Oct. 29, 1963 E. TEUFEL 3,108,385

TYING MEANS FOR SHOES AND BOOTS

Filed April 12, 1962

FIG. 1

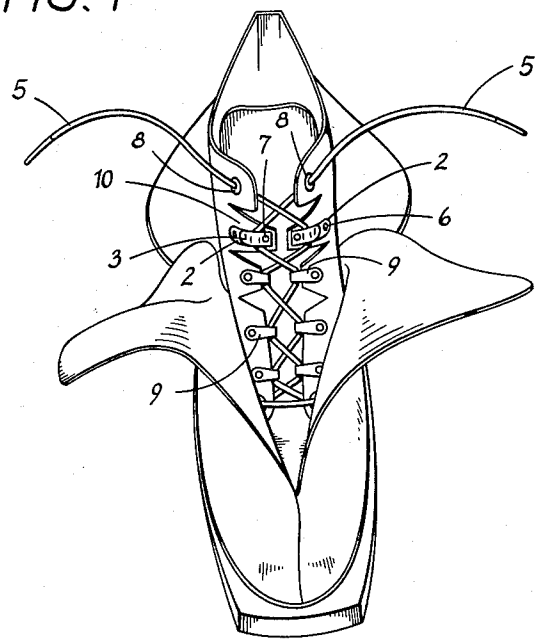
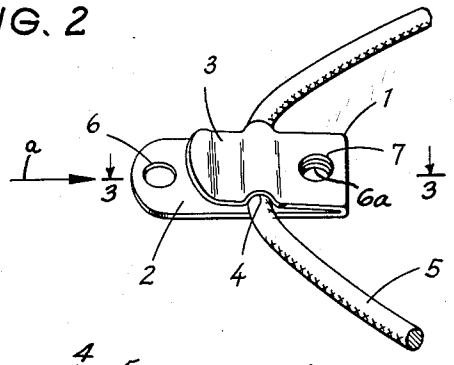


FIG. 2



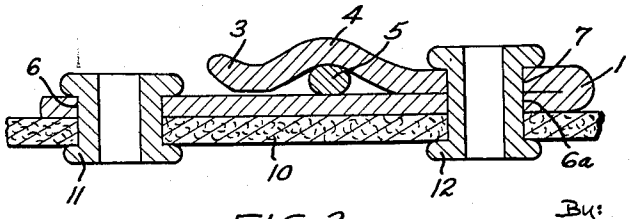


FIG. 3

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TYING MEANS FOR SHOES AND BOOTS

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1 Claim. (Cl. 36—50)

The present invention relates to shoes and boots, and especially to ski boots.

Shoes and boots which are tied by means of laces, cords, or the like always have the disadvantage that the laces or at least the tied ends thereof sooner or later loosen or become undone. This is especially disagreeable or even dangerous if it occurs in sport shoes and especially in ski boots since the shoe is then no longer firmly secured to the foot.

It is an object of the present invention to provide a shoe or boot with suitable means for preventing the laces from loosening or becoming untied of their own accord. According to the invention this is accomplished by providing the shoe adjacent to the edges of the upper to be tied with clamps which are adapted to grip the lace at a point closely underneath the bow and knot. Since the tied lace is thus firmly clamped underneath the knot, it is freed of all tension which in conventional shoes is the real cause of the knot becoming untied.

The clamps according to the invention should be designed so as to prevent the lace from being pulled back when the knot is being tied and to clamp the tied lace so firmly that the knot is relieved of any tension and will therefore not yield subsequently of its own accord.

One arm of the clamp is preferably provided with a recess for receiving the lace which is drawn through the clamp. This recess in the clamp also prevents the tied lace from projecting too far outwardly and especially from unintentionally sliding laterally out of the clamps. The recess is preferably made of a shape in accordance with the cross-sectional shape of the lace. Thus, if the lace has a round cross section, the recess preferably forms a curved portion in one arm of the clamp.

A very simple and practical type of clamp for the shoe according to the invention consists of a flat piece of a highly resilient material, for example, spring steel, which is bent over 180° so that the two arms which are thus formed rest substantially flat on each other. The two clamps are preferably placed opposite to each other on the same level and they may be secured to the upper of the shoe by means of hollow rivets. For this purpose, the clamps are provided with bores for receiving such rivets. If such a clamp which consists, for example, of a piece of spring steel which is bent over 180° is secured to an edge portion of the upper of the shoe adjacent to its edge, the lower arm of the clamp engages with the upper, while the upper arm contains the mentioned recess or curved portion for receiving the lace. The end of the upper arm is preferably bent slightly upwardly to facilitate the insertion of the lace from the side between the two arms.

