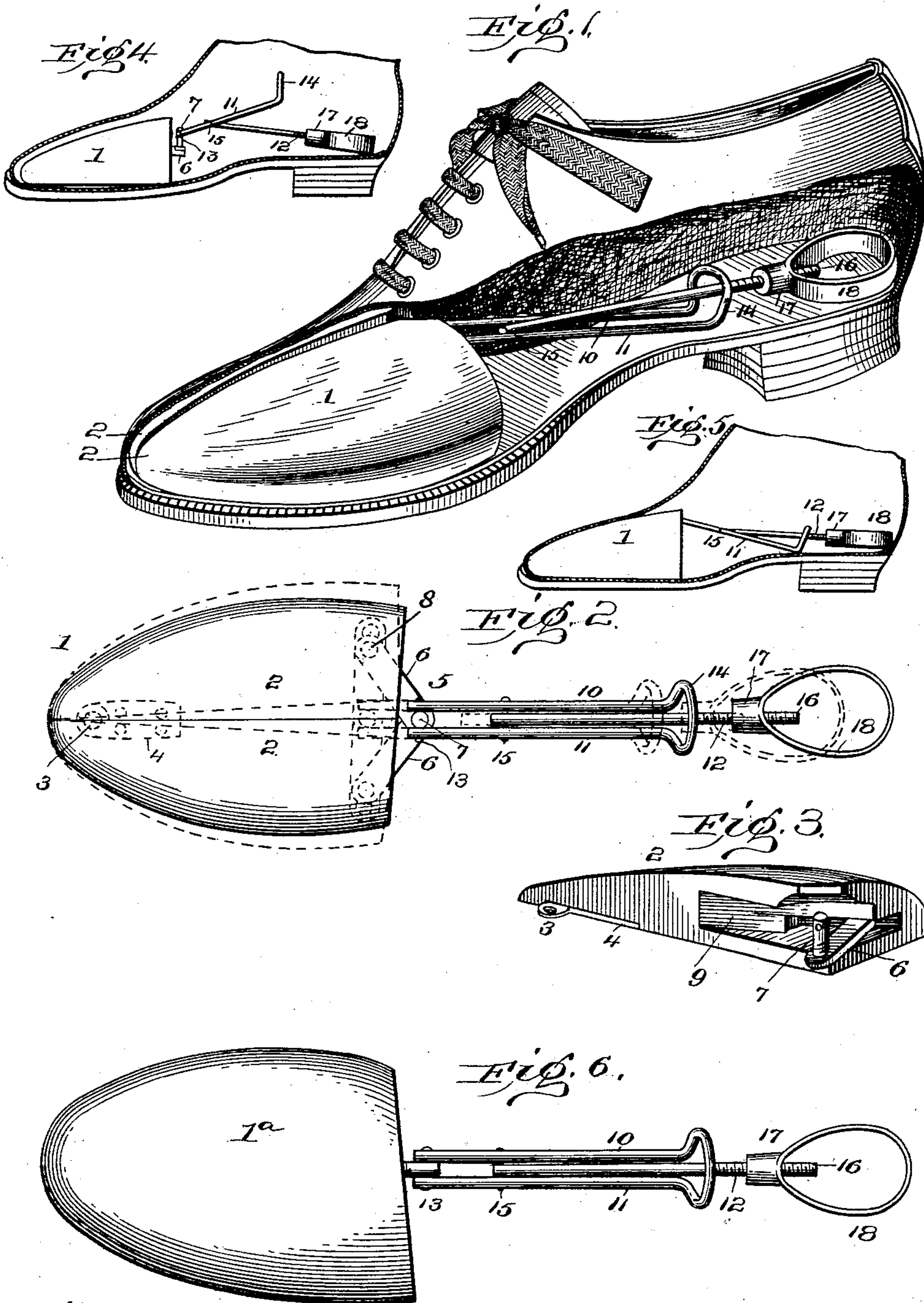


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Patented Nov. 11, 1902.

A. C. McKNIGHT.
TREE FOR BOOTS OR SHOES.
(Application filed Oct. 29, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

ALEXANDER C. McKNIGHT, OF BROOKLYN, NEW YORK.

TREE FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 713,482, dated November 11, 1902.

Application filed October 29, 1900. Serial No. 34,859. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER C. McKNIGHT, a citizen of the United States, residing at New York city, borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Trees for Boots or Shoes; and I do hereby declare that the following is a full, clear, and exact description of my invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to numerals of reference marked thereon, which form a part of this specification.

