Mar. 3, 1925. 1,528,260

C. A. MORIN

METHOD OF MAKING SHOES

Filed Sept. 11, 1924 2 Sheets-Sheet 1

Fig. 1

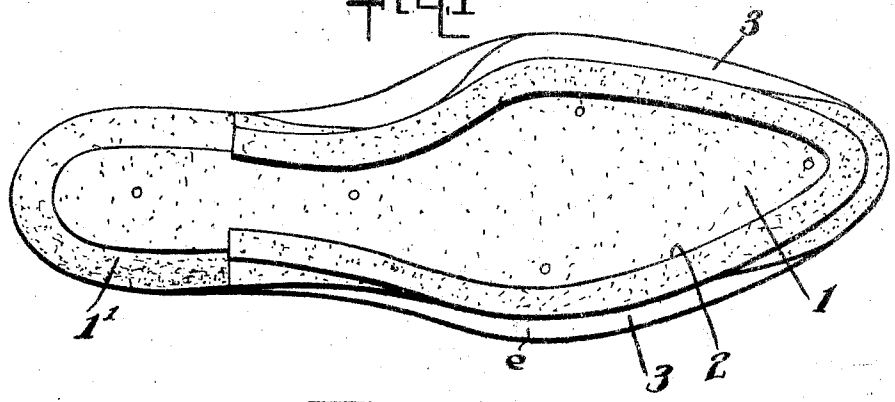


Fig. 2

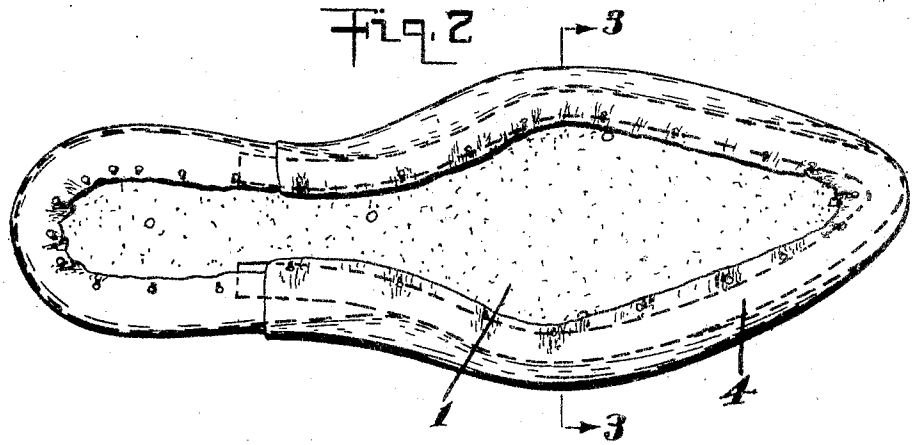


Fig. 3

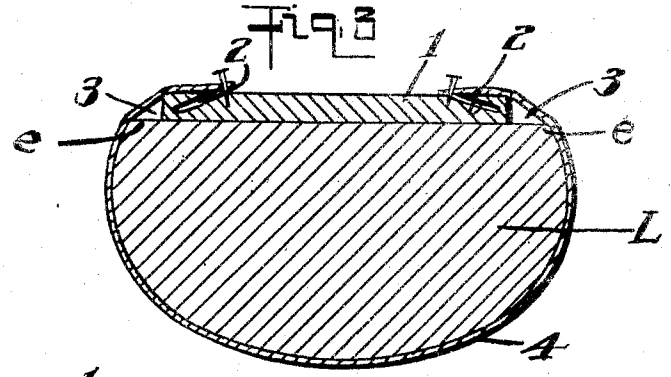
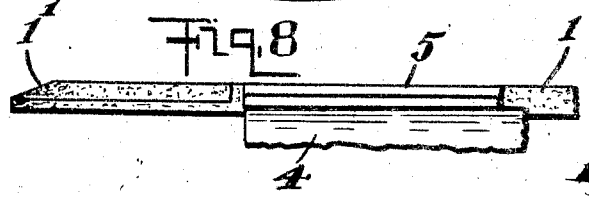


Fig. 8



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Mar. 3, 1925.

