Jan. 17, 1967 J. H. COULT 3,298,049

DEVICE FOR PRESERVING THE FORM OF A SHOE

Filed Oct. 21, 1965

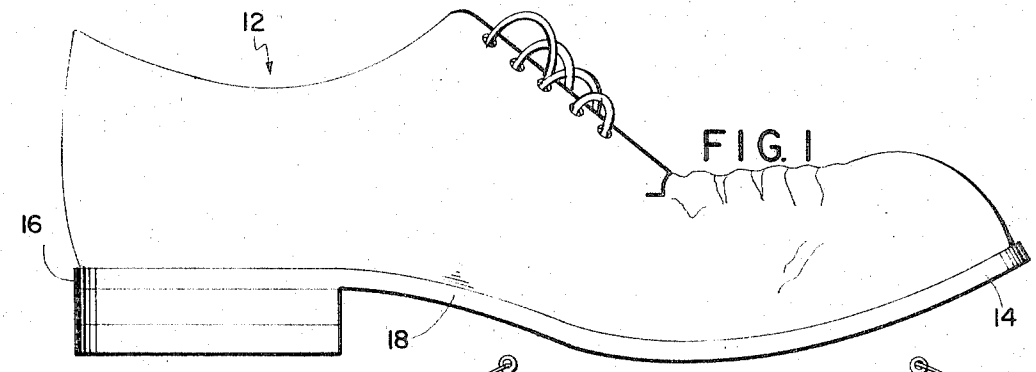

FIG. 1

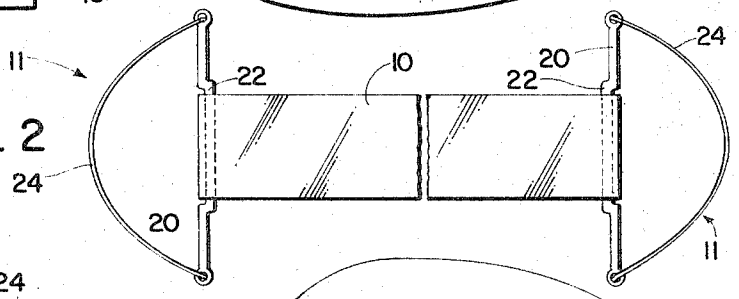

FIG. 2

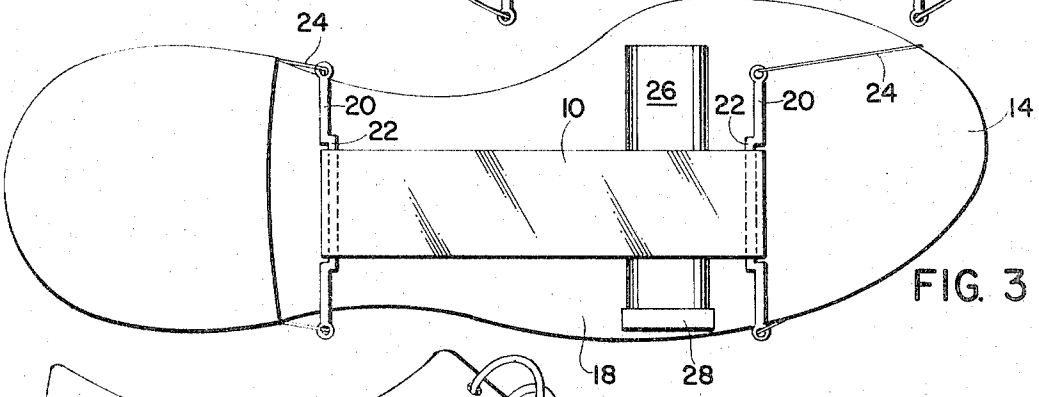

FIG. 3

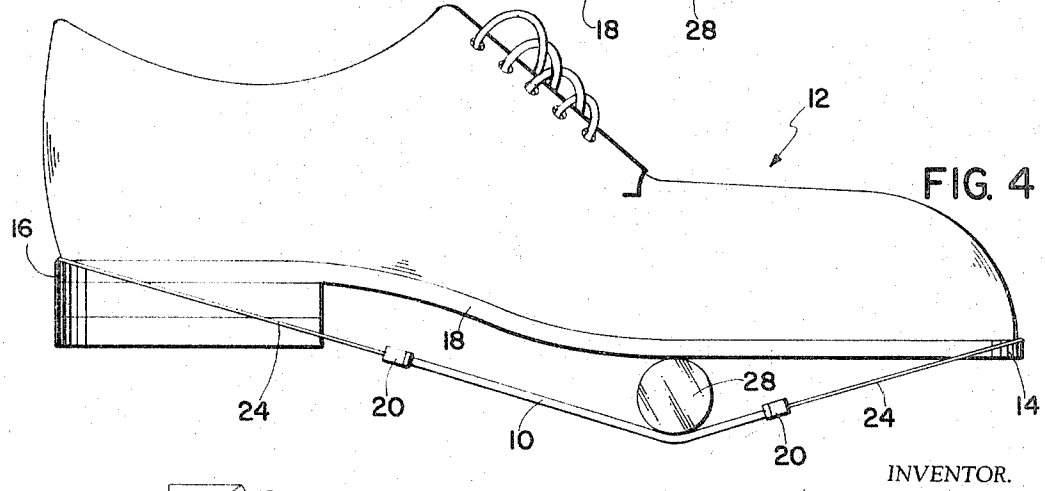

FIG. 4

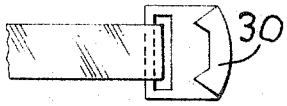

FIG. 5

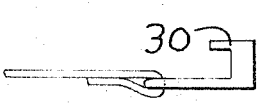

FIG. 6

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DEVICE FOR PRESERVING THE FORM OF A SHOE

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This invention relates to devices for preserving the form of certain types of shoes.

It is well-known that a shoe, after having been worn for a period of time, tends to take the shape of the foot upon which the shoe is worn. Moisture from within and from without the shoe is absorbed by the shoe. Upon removal of the shoe from the foot, the shoe will tend to hold some of the peculiar configurations of the foot and will not completely restore itself to its original shape. As the shoe dries, it hardens in the distorted shape. Eventually, the sole of the shoe will curl upwardly, and the shoe will assume other distortions which are difficult, if not impossible, to remove.

Shoe "trees" have been used to preserve the form of shoes when they are not being worn; however, these fit tightly within the toe portion of the shoe and thus prevent the free circulation of drying air therethrough. Further, the bulkiness and design of a shoe tree makes it burdensome to carry in luggage when traveling.

It is therefore a primary object of this invention to provide a device for preparing the form of a shoe which makes possible more rapid and thorough drying thereof.

It is another object of this invention to provide a form-retaining device for preserving the form of footwear which is extremely compact when stored.

It is still another object of this invention to provide a device for preserving the form of footwear which is operable with a wide range of sizes of footwear, and which automatically and instantly adjusts itself to compensate for the different sizes of footwear with which the device may be used.

It is a further object of this invention to provide a form-retaining device for footwear which is easy to use and which is inexpensive to produce.

Other objects and advantages are evident from the following description. The subject matter constituting the present invention is distinctly claimed below.

Very briefly, in one embodiment thereof, the invention comprises tensive means joining two securing means for mounting the tensive means in a tensed condition externally of a shoe and between the longitudinal extremities thereof. These tensive and securing means are effective to restore a distorted shoe to its original undistorted form. Additional means function to assist and improve this restorative action and additionally serve as a compact storage container for the tensive and securing means.

