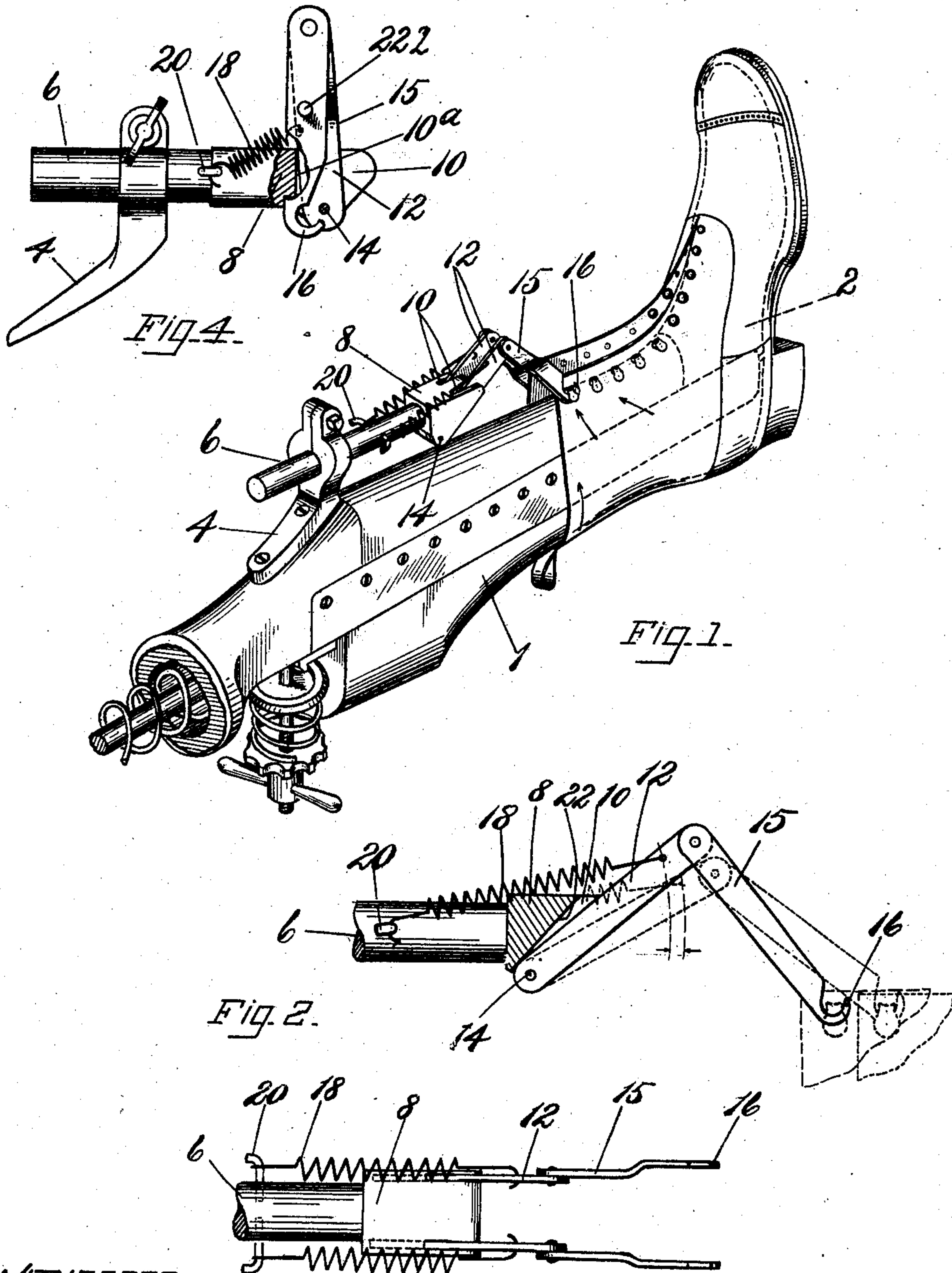


No. 850,884.

PATENTED APR. 16, 1907.

J. S. HANSEN.
HOLDING DEVICE FOR SHOE UPPERS.
APPLICATION FILED APR. 9, 1906.



WITNESSES.
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Fig. 3.

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UNITED STATES PATENT OFFICE.

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HOLDING DEVICE FOR SHOE-UPPERS.

No. 850,884.

Specification of Letters Patent.

Patented April 16, 1907.

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To all whom it may concern:

Be it known that I, JOHN S. HANSEN, a citizen of the United States, residing at Brockton, in the county of Plymouth and Commonwealth of Massachusetts, have invented certain Improvements in Holding Devices for Shoe-Uppers, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to means for holding the leg portion of a shoe upon a shoe-tree or similar form, and is herein shown as embodied in means for holding the quarters of a shoe snugly about a tree in position for the shoe to be operated upon in cleaning or in finishing the shoe.

