April 1, 1941. R. A. HYDE 2,236,537

QUARTER UNIT AND METHOD OF MAKING IT

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Fig. 1.

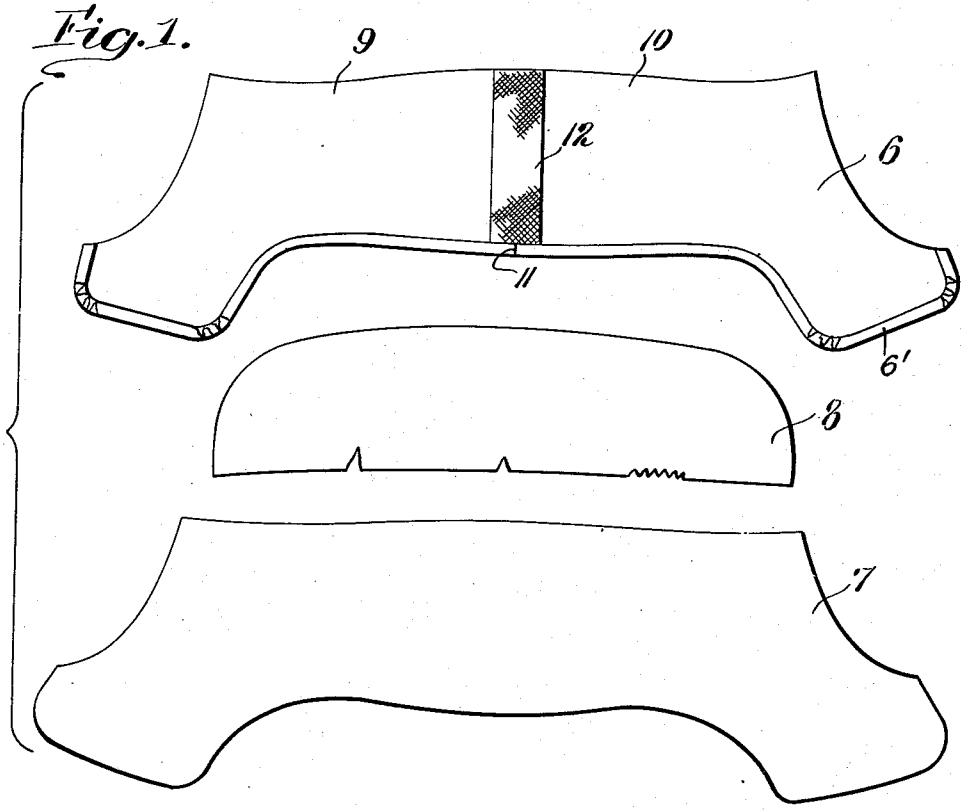
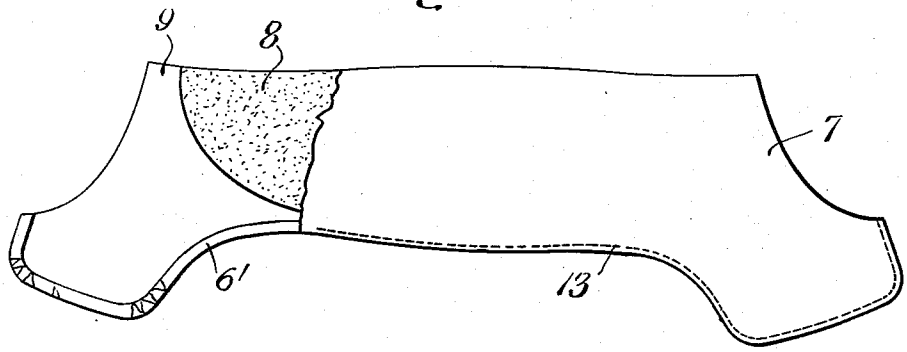


Fig. 2.



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Fig. 3.

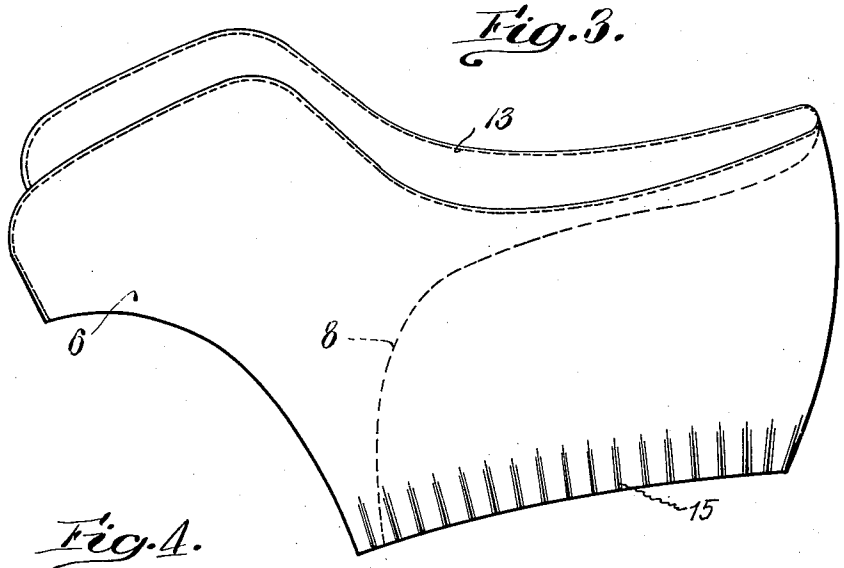


Fig. 4.