As already indicated, the invention is particularly of advantage when applied to ski boots. If the boot has a double upper, the clamps are preferably mounted on the edge portions of the inner upper.

The features and advantages of the invention will become more clearly apparent from the following detailed description which is to be read with reference to the accompanying drawings, in which:

FIGURE 1 shows a respective front view of a double-upper ski boot, the inner upper of which is provided with the lace clamps according to the invention.

FIGURE 2 shows a perspective view of an individual clamp.

FIGURE 3 is a sectional view taken on line 3—3 of FIGURE 2, and also shows a portion of the upper as well as rivets which secure the clamp to the upper.

As illustrated in FIGURE 2 of the drawings, the clamp 1 consists of a flat strip of material, for example, spring steel, which is bent over 180°. The lower arm 2 of this clamp which, as shown in FIGURE 1, rests directly on the upper 10, has a slightly greater length than the upper arm or tongue 3. This upper arm is provided with a curved portion 4 into which the round lace 5 engages. Because of the inherent resilience of clamp 1 and its arms 2 and 3, lace 5 is gripped so tightly between these arms that the ends of the lace which are passed through the upper eyes 8 may be easily tied and only need to be loosely tied without danger that they will be drawn through the clamps by the tension of the lower parts of the lace.

Each clamp 1 has bores 6, 6*a* and 7 into which hollow rivets may be inserted for securing the clamp to upper 10. More particularly, the lower portion 2 of the clamp 1 is provided with first and second bores 6 and 6*a*, and the upper tongue is provided with a third bore 7 which is in alignment with the second bore 6*a*. The first bore 6 and the combined bore constituted by the aligned second and third bores 6*a*, 7, receive, respectively, first and second rivets 11 and 12 which serve to secure the clamp 1 to the upper 10. The second rivet 12, i.e., the rivet which passes through bores 6*a* and 7, will be seen as additionally serving to press the tongue 3 against the lower portion 2 of the clamp 1, thereby to increase the spring force with which the tongue 3 presses the lace 5 against the lower portion 2.

The arrangement of the two clamps 1 on the boot is shown in FIGURE 1. They are mounted underneath the eyelets 8 through which the ends of the lace is drawn above clamps 1. Of course, several pairs of such eyelets 8 may also be provided above the pair of clamps 1. Also, although ordinarily a single pair of clamps 1 is amply sufficient, several pairs may be provided on each boot.

The end of the tongue 3 of the clamp is preferably bent slightly upwardly to permit the lace 5 to be easily slipped in the direction of the arrow *a* (FIGURE 2) between the two arms 2 and 3. The tongue 3 may then either be lifted slightly with a finger or it may be lifted sufficiently by the tightened lace 5 to permit the latter to slide into the curved portion 4. Although in FIGURE 1 the two edge portions of the upper 10 are provided below clamps 1 with hooks 9 for tying the boot very quickly, they may in place of such hooks also be provided with eyelets through which the lace may be drawn.

Although my invention has been illustrated and described with reference to the preferred embodiment thereof, I wish to have it understood that it is in no way limited to the details of such embodiment, but is capable of numerous modifications within the scope of the appended claim.

Having thus fully disclosed by invention, what I claim is:

In combination with a shoe or boot having an upper adapted to be tightened by a lace, at least one pair of clamps secured to said upper adjacent to the edge portions thereof for gripping the lace at least at points slightly below the point where the ends of the lace are to be tied into a knot, each of said clamps comprising a doubled-over strip made of highly resilient material so as to form a lower portion which lies against a respective one of said edge portions and a resilient tongue overlying said lower portion, said lower portion and said tongue being positioned so that said clamp opens toward the side of the shoe or boot to allow the lateral introduction of the lace

into the clamp, said tongue yielding resiliently upon introduction of the lace and, after such introduction and under the influence of its elasticity, firmly pressing the lace against said lower portion, said tongue being shorter than said lower portion, the end of said lower portion which projects beyond said tongue being provided with a first bore, the opposite end of said lower portion being provided with a second bore, and said tongue being provided with a third bore which is in alignment with said second bore; a first rivet passing through said first bore and a second rivet passing through the combined bore constituted by the aligned second and third bores for securing said clamp to said upper, said second rivet additionally serving to press said tongue against said lower portion thereby to increase the spring force with which said tongue presses the lace against said lower portion.

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