This invention relates to boots and shoes, and has special reference to an improvement in that type of devices known as "trees" for boots or shoes and which are designed for maintaining the original form and symmetry thereof.

To this end the invention primarily contemplates an improved boot or shoe tree of a simple and practicable construction and capable of being quickly inserted and removed, while at the same time comprising thoroughly practical means for straightening the sole of a boot or shoe, removing all wrinkles therein, and thus restoring the same to a perfect shape. In the carrying out of these functions the device possesses special utility in connection with wet boots or shoes to insure the drying thereof in the original form and symmetry.

Another object of the invention is to provide a tree of the character described comprising means for removing the side wrinkles, as well as the top wrinkles, in the vamp of a boot or shoe, thus preserving the same from an undue tendency to crack or break. In this connection the invention also involves improved means whereby the tree is capable of a lateral as well as a longitudinal expansive action, thus adapting the same for use in connection with boots and shoes of various lengths and widths.

The invention also contemplates improved adjusting means for the tree whereby the same will be laterally expanded within the vamp simultaneously with the forward thrusting and locking thereof in position.

With these and many other objects in view, which will more readily appear as the nature

of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts herein after more fully described, illustrated, and claimed.

While the invention is necessarily susceptible to embodiment in different forms and various modifications may be resorted to without departing from the spirit or scope thereof, still the preferred embodiments of the invention are shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a shoe partly broken away, showing a tree locked therein and embodying the construction contemplated by the present invention. Fig. 2 is a plan view of the preferred form of tree embodying the laterally-expansible toe member. Fig. 3 is a detail in perspective of one of the sections of the divided toe member or block. Fig. 4 is a diagrammatic elevation showing the initial position of the different parts of the tree, or, at least, the positions just prior to pressing the lever downward to effect a locking of the parts within the boot or shoe. Fig. 5 is a similar view showing the relation of parts when locked within the shoe and indicating the position of the swinging end of the lever with reference to the pivotal connection with the fulcrum member to effect the locking action. Fig. 6 is a plan view of a modification in which a solid or non-expansible toe member or block may be employed.

Like numerals of reference designate corresponding parts in the several figures of the drawings.

In carrying out the invention the same differs from stretching-blocks, or that type of inventions employing complete lasts or forms filling the entire interior of the boot or shoe from the toe to the heel thereof, in the particular of embodying in its general organization a toe member, (designated by the numeral 1,) which is designed to fit within and fill the toe or front portion of the vamp of a boot or shoe. The said toe member 1 corresponds in configuration to the front or toe portion of an ordinary last to some extent, or, in other words, is of such a form as to give the proper and correct shape to the front part of a boot or shoe. The said toe member 1 preferably consists of a wooden block or body, but

may be obviously made of any material suitable for the purpose.

In its preferred aspect the tree is so constructed as to be capable of lateral expansion to insure the proper shaping of the vamp at the sides, so as to take out or obviate side wrinkles, and this result is preferably effected through the medium of a toe member or block 1, which is laterally adjustable and consists of duplicate matching-sections 2 2, or, in other words, said toe member or block is centrally and longitudinally divided to provide the separate sections 2 2. These sections 2 2 are connected together at or contiguous to their front extremities by a hinge-joint 3, essentially comprising a pair of hinge-leaves 4, seated flush within the sole portions of the block-sections 2, as plainly shown in Fig. 3 of the drawings, and which hinge-leaves are pivotally united at one extremity by a pintle connection, thus producing the hinge-joint for the forward or front extremities of the block-sections 2, whereby the rear portions of said block-sections are capable of moving laterally outward and inward, according as the device is fitted within or removed from a boot or shoe. The lateral movement of the toe-block sections 2 is preferably effected through the medium of a toggle-joint 5, consisting of the toggle-links 6, pivotally united at their contiguous ends by the knuckle-pin 7 and at their opposite ends, as at 8, pivoted, respectively, to the separate or opposite toe-block sections 2. These sections are provided within their rear ends with inwardly-extending recesses 9 to accommodate the play of the toggle-links 6 and the straightening out thereof within the rear portion of the toe member or block, as may be plainly seen from Figs. 2 and 3 of the drawings.

