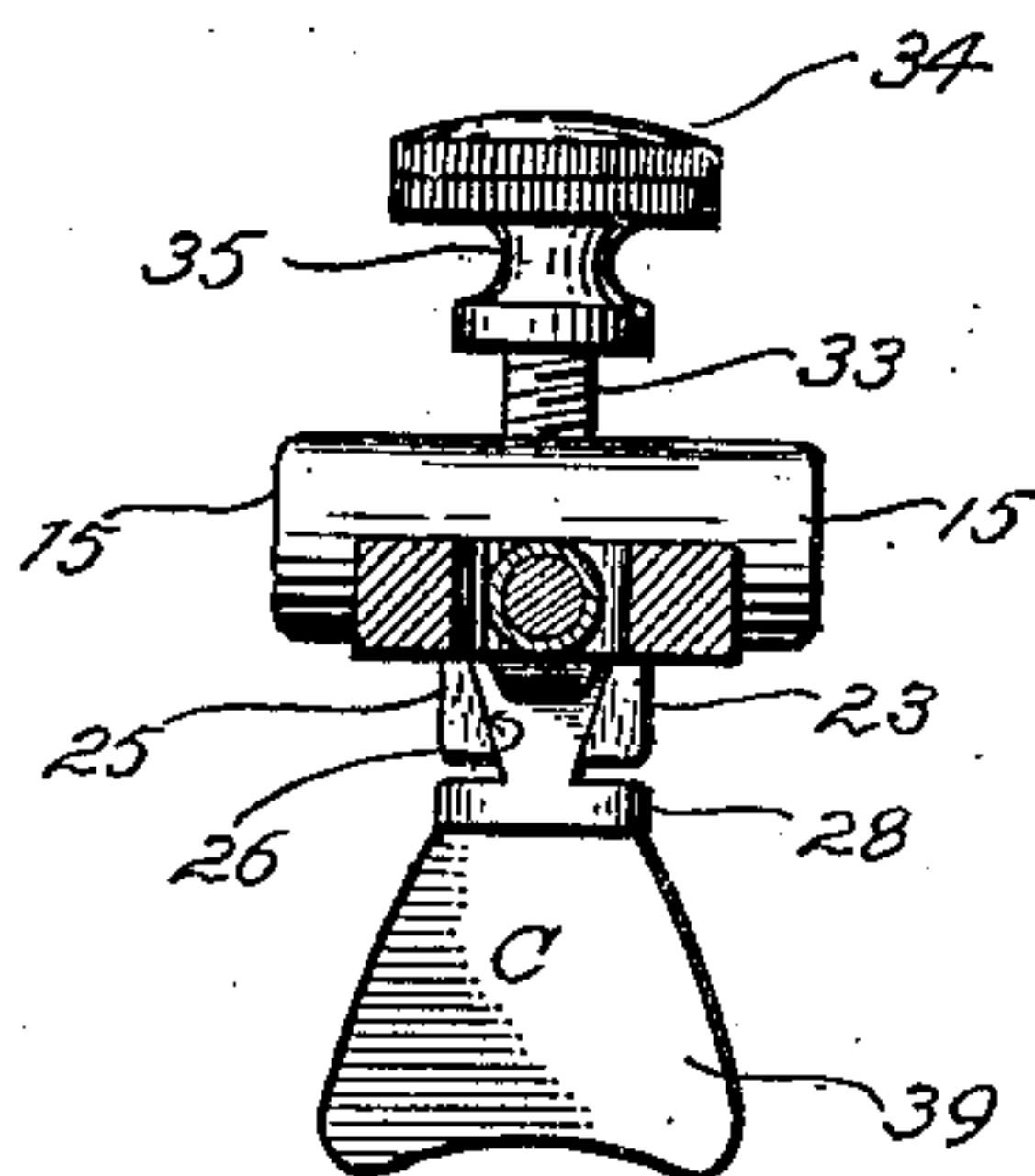
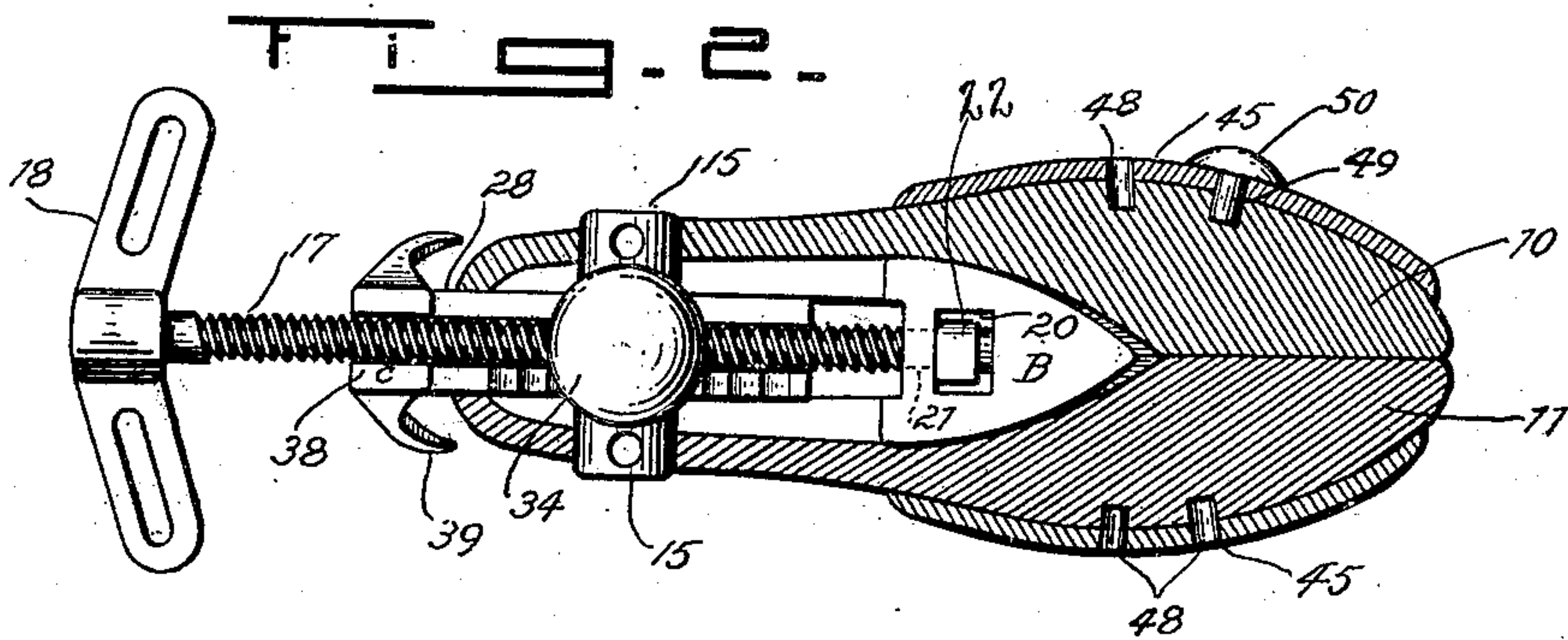