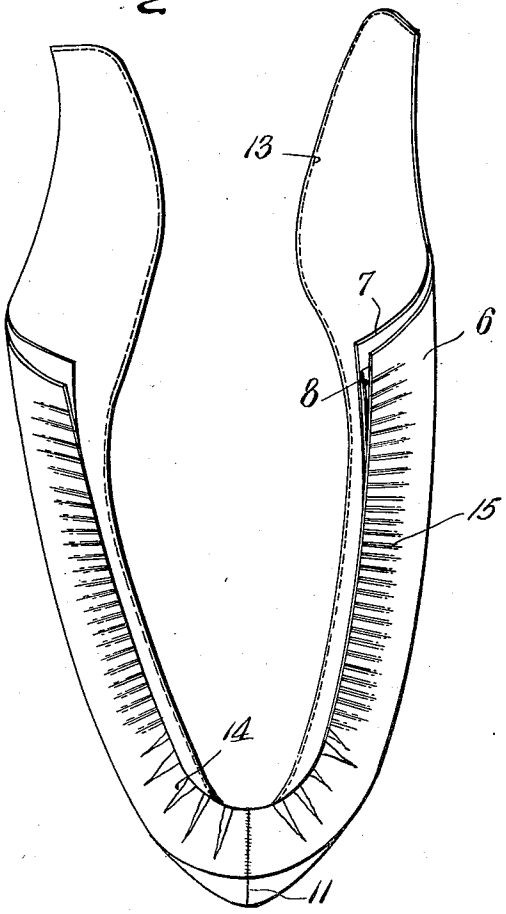
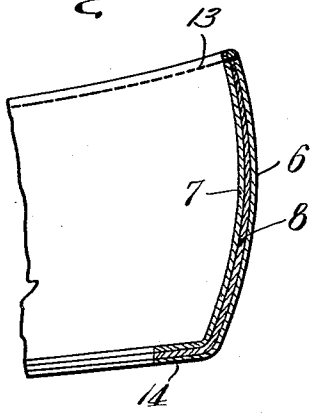


Fig. 5.



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UNITED STATES PATENT OFFICE

2,236,537

QUARTER UNIT AND METHOD OF MAKING IT

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Application June 17, 1937, Serial No. 148,673

4 Claims. (Cl. 12—146)

The present invention relates to the manufacture of shoes.

Heretofore it has been customary to assemble a lining, upper and counter in proper relative positions in the lasting room as a preliminary step to the heel-lasting operation in which the assembled parts are shaped to fit the back of the heel of the last, the material of the assembled parts being gathered along a line near their lower edges and turned inwardly to form a flange extending over the bottom of the insole around the peripheral edge of the heel end thereof. When the upper and lining are sent to the lasting room they are secured together along their upper edges by a seam, their lower edges at the back being unsecured together to form a pocket therebetween in which the counter is placed by the assembler. In order to insure the proper performance of the heel-lasting operation in the bed-lasting machine, the assembler is obliged to manipulate the counter in the pocket to bring it into the proper relationship with the upper and lining. The counter-assembling operation, as performed heretofore, involves considerable skill and judgment upon the part of the operative as any deviation of the counter out of its proper relationship with the upper and lining results in trouble during the lasting operation and in poorly lasted shoes.

The principal object of the present invention is to devise a method of shaping the upper, lining and counter in proper relative positions to fit the back of the last and of providing the shaped parts with an inturned flange to engage the insole, so that they can be subjected to the bed-lasting operation without preliminary manipulation by the assembler.

To the accomplishment of this object, and such others as may appear hereinafter, the various features of the present invention consist in certain methods hereinafter described and then set forth broadly and in detail in the appended claims which possess advantages readily apparent to those skilled in the art.

The various steps of the present invention will be readily understood from an inspection of the accompanying drawings, in which,

Figure 1 is a composite view in plan of the upper, lining and counter blanks;

Fig. 2 is a view in plan showing the blanks secured together in proper relation;

Fig. 3 is a view showing the step product of the rolling operation;

Fig. 4 is a view in bottom plan showing the finished product, and

Fig. 5 is a detail view in sectional elevation.

The upper blank 6 (Fig. 1), lining blank 7, and counter blank 8 may take any usual form in strict accordance with standard construction. As shown the upper blank comprises two quarters 9 and 10 joined together by a back seam 11 (Fig. 4), the seam ridge of which is covered by a strip of reinforcing tape 12 (Fig. 1). The top edge portion of the upper blank is inwardly folded at 6', as shown in Figs. 1 and 2.