One feature of the invention consists in a holder which can be used without adjustment for holding shoes of widely-varying sizes.

It is the practice to use upon treeing and the like machines shoe-trees which comprise a single leg portion and a plurality of interchangeable feet adapted in size to the different sizes of a line of shoes. For example, a single tree-leg will be used with the necessary number of tree-feet for the sizes 6-11 of men's shoes and another tree-leg will be employed with all the different tree-feet required for the sizes 13-5½ of youths' and boys' shoes.

It is very desirable that the holder which is employed for holding the leg portion or quarters of the shoe about the leg of the holder be adapted to act approximately uniformly in holding the uppers of the different sizes of shoes which are usually supported upon a particular tree-leg.

In the illustrated embodiment of the present invention the holder is arranged to be permanently attached to a tree-leg and is extensible to adapt it to hold all the different sizes of shoes usually applied to one tree. The holder is arranged to act yieldingly for pulling the upper obliquely upward and forward on the tree to draw out all the wrinkles and hold the upper smoothly and firmly in position to be operated upon.

In accordance with another feature of the invention the holder is constructed so that

without adjustment it will act with approximately the same tension upon varying sizes of shoes.

These features of the invention are herein shown as embodied in a construction comprising a supporting member, a block, levers fulcrumed upon the block and extending downward and forward with relation to the shoe on the tree, hooks pivoted to the outer ends of the levers and extending downward and rearward to the flaps of the shoe, and springs arranged to rock the levers in a direction to cause the hooks to pull the shoe-upper forward and upward. The springs are shown as extending obliquely from fixed points located above and in front of the fulcrum of the levers to a connection with the levers near their outer ends. The relative arrangement is such that the levers and hooks form diverging arms, which may be spread more or less to adapt the length of the holder to different sizes of shoes. The arrangement of the springs, which reach from above the fulcrums of the levers to a connection with the levers, is such that the tension of the springs is changed but little as the holder is extended more or less for shoes of different sizes. Preferably stop-faces are provided to limit the movement of the levers away from the tree-foot, and by means of these faces the position of the levers is determined when the hooks are disengaged from the shoe. The stop-faces serve to hold the two levers in position to be grasped simultaneously and rocked toward the shoe by one hand of the workman, while with the other hand he engages the hooks with the shoe. He may then so release the levers as to cause the leg portion of the shoe-upper to be evenly pulled into position about the tree-leg. Preferably, also, means is provided for controlling the lateral positions of the levers and hooks so that the planes in which the pulling movement takes place are substantially uniform on different shoes and loose movement of the parts when disengaged from a shoe is prevented. These and other features of the invention, including certain details of constructions and combinations of parts, will be fully set forth in the following description and pointed out in the claims.

In the drawings, Figure 1 is a perspective

view of a tree with a shoe thereon and a shoe-holder embodying the present invention arranged in operative position with relation to the tree and engaged with the uppermost
 5 lacing-hook on each of the quarters of the shoe. Fig. 2 is a side elevation, partly in section, of the holder and shows in full and dotted lines the positions assumed by the holder when applied to shoes of different
 10 sizes. Fig. 3 is a plan view of the holder, and Fig. 4 is a side elevation of a slightly-modified construction.

The tree may be of any usual or suitable construction. Such trees commonly com-
 15 prise a leg portion 1, permanently attached to the machine or tree-support, and the foot 2, which is readily removable from the leg portion. In practice a plurality of feet are furnished with each tree-leg, and a foot of the
 20 same size as the shoe to be treated is attached to the leg before the shoe is put upon the tree. The holder is shown as comprising a bracket 4, permanently attached to the tree-leg and having a split clamp for receiving the
 25 stem 6 of the supporting member. The supporting member is shown as comprising a block 8, triangular in cross-section and provided with recesses 10 in its inclined face nearest the foot of the tree to receive one
 30 portion of two levers 12. The levers are fulcrumed to the block at 14 and at their other ends are pivotally connected to the links 15, having hooks 16 at their outer ends adapted to engage with lacing hooks or
 35 eyelets in the flaps of the quarters of a shoe. The levers 12 extend from the rear side of the supporting member forward and downward with relation to the shoe, and the links 15 extend rearward and downward toward
 40 the shoe, so that said levers and links constitute diverging arms pivotally connected at one of their ends and the other ends of which may be spread more or less for adapting the holder to engage shoes of different
 45 sizes upon the tree. Springs 18 are shown as extending from points 20 on the stem of the holder to points near the ends of the links 12. This arrangement of the springs 18 causes them to extend forward of the points
 50 where the levers are fulcrumed to the block 8, and therefore tend to rock the levers upward and forward. The block is provided with stop-faces 22, which limit this movement of the levers, and, as shown, these faces are lo-
 55 cated so that the levers will be stopped and normally held in positions adjacent to each other where a workman may conveniently engage them both with one hand and rock them downward toward the shoe, while with
 60 the other hand he connects the hooks 16 with the lacing hooks or eyelets in the flaps of the shoe. It is to be observed that the side faces of the recesses 10, in which the levers are mounted, form guides to prevent the lateral

