March 22, 1938. P. L. LAZARUS 2,111,669

STRETCHER FOR FOOTWEAR

Filed April 26, 1937

Fig. 1.

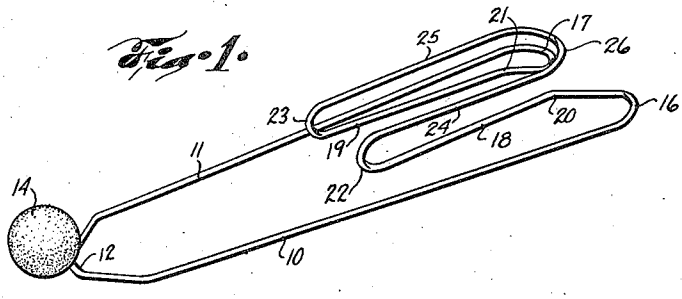
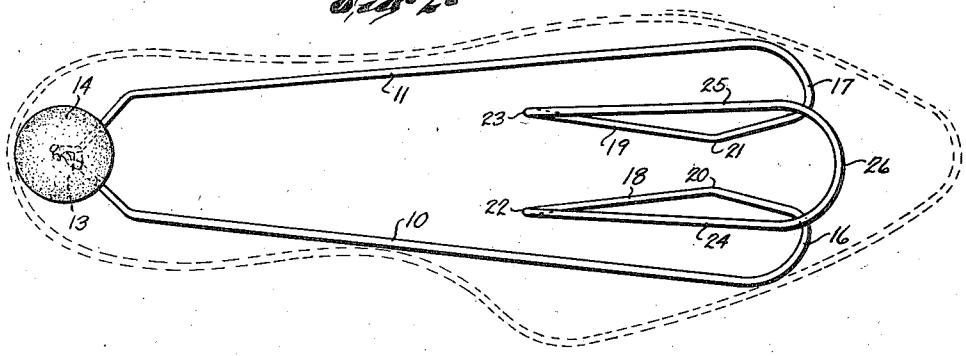


Fig. 2.



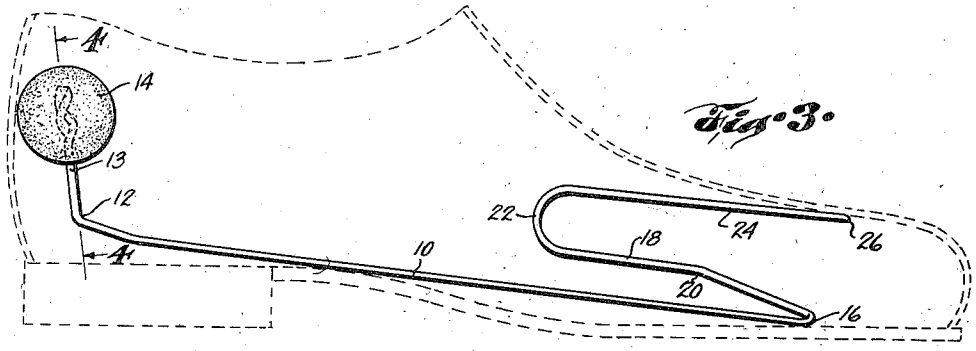
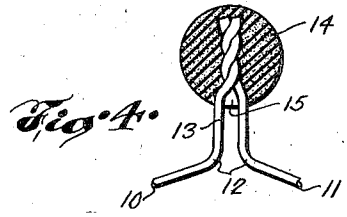


Fig. 3.

Fig. 4.



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Patented Mar. 22, 1938 2,111,669

UNITED STATES PATENT OFFICE

2,111,669

STRETCHER FOR FOOTWEAR

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Application April 26, 1937, Serial No. 138,883

3 Claims. (Cl. 12—128.2)

This invention relates to improvements in stretchers for footwear, and more particularly to improvements in shoe trees and the like, of improved and low cost types and construction.

The more prevalent types of stretchers for boots and shoes, are each characterized by a solid formed body at the forward extremity, which is usually resiliently retained under pressure in the forward or vamp portion of the shoe, for the purpose of restoring and maintaining the original conformity of the shoe during the periods when it is not being worn.

These more prevalent types of trees possess the marked disadvantages of requiring definite shaping at the time of production, in order that the original shaping of the shoe will not be distorted under the influence of the stretcher or tree. This fact necessitates that a number of different stretchers or trees must be provided in order that each pair thereof may more or less accurately conform to the different styles of shoes to be cared for. Furthermore, this relatively accurate shaping of the last portion of the tree enhances the cost of manufacture. A general objective of the invention is accordingly attained in an improved, low cost type of shoe tree which is constructed entirely of flexible, somewhat resilient material such as wire, and which is so shaped at the time of its production as to be almost universally applicable not only to shoes of a variety of styles, but which is also, by a reason of its resilient construction of stock material, readily adaptable without any special skill, to shoes of a variety of sizes.

