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3,221,384

CLAMP FOR SHOES, ESPECIALLY SPORT AND SKI SHOES

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Fig. 1

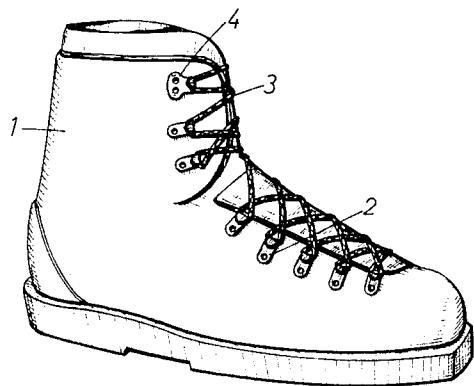


Fig. 2

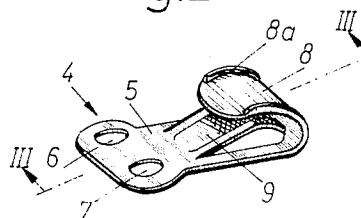


Fig. 5

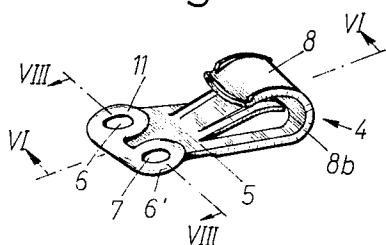


Fig. 3

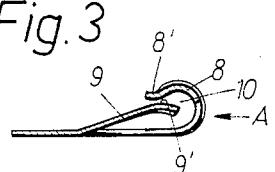


Fig. 6

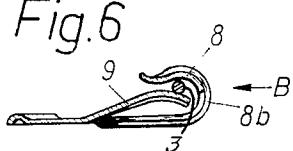


Fig. 4

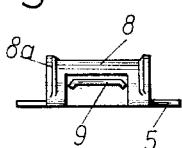


Fig. 7

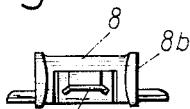
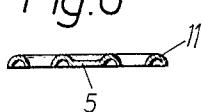


Fig. 8



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# United States Patent Office

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### 3,221,384 CLAMP FOR SHOES, ESPECIALLY SPORT AND SKI SHOES

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6 Claims. (Cl. 24—146)

The present invention relates to a clamp for shoes, especially to a spring clamp for sport and ski shoes, which is intended to retain the shoe string. Spring clamps for this purpose have been known, according to which the spring is arranged on the outside and therefore easily liable to damage.

It is, therefore, an object of the present invention to provide a spring clamp for shoes, especially sport and ski shoes, which will overcome the above mentioned drawback.

It is another object of this invention to provide a spring clamp for shoes, especially sport and ski shoes, which while being simple in construction and manufacture will be highly efficient and well protected against damage from the outside.

These and other objects and advantages of the invention will appear more clearly from the following specification in connection with the accompanying drawing, in which:

FIG. 1 illustrates a shoe provided with a spring clamp according to the invention.

FIG. 2 is an isometric view of a spring clamp according to the invention.

FIG. 3 represents a section along the line III—III of FIG. 2.

FIG. 4 is a front view of a clamp according to the invention as seen in the direction of the arrow A of FIG. 3.

FIG. 5 is an isometric view of a slightly modified clamp according to the present invention.

FIG. 6 is a section along the line VI—VI of FIG. 5.

FIG. 7 shows a front view of the clamp of FIG. 6 as seen in the direction of the arrow B thereof.

FIG. 8 is a cross section along the line VIII—VIII of FIG. 5.

The clamp according to the invention for shoes, especially sport and ski shoes, which comprises a base plate, is characterized primarily in that the base plate has a somewhat U-shaped cut so that a tongue is formed which has one narrow side connected to the base plate and is bent upwardly while having its front end curved in a direction toward the plane of the base plate. The lateral edges of the hook-shaped portion of the clamp may be slanted or bent downwardly so that sharp edges will be avoided. However, if desired, the lateral edges may also be bent upwardly or folded over.

Referring now specifically to the drawing and FIG. 1 thereof in particular, this figure shows a ski shoe provided in customary manner with two rows of shoe hooks 2 (one row only being shown) for the shoe string or shoe lace 3. The uppermost hook 4 is designed as spring clamp. Such spring clamp is shown in two modifications in FIGS. 2 to 4 and has the purpose to prevent the shoe string from slipping back prior to the shoe string being knotted. The said hook 4 comprises a base plate 5 having holes 6 and 7 for rivets which will connect the hook 4 to the shoe.

In conformity with the present invention, the base plate 5 has its front end bent upwardly and backwardly so as to form a hook portion 8. Furthermore, the base plate 5 is first provided with a somewhat U-shaped cut so that a tongue 9 is formed. This tongue 9 is then bent upwardly, i.e., in the direction toward the backwardly folded por-

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tion of hook portion 8, while the front portion of said tongue 9 which represents a resilient tongue is bent downwardly toward the plane of the base plate 5.

