

(No Model.)

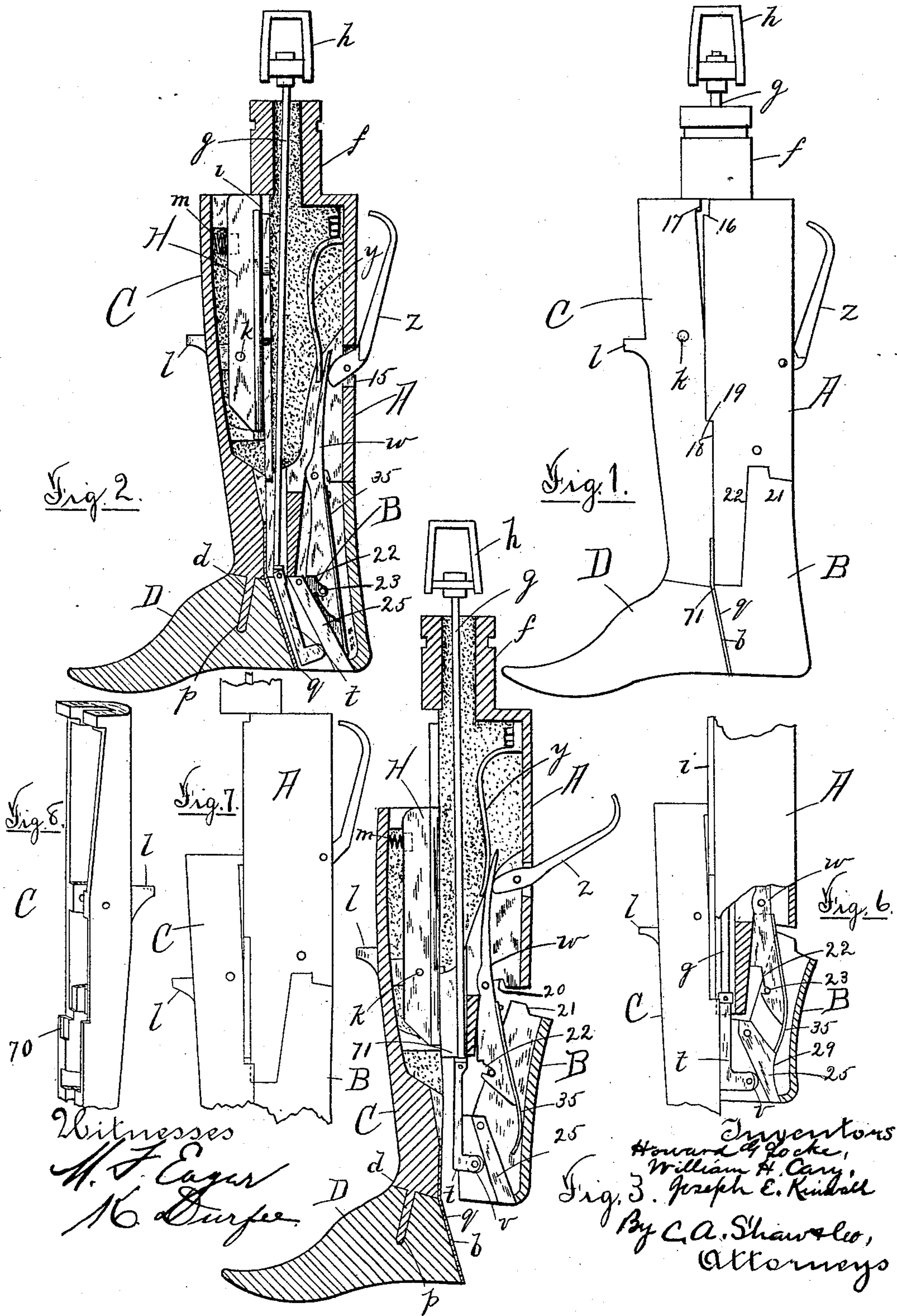
3 Sheets—Sheet 1.

H. G. LOCKE, W. H. CARY & J. E. KIMBALL.

SHOE TREE.

No. 452,142.

Patented May 12, 1891.



(No Model.)