It is well known that the shoe trees or stretchers of the more prevalent types possess the inconvenience that they must accurately fit the shoe for which they are more or less specifically designed, since otherwise the shoe will either be stretched too much, or will be stretched insufficiently if the last portion of the tree or stretcher be too small or incorrectly shaped. It is accordingly an important additional objective of the invention to attain a shoe tree which is universally resilient; that is to say one which is so designed as to possess longitudinal resilience, lateral resilience as well as vertical resilience. In this manner the tree or stretcher correctly serves its function of restoring and maintaining the original shaping of the shoe in a manner fully to accomplish its desired purposes, and yet to avoid any possible deformation of the footwear.

A further difficulty with the more prevalent types of trees or stretchers occurs when the shoes are wet, due to the large surfaces of the lasts or trees which are forcibly kept in contact with the internal surfaces of the shoes in a manner to preclude air reaching these surfaces, and thus to prevent rapid drying of the leather and lining materials. An important objective of the present invention is attained in a stretcher or tree of wire, which not only does not interfere with, but serves, through effective stretching of the shoe, to promote and aid the free circulation of air through the shoe for purposes of drying.

A still further important object of the invention is attained in a shoe tree or stretcher fully attaining the foregoing objects, and yet which may be produced in substantial quantity at a low cost, due to the use of stock materials and die-forming processes.

The foregoing and numerous other objects will appear from the following detailed description of a presently preferred embodiment of the invention, considered in connection with the accompanying drawing, in which:

Fig. 1 is an isometric or perspective view of a tree or stretcher, constructed in accordance with the present invention; Fig. 2 is a plan or top view of the device as it would appear in use; Fig. 3 is a side elevation of the device, in position of use, the shoe illustrated in Figs. 3 and 4 being shown in dotted lines to accentuate detailed construction of the tree or stretcher, and Fig. 4 is a section through the heel portion of the tree, as viewed along line 4—4 of Fig. 3.

Referring now by characters of reference to the drawing, each of the pair of trees or stretchers is comprised of a substantially plane base portion including a pair of somewhat divergent arm members 10 and 11. These elements have their origin, or may be considered to terminate at the zone or point of their convergence substantially located by the numeral 12. At this point, or slightly thereabove, the ends of the arms 10 and 11 are twisted together to result in a single, somewhat thickened stem portion 13. It will have appeared that the body of the tree or stretcher is formed of somewhat resilient wire stock, say of 12 gauge, although the exact gauge or temper of the wire is not critical. It will further have appeared that the point 12 and stem 13 are located at or near the heel portion of the shoe, as the tree is applied in use. It is also preferred to flatten the wires slightly, at or near the point 12, so as to provide a definite location at which bending will occur, for purposes of length adjustment, as will later clearly appear.

It is preferred to provide the upstanding stem with an abutment which engages the interior, rearmost surface of the heel portion or counter of the shoe. This abutment 14 may consist of a block or rounded knob, for example, of cork, wood or rubber, but according to present preference consists of a sponge rubber ball provided initially with a slightly elongate stem-receiving aperture 15. The size of this opening is such that as the rubber sphere element 14 is applied either over the twisted stem 13, or over the slightly spaced parallel wires of the untwisted stem, the rubber

of the ball is stretched or distended in this zone, so that the ball is self-positioned on the stem.

Preceding forwardly of the heel portion of the stretcher, the arms 10 and 11 terminate, respectively, in loop portions 16 and 17, whence the wire stock is bent not only inwardly or toward the longitudinal median of the shoe, but somewhat upwardly of the plane defined by the legs 10 and 11. These in-turned and up-turned ramp portions are indicated respectively at 18 on the right and 19 on the left side, respectively, of the stretcher. It is a preference although not strictly essential, that the rearwardly extended arms 18 and 19 be characterized by a perceptible break or change of angularity, these points being indicated at 20 on the arm 18, and at 21 on the arm 19.

The legs or arms 18 and 19 terminate rearwardly in loop portions 22 and 23, whence the wire is again directed forwardly of the tree or shoe, through arms 24 and 25, the latter being connected as by a loop or bight portion 26, constituting the forwardmost extremity of the upper or cap-engaging deck of the stretcher. Although if desired the bight 26 may extend forwardly to the same extent as the loops 16 and 17, it is a preference to extend the central loop, as originally formed, not quite as far forwardly of the stretcher as the base loops 16 and 17. This preference results from the usual shaping of the cap or toe structure of the shoe and the upper vamp portions thereof.