The lining blank 7, as shown, comprises a single sheet, but it is obvious that it could comprise a plurality of sheets joined together by a lap seam arranged to break joint with the back seam 11 when the upper and lining blanks are assembled together.

The counter blank 8 is of standard construction and is, preliminarily to the assembling operation, tempered to render it flexible.

The upper, lining and counter blanks are assembled in proper relation, as shown in Fig. 2, the counter blank being interposed between the upper and lining blanks. The adjacent faces of the blanks are provided with a coating of cement, preferably of the latex type, which is flexible and yieldable, in order that their proper relationship may be maintained during the subsequent operations. In addition, the top edges of the upper and lining blanks are subjected as usual to the top-stitching operation by which they are provided with a finished edge at the top seam 13, (Figs. 2 and 5).

The cementing of the folded upper, lining and counter together in their proper relationship as a step preliminary to the top-stitching operation is an important advance in the art of making shoes. Heretofore, the top-stitching operation has been performed while the upper and lining were held loosely by the operative with the result that due to slippage, crowding and fatigue top-stitching irregularities developed to a serious extent. Cementing the upper and lining together, as a step preliminary to the top-stitching operation, insures uniform top seams.

The parts are then passed between rolls, similar to those used in forming flat metal sheets into cylindrical shapes, thus concaving the lining blank face of the assemblage to approximate the shape of the back of the heel.

The convexed step product may then, in certain classes of work, be presented to a regular shoe factory counter molding machine and molded into the form illustrated in Fig. 4. A

regular shoe factory counter molding machine is provided with molds which shape the assembled parts to fit the back of the heel and with a wiper which wipes the bottom edges of the parts over the face of one of the molds to produce the inturned flange. This wiper when used to form the flange 14 on the assembled upper, lining and counter performs two important additional functions. The wiper compacts the flange, thus obviating the subsequent pounding operation. The wiper also scrapes the grain of the inturned upper, thus roughening it up to form the proper foundation for it to receive the cement used in the cement processes of making shoes.

Instead of immediately molding the rolled step product, preferably, the rolled step product is passed between rolls which are formed to corrugate at least a portion of the lower edges of the upper, lining and counter blanks in order to provide them with indentations 15, illustrated in Fig. 3, thus to predetermine their lines of folds during the inturned flanging operation.

The forming of the indentations has important advantages as it prevents relative displacement of the bottom edge portions of the several layers during the molding and flanging operation and provides for the dividing up of the overlapped material of the folds evenly around the flange 14 thus to provide an even surface thereof.

The step product illustrated in Fig. 4 is connected to the forepart and sent to the lasting room where the work is mounted upon a last having an insole secured to the bottom thereof. As the upper, lining and counter have been shaped to fit the last and have been provided with the inturned flange which extends over the bottom of the insole, no heel lasting need be performed on the work during the bed-lasting operation other than the usual tacking of the flange to the insole.

What is claimed as new is:

1. That improvement in the art of making a completely finished separate quarter unit for a shoe which consists in providing a flat upper blank, a lining blank and a flat counter, assembling the counter between the flat blanks with the top edges of the several pieces in approximate coincidence and connecting their surfaces by means of a yieldable adhesive, securing the bottom edge portions of the several pieces against relative displacement by pressing them together and forming a series of transversely disposed indentations therein, and then subjecting the assembly to a regular inturned flanging and counter molding operation.

2. That improvement in the art of making a completely finished separate quarter unit for a shoe which consists in providing an upper blank, a lining blank and a counter, assembling the counter between the blanks with their top edges in approximate coincidence and connecting their surfaces by means of a yieldable adhesive, subjecting the assembled parts to a regular top-stitching operation, concaving the lining blank face of the assembly thus formed securing the bottom edge portions of the several pieces against relative displacement by pressing them together and forming a series of transversely disposed indentations therein, and then subjecting the concaved and corrugated assembly to a regular inturned flanging and counter molding operation.

3. That improvement in the art of making a completely finished separate quarter unit for a shoe which comprises providing a flat upper blank having its top margin inwardly folded, a lining blank and a flat counter stiffener, assembling the stiffener between the blanks with their top edges in approximate coincidence and the lining blank extending over the folded margin of the upper blank, connecting the surfaces of the stiffener to the blanks by means of a yieldable adhesive, then stitching the folded margin of the upper blank to the lining blank, securing the bottom edge portions of the several pieces against relative displacement by pressing them together and forming a series of transversely disposed indentations therein, and then subjecting the assembly to a regular inturned flanging and counter molding operation.

4. As an article of manufacture, a complete unflanged upper unit for the heel portion of a shoe comprising upper, counter and lining pieces having their top edges in approximate coincidence and their adjacent surfaces connected together by means of a yieldable adhesive, the bottom edge portions of the several layers being pressed together and secured against relative displacement by a series of transversely disposed indentations formed therein.

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