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1,907,629

LACE FASTENER

Filed Dec. 14, 1932

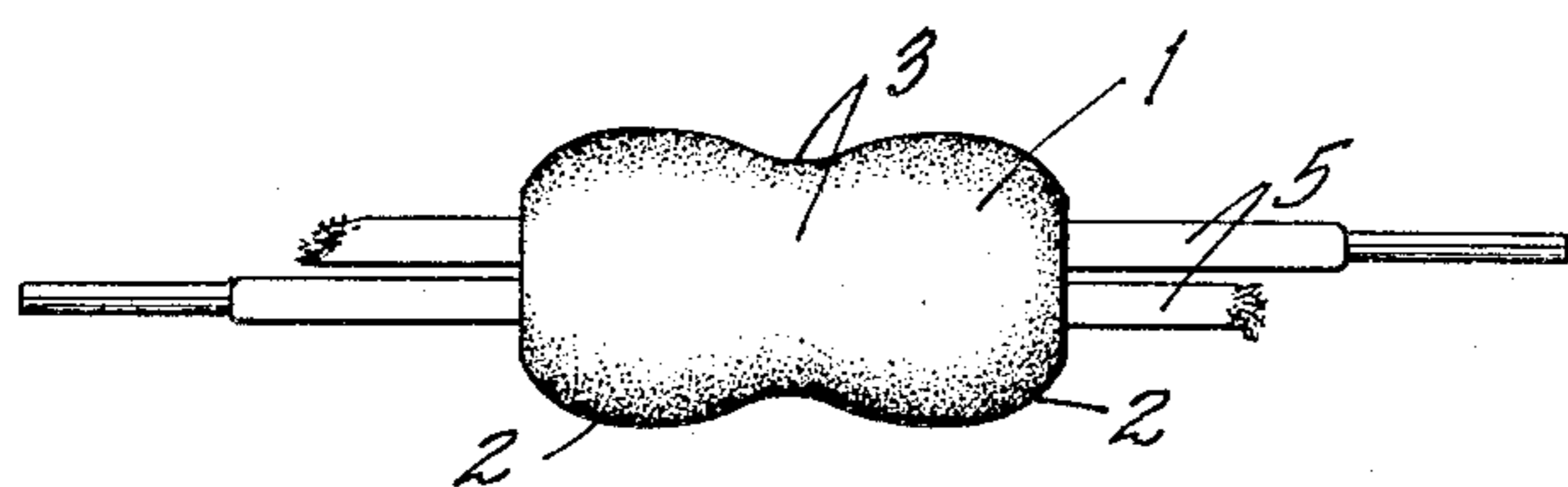


FIG. 1

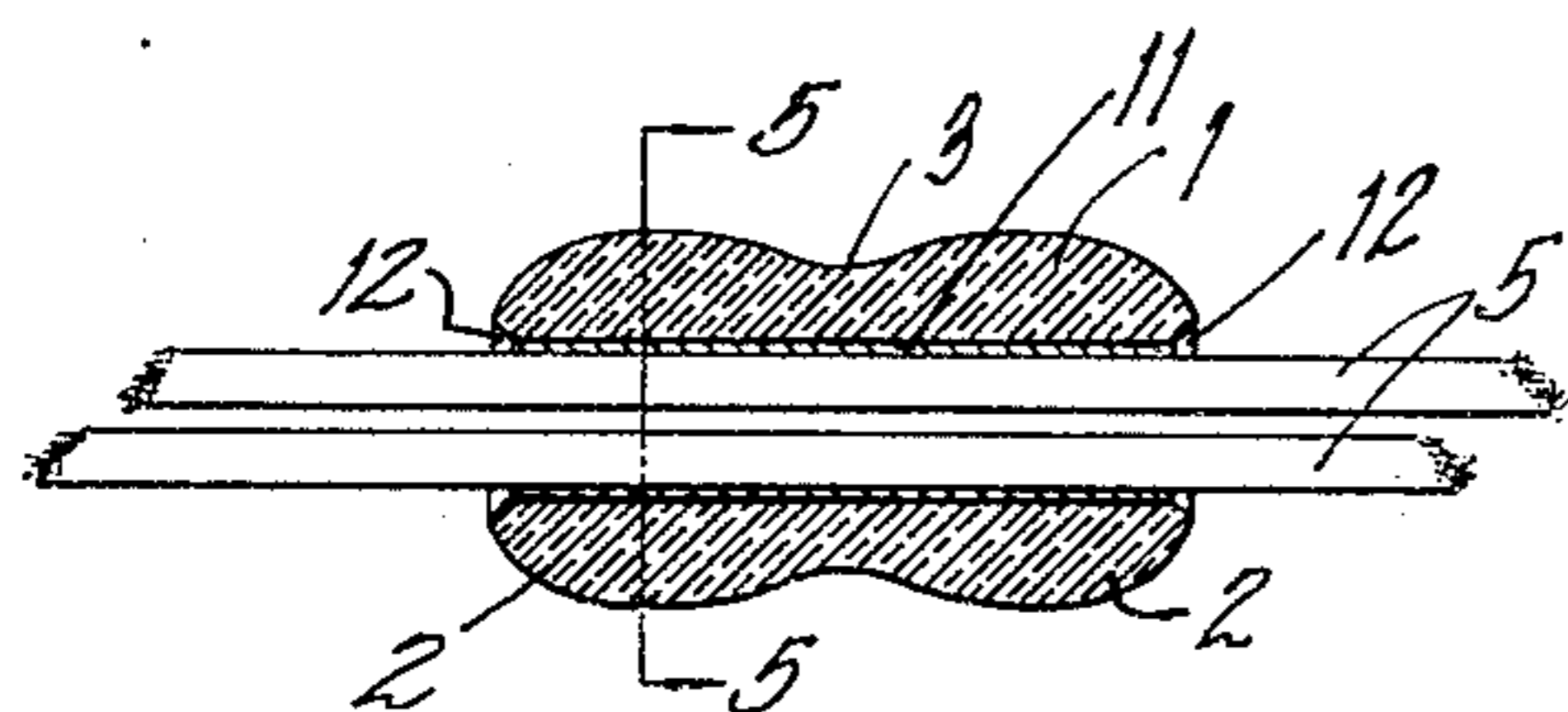


FIG. 2

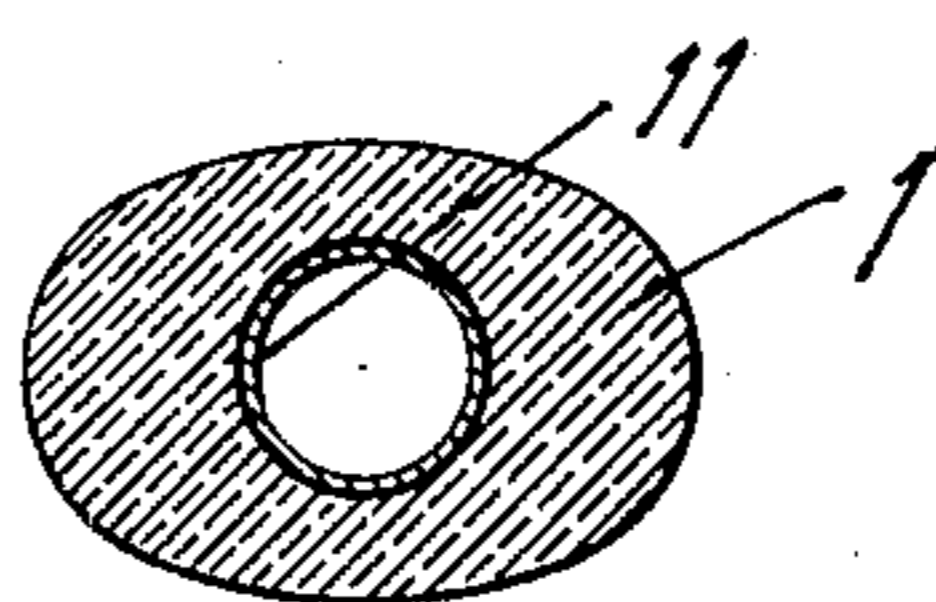


FIG. 5

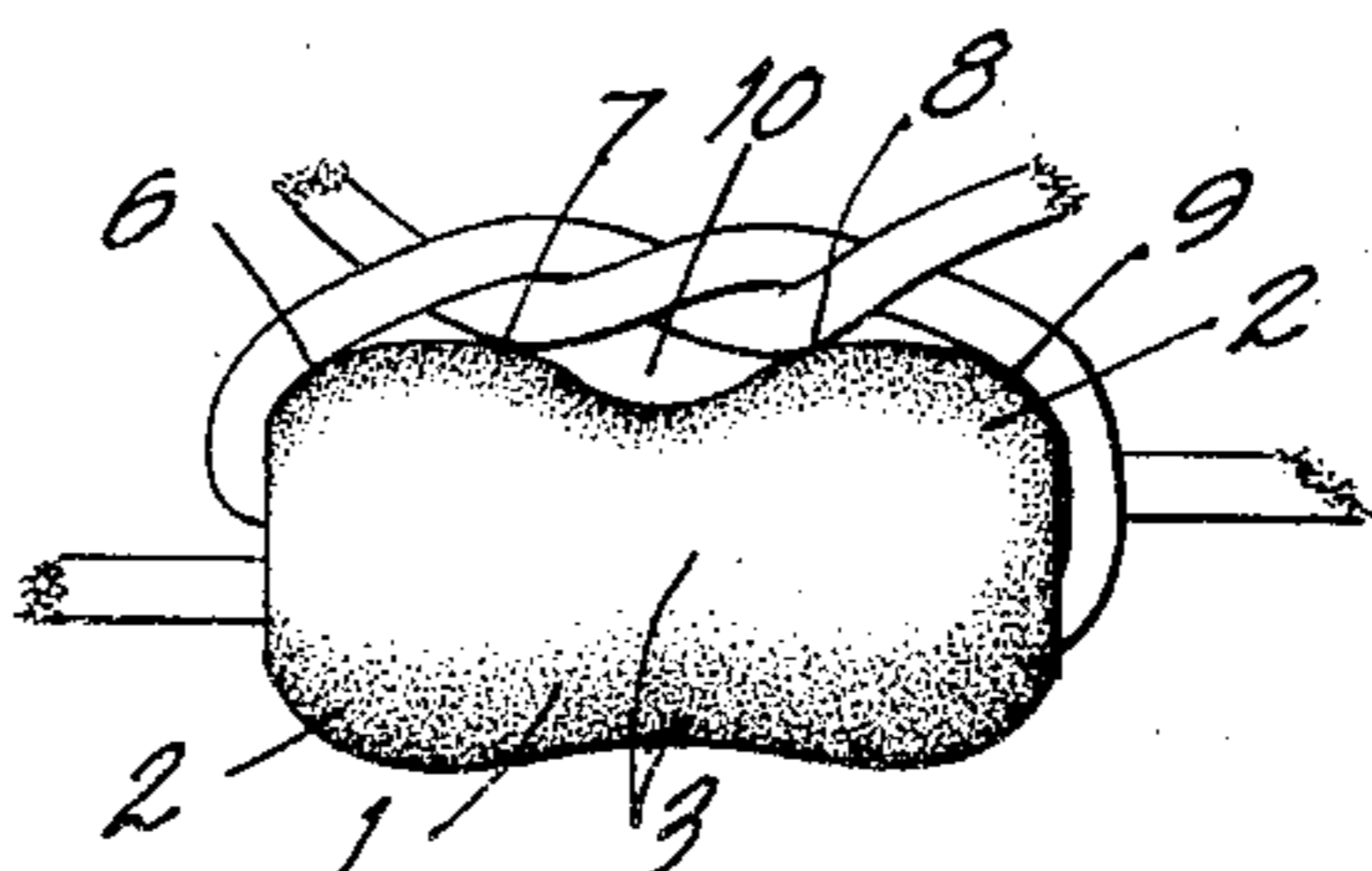


FIG. 3

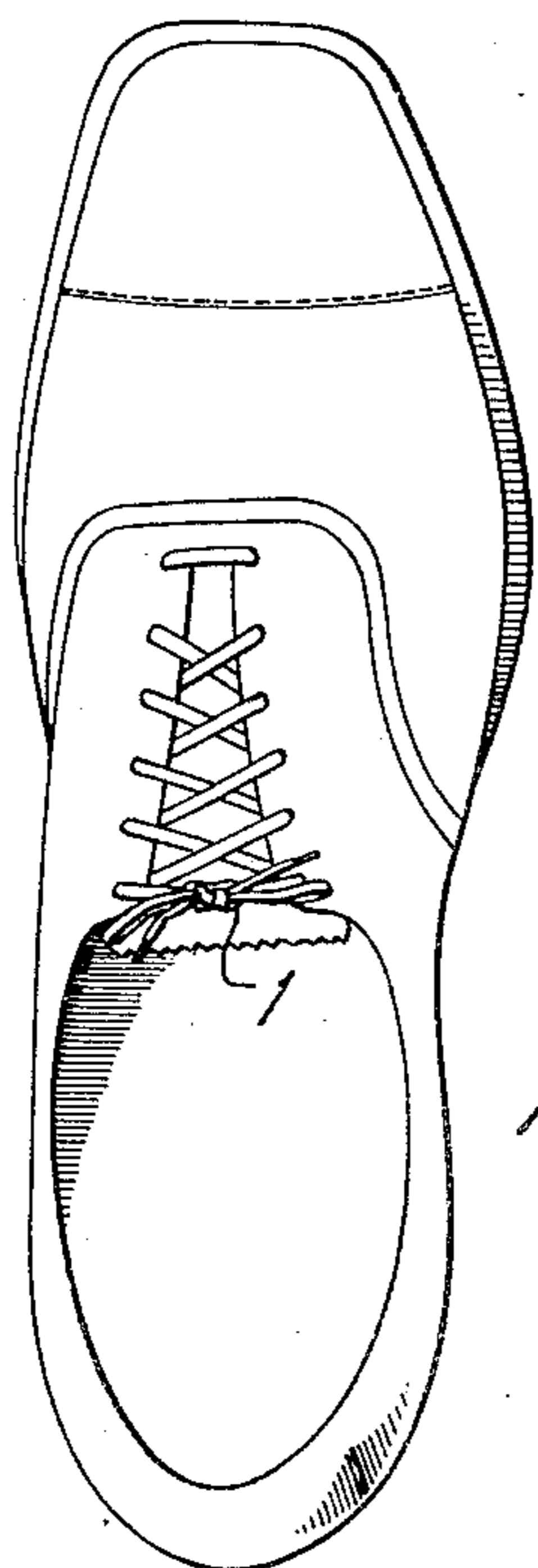


FIG. 4

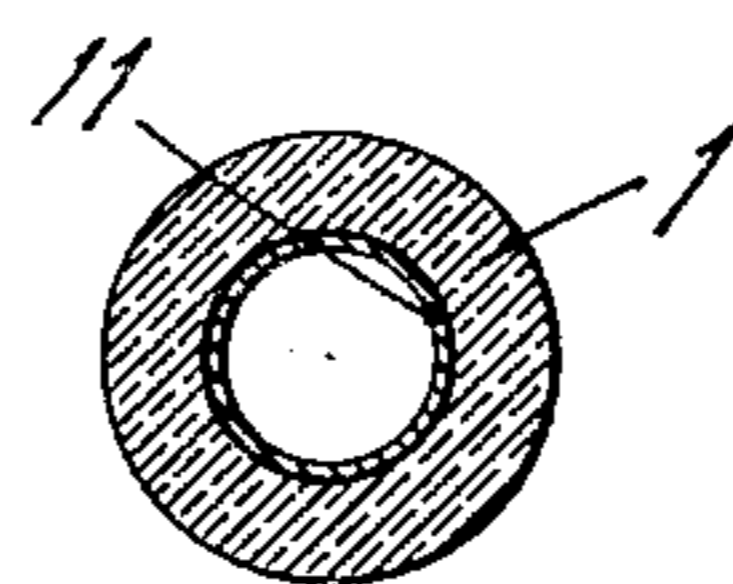


FIG. 6

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LACE FASTENER

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While not limited thereto, the device embodying my invention is particularly useful as a fastener for shoe laces. It is a common occurrence for shoe laces to become untied with the result that, if undiscovered, the wearer is likely to trip on the free ends thereof with resultant injury or, if discovered, the ends have to be retied at a time when and a place where the tying operation is inconvenient.

The principal object of my invention is the provision of a fastener for laces, and particularly for shoe laces which is simple and cheap and at the same time effectively prevents the laces from becoming untied.

My invention will best be understood by reference to the accompanying drawing in which I have illustrated a preferred embodiment thereof and in which—

Fig. 1 is an enlarged side view of a fastener embodying my invention and illustrating the ends of the laces extending through the opening with which it is provided;

Fig. 2 is a longitudinal section through Fig. 1;

Fig. 3 is an enlarged side view illustrating the ends of the shoe laces tied and the fastener slightly distorted due to the tension on the laces;

Fig. 4 is a plan view of a shoe and illustrating the device embodying my invention associated with the shoe laces to keep them tied;

Fig. 5 is a section in the plane 5—5 of Fig. 2 illustrating the preferred form of my invention; and

Fig. 6 is a section similar to Fig. 5 of a modified form.

Like reference characters indicate like parts throughout the drawing.

