E. M. PATTON.

TURNED SHOE AND METHOD OF MAKING THE SAME.

APPLICATION FILED OCT. 14, 1920.

1,386,357. Patented Aug. 2, 1921.

Fig. 1.

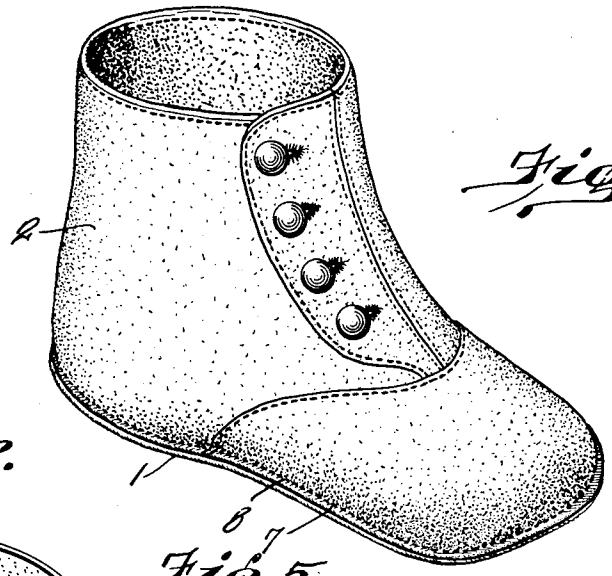


Fig. 2.

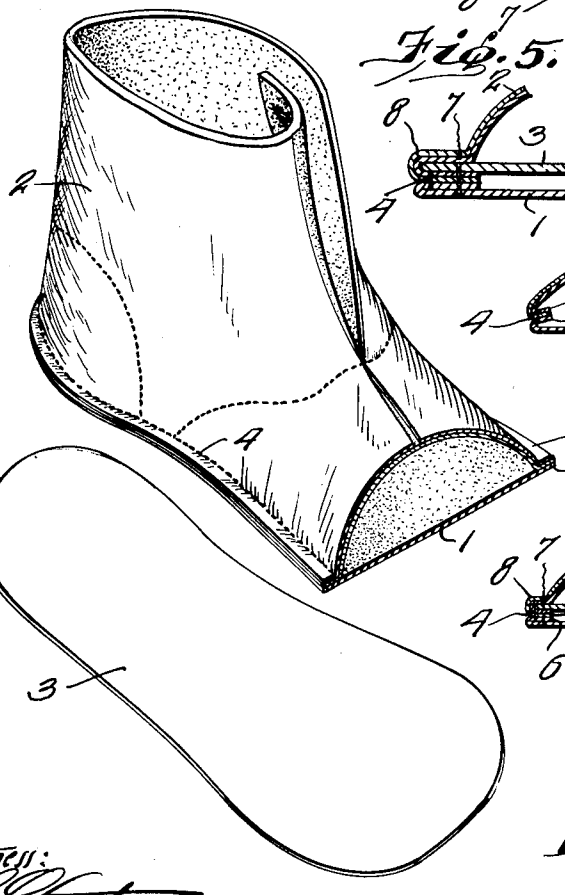


Fig. 5.

Fig. 3.

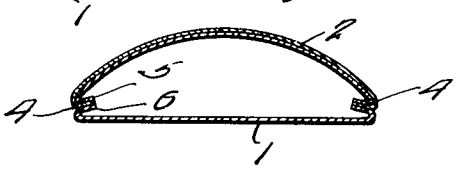
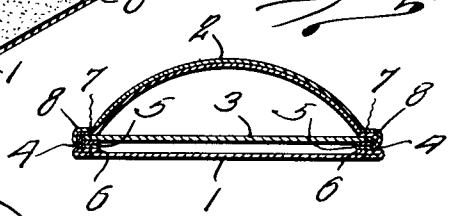


Fig. 4.



Witness:

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TURNED SHOE AND METHOD OF MAKING THE SAME.

1,386,357. Specification of Letters Patent. Patented Aug. 2, 1921.

Application filed October 14, 1920. Serial No. 416,919.

To all whom it may concern:

Be it known that I, ELLEN M. PATTON, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented new and useful Improvements in Turned Shoes and Methods of Making the Same, of which the following is a specification.

This invention relates to turned shoes, and to a method of making the same, the term "shoe" being employed herein in its generic sense to comprehend footwear generally, such as slippers, street shoes, boots and other similar articles of footwear, having soft, medium or comparatively stiff soles, for adult or juvenile use.

One object of the invention is to provide a turned shoe which can be easily, simply, and economically manufactured with a minimum amount of time and labor, and with a substantial reduction in the amount of hand labor commonly required in the manufacture of shoes of this character.

Another object of the invention is to provide a shoe which is strong and durable in construction, easy fitting and comfortable in use, neat and shapely in appearance, and wherein the outer or main sole, inner sole or filler and the vamp or upper are firmly united in such manner as to prevent distortion from proper shape of the parts of the shoe in the process of manufacture and to insure permanent maintenance of the designed shape of the shoe when in use.