1,528,260

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Fig 6

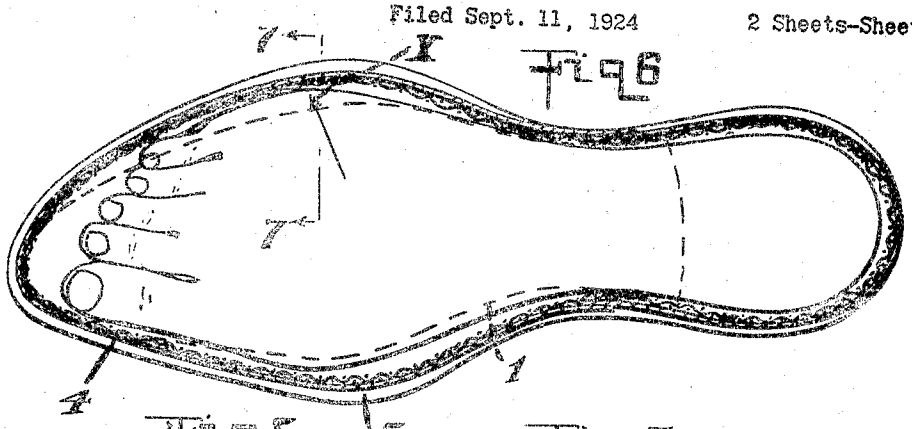


Fig 5

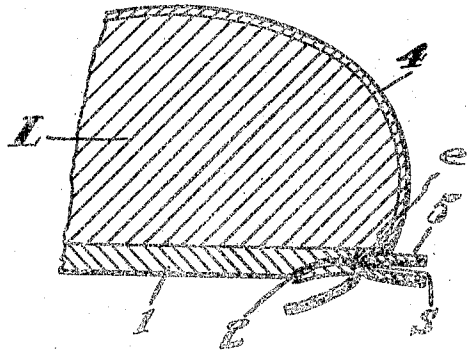


Fig 7

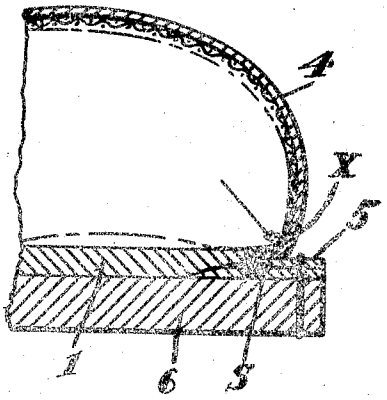
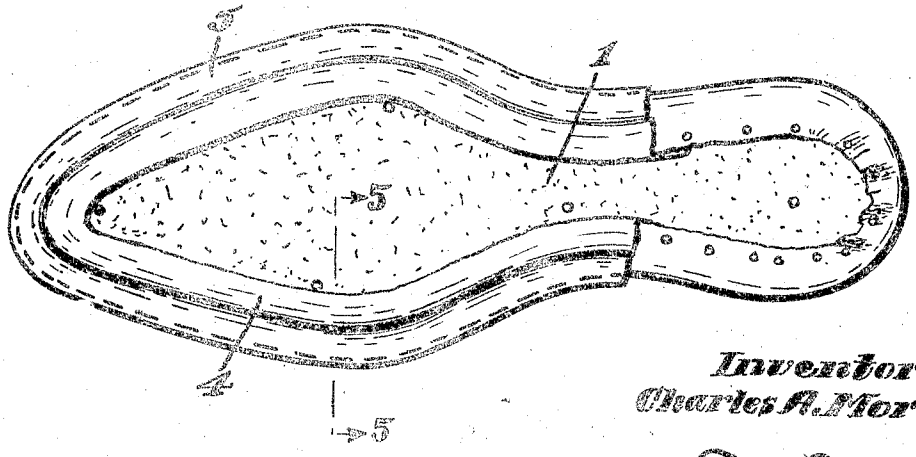


Fig 4



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By Attorneys

Patented Mar. 3, 1925. 1,528,260

UNITED STATES PATENT OFFICE.

CHARLES A. MORIN, OF NEWBURYPORT, MASSACHUSETTS.

METHOD OF MAKING SHOES.

Application filed September 11, 1924. Serial No. 737,060.

To all whom it may concern:

Be it known that I, CHARLES A. MORIN, a citizen of the United States, residing at Newburyport, county of Essex, Commonwealth of Massachusetts, have invented certain new and useful Improvements in Methods of Making Shoes, of which the following is a specification.

In the development of footwear after the cruder requirements of foot protection were provided for, there has always appeared a demand for certain neatness and refinement in appearance that has required great skill to produce. This was particularly true as shoe making machinery came to replace the skilled hand shoe maker.

One of the most generally desired features in shoe making has been the production of close drawn sole seams, particularly along the sides of the foot at the ball portion. This involved not only a matter of appearance in reducing the prominence of the seam, but involved an importance in actual structure because when such seams are close drawn the foot is supported upon a more level sole surface and when the seams are properly disposed that surface will be maintained even after long periods of wear.