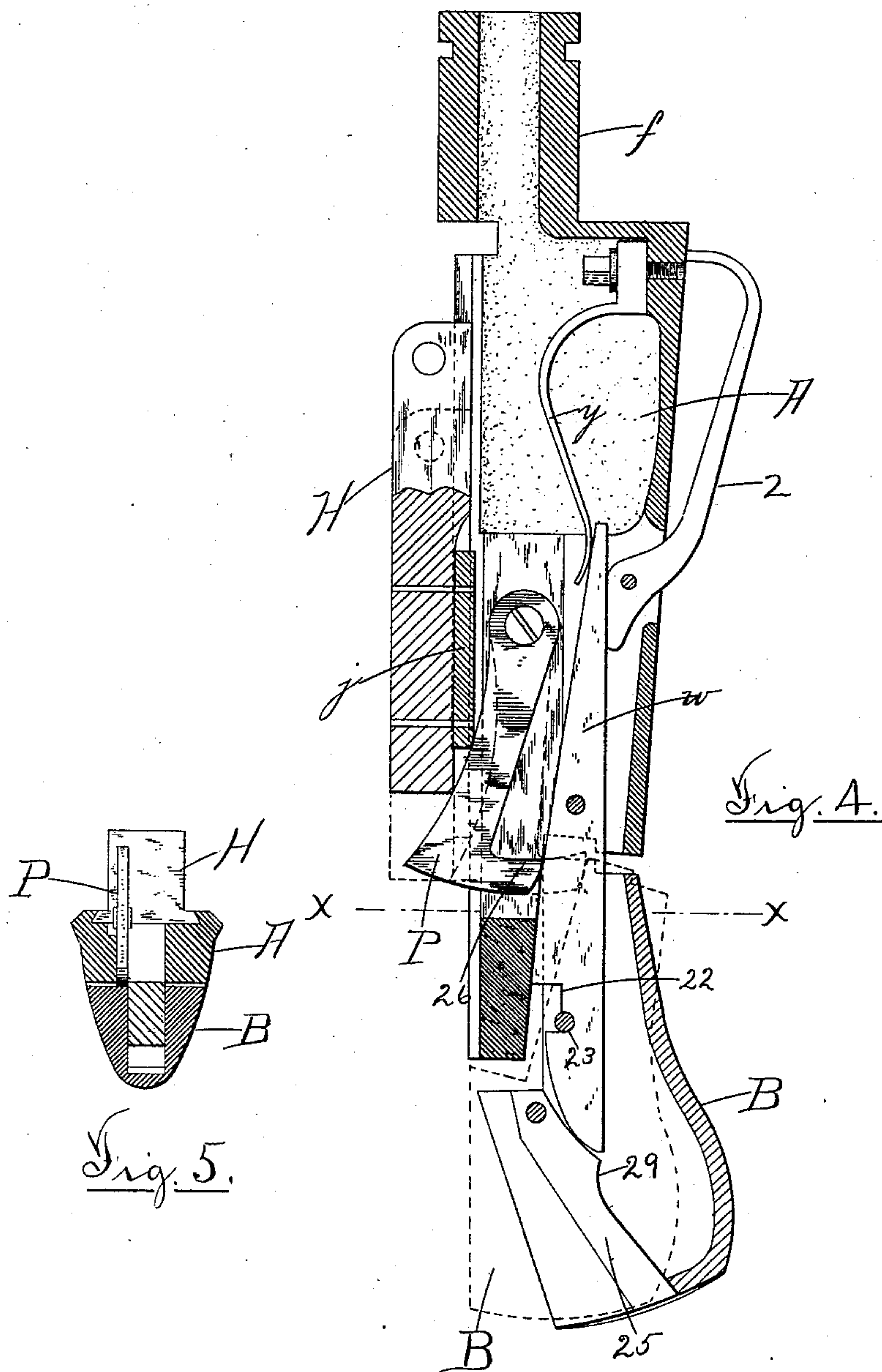
3 Sheets—Sheet 2.

H. G. LOCKE, W. H. CARY & J. E. KIMBALL.

SHOE TREE.

No. 452,142.

Patented May 12, 1891.



Witnesses

M. F. Cary
H. Dwyer

Inventors:

