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Park(10) **Pub. No.: US 2015/0123400 A1**(43) **Pub. Date: May 7, 2015**(54) **LACE-FASTENING TOOL**(52) **U.S. Cl.**CPC **A43C 11/008** (2013.01)(71) Applicant: **Myoung ho Park**, Ulsan (KR)(72) Inventor: **Myoung ho Park**, Ulsan (KR)

(57)

ABSTRACT(21) Appl. No.: **14/395,566**(22) PCT Filed: **Apr. 29, 2013**(86) PCT No.: **PCT/KR2013/003698**

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(2006.01)

The objective of the present invention is to fasten two laces of various types of shoes such as sports shoes, hiking boots, or combat boots. In particular, the objective is to enable the fastening and unfastening of the two laces more swiftly using the tool of the present invention. In the lace-fastening tool according to one embodiment of the present invention, a hole (6) is provided in the middle of a lower plate (2), and part of the hole (6) is used as a hinge shaft such that the laces can be flexibly coupled to an upper plate (1) on which a central pressure rod (5) is provided and can be fastened. In the lace-fastening tool according to one embodiment of the present invention, lace-fixing grooves are provided at either end of the lower plate, the hole is provided in the middle of the lower plate, and part of the hole is used as the hinge shaft such that the lace is flexibly coupled to the upper plate on which the central pressure rod is provided and can be fastened.

