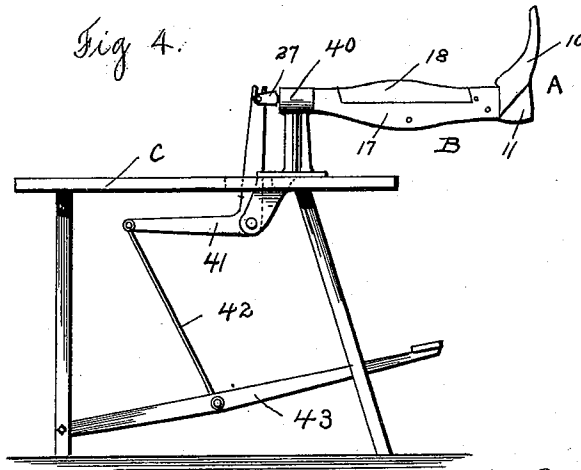
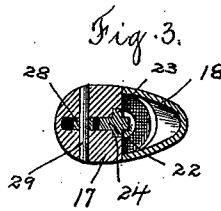
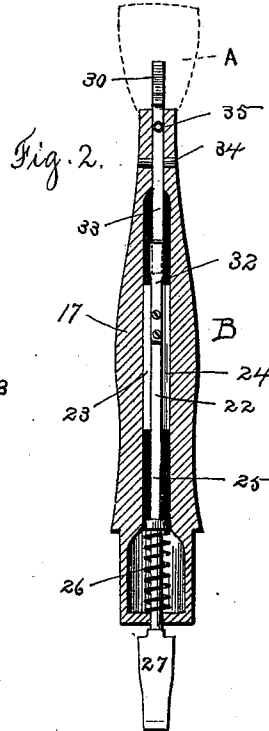
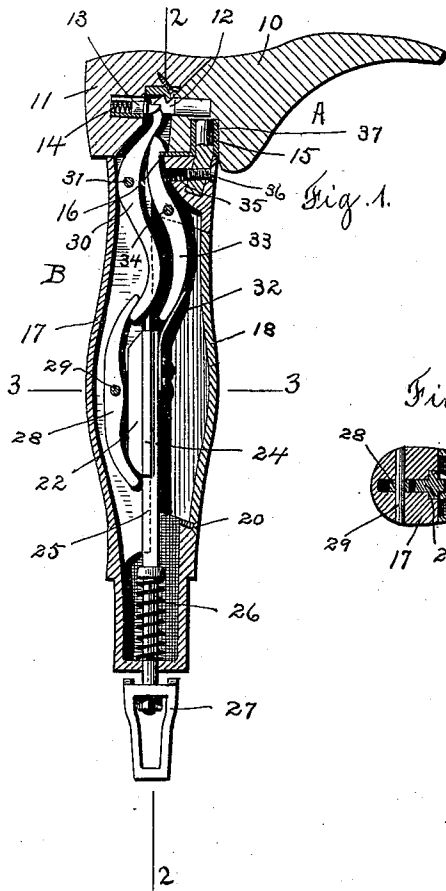


(No Model.)

A. R. WELLMAN.
COMBINED LAST AND TREE.

No. 545,563.

Patented Sept. 3, 1895.



Witnesses.

Chas. F. Johnson
C. M. Kelly.

Inventor.

A. R. Wellman,
By Smithgate & Smithgate
Attorneys.

UNITED STATES PATENT OFFICE.

ALEXANDER R. WELLMAN, OF WORCESTER, MASSACHUSETTS, ASSIGNOR
TO PORTER & GARDINER, OF SAME PLACE.

COMBINED LAST AND TREE.

SPECIFICATION forming part of Letters Patent No. 545,563, dated September 3, 1895.

Application filed November 12, 1894. Serial No. 528,478. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER R. WELLMAN, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in a Combined Last and Tree, of which the following is a specification.

The object of my invention is to provide strong and efficient means for operating and detachably securing together the parts which constitutes a combined last and tree.

To these ends my invention consists in the features of construction and the combinations of parts as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

The ordinary form of last which is now most extensively employed in finishing shoes, is constructed with a body portion extending the entire length of the shoe and with a detachable instep-block. In removing this form of last from the finished shoe the instep-block is first taken out and the body portion of the last is thereafter removed. It has been found in practice that this method of removing the last from the shoe is objectionable, as the heel and back part of the shoe will be strained and are liable to be distorted when the body portion of the last is withdrawn.

In carrying out my invention I preferably employ a two-part last in which the heel portion is detachably connected to the body of the last, and where this construction is employed the body of the last may be withdrawn from the shoe in the first instance, allowing the heel portion to be thereafter removed without at all straining or distorting the rear part of the shoe. One form of separable last which I can and preferably do employ is illustrated in Letters Patent of the United States granted March 27, 1894, No. 517,165. It is obvious, however, that the features of my invention, as hereinafter described, may be utilized with other forms of lasts, if desired.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a combined last and tree constructed according to my invention. Fig. 2 is a sectional view taken on the line 2 2 of Fig. 1, the position of the last

being indicated in dotted lines. Fig. 3 is a transverse sectional view taken on the line 3 3 of Fig. 1, and Fig. 4 is a view illustrating the application of my combined last and tree to an ordinary form of treeing-stand.