Howard G. Locke,
William H. Cary,
Joseph E. Kimball,

Per

C. A. Shaw & Co.,
Attorney

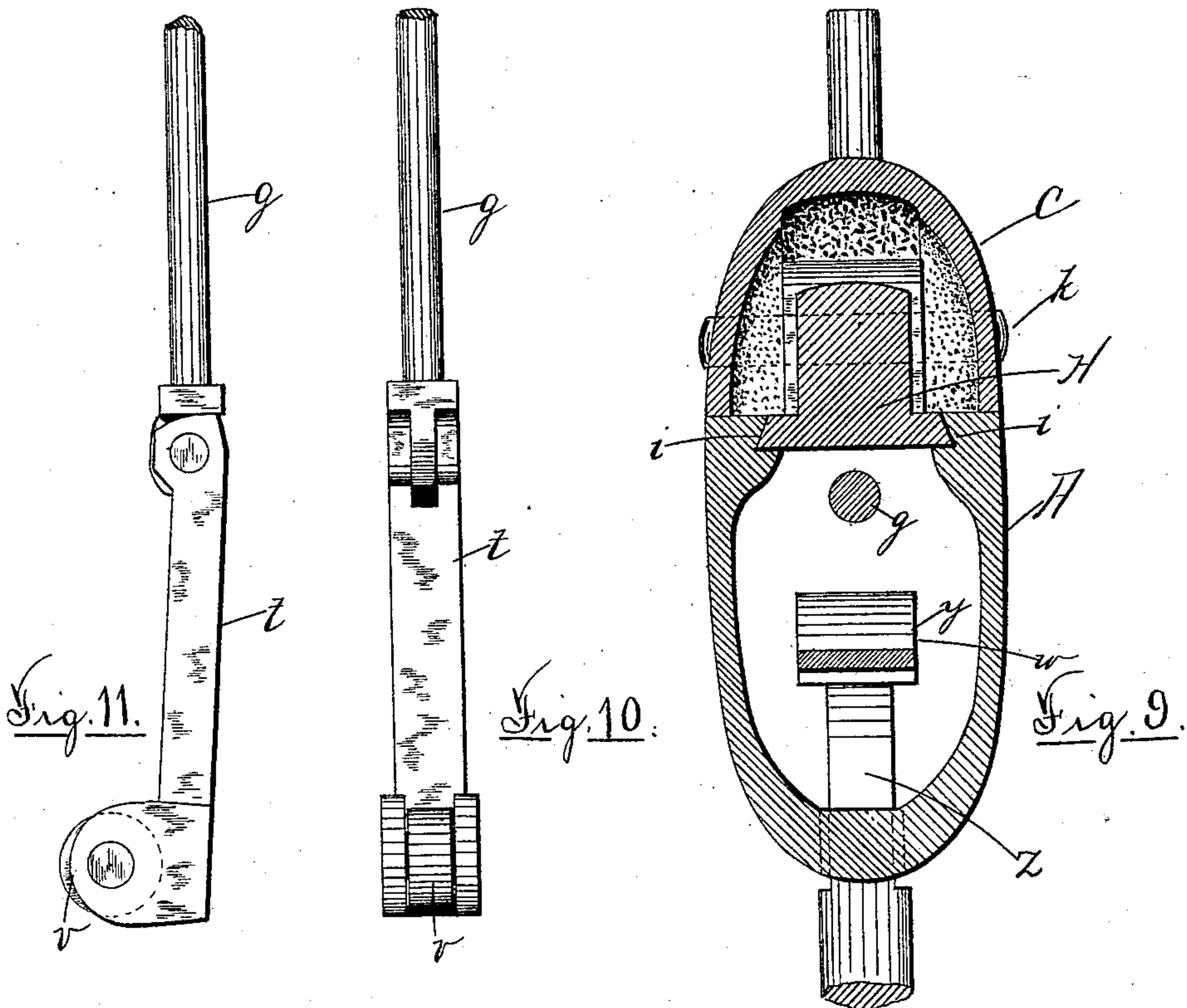
(No Model.)

3 Sheets—Sheet 3.

H. G. LOCKE, W. H. CARY & J. E. KIMBALL.
SHOE TREE.

No. 452,142.

Patented May 12, 1891.



Witnesses

M. J. Cagney
H. Dwyer

Per

C. A. Shawlee
Attorneys.

Inventors
Howard G. Locke,
William H. Cary,
Joseph E. Kimball,

UNITED STATES PATENT OFFICE.

HOWARD G. LOCKE, OF WEYMOUTH, WILLIAM H. CARY, OF BROCKTON,
AND JOSEPH E. KIMBALL, OF ABINGTON, MASSACHUSETTS; SAID
LOCKE ASSIGNOR TO THE BROCKTON LAST COMPANY, OF BROCKTON,
MASSACHUSETTS.

SHOE-TREE.

SPECIFICATION forming part of Letters Patent No. 452,142, dated May 12, 1891.

Application filed August 4, 1890. Serial No. 361,017. (No model.)

