May 29, 1945. H. F. LOEWER 2,376,926

SHOE TREE

Filed Dec. 22, 1943

Fig. 1

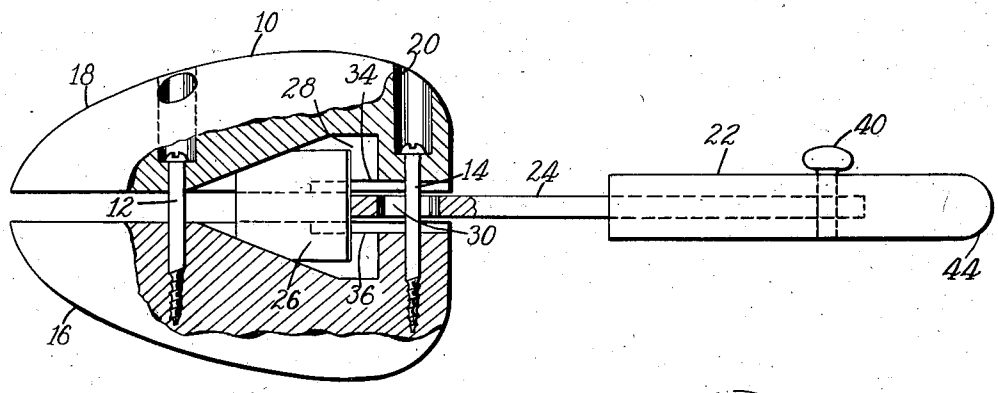
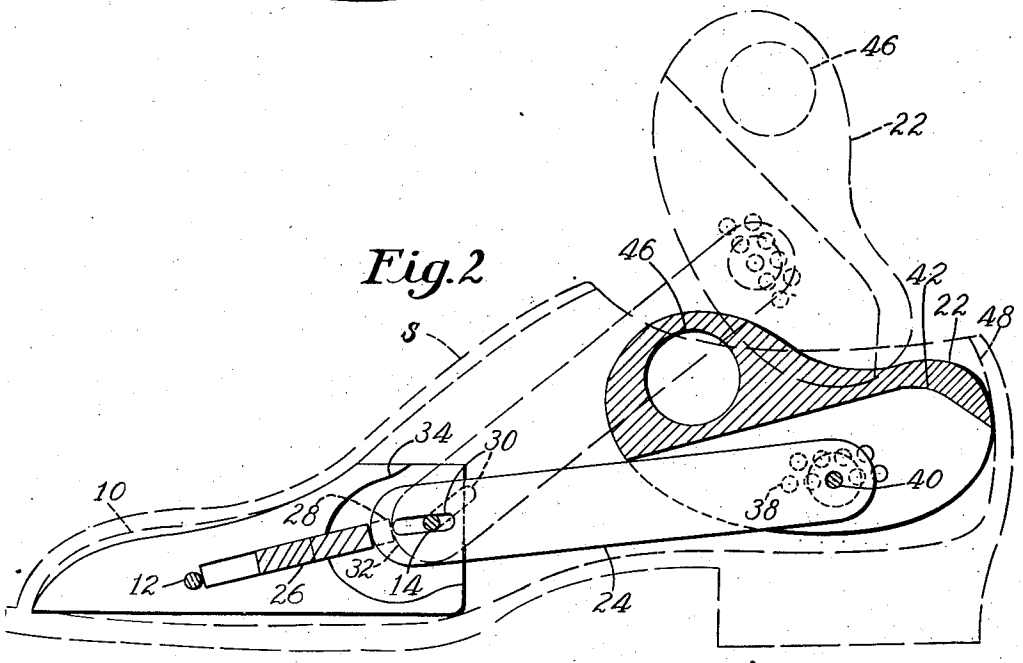


Fig. 2



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By his Attorney



Patented May 29, 1945 2,376,926

UNITED STATES PATENT OFFICE

2,376,926

SHOE TREE

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Application December 22, 1943, Serial No. 515,226

7 Claims. (Cl. 12—128.2)

This invention relates to shoe trees and is herein illustrated as embodied in a tree of the type in which the toe piece is divided into two parts adapted to be spread apart laterally to fill the forepart of the shoe.