Referring to the drawings and in detail, A designates a last having a foot or body portion 10 and a heel portion 11. Mounted in the heel portion is a movable spring-controlled latch 13, which is actuated by a spiral spring 14, the spring and latch being mounted in a bushing which has a forwardly-extending catch-section which is adapted to engage with one side of a catch 12, carried by the body portion 10. These parts may be of substantially the construction described in Letters Patent No. 517,165, above referred to, and need not be herein shown or described at length.

B designates a tree, which is preferably made of iron, and is constructed with a body portion 17 and a removable cover piece or section 18, which is adapted to fit into and be detachably secured to said body portion. The piece 18 is provided with angular ends, which correspond with angular sections of the body portion 17, and as thus constructed the removable cover may be secured in place by means of a small screw, as shown at 20. A sliding piece or part 22 is mounted in a central groove formed in the body portion 17, and has laterally-extending wings 23 and 24, which fit into a suitable guideway cut in the body portion 17, as most clearly shown in Fig. 3. The sliding piece 22 is connected to a rod 25, which is normally held in its highest position by means of a coiled spring 26. At its lower end the sliding piece 22 is provided with a wedge-shaped or cam section, which is adapted to engage with and actuate a lever 28, pivoted on a transverse pin 29. At its upper end the pivoted lever 29 is adapted to engage with and actuate a latch-operating lever 30, which is pivoted on a transverse pin 31.

The upper end of the latch-operating lever 30 may extend up into the cut-away portion of the last in a position to engage the spring-controlled latch 13, and by means of this construction it will be seen that the latch-operating lever will unlock the sections of the

two-part last whenever the rod 25 is moved down against the tension of the spring 26. At its upper end the sliding part 22 is provided with a spring-plate 32, which is adapted
 5 to engage the lower part of a catch-lever 33, pivoted on the transverse pin 34, and to normally hold said catch-lever in engagement with a projection or catch 16, carried by a bushing 15, secured in the body portion of
 10 the last. A spiral spring 35 and its follower may be mounted in the body portion of the tree, and will disengage the catch-lever 33 from the last whenever the sliding piece 22 is moved downwardly. Also carried by the
 15 body portion of the tree is a pin 37, which may fit into and engage the bushing 15 in the body portion of the last.

The pin 37 and the coiled spring 35 are secured in place in the tree by means of a single screw 36, as shown.
 20

The operation of the combined last and tree, as thus constructed, is thought to be obvious, and need not be described at any great length.

As shown in Fig. 4, the cylindrical section
 25 which forms the lower end of the tree, as illustrated, is mounted in a bearing 40 carried by a bracket which is secured to a stand C.

Pivoted in the bracket below the surface of
 30 the stand is a bell-crank lever 41, having one arm connected to the rod 25 by means of a yoke 27 and having its other arm connected to a foot-lever or treadle 43 by means of a link 42. When the treadle 43 is forced down
 35 the movable piece 22 mounted in the tree will actuate the latch-operating lever 30 and the parts which constitute the separable last will be unlocked from each other. At the same time the flat spring 32 will move out of en-
 40 gagement with the catch-lever 33, which will then be actuated by the spring 35, so that the body portion of the last will be unlocked from the tree and may be removed from the pin 37, if desired.

It will thus be seen that I have provided
 45 simple and efficient means for combining a two-part last and tree, and have provided the tree with means for unlocking the parts of the last and for simultaneously unlocking the
 50 body portion of the last from the tree.

I am aware that changes may be made in the construction of the device by those who are skilled in the art without departing from the scope of my invention, as expressed in
 55 the claims. I do not wish, therefore, to be

limited to the exact construction which I have shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of a tree, a separable
 60 last, means for locking or securing the parts of said last together, means carried by said tree for unlocking the parts of said last and means also carried by said tree for detachably
 65 securing the last to the tree, substantially as described.

2. The combination of a separable last, a latch for securing the parts of said last together, a tree, a latch-operating lever, a catch-
 70 lever for detachably securing the last to the tree, and means for simultaneously actuating said latch-operating lever and said catch-lever, substantially as described.

3. The combination of a tree, a two-part last, means for securing the last to the tree, a
 75 latch for detachably locking the parts of said last together, a latch-operating lever mounted in said tree, a sliding piece or plate also mounted in said tree and connected to operate said latch-operating lever, substantially
 80 as described.

4. The combination of a tree, a two-part last, means for holding the last upon the tree a latch for detachably locking the parts of
 85 said last together, a latch-operating lever mounted in said tree, a pivoted lever for actuating said latch-operating lever, and a cam-slide for actuating said pivoted lever, substantially as described.

5. The combination of a tree, a two-part
 90 last, a latch for detachably locking the parts of said last together, a latch-operating lever, a catch lever for securing the last to the tree and a slide connected to simultaneously actuate said latch-operating lever and said catch
 95 lever, substantially as described.

6. The combination of a last, a tree, a catch-lever, a spiral spring engaging said catch-lever, a pin extending from the tree into said
 100 last, and a single securing screw for fastening the spiral spring and the pin in place, substantially as described.

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

ALEXANDER R. WELLMAN.

Witnesses:

LOUIS W. SOUTHGATE,
 PHILIP W. SOUTHGATE.