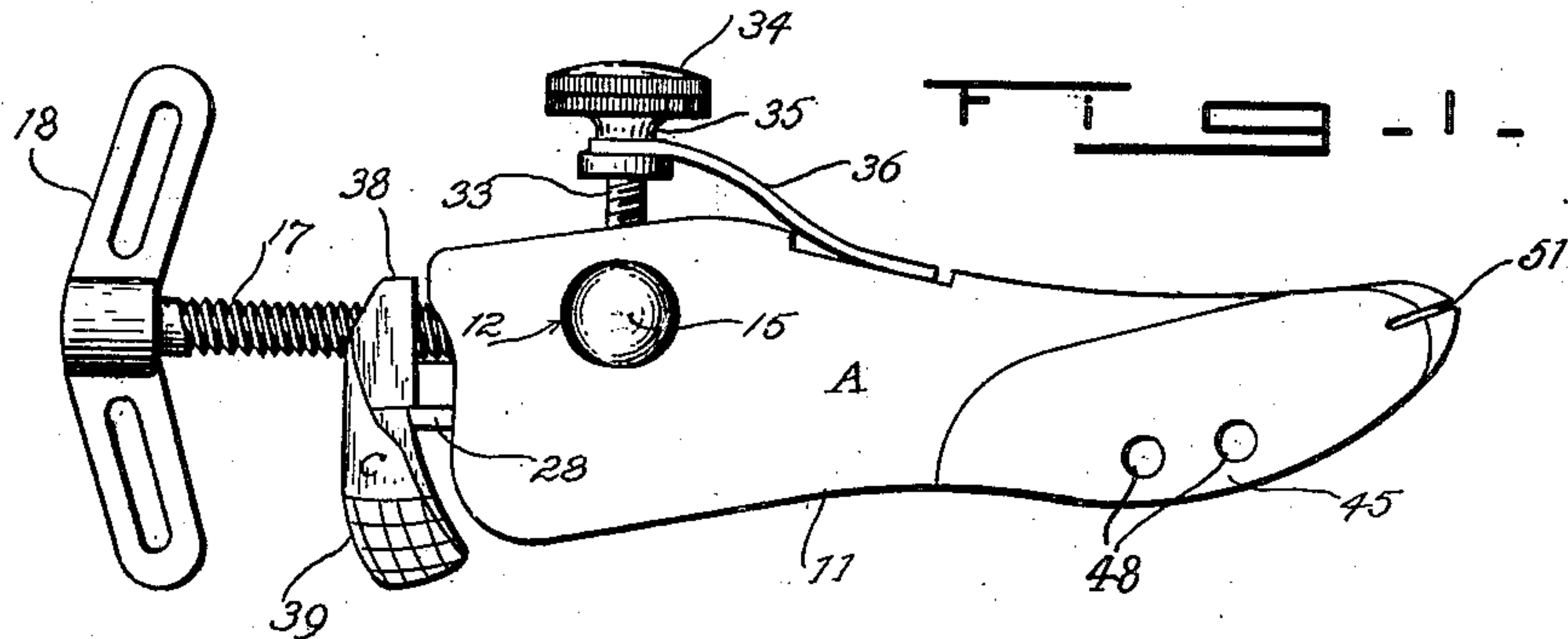


