April 6, 1937.

C. N. LARSEN

2,075,905

TAP DANCING SHOE

Filed July 29, 1935

Fig. 1.

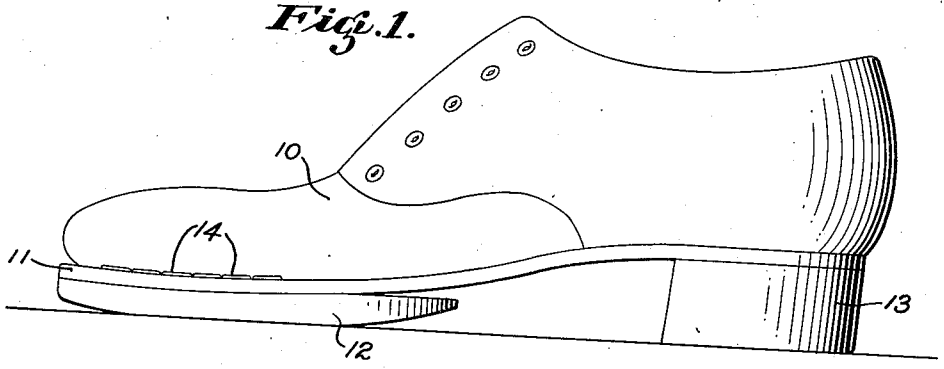


Fig. 2.

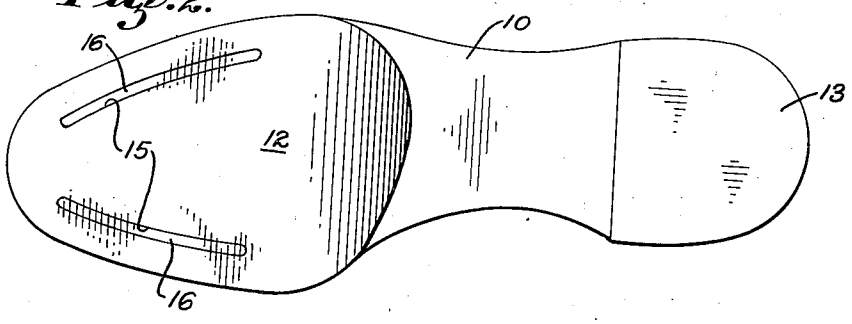


Fig. 3.

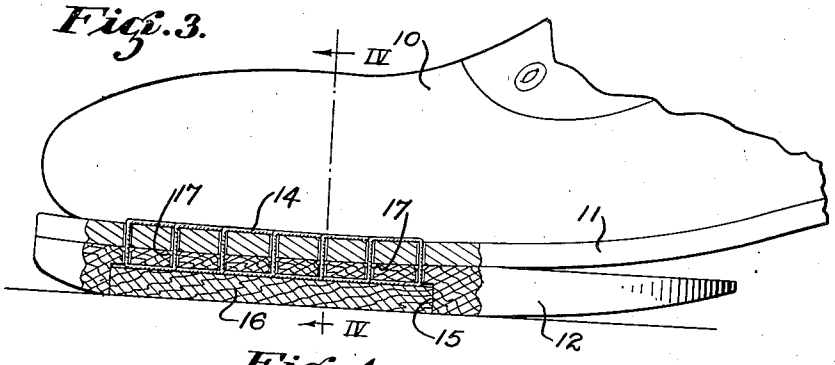
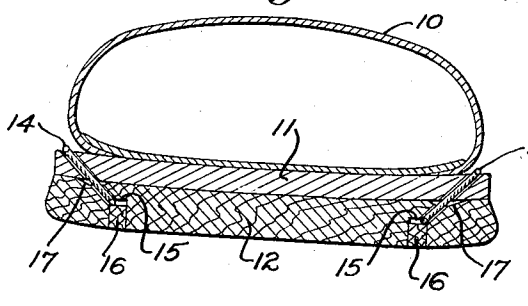


Fig. 4.



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TAP DANCING SHOE

Clarence N. Larsen, San Francisco, Calif.

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8 Claims. (Cl. 36—8.3)

The present invention relates to tap dancing shoes and more particularly to a new and improved sole for and method of applying same to such a shoe.

An object of the present invention is to provide a new and novel sole for tap dancing shoes which has advantages not possessed by soles heretofore provided for shoes of this type.

