To all whom it may concern:

Be it known that I, ALFRED L. LOOMIS, a citizen of the United States, residing at Tuxedo Park, in Orange county, and State of New York, have invented new and useful Improvements in External Shoe-Trees, of which the following is a specification.

This invention relates to devices for preventing shoes from losing their shape and becoming creased and more particularly to that class of devices which are applied to the shoe externally for the purpose of keeping the shoe in its proper shape while, at the same time, allowing air to circulate freely inside the shoe in order that it may not remain damp.

My shoe-tree possesses advantages over the forms of external shoe-trees heretofore suggested. One of the important advantages of my improved external shoe-tree is the convenience with which it may be used. In former devices, it was necessary to operate various clamps or other attachments in different parts of the device in order to secure the shoe to the shoe-tree.

In many of the devices heretofore suggested, several different movements are necessary to operate the various means of attachment and, in consequence, these devices have proved too inconvenient to be practically useful. In my device, on the other hand, the shoe is quickly secured to the shoe-tree by a single movement. The preferred form of my device possesses the advantage of convenience in a peculiar degree that a pair of shoes may be simultaneously secured to it by a single movement.

Another important advantage of my device consists in that it maintains a continual tension upon the shoe or shoes placed in it. This tension continually pulls down the back portion of the shoe and thus eliminates the transverse creases produced by wearing and straightens the sole much more effectively than former devices which merely hold the heel of the shoe in a fixed position. Furthermore, the strength of the tension with which the back of the shoe is pulled down can be readily regulated in my device.

A further advantage of my improved external shoe-tree is that it grips the shoe firmly without in any way injuring the shoe and is, at the same time, capable of being applied to shoes of different sizes.

A preferred form of an embodiment of my invention is shown in the accompanying drawings, in which—

Figure 1 is a top view of the device applied to a pair of shoes; Fig. 2 is a side view of the device applied to a shoe, showing a section on the line 2—2 in Fig. 1; Fig. 3 is a top view of the device; Fig. 4 is a fragmentary section on the line 4—4 in Fig. 1.

Referring to the drawings, the preferred form of the device there illustrated consists of a base 1, upon the surface of which near the forward end are the toe-clips 2 and toe-guides 3. The elements 2 and 3 are shown in the drawing as composed of a single piece of material, but they may be made of separate pieces. The toe-clips 2 are curved so as to fit a considerable portion of the toe of the shoe and are bent over so as to hold down the tip of the sole of the shoe, as illustrated in Fig. 4. The toe-guides 3 are merely vertical projections to guide the toes of the shoes into the clips 2.

The base 1 is preferably at least as wide as the soles of the shoes to which the shoe-tree is to be applied in order that the central part of the soles may not be pressed up more than the edges of the soles. I prefer to make the base so short that it does not extend under the heels of the shoes. Screw holes 16 may be provided in the base 1 in order that it may be easily attached to a supporting surface.

To the base 1 is attached the holder 4. This holder consists of a rigid element 5, the flat springs 7, 8 and the bands 9. The flat springs 7, 8 are mounted upon the element 5. Each of the flexible bands 9 is fastened at one end to the outer end of one of the springs 7 and at its other end to the outer end of one of the springs 8. The springs 7, 8 are normally straight, as shown in Fig. 3, and the distance between each
spring 7 and the corresponding spring 8 in their normal position is somewhat greater than the width of the rear portion of the shoe to which the device is to be applied. A handle 10, here illustrated as a ring, is attached to the rigid member 5. The springs 6, attached to the outer ends of the flat springs 8, connect the holder 4 with the base. These springs supply the necessary tension for stretching and straightening the shoes. I prefer to attach the springs 6 to regulating means in the base 1. The regulating means illustrated consist of the bent rods 11, which slide in grooves or holes near the bottom of the base 1, as may be clearly seen in Fig. 2. For simplicity in construction, I prefer to provide grooves in the bottom of the base 1 for the rods 11, and to maintain the rods in these grooves by means of a plate 12, attached to the bottom of the base. At the end of each of these grooves is the slit 13, which may be made longer or shorter, according to the degree of regulation desired. Each rod 11 has an upwardly bent portion 14, which projects through one of the slits 13. The upper ends of the upwardly extending portions 14 are threaded in order that the wing nuts 15 may be applied to them. The ends of the spiral springs 6 are attached to the rear ends of the rods 11. It is obvious that when the nuts 15 are loosened, the rods 11 may be placed in any desired position and may be maintained in such position by screwing down the nuts 15. Thus the position of the inner ends of the springs 6 may be regulated, and, in consequence, the device may be adapted to shoes of various sizes, and the tension upon the holder 4 may be varied.