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EXPANSIBLE BOOT TREE.
APPLICATION FILED JAN. 30, 1909.

934,556.

Patented Sept. 21, 1909.
2 SHEETS—SHEET 1.



Witnesses

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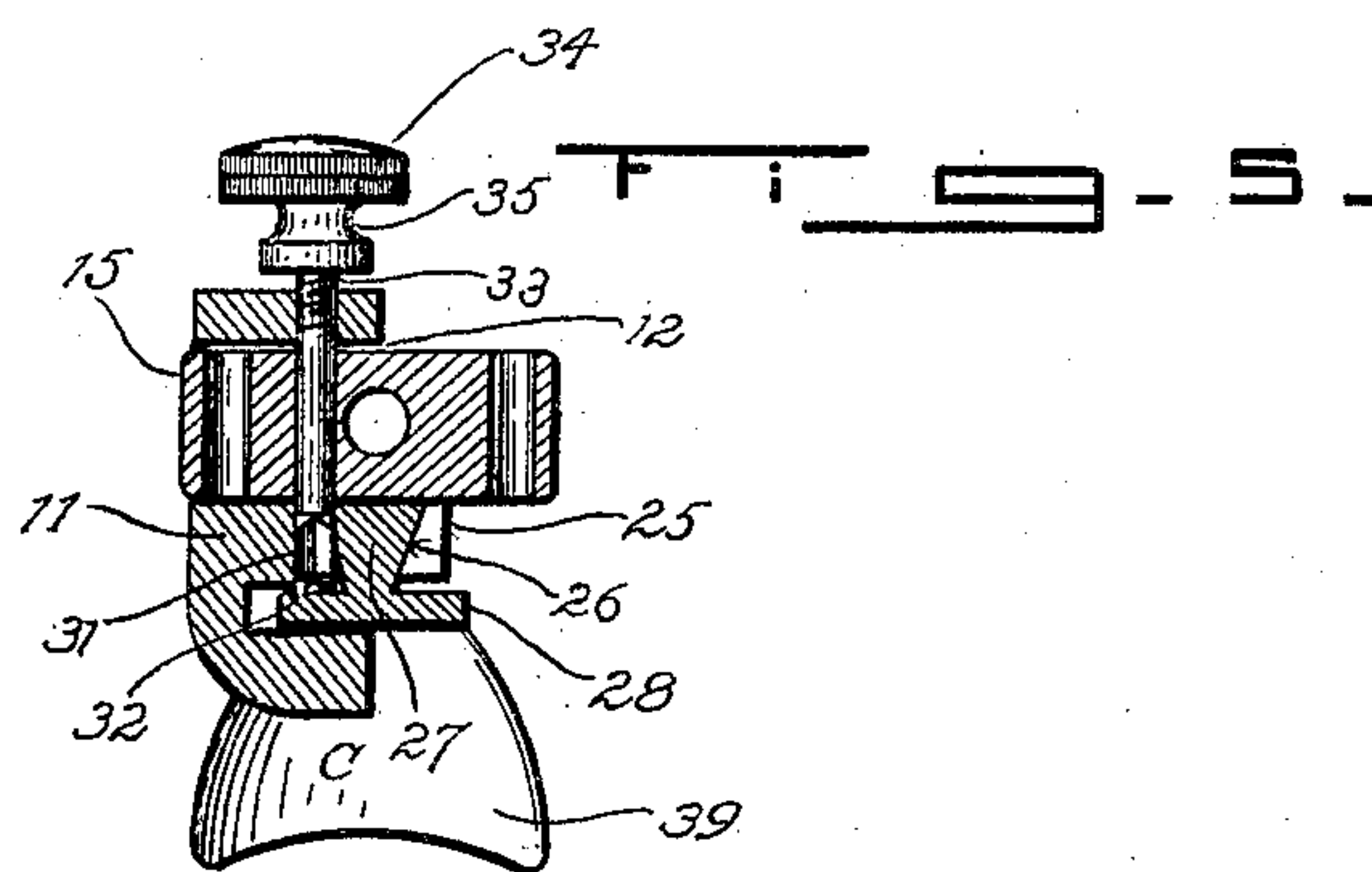
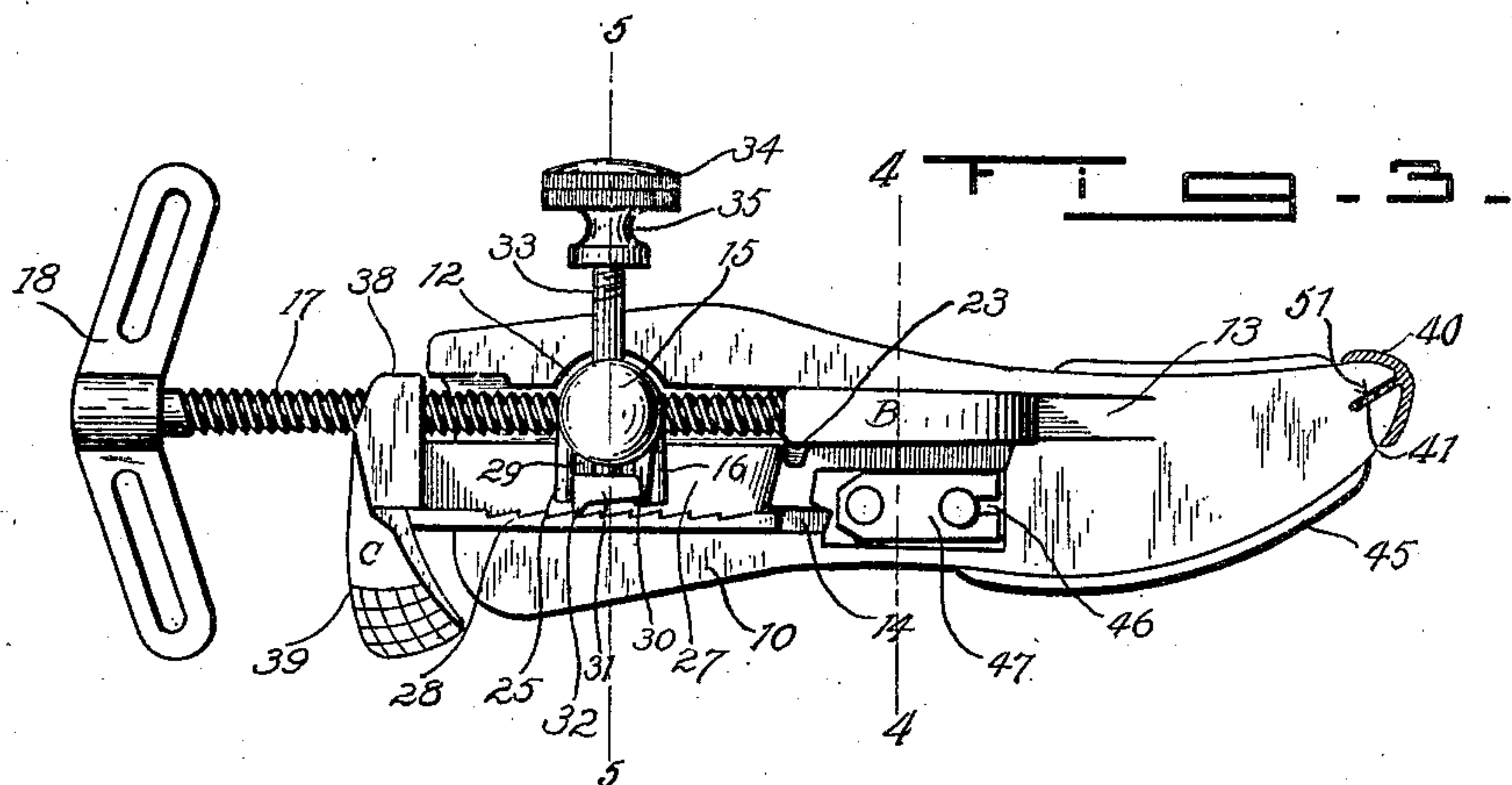
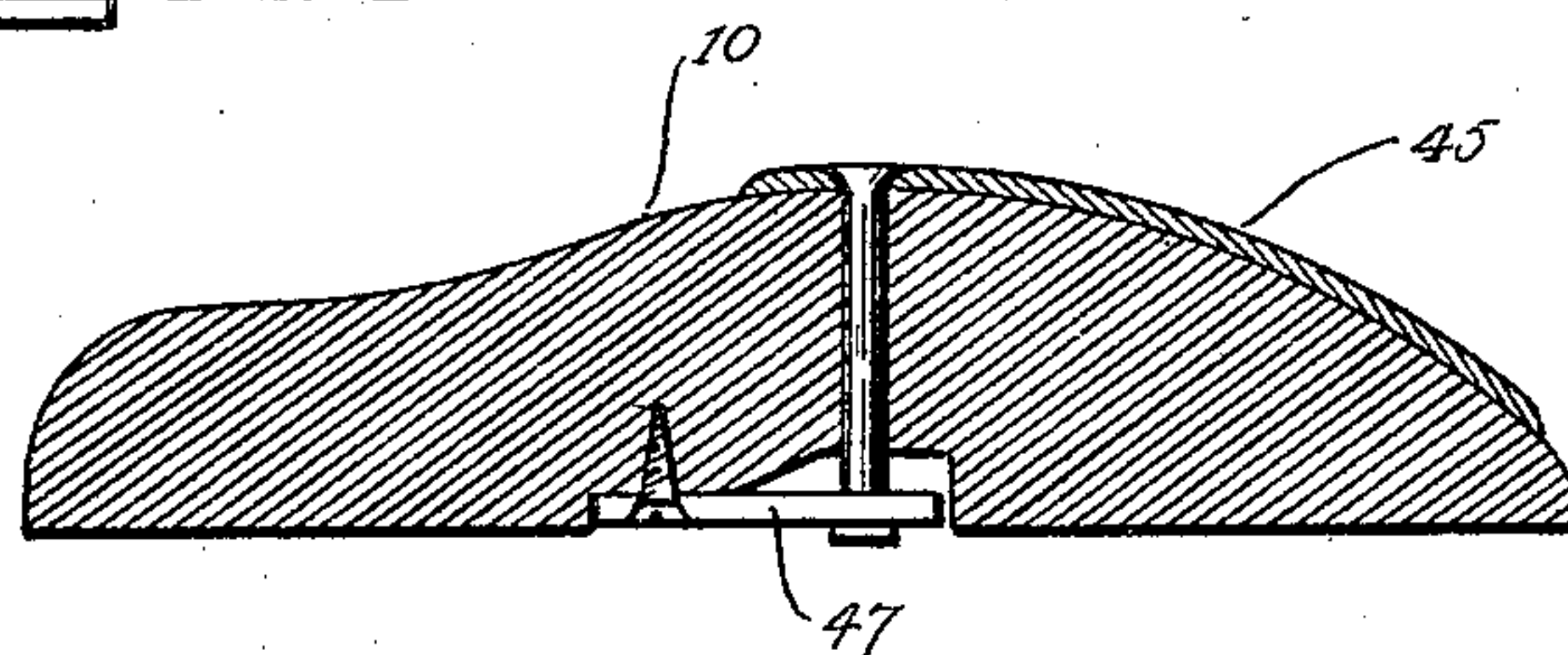


