R. B. MELANSON.

SHOE AND BOX TOE THEREFOR.

APPLICATION FILED JUNE 9, 1911.

1,043,858. Patented Nov. 12, 1912.

Fig. 1.

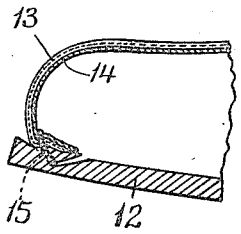


Fig. 2.

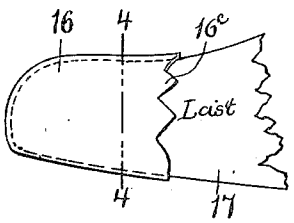


Fig. 4.

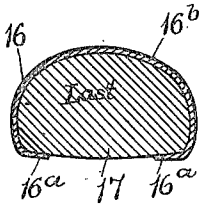


Fig. 3.

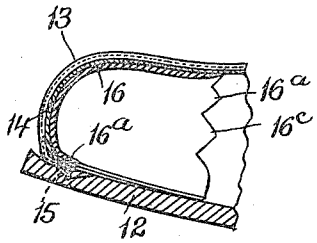


Fig. 5.

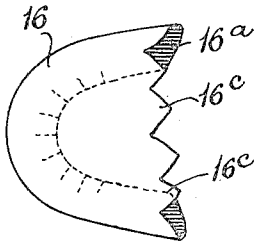


Fig. 6.

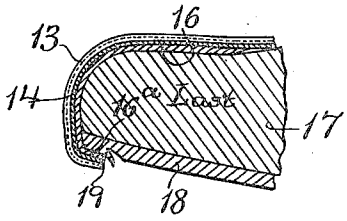
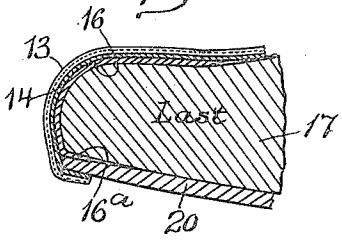


Fig. 7.



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UNITED STATES PATENT OFFICE.

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SHOE AND BOX-TOE THEREFOR.

1,043,858. Specification of Letters Patent. Patented Nov. 12, 1912.

Application filed June 9, 1911. Serial No. 632,290.

To all whom it may concern:

Be it known that I, RANCHFORD B. MELANSON, a citizen of the United States, and a resident of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Shoes and Box-Toes Therefor, of which the following is a specification.

This invention relates to a shoe, the toe portion of the upper of which is reinforced and stiffened by a molded stiffener known as a box toe, and composed of leather or other material adapted to be molded to a predetermined form by pressure.

The invention has for its object, first, to enable a box toe to be conveniently, quickly and accurately applied to the toe portion of a shoe without the possibility of inaccurate or improper location of the box toe, and secondly, to provide a molded box toe of improved construction, the novel features of the box toe being intended to enable it to be accurately applied and to avoid inward displacement of its rear edge and uncomfortable pressure of said edge against the wearer's foot.

The invention consists in the improved box toe as an article of manufacture, and in a turned shoe of which said box forms a part; all as hereinafter described and claimed.

Of the accompanying drawings which form a part of this specification,—Figure 1 represents a sectional view of the toe portion of a turned shoe in readiness for the insertion of the box toe in accordance with my improved method. Fig. 2 represents a side view of the toe portion of a last and a box toe embodying my invention applied thereto, and ready for insertion into the toe portion shown by Fig. 1. Fig. 3 represents a view similar to Fig. 1 showing the box toe in place. Fig. 4 represents a section on line 4—4 of Fig. 2. Fig. 5 represents a top plan view of the box toe removed from the last. Fig. 6 represents a sectional view of the toe portion of a partially completed welt shoe and a portion of a last therein. Fig. 7 represents a view similar to Fig. 6 showing the toe portion of a McKay sewed shoe.

Similar reference characters indicate the same or similar parts in all the figures.

I will first describe my invention in connection with the manufacture of a turned shoe and with reference to Figs. 1, 2, 3, and 4. 12 represents the sole, 13 the upper and 14 the upper lining of the toe portion of a turned shoe, the upper and lining being stitched in the usual way to the sole, while the parts are turned inside out, after which the parts are turned to their final position, that is, right side out, as indicated by Fig. 1, in which 15 represents the stitches which connect the upper and lining to the sole. The upper and lining are in a damp or moist condition to render them sufficiently flexible for the turning operations. 16 represents a box toe which is molded to accurately fit the toe portion of the last or form 17 which is inserted in a turned shoe while the latter is in the condition represented by Fig. 1, and fills and supports the interior of the shoe during subsequent steps of the shoe-making operation. The last is of course shaped to accurately form the shoe and the box toe is molded so that its interior conforms exactly to and bears directly upon the toe portion of the last, the lower edges of the box toe being bent inwardly and crimped to form a flange 16^a adapted to bear on the bottom of the last, as shown by Fig. 4. The external surface of the box is provided with a coating 16^b represented by the heavy black line, Fig. 4, said coating being formed by spreading any suitable adhesive fluid substance on the outer surface of the box and drying the same so that the box when prepared for use, will not adhere to dry objects in which it comes in contact, the coating being readily softened and rendered adhesive by moisture. The box 16 being placed on the toe portion of the last as stated, the last is forced into the interior of the turned shoe, and the coated surface of the box is thus pressed closely against the moist toe portion of the lining 14, the flange 16^a being pressed against the inwardly turned portion of the lining. The moisture of the lining softens the adhesive coating so that after the last has remained in the shoe a sufficient length of time, the box adheres firmly to the lining, the last being left in the shoe until the lining is dry. The last is then removed from the shoe, the box remaining therein in firm contact with the toe portion of the lining, and interposed as an inner lining between said toe portion and the interior of the shoe, as shown by Fig. 3.