This is particularly true with regard to the lasting operation as generally practiced by modern machinery and in present day shoe practice. The pulling over of the upper and the securing of the same by tacks or other fastenings, where the insole has the al feather, has had a recognized tendency to leave a sole structure easy to curl and cause the feather edges of the inner sole to produce uncomfortable and annoying wrinkles, bunches or ridges, which cause the shoe to run over at the side and form callouses.

In accordance with the common practice it is necessary to fill the bottom of the shoe up to the level of such ridges. Various efforts have been made to avoid this necessity, one of which has been the practice of edge lasting, or in other words, the avoidance of the drawing over of the upper and fastening of it to the face of the sole.

My present invention involves the production of such shoes by machines and factory methods of well known and established types and without the necessity of newly created machines or special lasts or appliances. In other words, in accordance with my invention it is possible to produce shoes of the desired character with shoes pulled over and lasted by tacks or other temporary securing means in the ordinary manner and by using the ordinary machine and equipment such as is available in the usual shoe shop.

My invention while involving several features of novelty, is pre-eminently unique in its radical departure from ordinary practice in regard to contour of the inner sole in relation to the edge of the bottom face of the last. As will appear in the further discussion of my invention, I deliberately eliminate portions of the so-called feather of the inner sole so that its contour is definitely brought well inside of the edge line of the last. In so doing I cause the foot of the wearer in effect to take up the characteristic function of the feather at such points, thus eliminateing the feather as a factor most liable to be curled or drawn up at such points and thus bringing the whole sole structure down to a flat and intimate footing by which the sole of the foot is completely protected, while leaving the upper to perform its natural upper function or merely bandaging the foot to the protecting soles.

As illustrative of my invention I will show and discuss in my present application a characteristic welt shoe structure and method of making the same by which my invention may be readily understood and by which other forms or types of shoes in accordance therewith may be readily made.

Throughout the specification and drawings like reference characters are employed to indicate corresponding parts, and in the drawings:

Fig. 1 is a view of an inner sole in accordance with my invention applied to the bottom of a last.

Fig. 2 is a view of the same lasted.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Fig. 4 is a bottom view of the same welted.

Fig. 5 is a partial section of the same on the last, showing the temporary securing means for lasting.

Fig. 6 is a similar view with last removed and outer sole applied.

Fig. 7 is a diagrammatic view indicating the position of a foot in a shoe with reference to the line of stitching, and

Fig. 8 is a detail of the heel seat construction.

In practicing my invention to produce a shoe in accordance therewith, I provide an

inner sole 1 channeled as at 2 in the ordinary manner, but contoured as at 3 to bring the outer edge of the sole 1 inside the edge line *e* of the bottom face of the last L, so as to form an overhanging shoulder. The inner sole 1 is positioned on the last just as if it were of full contour, leaving exposed portions of the ordinary last bottom where its margin is contoured back as above described. I next pull over the upper 4 which may be lasted with temporary securing means, such as tacks, in the usual manner, as indicated in Figs. 2 and 3. This brings the upper 4 at the contoured points over the edge *e* and the overhanging shoulder of the bottom face of the last L and over the inset contoured edge of the inner sole 1. The welt is then applied by stitching through the upper the inset contoured edge of the sole 1 and the channel 2. The overhanging shoulder formed by having the edge of the insole set in from the edge of the bottom face of the last, serves in the absence of the feather as a guide to facilitate the application of the welt strip to the inset edge of the insole. This draws the welt 5 close up to the contoured edge of the sole 1 drawing in the upper under and in contact with the bottom face of the last and around the edge *e* so that the joint of this stitich line is set in and brought under the normal turn of the upper about the edge *e* of the last, so that the combined thickness of the welt and upper lining is equal substantially to the thickness of the insole, the feather portion of the insole heretofore commonly used, being eliminated. This as has been before explained, is a very desirable feature which has been variously attempted but never before obtainable by ordinary methods and machines in shoemaking. The insole edge is preferably set in from the edge of the bottom face of the last at the ball portion of the foot, but if desired the insole may be set in all around the bottom face of the last forward of the heel.

In practice the welt is applied and the upper drawn, stitched in and drawn around the overhanging shoulder at the margin of the bottom face of the last, while the leather is in the tempered condition. Thereafter the leveling machine is employed which assists in forming a neat, permanent and clean cut bend in the upper below the sole or bottom of the last.