It is desirable, in order to avoid making many sizes of shoe trees, to have the toe piece divided longitudinally so that the two parts may be spread laterally the better to fill and tree the forepart of the shoe, thus enabling its utilization with shoes of widely varying widths. Commonly, the two parts which make up the toe piece are held together by screws or the like on which one of the parts is slidably mounted and the heads of which serve to limit the lateral movement. Under present restrictions, however, the use of metal in shoe trees is limited to a very small part of the total material employed, and it becomes necessary to devise a construction which may readily be made out of wood or some equivalent material. It will be understood also that shoe trees of this type will be sold for use in shoes having low heels as well as in shoes having high heels. Some of the shoes will have straight lasts and others will have a decided swing.

In view of these considerations, it is an object of the invention to devise a simple shoe tree construction which will be salable for use in a wide variety of shoe styles and which needs only to be made in a few sizes, thus avoiding the necessity for the retailer to maintain a large stock.

To this end, the spreading of the parts of the toe piece is accomplished by means of a loose spreader, illustrated as a wedge received in grooves in the inner faces of the two halves of the toe piece, and these grooves are inclined downwardly and forwardly. Further, in accordance with a feature of the invention, the connector between the heel piece and the toe piece acts as a thrust bar to push the wedge forward but is entirely disconnected therefrom and may be brought into engagement with the wedge in any style of shoe regardless of the height of the heel or the swing of the last by reason of the fact that it is slotted to surround one of the screws which holds the parts of the toe piece for limited spreading movement and because of the fact that it has a rounded forward end to engage the back edge of the wedge.

These and other features of the invention will best be understood from a consideration of the following specification taken in connection with the accompanying drawing, in which

Fig. 1 is a plan view of the shoe tree, with portions of the toe piece broken away and in section to show the coaction of the thrust bar and the wedge; and

Fig. 2 is a side elevation of the tree with the parts positioned as they would be if it were within a shoe, indicated in dash lines.

The toe piece **10** is divided longitudinally in a vertical plane to provide two parts held loosely together by pins in the form of screws **12** and **14** which are threaded in the left-hand section **16** and slidable in the right-hand section **18** in which recesses **20** are provided to receive the heads of the screws. This toe piece **10** is connected to a flat heel piece **22** by means of a link **24** which cooperates with the heel piece to form a toggle and also acts as a thrust bar to push forward a flat plate-like spreader **26**. This spreader, here shown in the form of a wedge, is received in grooves **28** in the inner faces of the toe part sections, as shown in Fig. 1, and it will be noted from Fig. 2 that these grooves are inclined downwardly and forwardly so that any pressure against the back edge of the wedge tends to push the toe piece **10** firmly against the bottom of the inside of the shoe S, indicated in Fig. 2, and has no tendency to tip it up. The link or thrust bar **24** has a slot **30** near its forward end to surround the screw **14**, thus giving a freedom of action which enables the rounded forward end **32** of this thrust bar to be brought against the back edge of the wedge regardless of the angular relation between the toe piece **10** and the heel piece **22**. It will be understood that such differences of angular relation may be required by differences in heights of heel and differences in the swing of the last. At the same time, the fact that the screw **14** is in the slot **30** insures the proper relationship between the forward end of the thrust bar **24** and the wedge **26**. It will be noted that the inner faces of the toe piece sections are recessed at **34** and **36** to permit the toe piece to be completely collapsed without being held apart by the thickness of the thrust bar **24**.