Still another object of the invention is to provide a shoe having a more substantial connection between the margins of the soles and upper than has heretofore been possible in shoes of this type, such connection serving to maintain the shape of the shoe, to enable a much neater and more finished form of bead or shed to be produced, and to entirely obviate the formation of any inside seams or surfaces inside the shoe liable to chafe or otherwise cause discomfort to the foot of the wearer.

The invention consists of the features of construction, combination and arrangement of parts, and novel steps of method of manufacture, hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a perspective view of one form of shoe made in accordance with my invention.

Fig. 2 is a similar view of the vamp and inner sole as they appear secured together inside out by a single line of stitches and before they are turned, and also showing the filler or sole prior to application and which is to be secured to said vamp and inner sole when they are turned right side out.

Fig. 3 is a transverse section through the vamp and sole after being secured together and turned right side out.

Fig. 4 is a similar view through the completed shoe.

Fig. 5 is a detail section through the seams at one side of the shoe.

Referring now more particularly to the drawing, 1 designates the outer sole, 2 the vamp or upper, and 3 the filler or inner sole, of a shoe constructed in accordance with my invention. While the drawing shows the invention exemplified as applied to a baby's shoe, it will of course be understood, as heretofore stated, that the principle of construction and mode of manufacture may be embodied in any of the varieties of shoes commonly made for adult or juvenile use. Also the shoe may be made of any of the materials ordinarily employed in the manufacture of shoes.

In the operation of making the shoe, the outer sole 1 and vamp 2 are brought into properly superposed relation with their marginal edges in alinement, and the margins of said portions are then secured together by a row of stitches 4, as shown in Fig. 2. These stitches 4 are arranged quite a material distance from the marginal edges of the outer sole and upper, so as to leave such edges projecting in the form of parallel contacting flanges 5 and 6, which are equidistant in width with each other. This operation is performed while the outer sole and vamp are both inside out, preparatory to being turned right side out.

The parts so united are then turned right side out to bring them to the condition shown in Fig. 3, in which the marginal flanges 5 and 6 are caused to project inwardly in the form of reflexed portions. In this operation, as the marginal flanges 5 and 6 are of equal widths, and the outer sole and vamp are stitched at equal distances from their marginal edges, a firm foundation for the stitches is provided and no straining or bursting of the stitches or distortion of the

outer sole or vamp occurs in the turning process, enabling the vamp and outer sole to be turned without being distorted out of proper shape, and thus eliminating the subsequent hand-shaping operations commonly required to secure shape in prior constructions of this general character. Furthermore, the firm foundation for the stitches thus afforded prevents straining of the stitches and distortion of the vamp and outer sole when the inner sole is inserted and fitted in position, so that the production of a shoe of perfect shape is insured without the trouble and expense of resorting to additional shaping operations or of discarding imperfectly shaped shoes. The folds surrounding these reflexed portions may then be subjected to a beating or hammering action or to pressure, for flattening out the folds and making the overlapping portions lie closely together, or this operation may be subsequently performed after the application of the inner sole 3.

With the parts in the position shown in Fig. 3, the filler or inner sole 3 is then inserted in such manner that its marginal edge will lie upon and in contact with the reflexed portion or flange 5 and in the fold or bight between the same and the overlying portion of the vamp or upper 2. The folds are then flattened out, if not previously flattened out, and the outer sole, vamp, and filler or inner sole are then united by a second row of stitches 7 arranged parallel with and inside of the row of stitches 4 which secure the reflexed portions 5 and 6 together. This row of stitches 7 passes through all the folds 1, 2, 3, 5 and 6, this operation being permitted by extending the reflexed portions 5 and 6 inwardly to a sufficient degree and making them coextensive in width with each other. The effect of the row of stitches 7 is to draw all the folds mentioned tightly together, as shown in Fig. 4, so that said folds lie snugly in contact with each other, and the arrangement of said stitches 7 also has the effect of forming a bead or shed 8 outside of said stitches, which bead or shed extends entirely around and is coextensive with the margins of the outer sole and vamp. A further effect of the second or inner row of stitches 7 is to secure the edges of the inner sole or filler 3 in a close fold lying entirely outside the inner surface of the upper and formed between the body thereof and the reflexed portion 5, thus leaving the entire inner surface of the inner sole smooth and entirely devoid of any inside seams or projections liable to chafe or otherwise injure the foot of the wearer.

When a shoe thus constructed is completed, it will be evident that the two soles will lie in proximity to each other, but will be slightly separated by the thickness of the intervening backing formed by the reflexed portions 5 and 6, which, even though the soles be made themselves of a comparatively rigid or semi-rigid material, will allow relative flexibility thereof and thus provide a sole structure which is strong and durable and yet of a high degree of flexibility. Also it will be seen that a cushioning action is afforded which conduces to ease and comfort in walking, while the soles will also give sufficient support and protection to the foot of the wearer even when said soles are made of soft and flexible material.