Another object of the invention is to provide a new and novel method of attaching a tap sole to a tap dancing shoe.

Another object of the invention is to provide a new and novel wooden sole for tap dancing shoes having features which render it more durable and less likely to break away from the shoe when in use than soles as heretofore provided.

In applying tap soles to tap dancing shoes it has been the practice in the past to sew the tap sole to the dancing shoe by extending the stitching straight through the leather sole and the wooden sole of the combination, as is generally practiced in sewing on leather soles. In this form of the stitching it has also been the practice to provide a slight groove in the bottom of the sole into which the stitching threads will repose and be protected against contact with the floor and the consequent wear. This arrangement, however, forms a narrow ridge about the edge of the sole outside of the stitching which because of its dimension and weakness easily chips away and renders the sole unsightly, and in a great many cases results in a complete destruction of the sole. To remedy these defects, the present invention contemplates a stitching of the sole in a new and novel manner by disposing the stitching threads in an inwardly inclined angle from the welt line of the shoe so as to bring the stitching at the bottom of the sole a considerable distance in from the edge thereof and thus eliminate the narrow and weak ridge which has been the source of annoyance in the past.

Another feature of the invention which is also a departure from prior art practice, is the provision of a relatively deep groove in the bottom of the sole at the point where the stitching comes out and the insertion of a fillet in said groove to further protect the stitching and at the same time reenforce the sole.

Other objects and advantages of the invention will be in part pointed out and in part evident to those skilled in the art as the description thereof proceeds.

In the drawing where there is shown, by way of illustration and not of limitation a preferred embodiment of the present invention—

Figure 1 is a side elevation of a shoe having a tap sole constructed in accordance with this invention applied thereto,

Figure 2 is a bottom view of the tap shoe illustrated in Figure 1 of the drawing,

Figure 3 is a substantially full size fragmentary side elevation of a tap dancing shoe embodying the invention and having portions broken away to disclose the details of construction, and,

Figure 4 is a transverse sectional view taken along line IV—IV of Figure 3 showing further details of construction.

For the purpose of illustrating the invention there is shown in Figure 1 of the drawing, designated by the numeral 10, a low cut man's shoe having a conventional leather sole 11, and while a man's shoe is illustrated, it is to be understood that the invention is equally applicable to a lady's shoe. It may also be stated that the shoe 10 need not necessarily be one designed primarily for dancing, as almost any type of shoe is adapted to use with the present invention. The shoe 10 is shown as having a wooden sole 12 and a wooden heel 13 which are preferably formed of birdseye maple. Birdseye maple has been found to be the preferred type of wood for this purpose, as it is light in weight and the grain structure thereof is less susceptible to splitting than any other wood. It is conceivable that the tap sole 12 and the heel 13 may be formed of other materials, as for example "bakelite" or fibre, where found desirable. As illustrated, the wooden sole 12 is attached to the leather sole 11 of the shoe 10 by a stitching 14. The stitching 14 differs from the usual sole stitching in that it extends downwardly and inwardly at an angle through the leather sole 11 of the shoe from a point outside the shoe upper and comes out through the wooden sole 12 at a point a substantial distance inwardly from the sides thereof. The stitching 14 then comes out in a suitably disposed groove formed in the bottom of the shoe as will hereinafter appear.

As illustrated in Figure 2 of the drawing, the thread holes and the aforesaid groove are disposed a considerable distance in from the sides of the sole and thus a weakening of the sole 12, such as would be the case were the stitching 14 extended straight down through the soles 11 and 12, is avoided.

Upon referring to Figure 3 of the drawing, it will be noted that while the sole 12 has a length corresponding to the floor-contacting area of the sole 11, it is only attached to the latter sole from a point adjacent the ball of the shoe forwardly

and along each side thereof. The attachment of the wooden sole 12 by a stitching that does not extend back of the ball of the foot leaves the leather sole 11 of the shoe free to flex in substantially the same manner as if the wooden sole 12 were not attached thereto. In other words, by limiting the stitching to a location forward of the flexing portion of the shoe, the shoe is not rendered uncomfortable and at the same time the stitchings are not subjected to any strain by a flexing of the leather sole 11 when the shoe is being worn. In this figure of the drawing, the aforementioned groove, designated by the numeral 15, is shown as cut into the wooden sole 12 to a depth of nearly two-thirds (⅔) the thickness of the sole. The groove 15 is also shown as provided with a fillet 16 which is preferably of the same material as is the sole 12. The stitching 14 as shown comprises a series of loops which pass around and through holes formed in the leather sole 11 and the wooden sole 12. In addition to the stitching 14 for securing the sole 12 resort may also be had to the use of glue between the leather sole 11 and the wooden sole 12. While the use of glue in this manner is not necessary in all cases, it has been found desirable. When glue is used it secures the wooden sole 12 to the shoe as a substantially integral part thereof and also prevents the accumulation of any foreign matter between the soles which might produce a strain upon the stitching 14.