In connection with the toe member or block 1 there is associated an adjusting device 10, comprising a combined adjusting and locking element 11 and a fulcrum element 12. The combined adjusting and locking element 11 is in the form of a swinging lever preferably of a bifurcated formation and which may be conveniently formed of a single length of wire rod looped upon itself; but it will of course be obvious that the said lever may be constructed of any suitable material and, in fact, in any suitable manner for the purposes of the present invention. The said bifurcated lever 11 in the preferred form of the invention is pivotally connected at one end, as at 13, to the knuckle-pin 7 of the toggle-joint 5, and at its opposite free end is provided with a laterally-offset finger-loop 14, adapted to arch or span over the fulcrum element 12. This fulcrum element is preferably in the form of a rod or single length of wire pivotally connected at one end by a fixed pivotal joint or connection 15 to the lever 11, intermediate the ends of the latter, and the opposite end portion of the element or rod 12 is threaded, as at 16, to adjustably receive thereon the interiorly-

threaded collar 17 of the looped fulcrum-rest or heel-piece 18. The said fulcrum-rest or heel-piece may be constructed in any suitable way and also may be adjustable upon the rod or element 12 by any improved means, although the construction shown is the one preferably resorted to.

In using the improved tree the lever and fulcrum elements 11 and 12 of the adjusting device 10 are preferably held together in alignment to form a handle for inserting the toe member 1 within the front portion of the boot or shoe. The fulcrum-rest or heel-piece 18 having been previously adjusted to suit the length of the boot or shoe, it is placed in position against the heel portion of the upper, after which the lever 11 is pushed downward. This downward movement of the lever effects two results—first, to straighten out the toggle 5, and thus cause a lateral expansion of the toe member within the boot or shoe, and, second, to thrust the toe member forwardly and at the same time give the same a sufficient inclination to provide for straightening the sole of the boot or shoe. When the swinging or free end of the lever 11 passes below the pivotal point 15, the parts 11 and 12 become automatically locked, and thus prevent movement of the toe member. After thus applying the tree the same is allowed to remain for a short period to effect the results already stated, and when the same is to be removed it is simply necessary to grasp the lever 11 and draw the same upward to provide for unlocking the parts and at the same time removing the tree from the boot or shoe.

In using the invention it may be desired to substitute for the divided or sectional toe member 1^a, as shown in Fig. 6 of the drawings; but the adjusting device 10 would be of the same construction and action as already described.

Other modifications will suggest themselves to those skilled in the art, and it will be understood that various changes in the form, material, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination in a tree of the class described, a toe member, a lever comprising parallel legs pivoted to said toe member and a loop connecting said legs at one end, and a fulcrum member pivoted at its front end between said legs, substantially as described.

2. In combination in a tree of the class described, a toe member, a lever formed of parallel legs and a connecting-loop deflected at right angles to the longitudinal axis of the legs, the ends of said legs opposite the connecting-loop being pivotally connected to the

toe member, a fulcrum member pivoted between said legs and a rest carried by the fulcrum member, substantially as described.

3. In combination in a tree of the class described, a toe member, a lever formed of parallel legs and a connecting-loop deflected at right angles to the longitudinal axis of the legs, the ends of said legs being pivotally connected to the toe member, a fulcrum member pivoted between said legs, and a rest comprising a ring adjustably connected to said fulcrum member, substantially as described.

4. A tree of the class described comprising a toe member consisting of two sections hinged to each other at or near their front ends and capable of spreading in a direction parallel to the base of the toe member, a toggle-joint connecting the rear portion of said sections, and an adjusting device connected with the knuckle of said toggle-joint, substantially as described.

5. A tree of the class described comprising a toe member expansible in a direction parallel to the base thereof and consisting of two

sections hinged to each other at or near their front ends, and an adjusting device comprising means for simultaneously effecting a longitudinal forward thrust of the toe member and a spreading thereof, substantially as described.

6. A tree of the class described, comprising a toe member consisting of separate sections hinged together to swing in a direction parallel to the base of said member, said connection being located at or near the front ends of said sections, whereby the spreading of the toe member at its front end is prevented, a toggle-joint connecting the rear portion of said sections, and a combined adjusting and locking device connected with the knuckle of said toggle-joint, substantially as described.

In testimony that I claim the invention set forth above I have hereunto set my hand this 24th day of October, 1900.

ALEXANDER C. McKNIGHT.

Witnesses:

A. C. McKNIGHT, Jr.,
CHARLES N. OTT.