A material advantage incident to my construction is that as the seam 4 is arranged well inside the margins of the outer sole and vamp, and as the reflexed portions 5 and 6 are therefore comparatively wide and are coextensive in width with each other, a very strong and substantial connection between the outer sole and vamp is produced. This permits of the proper insertion and securing of the inner sole or filler 3 in position, even when said inner sole or filler is made of stiff or comparatively stiff material, without drawing unequally upon any portion of the seam and thus causing the shoe to become distorted and get out of shape, as would be the case if one of the reflexed portions were made narrower than the other and the seam arranged close to the edge thereof. Furthermore, by forming the reflexed margins 5 and 6 in the manner described, a firm base support for the margins of the inner sole 3 is secured, and provision made to permit the stitches 7 to be passed through the margins of all the complemental parts of the shoe, thus firmly and substantially uniting said portions so as to make a shoe of neat and shapely appearance and which will withstand the strains of service without getting out of shape.

A further advantage of my construction resides in the fact that all the parts may be die cut to an exact form and size, thus enabling them to be stitches together after simply bringing the margins of the parts in proper alinement or registration, and doing away with the necessity of gaging, cementing, machine or hand trimming or other hand adjustments or operations which consume extra time and labor in the manufacture of the shoe or are liable, through lack of care or inexpertness, in making a shoe which is out of shape or has other defects. My improved shoe may, therefore, be made easily and readily and at a low cost, since time and labor will be saved in the steps of manufacture, with less loss resulting from the production of imperfect shoes. Inasmuch as the parts are die cut and, as a result of the structure defined, must accurately fit together without distortion, a flexible outer or inner sole may be employed without liability of the same wrinkling or creasing in the operation of manufacture.

In practice, the inner sole may be either flexible or relatively stiff, according to the character of the shoe to be made, and if comparatively stiff it will serve as a stretcher to distend and hold the outer sole under a certain tension so as to maintain the shape of the entire shoe, and my construction is of great advantage in this connection as the strength of the seams will allow such a stretching action without liability of unequal stretching and distortion. Maximum durability and wearing qualities are also insured because of the strength afforded by the described construction and arrangement of the reflexed portions, the marginal edge of the inner sole 3, and the two rows of stitches 4 and 7.

Having thus fully described my invention, I claim:

1. A shoe having an outer sole and a vamp, both having reflexed margins, said reflexed margins having their edges in substantial alinement and being of substantially equal widths, an outer row of stitches passing through and uniting said reflexed margins substantially at an equal distance from the edges thereof, an inner sole having its marginal portion fitted between the vamp and the reflexed portion thereof, and an inner row of stitches passing through the vamp, both soles and both reflexed margins and securing all of said portions together.

2. A shoe having an outer sole and a vamp, both having reflexed margins, said reflexed margins having matching edges and being of equal width, and said vamp also having a fold overlying its reflexed margin, an outer row of stitches passing through and uniting said reflexed margins an equal distance from the edges thereof, an inner sole having its marginal portion fitted between the said reflexed portion of the vamp and said overlying fold, and a second row of stitches passing through the fold of the vamp, both soles and both reflexed portions on a line between the first-named row of stitches and the edges of said reflexed portions.

3. A turned shoe having a vamp and an outer sole, each provided with a reflexed portion, said reflexed portions being united so as to project inwardly between the vamp and outer sole when the same are turned, and said vamp having a fold overlying its reflexed margin, and a filler or insole having its marginal portions secured to said reflexed portions and extending into the pocket formed between the reflexed portion and fold of the vamp.

4. A shoe having a vamp and an outer sole, both provided with reflexed portions, said reflexed portions having substantially matching edges and being of substantially equal width, a row of stitches uniting said reflexed portions at substantially equal distances from their edges, an inner sole having its marginal portion fitted between the sole and its reflexed portion, and a second row of stitches uniting both soles, both reflexed portions and the vamp together.

5. A shoe having a vamp provided with a reflexed portion and a fold overlying the same, an outer sole having a reflexed portion coextensive in width with the reflexed portion of the vamp, the edges of said reflexed portions being arranged substantially in alinement, a row of stitches uniting the reflexed portions at substantially equal distances from their edges and in proximity to their points of juncture with the vamp and outer sole, and a second row of stitches lying inside the first-named row of stitches and passing through the fold of the vamp, both soles and both reflexed portions, said reflexed portions extending inwardly beyond the second-named row of stitches beyond the line of said fold.

6. The herein-described method of making a turned shoe, which consists in superposing a vamp and an outer sole while in wrong side out position with their marginal edges matching or alining with each other, uniting the vamp and outer sole while in such position by a row of stitches spaced inwardly at an equal distance from the edges of said margins, turning the united vamp and outer sole to right side out position so that the united margins thereof will extend a substantial distance inwardly between the same in the form of reflexed portions of equal widths, fitting an inner sole in position so that the marginal portion thereof will lie between the margin of the body of the vamp and its reflexed portion, turning down the margin of the body of the vamp so as to form a fold overlying the margin of the inner sole, and then uniting said fold, both soles and both reflexed margins by a row of stitches lying inside the line of the first-named row of stitches.

In testimony whereof I affix my signature.

ELLEN M. PATTON.