In order to better understand the invention, reference may be made to the accompanying drawings wherein:

FIGURE 1 shows a shoe distorted by normal wear;

FIGURE 2 illustrates a device which is the preferred structural embodiment of the inventive concept;

FIGURE 3 illustrates the device of FIG. 2 mounted in place upon a shoe;

FIGURE 4 is a side view of the device mounted in place upon a shoe;

FIGURE 5 is a modified form of one element of the device illustrated in FIGS. 2–4; and

FIGURE 6 is a side of the element shown in FIG. 5.

Devices constructed according to this invention are most suitable for use with men's shoes and with women's "flats." This invention utilizes the phenomena that if a sufficiently great downward moment is exerted on toe end and on the heel end of the sole of a shoe distorted as by

normal use (see FIG. 1 of the drawing), not only is the original form of the sole restored, but the toe and the forward portion of the vamp are also restored to their approximate original form.

Referring to FIGS. 2–4 of the drawing, a device embodying the invention will be seen. Tensive means for producing tension is illustrated in these figures as an elastomeric web **10**. The web **10** is connected at each end to securing means **11** for securing the web **10** in a tensed state between the toe and heel ends of a shoe **12**, more specifically, between the toe end **14** and heel end **16** of the sole **18** of the shoe **12**. In this application "sole" is used in a broad sense to distinguish from the "uppers" of a shoe and includes the heel or any other element used to raise the rear portion of the sole off the ground or any other appurtenance thereof.

In order to make a one-way alignment of the device unnecessary, the securing means **11** at each end of the web **10** are preferably constructed alike. Each of the securing means **11** comprises a transverse member **20** of a length that is about two-thirds the width of the sole and at least as great as the width of the heel of the widest shoe with which the device is apt to be used. An offset portion **22** of the member locates the web **10** and prevents shifting of the web **10** in a direction along the longitudinal axis of the member **20**. A strand **24** of material such as nylon is connected to the ends of the member **20** to form a loop which will engage the toe end **14** or heel end **16** of the sole **18**, as shown in FIG. 4. The strand **24** is of sufficient length to fit around the heel of the shoe. Thus, if each of the transverse members **20** are of a length greater than the width of the heel portion of the sole and each strand is long enough to fit around the heel, either of the securing means will be effective to engage either end of the sole **18**. With members **20** of this length, the strand **24** will not slip off the toe end **14** of the sole **18**.