Fig. 6.



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UNITED STATES PATENT OFFICE.

ANDERS G. MALMBERG, OF AUSTIN, TEXAS, ASSIGNOR OF ONE-HALF TO LAWRENCE OLSEN, OF AUSTIN, TEXAS.

EXPANSIBLE BOOT-TREE.

934,556.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed January 30, 1909. Serial No. 475,144.

To all whom it may concern:

Be it known that I, ANDERS G. MALMBERG, a citizen of the United States, residing at Austin, in the county of Travis and State of Texas, have invented certain new and useful Improvements in Expansible Boot-Trees, of which the following is a specification.

This invention relates to boot and shoe-making implements, and more particularly to trees, and has for its object to provide a novel expansible tree adapted for use in stretching boots and shoes in a peculiar manner.

A particular object of the device is to provide a means for stretching shoes either laterally or longitudinally by means of a single operating element.

Another object is to provide a novel means for stretching shoes locally.

Another object is to provide a novel operating mechanism for such devices.

An important object of the device is to provide a tree adapted for engagement either in right or left shoes.

Another object is to provide a novel means for locking the device in longitudinal stretching engagement with a shoe.

Another object is to provide a means for stretching a shoe locally to prevent injury to corns, bunions, or other affections making local areas on the foot sensitive.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims, and that any suitable materials may be used without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like characters of reference indicate similar parts in the several views;—Figure 1 is a side view of the device, Fig. 2 is a horizontal longitudinal sectional view of the device, showing the device in use for lateral stretching of a shoe, Fig. 3 is a vertical longitudinal section showing the device in use for longitudinal stretching of a shoe, Fig. 4 is a transverse section on the line 4—4 of Fig. 3, Fig. 5 is a similar view on the line 5—5 of Fig. 3,

Fig. 6 is a detailed section of the means for securing the supplementary expanding members to the last.

Referring to the drawings, there is shown a longitudinally split last A comprising sections 10 and 11, having registering passages 12 therethrough, and having opposed longitudinally extending grooves 13 diminishing in depth toward the forward end of the last, their opposed walls converging centrally thereof. The grooves 13 serve to guide a wedge member B subsequently to be described. Spaced below the openings 12, there is a horizontal guide groove 14 formed in each section opening through the end of the last to carry a heel engaging member C subsequently to be described. It will be noted that the openings 12 are slightly oval, their major dimensions extending longitudinally with respect to the last, and secured pivotally therein there are trunnions 15 of a transversely perforated interiorly threaded block 16. Engaged revolubly through the block 16, there is a suitable threaded shaft 17, having an operating handle 18 at its outer end, and carrying revolubly the wedge member B at its inner end. The member B is provided with a transverse passage 20, from which there opens a circular passage 21 extending through the adjacent inner end of the member B. The shaft 17 is engaged revolubly through the passage 21, projecting across the passage 20, and carrying a collar 22 adapted to prevent its disengagement therefrom, for longitudinal movement of the member B in either direction. It will be understood that the shaft 17 may be engaged with the member B in any suitable manner other than that illustrated, this being a mechanical detail which may readily be improved upon by those familiar with the art.

It will be noted that the member B is shaped similarly to an arrow head, but having thickened converging edges adapted to engage slidably against the opposed walls of the grooves 13 for spreading operation of the last upon forward movement thereof. It will be seen that upon rotation of the shaft 17 the member B will be reciprocated in the grooves 13 for lateral stretching operation of the device.