To all whom it may concern:

Be it known that we, HOWARD G. LOCKE, of Weymouth, in the county of Norfolk, State of Massachusetts, WILLIAM H. CARY, of Brockton, in the county of Plymouth, State of Massachusetts, and JOSEPH E. KIMBALL, of Abington, in the county of Weymouth, State of Massachusetts, have invented certain new and useful Improvements in Shoe-Trees, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of our improved boot-tree; Fig. 2, a vertical longitudinal section of the same; Fig. 3, a like view showing the sliding front drawn out; Fig. 4, a vertical longitudinal section of the body, showing means for locking the heel-piece; Fig. 5, a horizontal vertical transverse section taken on line *xx* in Fig. 4; Fig. 6, a sectional elevation showing details of the heel mechanism; Figs. 7 and 8, elevations illustrating details of construction; Fig. 9, a vertical transverse section of the body of the tree; Fig. 10 a front and Fig. 11 a side elevation of the spreader detached.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates, especially, to boot or shoe trees provided with means for spreading or separating the heel and foot portions; and it consists in certain novel features hereinafter fully set forth and claimed, the object being to produce a simpler, cheaper, and more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the body of the tree; B, the heel-block; C, the sliding leg-front, and D the foot-block. The foot D

is of the ordinary form and construction employed on boot-trees of this description, the rear end or heel portions thereof being inclined vertically where the heel is separated therefrom. The foot is also provided with a vertical cylindrical spindle-socket *d*, formed centrally therein at the rear of the crown in the ordinary manner. The body A is hollow and composed of iron and is adapted to be secured in a horizontal position on a bench in the usual way. A tube *f* is formed on the upper end of the body, through which the spreading-rod *g* slides, said rod being provided with a loop or eye *h* on its outer end to receive a treadle-rod. A block H is fitted to slide in undercut ways *i* on the inner edge of the leg, said block bearing a boss or projection *j* (shown in Fig. 4) on its inner face.

The leg-front C is pivoted by a pin *k* to the block H and is provided on its outer edge with a finger-piece *l*. A coiled spring *m*, disposed in a chamber in the block H, pushes against the upper end of said leg-front and tends to throw its lower end inward toward the heel. The front is provided on its lower end with a spindle *p*, which enters the socket *d* in the foot D in the usual manner. A wear-plate *q* is secured to the inner face of the leg-front and bears against the heel portion of the foot D when in position. The spreading-rod *g* passes centrally through the leg, and pivoted to the bottom thereof there is a spreading-lever *t*, provided, preferably, as shown in Fig. 6, with a roll *v*.

Within the body A and to its lower end there is pivoted a vertically-arranged locking-lever *w*, against the outer end of which a flat spring *y* pushes, throwing the lower end of said lever inward toward the leg-front. A cam-lever *z* is pivoted in an opening 15 in the rear of the body A, its inner end being in position to engage the upper end of the lever *w* to overcome the action of the spring *y*. Near the outer edge of the body A a shoulder 16 is formed, on which a shoulder 17 on the front C is fitted to engage. A shoulder 18 on the inner edge of said front is engaged by a similar shoulder 19 on the body A when the parts

are in the position shown in Fig. 1. The lower end of the leg A is provided with a recess 20, and the heel B is provided with a tongue 21 at its upper end, which engages said recess. The lower end of the lever *w* has an angular groove or hook 22 formed therein, which receives a pin 23 in said heel, whereby the heel is supported in position. A vertically-inclined block or plate 25 is disposed in the lower end of the heel B, its inner face being in position to be engaged by the spreading-roll *v*. A latch P (see Fig. 4) is pivoted within the leg A, its head 26 being in a position to engage the inner face of the heel B when said heel is thrown inward, said latch being actuated by the boss or projection *j* on the block II when said block is drawn outward. The heel-spreading plate 25 has a projection 29 formed on its outer edge, on which the lower end of the lever *w* may ride.

In the use of our improvement the front C, with the foot D in position thereon, is drawn outward, as shown in Fig. 3, the heel B at the same time separating from the body A. The head of the latch-block P, being forced against said heel as the front is withdrawn, throws the lower end of the heel in against said front and locks it in the position shown by dotted lines in Fig. 4. The boot or shoe is now adjusted on the foot D and said foot and front slid upward on the body A, enabling the heel portion of the shoe to be readily adjusted on the heel B. As soon as the shoulder 18 engages the shoulder 19 on the body A, the latch P is released from the front and the upper portion of said heel is readily thrown inward, the pin 23 on said heel portion riding into the angle of the catch 22 in the lever *w*. By depressing the ordinary treadle of the machine the rod *g* is now drawn outward, its spreading-lever *t* working against the inclined face of the spreading-block 25 and forcing the lower portion of the heel away from the foot D in a manner readily understood without a more explicit description.