It will be seen that the described oper-

ation insures a perfectly accurate location of the box in the shoe and its secure retention in place.

I am the first, so far as I am aware, to provide a turned shoe with a stiff molded box. Heretofore the toe portions of turned shoes have been stiffened only by applying a hard-drying paste to the lining of the toe portion of the upper, the lining being usually composed of two or more superimposed layers to the surfaces of which the paste is applied before the shoe is turned right-side-out, the paste being necessarily in a soft condition during the turning operation. It is impossible to turn a shoe into the upper of which a stiff molded box toe is incorporated. A turned shoe stiffened by the drying and hardening of paste applied to layers of its lining soon loses its stiffness owing to the disintegration of the paste, so that the toe of a turned shoe, as heretofore made, never presents that smooth and desirable appearance which is due to the presence of a molded stiffener. A turned shoe, made in accordance with my invention, has the desired stiffness and permanency of form at its toe portion.

To prevent liability of the inward bending or wrinkling of the rear edge of the box, and uncomfortable contact between the same and the wearer's foot, I sub-divide said rear edge into a plurality of tongues 16^c. This is preferably accomplished by cutting V-shaped notches in the rear edge of the box, as represented by Figs. 2 and 5. The tongues thus formed are free from contact with each other so that each is free to be pressed outwardly against the upper by contact with the wearer's foot. I find that the operation of drying the adhesive coating on the external surface of the box tends to slightly curl the tongues 16^c outwardly, so that they normally spring away from the wearer's foot.

In Fig. 6, 18 represents the inner sole of a welted shoe having the usual lip 19 to receive the inseam stitches which connect the upper and welt to the inner sole. In using my improved box toe in the manufacture of a welted shoe, I mold the box in such manner that while its body portion accurately fits and bears upon the toe portion of the last 17, its flange 16^a bears on the outer surface of the inner sole, the edge of the latter being interposed between the flange and the bottom of the last. The procedure in this case is as follows: The inner sole 18 is first tacked temporarily to the bottom of the last, the box 16 is then placed upon the toe of the last and upon the toe portion of the inner sole and the upper and lining are lasted upon the box, the edge of the upper and lining being turned over upon the edge of the inner sole and temporarily secured by lasting tacks as usual. After this, the welt is applied and secured to the upper and inner sole as usual. In this case the adhesive coating may or may not be applied to the box, although I consider it preferable to employ this coating. The width of the flange 16^a on the box is such that the inseam stitches pass through it and thus secure the box to the shoe. In case the adhesive coating is provided, it insures a firm engagement between the upper portion of the box and the damp lining of the upper, the last being allowed to remain in place until the lining dries.

Fig. 7 shows the toe portion of a McKay sewed shoe of which 20 is the inner sole. Here the flange 16^a of the box bears directly upon the bottom of the last 17, as in the turned shoe construction first described, the toe portion of the inner sole bearing on the outer side of the flange and the toe portion of the upper and its lining being bent over upon the outer surface of the inner sole and temporarily secured preparatory to the operation of applying the outer sole and securing the latter to the upper, inner sole, and box flange, by stitches formed by a McKay sewing machine. In this construction the adhesive coating may be omitted from the box, although its use is preferred.

It will be seen that in each of the above described constructions the position of the box is accurately determined by the last, there being nothing between the last and the box. In the welt shoe construction the flange 16^a of the box may bear on the bottom of the last instead of on the outer surface of the inner sole.

I claim:—

1. A box toe molded to conform to and bear directly on the upper surface of the toe portion of a last and thereby adapted to constitute an inner lining interposed between the usual lining at the toe portion of a shoe upper and the interior of the shoe, the box toe having its rear edge subdivided to form flexible tongues adapted to curl outwardly against the interior surface of the upper.

2. A box toe molded to conform to and bear directly on the upper surface of the toe portion of a last and thereby adapted to constitute an inner lining interposed between the usual lining at the toe portion of a shoe upper and the interior of the shoe, the box toe having its rear edge subdivided to form flexible tongues adapted to spring outwardly against the interior surface of the upper, and a soluble adhesive coating on its outer surface whereby the box toe may be secured to the toe portion of the lining of a shoe upper, said coating causing the tongues to curl outwardly.

3. A turned shoe having a molded box toe cemented to the toe portion of the upper

lining after the shoe has been turned right-side-out, the box toe being interposed between the toe portion of the lining and the interior of the shoe, and the rear edge of the box toe being subdivided to form flexible tongues which are caused to curl outwardly by the adhesive which secures the box to the lining.

4. The combination with a shoe provided with an upper lining, of a box toe of moldable material interposed between the toe portion of said lining and the interior of the shoe, the rear edge of said box toe being subdivided to form flexible tongues adapted to curl outwardly against the interior surface of said upper lining.

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

RANCHFORD B. MELANSON.

Witnesses:

C. F. BROWN,

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