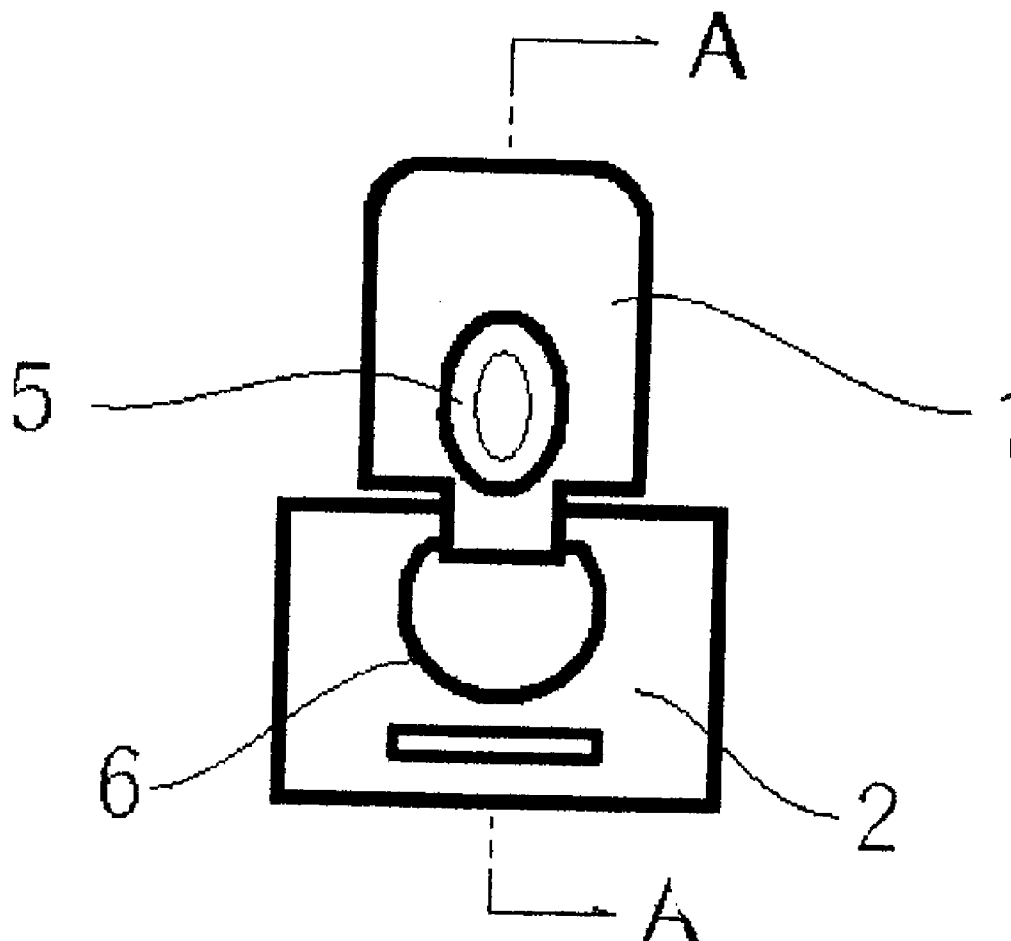


Fig. 1

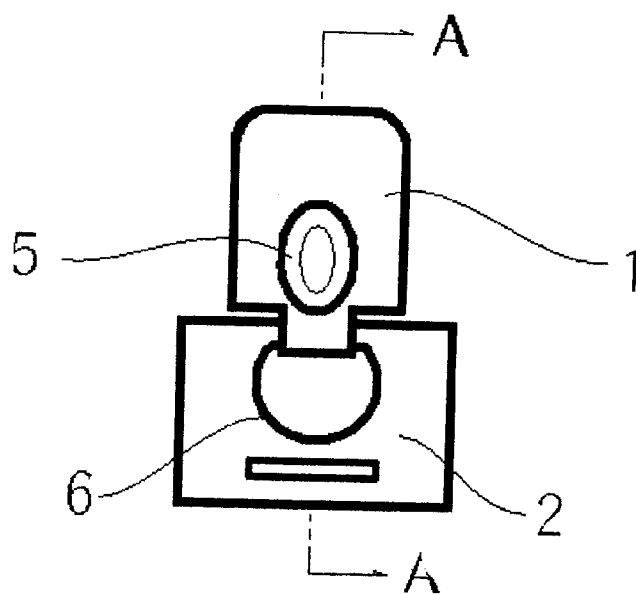


Fig. 2

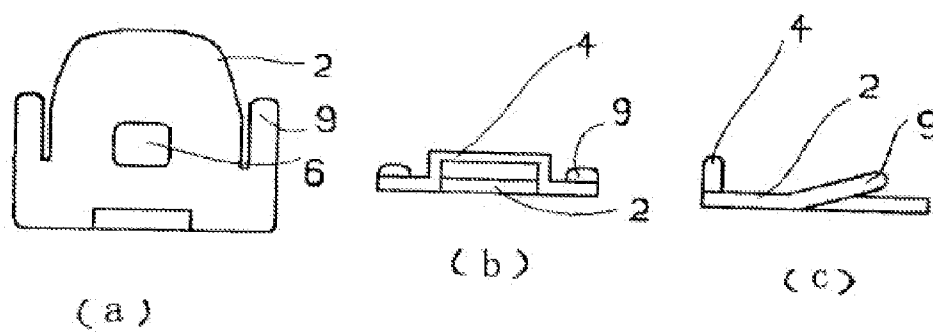


Fig. 3

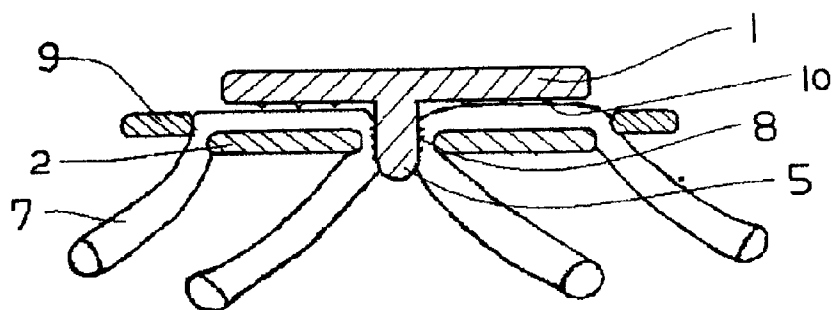


Fig. 4

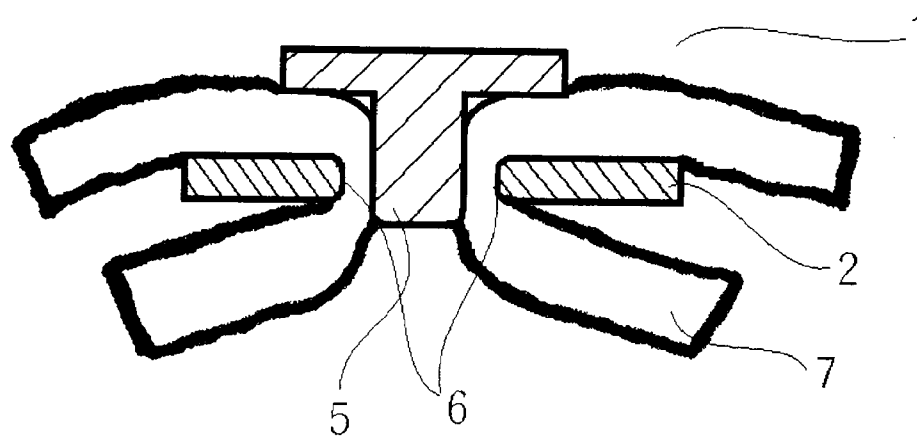


Fig. 5

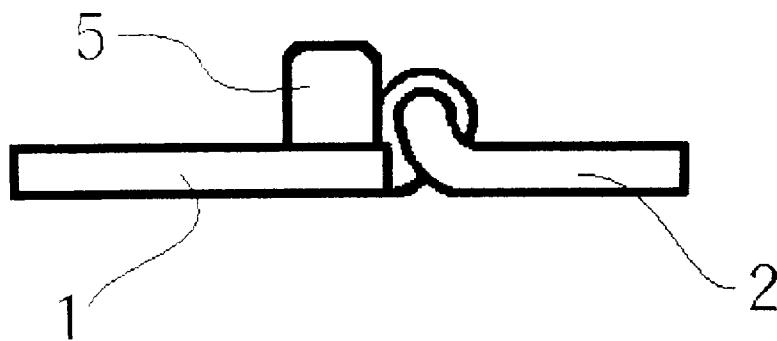


Fig. 6

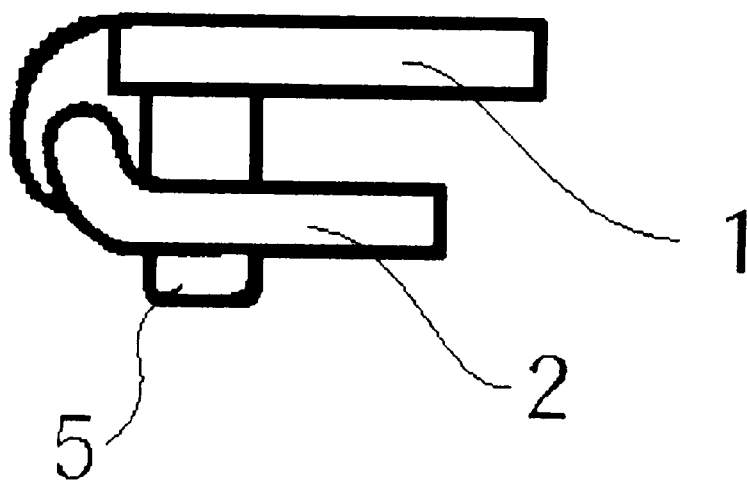


Fig. 7

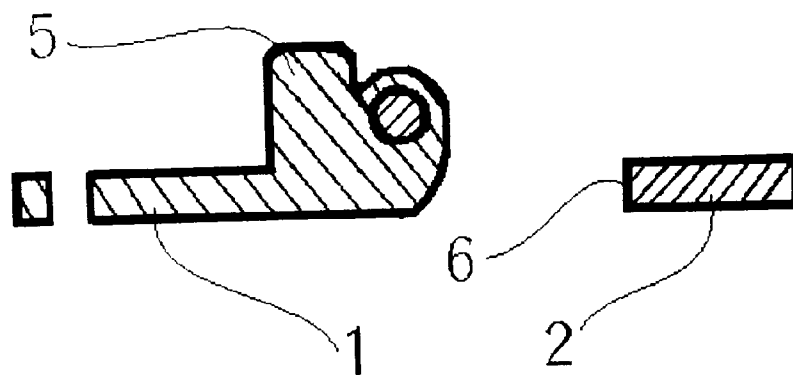


Fig. 8

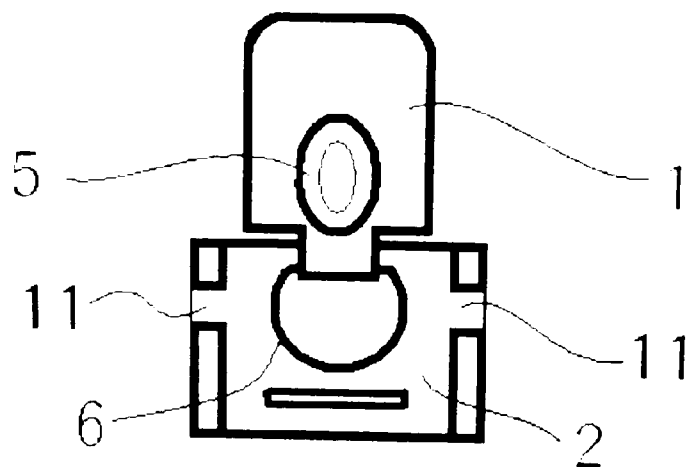
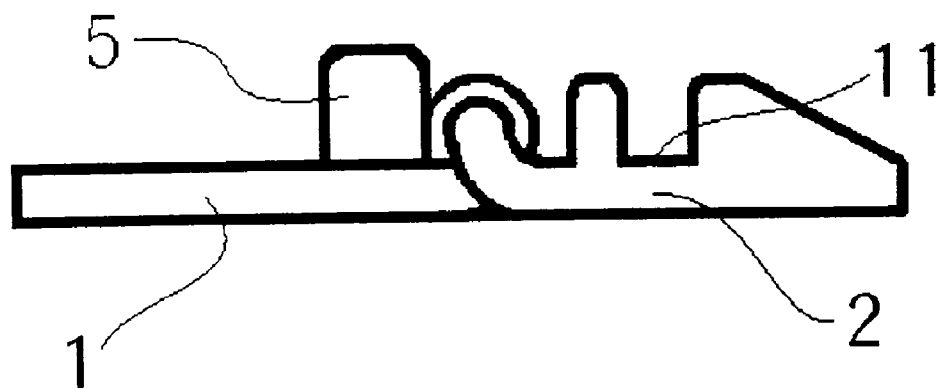


Fig. 9



LACE-FASTENING TOOL

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This is a US national phase of PCT patent Application No. PCT/KR2013/003698 having an International filing date of Apr. 29, 2013, which claims priority to Korean Patent Application No. 10-2012-0047696, filed on May 4, 2012, the entireties of which are incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The present invention relates to a lace-fastening tool of fastening two laces of various types of shoes such as sneakers, hiking boots and military boots. More particularly, the present invention relates to a lace-fastening tool capable of more quickly tying and untying two laces.