It will be noted that the member B is provided with a pendent lug 23 centrally thereof at its inner end, for a purpose to be subsequently indicated. The member 15 is provided with a pendent portion 25, having a transverse dove-tail groove there-through disposed longitudinally with respect to the last and having a heel engaging member C provided with a forwardly extending portion having a dove-tail rib 27 engaged in the groove 26 which is provided with a horizontal flange 28 having a series of rack teeth on its upper side as shown. One side of the portion 25 is provided with a vertical passage 29, one side of which is provided with a vertical guide 30 in the form of a V shaped rib at one side, and having vertically slidable therein a dog 31 provided with a downwardly extending tooth 32, adapted to engage the rack teeth upon the flange 28 at times. The dog 31 is provided with an upwardly extending operating shaft 33, engaged slidably through a suitable passage in the member 16, carrying at its upper end a knurled head 34 by which the dog is adapted to be lifted. The head is provided with a recessed portion 35, in which there is engaged the laterally slotted end of a band spring 36 carried upon the top of the section 11, and engaging the head 34 normally under tension to hold the shaft 33 at the lower limit of its movement, thus presenting the tooth 32 in locking engagement with the ratchet teeth of the flange 28.

It will be noted that the heel engaging member C is provided with spaced upwardly extending portions 38 engaged slidably on each side of the shaft 17, and a rounded downwardly extending portion 39 adapted to engage snugly within the heel of a shoe.

It will be apparent from the foregoing that backward movement of the member B will bring the lug 23 into engagement with the forward end of the rib 27, and force the heel engaging members C rearwardly, and thus when the device is disposed within a shoe subjecting it to strain longitudinally thereof.

It will be noted that the forward ends of the sections 10 and 11 are provided with transversely extending slots, and when the device is to be used for longitudinal stretching of a shoe a toe piece shown at 40 is disposed over the end of the last to prevent damage to the toe of the shoe by the sharp point thereof. The toe piece 40 comprises a knob rounded on one side to present a broad engaging surface against the toe of a shoe, and having its opposed sides recessed to engage the points of the last; a central wing 41 is disposed longitudinally of the recess and adapted for engagement in the slots 51 at

the forward end of the last to hold the toe piece securely upon the last. It will thus be seen that upon reverse operation of the shaft 17 for longitudinal stretching action, the dog 31 will engage the ratchet flange 28 to lock the device in such engaged position. To release the device from longitudinal engagement, the shaft 17 is screwed forward, and the dog 31 raised by means of the knurled head 34 which allows the heel engaging member B to move forwardly.

Secured on each side of the last adjacent the forward end, there are supplementary stretching members 45 comprising portions of metal or other suitable material fitted closely over the outer sides of the sections 10 and 11, and held resiliently thereagainst by means of a headed bolt disposed slidably through a passage 46 adjacent the base of the respective sections, and engaged by a spring 47 tending to hold them at the inner limit of their movement. The purpose of the members 45 is to allow the disposition of portions of leather or other material thereunder to broaden the last locally and increase tension at desirable points within a shoe.

Formed in the outer sides of the sections 10 and 11 there are spaced recesses 48 adapted to receive slidably and detachably the stem 49 of a knob 50 adapted to be attached thereto for stretching of a shoe to fit feet having corns, bunions, or other tender areas.

What is claimed is:—

1. An expansible boot tree comprising oppositely disposed last sections, having opposed grooves diminishing in depth toward their forward ends, said sections having also opposed guide grooves spaced from said first named grooves, a transversely perforated interiorly threaded member pivotally engaged between the sections, a threaded shaft revolvably engaged through said last named member, a longitudinally reciprocable member carried at the forward end of the shaft, and engaged in said first named grooves for lateral expansion of the tree upon forward movement thereof, a heel engaging member slidably engaged in the second named groove, and adapted to be engaged by said reciprocable member upon rearward movement thereof for longitudinal expansive action of the tree, supplementary plates resiliently secured to the outer faces of the sections, a detachable toe piece, a detachable bottom member adapted for engagement at various points on the outer side of said sections, and adjustable locking means for securing the device in longitudinal stretching engagement within a shoe.

2. An article of the class described, comprising oppositely disposed last sections, a nut block pivotally coengaged therebetween at one end, a threaded shaft engaged therein, a reciprocating member carried by the

shaft and adapted to spread the sections laterally upon forward movement, a second reciprocating member rearwardly thereof, adapted to be engaged by the first member upon rearward movement, for longitudinal stretching engagement with a shoe.

5 3. The combination with a last comprising laterally movable sections, of side plates resiliently secured thereto and adapted to al-

low the interposition of material therebetween. 10

In testimony whereof I affix my signature, in presence of two witnesses.

ANDERS G. MALMBERG.

Witnesses:

Iva ADAY,

JOHN E. SHELTON.