Although it will be understood that the forepart of my novel shoe tree may be combined with a variety of heel pieces, I have illustrated herein a simple and desirable form which may be cut from ordinary lumber with a minimum of skill and which is constructed to permit relative adjustment between the thrust bar **24** and the heel piece **22** to accommodate different lengths of shoes. For this latter purpose, a series of holes **38** have been provided to receive a headed pin **40** passing through a single hole in the rear end of the thrust bar. The spacing of these holes is such that,

between adjacent holes of the five in the lower row are differences of a full size, while the four holes of the upper row correspond to the intermediate half sizes. This heel piece is grooved, as indicated at **42**, to receive the rear end of the thrust bar. The back end of the heel piece is rounded at **44** where it engages the inside of the rear end of the shoe S, and it has a finger hole **46** so that it may be lifted to the position indicated in dash lines in Fig. 2 when it is to be inserted in the shoe and then tilted forwardly by pressure against the forward portion of the heel piece to cause a toggle-like action which will force the toe piece into the toe of the shoe while at the same time causing the member **26** to spread the parts of the toe piece into tight engagement with the shoe to tree it or even, if desired, to stretch it. When it is desired to remove the tree from the shoe, this can readily be done by engaging the finger hole **46** and lifting the forward end of the heel piece to break the toggle. It will be noted that the line of pressure between the point where the thrust bar **24** engages the wedge **26** and the point **48** where the heel piece engages the inside of the rear end of the shoe lies above the connecting pin **40**, thus making, in effect, a broken toggle which will not readily be displaced in the shoe after the latter has been treed.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a shoe tree, a toe piece divided longitudinally into two parts and having an inner surface oblique to its longitudinal axis, a spreader resting against said surface and cooperating with said parts and acting, upon relative movement longitudinally between them and the spreader, to thrust them laterally to fill the shoe, a heel piece, a transverse member rigidly attached to at least one part of the toe piece, and a thrust bar interconnecting the heel piece with said member and being loosely connected thereto in a position to bear against the spreader to move the latter longitudinally of the tree, thereby to spread the toe piece.

2. In a shoe tree, a toe piece divided longitudinally into two parts, the inner face of one of said parts having a groove which is tapered lengthwise of the toe piece, an unattached spreader received in said groove and acting in conjunction with the tapered portion thereof to thrust the parts laterally into engagement with the shoe, a cross member limiting the spread of the toe parts, a thrust bar slidably engaging said cross member and arranged to bear against said spreader, and a heel piece connected to said thrust bar for engagement with the rear end of the shoe.

3. In a shoe tree, a toe piece divided longitudinally into two parts, a wedge for spreading said parts to fill the shoe, a heel piece, a thrust bar interconnecting the heel piece with the toe piece, and means for loosely connecting the thrust bar directly with the toe piece in position to bear against an adjacent end of the wedge.

4. In a shoe tree, a toe piece divided into parts, a cross pin limiting the spread of said toe parts, a loose wedge for spreading said parts, a thrust bar loosely surrounding said cross pin and arranged to bear against said wedge, and a heel piece connected to said thrust bar to force it forward to extend the shoe.

5. In a shoe tree, a toe piece divided longitudinally into two parts, opposed grooves in the inner faces of said parts, a wedge plate received in said grooves, the plane of said grooves being inclined downwardly and forwardly, a cross pin interconnecting the rear ends of said toe parts, a thrust bar loosely surrounding said pin and adapted to bear against said wedge, and a heel piece pivotally connected to said thrust bar to form a toggle thereby to expand the toe piece and lengthen the tree.

6. In a shoe tree, a toe piece divided longitudinally into two parts, rigid connectors between said parts limiting the spread thereof, a wedge plate for spreading said toe parts, the rear end of said wedge plate extending horizontally across said shoe tree, a flat thrust bar disposed in a vertical plane and slotted to surround the rear one of said connectors, the forward end of said thrust bar being rounded to bear against the rear end of the wedge, and means connected to said thrust bar engaging the shoe to push the toe piece of the tree into the toe of the shoe.

7. In a shoe tree, a toe piece divided longitudinally with its parts loosely connected to permit lateral movement, a wedge plate, grooves in the inner faces of the toe piece inclined downwardly toward the toe end thereof to receive said wedge plate, a thrust bar having a rounded forward end to bear against the wedge plate and disposed in a vertical plane with respect to the bottom of the shoe, and a toggle-forming heel piece adjustably pivoted on the thrust bar and arranged to be pressed down to force the bar forward to spread the toe piece.

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