for quickly attaching and detaching parts of the shoe so that the two uppers may be broken apart entirely to remove the shoe from the foot or to place it on the foot.

In this preferred embodiment of my invention I provide an oblong metallic structure 1. This is formed of metal preferably tempered steel. The bottom is provided with a spring catch, preferably made of tempered steel, cut out through the bottom and adapted to interlock with one of the fastening members and to be released therefrom by pressure upon the stud 3, which projects through an oval slot in the top of the fastener 1. These studs 3 are designed to be placed exactly in the center between the overlapping flaps of the shoe. In Fig. 2 a finger 9 is shown pressing down on the stud 3 so as to release the spring catch 2 from the eyelet ring 5.

As shown in Fig. 2 the eyelet ring 4 is secured to the fastener 1 so that when the fastener 1 is in position over the shoe the eyelet ring 4 is in a vertical position with reference to the surface of the shoe and is adapted to be secured in position by one of the shoe strings 7, which is passed out through one of the eyelets of the shoe, through the eyelet ring 4, and back through the eyelet ring of the shoe.

The parts 1, 2, 3 and 4 are made integral with one another and together form one part of the fastening device. The metallic fastening device comprises also two eyelet rings 5 and 6. The eyelet ring 5 is adapted to slide horizontally into the end of the fastener 1 as shown in the various figures. When the eyelet ring 5 is within the fastener 1 it receives the spring catch 2 and the rings 5 and 6 are therefore locked in the fastener 1 when the eyelet ring 5 has been placed in position. The eyelet ring 5 is released from the fastener 1 by pressing down with the finger 9 on the stud 3 until the spring catch 2 is below the ring 5, in which position the rings 5 and 6 are easily with-

drawn from the fastener 1. The rings 5 and 6 are preferably an integral metal structure having the eyelet rings formed at right angles to one another. The eyelet ring 6 is adapted to be held in a position parallel to that of the eyelet ring 4 and to be similarly secured to the shoe by means of the other string 7 which is passed out through the opposite eyelet of the shoe, through the ring 6, and again returned through the same eyelet of the shoe. It is understood that when the metal fasteners are in position over the uppers of the shoe they rest against the foot. There is a certain amount of "give" to these leather flaps as will be readily understood and therefore, when the stud 3 is pressed by the finger the back of the spring catch 2 is pushed against the flaps 8 releasing the ring 5 and permitting it to be withdrawn from the fastener 1.

In lacing a shoe with my improved invention I pass the ends of the shoe string through the lowermost eyelets of the shoe from the inside. Next I pass these ends through the eyelet rings 4 and 6 of the metallic fastener and return the ends of the shoe string 7 through the same eyelets through which I have drawn them. Then I carry the strings upward under the shoe to the next higher eyelets, bring them out, pass them through the rings 4 and 6 of the metallic fastener and again return them through the corresponding eyelets. It is clear that any desired number of metallic fasteners can be used and that a metallic fastener may be provided for every pair of eyelets, or for alternate pairs of eyelets, or any arrangement desired according to the requirements of the particular shoe structure. I continue to secure metallic fasteners to my strings in lacing until I reach the uppermost eyelets in the shoe. Then I bring out the ends of the string, grip each end with my fingers, and pull the strings taut. By this operation I draw together the flaps 8 of the uppers of the shoe as in the usual method of lacing a shoe. When the desired tightness is secured I tie the usual knot at the top of the shoe. If I find the shoe is too tight against my foot I can release the knot and tie another without unlocking the metallic fasteners. If the space between the flaps 8 is extended, more of the shoe strings 7 is brought out of the eyelets permitting the metallic fastening devices 1 to take their position symmetrically between the uppers of the shoe.

In many cases it is desired to quickly remove the shoe as in the case of making a change in a theater. In this case by simply releasing the knot at the top and a few of the fasteners between the top and the bottom of the shoe the flaps may be moved apart a sufficient distance to permit the withdrawal of the foot. Of course, if it is desired to entirely separate the flaps 8

from each other this may be quickly done by pressing on the studs 3, in series.

As shown the spring catch 2 is of tempered steel and the studs 3 are secured thereto. The spring catch 2 is preferably simply a cut-out portion of the metallic fastener 1 with the end turned up, as clearly indicated in Fig. 4, to provide a catch for the ring 5. It is, of course, obvious that any other form of spring catch may be used in this position to perform the same function.

It is clear from the foregoing description that I have invented a new and useful shoe fastener that is capable of manufacture at low cost and that provides a fastener that permits of much greater facility in fastening, and particularly in unfastening shoes than those now in use. I have described in detail a preferred embodiment of my invention and of course it will be obvious to those skilled in the art that many details of mechanical structure may be changed within the scope of my invention and therefore I do not wish to limit myself except as in the appended claims.

I claim:

1. An improved fastening device for shoes comprising in combination means for loosening or tightening the fastening device whereby the edges of the uppers of the shoe may be spaced apart as desired and means for securing together and breaking apart the fastening device and capable of actuation independently of the loosening or tightening means whereby the edges of the uppers of the shoe may be opened separately.

2. An improved fastening device for shoes, comprising in combination a shoe string and a metallic fastening device, said shoe string being adapted for attachment to the flaps of the uppers of a shoe by means of the eyelets thereof and metallic fastening devices each of which comprises two parts, each of said parts carrying an eyelet ring adapted to receive one end of the shoe string and capable of quick detachment from the other of said parts.

3. A metallic fastening device for shoes adapted to secure together the edges of the flaps of the uppers of the shoe comprising two parts, each of which carries a ring adapted to receive the shoe string and by means thereof to be secured to the uppers of the shoe, said parts being adapted to be fastened together by means of a spring-actuated locking device, and means for releasing said locking device comprising a stud adapted to be actuated by pressure of the finger.

4. A fastening device for shoes comprising a body portion, an eyelet ring secured to one end of said body portion, a slot in the opposite end of said body portion, a slot in the upper face of said body portion, a

spring catch adapted to play in said first mentioned end slot, and another part comprising an eyelet ring adapted to receive the shoe string and carrying thereon a member adapted to enter said first mentioned slot and to be secured therein by means of the aforesaid spring catch.

5 5. A fastening device for shoes comprising a body portion, an eyelet ring secured to one end of said body portion, a slot in the opposite end of said body portion, a slot in the upper face of said body portion, a spring catch adapted to play in said first-mentioned end slot, and another part comprising an eyelet ring adapted to receive the shoe string and carrying thereon a member adapted to enter said first-mentioned slot and to be secured therein by means of the aforesaid spring catch, and a stud attached to said spring catch and passing through the slot in the face of the fastening device.

20 6. A fastening device for shoes comprising an oblong body portion adapted to lie

on the surfaces of the uppers of a shoe to secure them together, an eyelet ring carried by one end of said fastening device and a spring catch cut from the bottom of said device and provided at one end with a catch, a stud mounted on said spring catch and passing through a slot in the top of said device so that it may be readily actuated by the finger, and a slot in the end of the device adjacent to the spring catch, a flat horizontal member having an aperture therein so that said member may be passed into said slot and locked by means of the spring catch, said member comprising also an eyelet ring so that when said fastening device and said locking member are fastened together they form a fastening means capable of attachment to the shoe string on either side of the shoe.

Signed at New York, in the county and State of New York, this 30th day of November, 1920.

TAKEO TOYAMA. [L. s.]