The method in which the device is used is as follows:—The base 1 is attached to the door of a closet or other convenient place by means of screws or otherwise. When the device has been fastened to some supporting surface, the pair of shoes are picked up in one hand by grasping the uppers and the toes of the shoe are inserted under the toe-clips 2, which may be easily done, as the toe-guides 3 guide the toes of the shoes into the clips 2. Then, while the shoes are held against the base 1 with their toes inserted in the toe-clips 2, the holder 4 is pulled back and raised by means of the handle 10 and applied to the backs of the two shoes simultaneously. The holder may easily be applied to the backs of the shoes, since the distance between each pair of flat springs 7, 8, in their normal position, is greater than the width of the rear portion of the shoe. The holder should be applied well upon the back of the shoe in about the position shown in Fig. 2, in order that it may not tend to slip upon the back of the shoe, and that the springs 6 may tend to pull the backs of the shoes downward.

When the shoes are placed in the device in the manner indicated, the leather bands adapt themselves to the shape of the backs of the shoes and fit closely upon them, as indicated in Fig. 1. The tension of the springs 6 pulls the rear portions of the shoes downwardly and thus tends to eliminate the transverse creases in the uppers, and straightens the soles. As the base 1 does not extend under the heels of the shoes, the heels may be pulled down by these springs below the surface of the base and thus the straightening tendency of the device is greater than can be obtained in any device in which the base portion extends under the heels of the shoes. The strength of the downward tension upon the back of the shoes may be regulated by means of the rods 11 and wing nuts 15.

I wish it to be clearly understood that the above description is simply intended as illustrative of one form of my invention and that my invention is by no means limited to the specific device illustrated and described.

What I claim is:

1. An external shoe-tree comprising a base, toe-clips upon said base arranged to hold down the toes of two shoes placed side by side, and a holder attached to said base arranged to be simultaneously applied to the backs of two shoes.

2. An external shoe-tree comprising a base, toe-clips upon said base arranged to hold down the toes of two shoes placed side by side, toe-guides adapted to guide the toes of the shoes into said toe-clips, and a holder attached to said base and arranged to be simultaneously applied to the backs of two shoes.

3. An external shoe-tree comprising a base, a toe-clip upon said base arranged to hold down the toe of a shoe, an element arranged to engage the back of the shoe, and springs connecting said element and said base, said springs being oblique to the surface of said base, so as to exert a forward and downward tension on said element.

4. In an external shoe-tree, a base, a holder comprising a rigid element and a flexible band attached thereto and arranged to fit upon the back of the shoe, and springs connecting said holder with said base.

5. In an external shoe-tree, a base, a holder comprising a rigid element and elastically supported flexible bands mounted thereupon, and springs connecting said holder with said base.

6. In an external shoe-tree, a base, a holder comprising a rigid element and elastically supported flexible bands mounted...
thereupon, and springs connected with said holder and adjustably connected with said base.

7. In an external shoe-tree a base, a flexible element arranged to engage the back of the upper of the shoe, and elastically connected with said base.

In testimony whereof, I have hereunto set my hand in the presence of witnesses.

ALFRED L. LOOMIS.

Witnesses:

ROBERT W. BYERLY,
HERMAN GUSTOW.