movement of the levers and also that the 65 pivotal connections between the links and the levers prevent loose lateral movement of the hooks. This arrangement insures that the levers will operate always in substan-
 70 tially the same plane for pulling and holding the quarters of the shoe-upper about the leg of the tree. It will be observed that while the holder may be differently positioned lon-
 75 gitudinally of the tree by moving the stem of the supporting member in the clamp of the bracket 4 such adjustment will not ordi-
 80 narily be necessary for adapting the holder to engage shoes of the varying sizes usually applied to a single tree, because the peculiar arrangement of the links and hooks renders
 85 the holder sufficiently extensible to enable it to act properly upon shoes of different sizes, as indicated in Fig. 2. It will be seen by referring to Fig. 2 that the spring 18 is very
 90 slightly lengthened as the levers and hooks are relatively moved for extending the holder more or less, and therefore the holder acts with approximately the same tension upon
 95 shoes of different sizes.

In the construction of holder shown in 90 Fig. 4 the stop-faces 10^a are approximately vertical, so that the levers assume a vertical position when the hooks are disengaged from the shoe and the hook-links swing by gravity
 95 into a position adjacent to and parallel with the levers, where they are entirely out of the way of the workman during the operations of removing a shoe and placing another one
 100 on the tree. The hook-links may be provided with finger-pieces 222, as shown in Fig. 4, for convenience in manipulating them.

Having described one embodiment of the invention, it is believed that the nature of the invention has been fully disclosed and
 105 that it will be obvious that the invention may be embodied in widely-different mechanical forms.

I therefore claim as new and desire to secure by Letters Patent of the United States—

1. In a device of the class described, the 110 combination with a supporting member, of a lever fulcrumed on said supporting member, a hook flexibly connected with the lever and adapted to engage a shoe-upper, and a spring arranged to rock the lever in the direction to
 115 pull the shoe-upper forward and upward.

2. In a device of the class described, the combination with a supporting member, of a pair of levers fulcrumed on said member and carrying hooks adapted to engage a shoe-up- 120 per, and tension-springs extending obliquely with relation to said levers to rock said levers in a direction for pulling the shoe-upper.

3. In a device of the class described, the combination with a supporting member, of a 125 pair of independently-movable levers fulcrumed on said supporting member and provided with hooks to engage a shoe-upper,

yielding means for rocking said levers away from the shoe, and stops for limiting said rocking movement and holding said levers in predetermined position adjacent to one another.

4. In a device of the class described, the combination with a supporting member, of a pair of independently-movable levers fulcrumed on said supporting member, and hooks carried by the levers and adapted to engage opposite quarters of a shoe, said device having provision for causing the levers and hooks to pull the quarters of the shoe always in substantially the same planes.

5. In a holder of the class described, the combination with a supporting member, of levers fulcrumed on said supporting member, hooks carried by the levers, springs arranged to hold the levers normally in a position inclined to the supporting member and adapted to permit said levers to occupy positions of different inclination to the supporting member whereby the holder may be extended for engaging shoes of different sizes.

6. In a device of the class described, the combination with a supporting member, of a lever fulcrumed on said supporting member, a hook pivotally connected with the lever and adapted to engage a shoe-upper, a spring arranged to rock the lever in the direction to pull the shoe-upper forward and upward, and a stop arranged to cooperate with the spring for positioning the lever approximately ver-

tically when the hook is disengaged from the shoe-upper.

7. The combination with a tree adapted to support a shoe, of means for holding the shoe in position thereon, said means comprising a supporting member, levers fulcrumed upon said member, hooks carried by the outer ends of the levers and adapted to engage lacing hooks or eyelets in the upper, and means acting on said levers for normally exerting tension upwardly and forwardly on the hooks.

8. The combination with a tree adapted to support a shoe, of means for holding the shoe in position thereon, said means comprising a supporting member, levers pivotally jointed to said supporting member, hooks connected to the outer ends of said levers and adapted to engage the shoe-upper, said levers normally standing at an angle to the supporting member, and springs connecting the supporting member and levers and tending further to flex the joint between the levers and supporting member for causing the levers to exert tension forwardly and upwardly on the shoe-upper.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN S. HANSEN.

Witnesses:

F. HANNIGAN,
J. F. COLLINS.