As will be evident from the above and also from the drawing, in this way, a narrow gap 10 is formed between the rounded portion 8' of the hook portion 8 and the arched portion 9' of the tongue 9. This gap or space is slightly less than the thickness of a shoe string so as to exert a firm clamping effect on a shoe string within said gap.

In order to increase the clamping effect of the spring clamp, the top surface of tongue 9 which will engage the shoe string may be roughened or be provided with a knurled surface or the like.

The lateral edges of tongue 9 may be slanted or bent downwardly. The lateral edges of the hook portion 8 may either entirely or partially be bent so as to form elevations 8a or if desired they may be folded over, whereby a stiffening of the hook will be obtained.

The modification shown in FIGS. 5 to 8 likewise comprises a spring clamp similar to that of FIGS. 2 to 4. According to this modification, the lateral marginal portions of the hook portion 8 extend downwardly to the neighborhood of the connecting eyes 6' so that lateral reinforcing strips 8b are formed greatly increasing the strength of the hook while simultaneously preventing a rubbing of the shoe string on the edges of the hook.

With this embodiment, the marginal portions of the rivet holes 6 and 7 are provided with circular elevations 11 for facilitating the riveting operation and reinforcing the base plate 5. In order to combine easy deformability of the material to be employed with good spring properties, the hook according to the present invention is preferably made of hardenable material and the hook is hardened after being finished.

As will be evident from the above, in this way a spring clamp will be obtained in which the shoe string is clamped between the hook portion 8 and the tongue 9 and thus may be safely retained while simultaneously the spring tongue itself is protected against damage from the outside.

It is, of course, to be understood that the present invention is, by no means, limited to the particular constructions shown in the drawings but also comprises any modifications within the scope of the appended claims.

What I claim is:

1. A hook-like clamp for the strings of shoes, especially sport and ski shoes, which comprises: a substantially planar base plate having one end portion provided with means for connecting said plate to a shoe and having its other end portion folded over in a curved path in a direction toward said means to be spaced therefrom so as to form an arcuate hook, and a resilient tongue having one end thereof integral with said base plate in the region of said one end portion of the base plate and having its other end forming the free end of said tongue formed out of the plane of said base plate and extending into the gap between said base plate and said folded over end portion so as to be slightly spaced from said folded over end portion for receiving and clamping therebetween a shoestring, the extremity of the said other end of said tongue being located closely adjacent the bottom region of said hook to prevent a shoestring from slipping around in the hook past the said other end of the said tongue.

2. A clamp according to claim 1, in which the side edges of said tongue are inclined in a direction away from said folded over end portion.

3. A clamp according to claim 1, in which that surface of said tongue which faces the free end of said folded over portion is provided with an unevenness for better frictional engagement with the shoestring to be clamped between said tongue and said folded over portion.

4. A hook-like clamp for the strings of shoes, especially sport and ski shoes, which comprises: a substantially planar base plate having one end portion provided with means for connecting said plate to a shoe and having its other end portion folded over in a curved path in a direction toward said means so as to form an arcuate hook, and a resilient tongue having one end thereof integral with said base plate in the region of said one end portion of the base plate and having its other end forming the free end of said tongue formed out of the plane of said base plate and extending into the gap between said base plate and said folded over end portion so as to be slightly spaced from said folded over end portion for receiving and clamping therebetween a shoestring, that free end portion of said tongue which extends farthest into said gap being slightly bent downwardly away from the free end of said folded over portion, the extremity of said free end portion of said tongue being located closely adjacent the bottom region of said hook to prevent a shoestring drawn into the hook from slipping around in the hook past the said free end of said tongue.

5. A hook-like clamp for the strings of shoes, especially sport and ski shoes, which comprises: a substantially planar base plate having one end portion provided with means for connecting said plate to a shoe and having its other end portion folded over in a curved path in a direction toward said means to be spaced therefrom so as to form an arcuate hook, at least portions of the side edges of said folded over portion being flanged to reinforce said folded over portion, and a resilient tongue having one end thereof integral with said base plate in the region of said one end portion and having its other end forming the free end of said tongue formed out of the plane of said base member and extending into the gap between said base plate and said folded over end portion so as to be slightly spaced from said folded over portion for receiving

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and clamping therebetween a shoestring, the extremity of the free end of said tongue being positioned closely adjacent the bottom of said hook to prevent a shoestring from slipping past the free end of the tongue.

6. A hook-like clamp for the strings of shoes, especially sport and ski shoes, which comprises: a substantially planar base plate having a first substantially plane section and having a second section integral with said first section and folded back on said first section on a curved path so as together with said first section to form an arcuate hook, said first section comprising a cutout and a tongue integral with said first section and bent out of said cutout into slightly spaced relationship with regard to the free end portion of said second section for receiving and clamping therebetween a shoe string, the extremity of the free end of said tongue being closely adjacent the bottom of said hook, said first section being provided with holes at the end opposite its connection with said second section for receiving means for connecting said clamp to a shoe.

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