The device delineated above is operative as described; however, in order to increase the tension in the web **10** and to amplify the effective downward moments on the ends of the sole **18**, means are provided for displacing a central portion of the device away from the sole **18**. This means may comprise a tubular can **26** having a cap **28**, as shown in FIGS. 3 and 4. The can **26** is inserted beneath the web **10** transversely of the longitudinal axis thereof after the device has been mounted upon the shoe. It is evident that the insertion of the can **26** beneath the web **10** will increase the length of the device and thus the tension in web **10**. It is also evident that displacement of the web **10** away from the sole **18** in the manner described will increase the moments acting on the ends of the sole **18** by augmenting the component of the force produced by the web **10** on each end of the sole in the direction perpendicular to the longitudinal axis of the sole **18**. The can **26** is of a length and diameter sufficient to enclose the web **10** and both of the securing means **11**. When not in use the device is easily and quickly stored in the can **26**, making a compact unit which is extremely suited for travel, wherein luggage space is often limited.

This invention is not limited to the particular details of the embodiment illustrated and described. It is contemplated that various other modifications and applications will occur to those skilled in the art. For example, instead of an elastomeric web, the tensive means may comprise a spring or springs. Alternatively, the necessary tension might be produced in the securing means, rather than in an element connecting the two securing means; for example, by using strands which are elastomeric. A single elastomeric strand encircling the ends of the sole might constitute both the securing means and the tensive means. The two securing means need not be alike, having been shown to be so only because of the added convenience in mount-

ing the device. The structure of the securing means might take many forms other than as described. For example, FIGS. 5 and 6 show a hook 30 which would be effective to secure the tensive means to an end of the sole. The means for displacing the tensive means away from the sole could take a variety of forms; however, a form is preferred which provides storage for the tensive means and the securing means. It is therefore intended that the appended claims shall cover such modifications and applications as do not depart from the true spirit and scope of this invention.

What is claimed is:

1. A device for preserving the original form of a shoe having uppers and a sole with a heel end and a toe end, comprising:

resilient tensive means disposed adjacent the outside of the sole,

first securing means attached to one end of said tensive means for securing said tensive means in a tensed state to one end of the shoe,

second securing means attached to the other end of said tensive means for securing said tensive means in a tensed state to the other end of the shoe, said first and second securing means engaging the respective ends of the sole on the opposed side of the sole from said tensive means whereby force is applied to the ends of the shoe along lines of force oblique to the longitudinal axis of the sole such that respective components of the forces transverse to the sole axis create moments tending to straighten the sole and thereby preserve the original form of the uppers and the sole of the shoe, said first and second securing means being substantially identical and each comprising a transverse member and a strand connected thereto to form a loop of a length greater than the length of said member for engaging an end of the sole.

2. The device defined in claim 1 wherein said members each include a centrally disposed offset portion for receiving and locating an end of said tensive means.

3. The device defined by claim 1 wherein said tensive means comprises an elastomeric web.

4. The invention defined by claim 1 including means for displacing a portion of said device adjacent the outside of the sole in a direction away from the sole to increase the tension of said tensive means and for increasing the moments acting on the heel end and the toe end of the sole.

5. The device defined by claim 7 wherein said means for displacing said tensive means is a hollow cylindrical storage container.

6. A device for preserving the original form of a shoe having uppers and a sole with a heel end and a toe end, comprising:

an elastomeric web disposed adjacent the outside of the sole;

first and second substantially identical securing means attached to said elastomeric web for securing said web in a tensed state between the toe end and the heel end of the sole, said securing means each comprising a transverse member and a strand connected thereto to form a loop for engaging an end of the sole, said strands engaging respective ends of the sole on the opposed side of the sole from said web whereby a force is applied to the ends of the sole along lines of force oblique to the longitudinal axis of the sole such that respective components of the forces transverse to the sole axis create moments tending to straighten the sole and thereby preserve the original form of the uppers and the sole of the shoe; and

means for displacing a portion of said web adjacent the outside of the sole in a direction away from the sole to increase the length of said web and thereby the tension therein and for increasing said force components acting on the heel end and the toe end of the sole.

7. The device defined in claim 10 wherein said means for displacing said tensive means is a separate hollow cylindrical storage container for said first and second securing means and said elastomeric web.

8. The device defined by claim 1 wherein said members respective lengths are at least two-thirds the width of the sole.

9. The device defined by claim 10 wherein said members respective lengths are at least two-third the width of the sole.

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