As shown in Figure 4 of the drawing, the stitching 14 along each side of the sole 12 extends inwardly through the projecting edges of the leather sole 11 and at a considerable angle toward the center line of the shoe where it terminates in the bottom of the grooves 15 previously referred to. After the stitching has been completed, the grooves 15 are then closed by the fillets 16 which are preferably glued in place. Upon close examination of Figures 3 and 4 of the drawing, it will be noted that the holes in the sole 12, through which the stitching 14 passes, are each provided with a countersunk upper end, designated by the numeral 17. The purpose of the countersunk end 17 is to prevent a chafing of the threads of the stitching 14 where they pass from the leather sole 11 and into the wooden sole 12. This is considered an important feature of the present invention, as it has been found to eliminate one of the major difficulties encountered in the past in applying wooden soles to tap dancing shoes. The present invention has been applied to a large number of shoes which have been used by both professional and amateur performers and while the majority of these shoes have been in use for many months there has not yet been a single instance where the soles have had to be replaced and/or resewn, whereas where the soles of the same type have been sewed by the ordinary prior art method, with the threads of the stitching 14 extending through the soles without the countersunk portions 17, the wooden soles had to be resewn upon the shoes as frequently as every one or two weeks. This is particularly true where the shoes are put to constant use by professional dancers.

By way of further improvement it will be noted from the latter figures of the drawing, that the wooden sole 12 is provided with an upper surface that conforms, in both the lateral and transverse planes of the shoe, to the normal curvature of the leather sole 11 and at its bottom or floor-contacting surface is practically flat. The flat or floor-contacting surface of the wooden sole 12 extends entirely over the area encompassed by the stitching 14 and the portions of the sole outside of the stitching 14 are preferably curved or disposed slightly upwardly, as shown in Figures 3 and 4 of the drawing. The provision of this flat surface between the grooves 15 and throughout the major length of the wooden sole 12 provides a smooth bearing surface upon the sole for contact with the floor and at the same time with the upward disposition of the wooden sole outside of the stitching prevents the outer edges of the sole contacting the floor and thus imposing a pressure on the projecting edges of the sole. This feature also further reduces the danger of the side of the sole 12 splitting away outside the stitching 14.

In Fig. 4 of the drawing, the edges of the wooden sole 12 are also clearly shown as extending outwardly slightly beyond the sides of the leather sole 11 where they are rounded to present a neat appearance. This outward extension of the wooden sole 12 permits it to be brought into wood to wood contact with the heels 13 as is so often required in tap dancing.

When the wooden sole 12 has been attached to the shoe 10 as above described, it will be seen that there will be considerably more solid wood at the edge portions thereof than would be the case were the stitching 14 extended straight down through the soles 11 and 12, in accordance with prior art practice, and as a result the soles 12 will be more substantial and will withstand more abuse and last longer than any wooden sole now available for this purpose.

In applying a wooden sole 12, constructed in accordance with the present invention, to a shoe the preferred method of procedure is to first form the sole to the proper size and shape. This operation will include forming the top surface to fit the leather sole 11 and cutting the grooves 15 therein. The wooden sole 12 is then clamped to the leather sole 11 of the shoe and the thread holes are drilled through the two soles from a point outside the upper of the shoe 10 and into the grooves 15 formed in the bottom of the sole 12. The wooden sole 12 is then removed from the shoe and the thread holes therein are provided with the countersunk portion 17, as suggested above. The sole 12 is next, if desired, coated with glue and immediately stitched upon the shoe with any suitable form of stitching, after which the fillets 16 will be inserted and secured in the grooves 15. The wooden sole 12 can then be given any further finishing desired upon a sand wheel or other wood working machine.