It is a distinct preference for reasons of cost, to form the device described of a single piece or length of wire, and a further preference that, for uniformity of shaping and sizing, the stock be die-formed or shaped. When thus formed up, the desired length of wire is bent at its midsection, which later becomes the loop or bight portion 26. It will appear that an equal length of wire, or substantially so, is utilized at each side of this midpoint, in constituting, for example on one side of the tree, the portions 24, 22, 20, 18, and 10.

The manner of use of the device as employed for its stated purpose, is thought to be fully apparent from the foregoing description of its parts in reference to the shoe, but it may be noted that, in application, the tree is introduced to the shoe by inserting the device with the loop or bight portions 16, 17, and 26 projected forwardly of the interior of the shoe; it is then pushed forwardly as far as the shape and size of the shoe will easily permit, and by manual engagement of the preferably resilient abutment 14, the heel portion is forced downwardly into the heel of the shoe so that the arms 10 and 11 lie substantially along the innersole or bottom of the shoe, the resilience of the wire stock and the resilience of the rubber knob or abutment 14 serving to keep the tree in stretching relation to the shoe, in a direction endwise thereof. At the same time, the initially divergent relation of the arms 10 and 11, upon being brought somewhat together within the shoe, results in a desirable degree of lateral stretching of the shoe. Similarly, the compressive resilience afforded by the spring structure including the arms 18 and 19, as well as the portions 24 and 25, results in keeping the cap and vamp portions of the shoe upwardly distended and desirably stretched.

A substantial latitude of adjustment for shoe size, particularly length, is afforded by the ease of varying the angularity of the stem portion 13 with respect to the plane of the arms 10 and 11. It will be noted that the stem 13 carrying the resilient sphere 14, may be bent to care for extremely small shoes, somewhat forwardly of a vertical position; likewise when desired, the stem may be bent substantially rearwardly of the vertical, thus affording a range of length variation requisite to care for all shoes of the more prevalent sizes. It is understood of course that the devices will be originally furnished in one size for men's shoes and in an initially somewhat smaller size for women's shoes.

It will have appeared that, besides realizing a universely resilient and widely adaptable article of extremely low cost for the noted purpose, the stretchers or trees constructed in accordance with the present invention serve fully to attain each of the several objects above expressed and implied.

While the invention has been described by making detailed and specific reference to a presently preferred exemplary embodiment thereof, the description is not to be understood in a limiting sense, since numerous changes may be made in the parts of the device and in their arrangement, without departure from the full intended scope and spirit of the invention, as defined by the claims hereunto appended.

I claim as my invention:

1. A stretcher or tree for a shoe, characterized by a body formed of a length of wire stock, the free ends thereof being connected at the rear end of the tree, and adapted to be seated within the heel portion of the shoe, the body forwardly thereof being characterized by a pair of longitudinal, base-forming arms, a reentrant and upwardly projecting resilient portion carried by the ends of the arms, said portion including a plurality of angularly related, loop-forming fingers.

2. A stretcher or tree for a shoe, including a body formed of wire and characterized by a pair of longitudinal arms secured together near the rearmost portion of the tree, and a plurality of elongate loop elements serving to connect the arms near their forwardmost portion, said elements normally projecting above, and located rearwardly of the forwardmost extremity of the base, said elements being resilient in a direction depthwise of the shoe, and so disposed and formed as to bias the arms in a direction laterally of the shoe to which the tree is applied.

3. A stretcher or tree for a shoe, formed of a length of wire symmetrically shaped to provide a pair of longitudinal base-forming arms normally lying along the insole or bottom of the shoe, the forwardmost extremities of said arms being looped inwardly and continued rearwardly into ramp elements, the ramp elements thence extending forwardly to constitute a pair of arms, said arms being connected through a terminal loop-forming element of elongate form, normally underlying the vamp or forequarters of the shoe upper, said ramp and loop portions constituting a spring structure providing for lateral resilience of, and tending outwardly to bias the base arms, the spring structure being resilient and yieldably supported in a direction depthwise of the shoe to which the tree is applied; the rearmost extremities of the arms being twisted together to constitute an angularly variable, upstanding stem portion, and a rubber element of spheroidal form, apertured to receive and surmount said stem portion, and adapted when the tree is in use, to engage, under compression, the inside heel surface of the shoe.

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