BACKGROUND OF THE INVENTION

[0003] In general, two laces of shoes are tied by alternately passing loops of the two laces and pulling out the laces. Unfortunately, it is considerably troublesome in tying and untying the laces and it takes to a long time to tie and untie the laces. In addition, since the laces are loosen with time, the laces unties by themselves. As a result, the laces may be tied again, and the untied lace may be stepped on by the other foot. Further, the untied lace may trip over another object to cause a person to have a bad fall.

[0004] The present applicant has proposed a lace-fastening tool disclosed in Korean Patent Application No. 10-2006-0102693 in order to solve the problems.

[0005] However, the lace-fastening tool which is the prior-filed invention by the present applicant has a complicated structure, and it is not easy to manufacture. Further, even though the lace-fastening tool needs to be manufactured to have a small size, since the lace-fastening tool has the complicated structure, it is difficult to manufacture the lace-fastening tool to have a small size. Accordingly, since the size of the lace-fastening tool is large, consumers have not positively responded to the lace-fastening tool.

BRIEF DESCRIPTION OF DRAWINGS

[0006] FIG. 1 is a plan view showing a state where an upper plate and a lower plate of a lace-fastening tool of the present invention are unfolded.

[0007] FIG. 2 shows a plan view (A), a front view (B), and a side view (C) of a lace-fastening tool of the prior-filed invention.

[0008] FIG. 3 is a cross-sectional view showing a coupled state of the lace-fastening tool of the prior-filed invention.

[0009] FIG. 4 is a cross-sectional view showing a coupled state of the lace-fastening tool of the present invention.

[0010] FIG. 5 is a side view showing an unfolded state of the lace-fastening tool of the present invention.

[0011] FIG. 6 is a side view showing a coupled state of the lace-fastening tool of the present invention.

[0012] FIG. 7 is a cross-sectional view of the lace-fastening tool of the present invention taken along line A-A of FIG. 1.

[0013] FIG. 8 is a plan view of a lace-fastening tool according to an embodiment of the present invention.