The sole 1 is cut down as at 1′, to form a seat or bearing for the flange of the counter. This brings the counter in line with the end of the welt 5, as shown in Fig. 8, making a neat, tight joint at the heel.

The shoe is now supplied with its outer sole 6 and otherwise finished with the last removed, as indicated in Fig. 6. It will be noted now as indicated by the arrow X the turn of the upper is capable of overlying the stitch line and extends under and in contact with the bottom face of the last and around the edge thereof, and in the same plane as one side of the insole; this portion of the upper extends parallel with and overlies and is in contact with a portion of the welt.

I have endeavored in Fig. 7 to illustrate the position of a foot in a shoe with relation to the stitch line indicated at S, in dotted lines. This is brief is the general method of procedure to secure such a shoe structure. In practice, I preferably contour my inner sole 1 which is formed of heavy stock so that it has a slight bevel or projection at the sole contacting edge. This tends to further close the seam and give a smooth uniform finish to the interior of the shoe.

I also find it of great advantage to form my welt 5 as a folded strip of thickness of about one-half the ordinary welt thickness. By so doing, my stitches pass substantially at right angles to the grain of the leather instead of parallel therewith, as in cut or slitted welts. I do not intend to be limited herein to a folded welt as I may use any other tpye of welt, but in my present combination I find the same of very high effiency in its cooperation between the upper and the contoured edges of the inner sole, whereby the parts may be drawn together under a heavy tension to give great flatness of seam and to bring a welt and inner sole into the same plane. After the edges of the upper have been trimmed, I cement down the flap of the channel and preferably level the shoe. When, therefore, the outer sole 6 is applied, it has a perfectly flat bearing on the inner sole so that the two soles are in intimate contact and the foot of the wearer is protected by what is practically one uniform solid piece of leather flexibly bandaged to his foot in such a way that his foot in filling out the upper next to the sole finds a smooth bearing even in the absence of the feather at that point. In fact, as is well known, the feather under the heat and moisture of the foot, is apt to become softened and in drawing to assume undulations or wrinkles, or even to turn up a sharp edge which is extremely unpleasant when the shoe is again put on.

Shoes in accordance with my invention yield a maximum of comfort and present an extremely finished custom made appearance. Plaster casts of shoes subjected to long wear shows incredible smoothness of inner sole.

Not only is the comfort of such shoes greatly increased over usual constructions, but viewed from the inside the sole presents a smooth and finished appearance, filling out fully to the upper and entirely covering the stitch line which so often is visible. This feature helps make the shoe saleable as of the highest class.

Furthermore a part of the characteristic uniformity of shoes in accordance with my invention results from the reduction of the thickness of the heel seat by skiving down the inner sole to about the thickness of the flange of the counter, as shown in Fig. 8. By so doing, as stated above, I am able to bring the breast of the heel in substantial alinement with the welt leaving no displacements in the welt and no displacements in the lift of the heel.

Various modifications may obviously be made in the degree and extent of contouring or removal of the feather. The contouring may be carried entirely about the shoe or may be omitted at the toe. This is especially desirable where a soft or unboxed toe is desired. All such modifications and variations and combinations are to be understood as part of my invention as defined in the appended claims.

What I therefore claim and desire to secure by Letters Patent is:

1. In the method of making a welt shoe, that improvement which consists in preparing an insole having an inner channel extending a substantial distance below its outer face and having a portion of its edge face the full thickness of the insole formed to be inset from the bottom edge of the last, in temporarily fastening said insole to the last, in temporarily lasting an upper over the inset edge of the insole, and in uniting a welt to the insole by stitching through the upper and the edge face of the insole along said channel so that the inseam thus formed is set in from the outer edge of the bottom face of the last, and lies in a plane intermediate of the upper and lower faces of the insole.

2. In the method of making a welt shoe, that improvement which consists in preparing an insole having an inner channel extending a substantial distance below its outer face and having a portion of its edge face the full thickness of the insole formed to be inset from the bottom edge of the last, in temporarily fastening said insole to the last, in temporarily lasting an upper over the inset edge of the insole, in uniting a welt to the insole by stitching through the upper and the edge face of the insole along said channel so that the inseam thus formed is set in from the outer edge of the bottom face of the last, and lies in a plane intermediate of the upper and lower faces of the insole, and in making the lower edge of the upper and lining and the inner edge of the welt lie substantially flush with the outer face of the insole.

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

CHARLES A. MORIN.

Witnesses:
VICTORIA LAWDEN,
ELSIE F. NYHAN.