Instead of locking the heel with the latch P, a spring 35 (shown in Figs. 2, 3, and 6) may be secured to the lever *w*, its free end working on the angular boss 29 of the plate 25, and, resting on the upper part of said boss, hold the heel in engagement with the sliding front, as in Fig. 6.

By inclining the spindle-socket vertically, as described, the foot is prevented from working off the spindle when the spreader is in engagement therewith, said socket being inclined in a direction opposite that of the heel portion of said foot.

By hinging the heel B so that it will rock when being inserted in the shoe much labor is saved, the heel following the curve of the shoe-heel portion and necessitating much less spreading than when the said heel is fixed.

When the spreader is actuated to separate the foot and heel, the lower portion of the hinged leg-front is thrown outward, project-

ing the shoulder 17 in the upper portion thereof over the shoulder 16 on the body and preventing said front from becoming accidentally drawn outward from said body during the process of treeing. When the front is drawn outward, as in Fig. 3, and its lower portion thrown inward by the spring *m*, a socket 70, (see Fig. 8,) formed on the inner edge of said front, receives the lower corner 71 of the body A, serving as a stop to prevent said front from sliding up or back on the body while the shoe is being adjusted on the foot D.

By employing the detachably pivoted or hinged heel B it may be readily removed and substituted by other sizes conforming to the size of the wooden foot D employed.

When it is desired to detach the heel, the cam-lever *z* is depressed, overcoming the spring *y* and throwing said heel outward, so that its pivot-pin 23 may be removed from the catch 22.

Having thus explained our invention, what we claim is—

1. In a boot-tree, the combination of a tree-body, a vertically-sliding block thereon at the front thereof, a leg-front pivoted to said sliding block, a spring interposed between said sliding block and leg-front above the pivot, a foot-block attached to said leg-front, a movable heel-block connected with said tree-body, and spreading mechanism, substantially as described.

2. In a boot-tree, the combination of a tree-body, a vertically-sliding block thereon, a leg-front pivoted to said sliding block, a foot-block attached to said leg-front, a lever pivoted to said tree-body and provided with a hook at its lower end, a heel-block pivoted on said hook, and spreading mechanism, substantially as described.

3. In a boot-tree, the combination of a tree-body, a sliding block thereon, a leg-front pivoted to said block, a foot-block attached to said leg-front, a lever pivoted to said tree-body and provided with a hook near its lower end, a heel-block pivoted on said hook, a spring attached to said lever and extending below the lower end thereof for engaging said heel-block, and spreading mechanism, substantially as described.

4. In a boot-tree, the combination of a tree-body provided with a recess at its lower end, a vertically-sliding block thereon, a leg-front pivoted to said sliding block, a foot-block attached to said leg-front, a lever pivoted to said tree-body and provided with a hook at its lower end, a heel-block pivoted on said hook and provided with a tongue for engaging said recess, a spring engaging the upper end of said lever for throwing it outward, a cam-lever pivoted to said tree-body and engaging the upper end of said lever for throwing it inward, and spreading mechanism, substantially as described.

5. In a boot-tree, the combination of a tree-body, a lever pivoted thereto provided with a

hook, a heel-block provided with a pin engaged by said hook and with an inclined spreading-plate having an angular boss on its rear face, a spring attached to and extending
5 below said lever and engaging said boss, a spring engaging the upper end of said lever for throwing it outward, a cam-lever pivoted to said body and engaging the upper end of said lever to throw it inward, a leg-front con-

nected with said body, and a foot-block attached to said leg-front, substantially as described.

HOWARD G. LOCKE.
WILLIAM H. CARY.
JOSEPH E. KIMBALL.

Witnesses:

K. DURFEE,
O. M. SHAW.

Correction in Letters Patent No. 452,142.

It is hereby certified that Letters Patent No. 452,142, granted May 12, 1891, upon the application of Howard G. Locke, of Weymouth, William H. Cary, of Brockton, and Joseph E. Kimball, of Abington, Massachusetts, for an improvement in "Shoe Trees," were erroneously issued to said Cary, Kimball, and the Brockton Last Company as joint owners of the patent, whereas the said Letters Patent should have been issued to the *Brockton Last Company, of Brockton, Massachusetts*, as sole owner, said company being assignee of the entire interest in said invention as shown by the record of assignments in the Patent Office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 26th day of May, A. D. 1891.

[SEAL.]

CYRUS BUSSEY,
Assistant Secretary of the Interior.

Countersigned:

C. E. MITCHELL,
Commissioner of Patents.