[0014] FIG. 9 is a side view of the lace-fastening tool shown in FIG. 8.

DESCRIPTION OF MAIN REFERENCE NUMERALS OF DRAWINGS

[0015]

1: Upper plate	2: Lower plate	4: Hinge shaft
5: Pressure rod	6: Hole	
7: Lace	9: Joining piece	11: Lace fixing groove

[0016] There is provided a lace-fastening tool in which a hole is formed in a center of a lower plate, a part of the hole serves as a hinge shaft, and the lower plate is flexibly coupled to an upper plate having a central pressure rod to fasten laces. Lace fixing grooves are formed at both edges of the lower plate.

DETAILED DESCRIPTION OF THE INVENTION

Technical Problem

[0017] In order to solve the problems, an object of the present invention is to provide a lace-fastening tool capable of improving a flexibly coupled portion between an upper plate and a lower plate of the lace-fastening tool, easily being manufactured by allowing the lower plate to have a simple structure, and increasing productivity.

Technical Solution

[0018] In order to achieve the above object, according to an embodiment of the present invention, there is provided a lace-fastening tool in which a hole is formed in a center of a lower plate, a part of the hole serves as a hinge shaft, and the lower plate is flexibly coupled to an upper plate having a central pressure rod to fasten laces.

[0019] The lace-fastening tool according to the embodiment of the present invention, lace fixing grooves may be formed at both edges of the lower plate.

Effect of the Invention

[0020] Unlike the above-mentioned lace-fastening tool in which the hinge shaft is separately provided to flexibly couple the upper plate to the lower plate through hinge-coupling, the upper plate is flexibly coupled to the lower plate by an innovative method in which the part of the hole of the lower plate is used. Accordingly, by enhancing the drawback that it is difficult to manufacture the lace-fastening tool to have a small size in the related art, it is possible to manufacture the lace-fastening tool to have a small size, and it is possible to enhance productivity. When the lace-fastening tool of the present invention is used for shoes such as sneakers and hiking boots, since the lace-fastening tool has a small size, the lace-fastening tool can have a light weight, and it is possible to add the beauty to the lace-fastening tool.

MODE FOR INVENTION

[0021] Hereinafter, the present invention will be described in detail with reference to the accompanying drawings.

[0022] FIG. 2 shows a plan view (A), a front view (B), and a side view (C) of a lace-fastening tool which is the prior-filed invention by the present applicant. According to the lace-fastening tool of the prior-filed invention, the lace-fastening tool is configured such that a hinge shaft 4 is provided at a lower plate 2 and a hinge piece 3 of an upper plate 1 is hooked

to the hinge shaft to flexibly couple the lower plate to the upper plate 1. Two laces 7 are inserted into a hole 6 of the lower plate 2 of the lace-fastening tool upward from below the lower plate 2, and then the two laces 7 are pulled out to be respectively hooked to both joining pieces 9. Subsequently, when the upper plate 1 of the lace-fastening tool is pressed down, a pressure rod 5 passes between the two laces 7 as shown in FIG. 3, and is inserted into the hole 6 of the lower plate 2 to pressurize the laces 7. In this way, the two laces are fastened. The prior-filed invention described above has a problem in that since the hinge shaft 4 occupies a large region, it is difficult to manufacture the lace-fastening tool to have a small size. However, according to a lace-fastening tool of the present invention as shown in FIG. 1, a part of a hole 6 of a lower plate 2 of the lace-fastening tool serves as a hinge shaft 4, and the lower plate is flexibly coupled to an upper plate 1. Two laces 7 are inserted into the hole 6 of the lower plate 2 upward from below the hole, and then pulled out toward both sides. Thus, a pressure rod 5 of the upper plate 1 pressurizes the two laces. In this way, the two laces 7 can be fastened.

[0023] A lace-fastening tool of the present invention can be used for various shoes such as sneakers and hiking boots. Further, the lace-fastening tool has a simple structure, and it is easy to manufacture.

We claim:

1. A lace-fastening tool in which a hole is formed in a center of a lower plate, a part of the hole serves as a hinge shaft, and the lower plate is flexibly coupled to an upper plate having a central pressure rod to fasten laces.

2. The lace-fastening tool of claim 1, wherein lace fixing grooves are formed at both edges of the lower plate.

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