While I have, for the sake of clearness and in order to disclose my invention so that the same can be readily understood, described and illustrated a specific arrangement, I desire to have it understood that this invention is not limited to the specific arrangement disclosed, but may be embodied in other ways that will suggest themselves to persons skilled in the art. It is believed that this invention is new and it is desired to claim it so that all such changes as come within the scope of the appended claims are to be considered as part of this invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. An improved sole for attachment to a tap dancing shoe, comprising a sole of birdseye maple having its top surface curved along its longitudinal and transverse planes to conform to the natural configuration of a shoe sole and having a groove formed in its bottom surface extending along each side and at a point inwardly removed

from the edges thereof, and thread receiving holes extending diagonally outwardly from said groove and having countersunk upper ends, whereby the stitching will not be subjected to a shearing action when the sole is stitched to the leather sole of a shoe.

2. In a tap dancing shoe, the combination of a shoe having a conventional upper and leather sole, and a wooden sole sewed to the leather sole of said shoe, the holes in the wooden sole through which said sewing passes having countersunk portions adjacent the leather sole of said shoe to prevent a chafing of the threads where they pass into said wooden sole.

3. In a tap dancing shoe, the combination of a shoe having a conventional leather sole, and a wooden sole secured to the leather sole of said shoe by a stitching, said stitching extending inwardly through the projecting edges of the leather sole and through holes in the wooden sole and the holes in said wooden sole having countersunk portions to prevent a chafing of the threads where they pass into the wooden sole.

4. An attachable sound producing sole for tap dancing shoes, comprising a rigid sound producing sole having a configuration corresponding to the leather sole of a shoe and having a groove along each margin thereof with stitch receiving holes terminating therein, said groove and stitch receiving holes extending forward from a point upon the sole corresponding to the position of the ball of a wearer's foot and toward the toe of the sole, whereby said rigid sound producing sole when secured to the leather sole of a shoe by stitching extending through said stitch receiving holes will be secured to the leather sole forward of and unattached at the rear of the ball line of the leather sole and will not interfere with a normal flexing of the shoe.

5. An attachable sound producing sole for tap dancing shoes, comprising a wooden sole having a configuration corresponding to the leather sole of a shoe and having an independent groove along each side thereof with stitch receiving holes terminating therein, said grooves and stitch receiving holes extending from a point upon the sole corresponding to the position of the ball of a wearer's foot and terminating short of the toe of the sole, whereby the wooden sole may only be attached to the leather sole of the shoe forward of the ball line of the wearer's foot by a stitching extending through said stitch receiving holes and will be unattached to the leather sole at the rear of the ball line of the shoe to permit a normal flexing of the shoe upon the foot of a wearer.

6. An improved tap dancing shoe, comprising a leather soled shoe, a sole of wood having its top surface curved to conform to the natural configuration of the leather shoe sole and having its bottom surface flat throughout a central area less than the total area thereof and with its remaining area extending upwardly so as to be out of contact with the floor, and stitching along each side of said flat area extending through the wooden sole outwardly to and through the welt of the leather shoe sole, said stitching being located only forward of the ball of the foot of a wearer and the wooden sole being unattached to the shoe sole rearward of the ball portion of the shoe, whereby the wooden sole will be secured to the non-flexing portion of the leather sole and permit the remaining portion of the leather sole to flex without subjecting the stitching to a breaking strain.

7. An improved tap dancing shoe, comprising a leather soled shoe, a sole of wood having its surface curved to conform to the natural configuration of a leather shoe sole and having its bottom surface flat through a substantial area less than the total area thereof, and a line of stitching along each side of said flat area extending through the wooden sole outwardly to and through the welt of the leather shoe sole, said stitching being located only forward of the ball of the foot of a wearer, and the wooden sole being unattached to the shoe sole rearward of the ball portion of the shoe, whereby the stitching will not interfere with a free flexing of the leather shoe sole at and to the rear of the ball of the wearer's foot.

8. An improved tap dancing shoe, comprising a leather soled shoe, a sole of wood having the configuration of a leather shoe sole, and a line of stitching at each side of and extending through the wooden sole outwardly to and through the welt of the leather shoe sole, said stitching being disposed along the sides of said sole of wood forward of the ball of the foot of a wearer, and the wooden sole being unattached to the shoe sole rearward of the ball portion of the leather shoe sole, whereby the stitching will not interfere with a free flexing of the leather shoe sole at and to the rear of the ball of the wearer's foot.

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