Referring to the drawing, 1 is the lace fastener formed of yielding, resilient material, preferably soft rubber, the surface of which will tend to cling to or frictionally engage the laces. The ends are bulbous, as at 2, and the device is provided with an intermediate contracted portion 3, so that generally it is shaped somewhat like a dumb-bell. The fastener is provided with an opening 4 ex-

tending axially therethrough and of sufficient size to permit the passage of the laces 5.

After the ends of the shoe lace have been passed through the opening in opposite directions, a single knot is first tied in the usual manner, and the tension exerted on the lace in forming this knot slightly distorts the fastener as shown in Fig. 3. Over this single knot, a bow knot is then tied in the usual manner. When once tied, even though the bow knot works loose, the continuous tension exerted by the fastener on the ends of the shoe lace due to the resiliency of the fastener together with the clinging surface of the rubber which engages the laces, as at points 6, 7, 8 and 9, prevent the first knot from becoming untied. In fact the tension of the fastener holds the lace so securely that were it not for the shape of the fastener it would be very difficult to untie the knot without the aid of a pick, pin or similar instrument. However, when the fastener is distorted to the position illustrated in Fig. 3, an opening 10 is provided between the laces and the fastener. By thrusting one end of the lace through the opening 10 in the appropriate direction, the single knot is untied assuming that the bow knot is already untied.

The opening 4 is preferably provided with a liner 11 formed of a flexible wear-resisting material such, for example, as canvas. The liner may if desired first be formed and the rubber molded around the same or a liner may be inserted in the opening of the pre-formed fastener and secured in position by suitable cement or other adhesive.

In order to prevent wear and tear of the walls surrounding the orifices of the opening, they are preferably chamfered or cupped as at 12.

It is to be understood that my device is actually very small and therefore very inconspicuous. It need not be more than about one-quarter inch in length. Furthermore it may be made in any color to match the color of the shoes or laces with which it is to be used.

While I have illustrated the fastener embodying my invention applied to a shoe lace,

it will, of course, be understood that it is equally applicable in any position where a lace is used, as for example, with corsets.

While I have described my invention in its preferred embodiment it is to be understood that the words which I have used are words of description rather than of limitation and that changes within the purview of the appended claims may be made without departing from the true scope and spirit of my invention in its broader aspects.

What I claim is:

1. A lace fastener comprising a comparatively small body of yieldable rubber of somewhat greater length than thickness and having an opening extending longitudinally therethrough adapted to permit the passage of two laces; the walls of said body about the opening being comparatively thick, whereby said body offers a rather substantial resistance to deformation when said laces are drawn tightly into a simple knot about said body, but when so deformed will hold said knot by frictional engagement with said laces.
2. In a lace fastener, an elongated member formed of yielding, resilient material and provided with an opening extending longitudinally therethrough and of sufficient size to permit the passage of two laces; the walls surrounding the orifices of said opening being provided with a chamfer.
3. In a lace fastener, an elongated member formed of yielding, resilient material enlarged at the ends and contracted therebetween, said member being provided with an opening extending longitudinally therethrough and of sufficient size to permit the passage of two laces.
4. In a lace fastener, an elongated member formed of yielding, resilient material enlarged at the ends and contracted therebetween, said member being provided with an opening extending longitudinally therethrough and of sufficient size to permit the passage of two laces; the walls surrounding the orifices of said opening being provided with a chamfer.
5. In a lace fastener, an elongated member formed of yielding, resilient material bulbous at the ends and provided with an intermediate contracted portion, said member being provided with an opening extending longitudinally therethrough and of sufficient size to permit the passage of two laces.
6. In a lace fastener, an elongated member formed of resilient material bulbous at the ends and provided with an intermediate contracted portion, said member being provided with an opening extending longitudinally therethrough and of sufficient size to permit the passage of two laces; the walls surrounding the orifices of said opening being provided with a chamfer.
7. In a lace fastener a dumbbell-shaped member formed of yielding rubber and pro-

vided with an opening extending longitudinally therethrough and of sufficient size to permit the passage of two laces.

8. In a lace fastener a dumbbell-shaped member formed of comparatively yieldable rubber and provided with an opening extending longitudinally thereof and of sufficient size to permit the passage of two laces; the interior of said opening being lined with a yieldable wear-resisting material.

9. In a lace fastener a dumbbell-shaped member formed of rubber and provided with an opening extending longitudinally thereof and of sufficient size to permit the passage of two laces; the walls surrounding the orifices of said opening being cup-shaped.

10. In a lace fastener an elongated member formed of yielding, resilient material and provided with an opening extending longitudinally therethrough of sufficient size to permit the passage of two laces, and a liner for said opening formed of wear-resisting material.

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