Oct. 18, 1949. E. SANCHIONI 2,485,114

SHOE AND METHOD OF MAKING SAME

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Fig. 1.

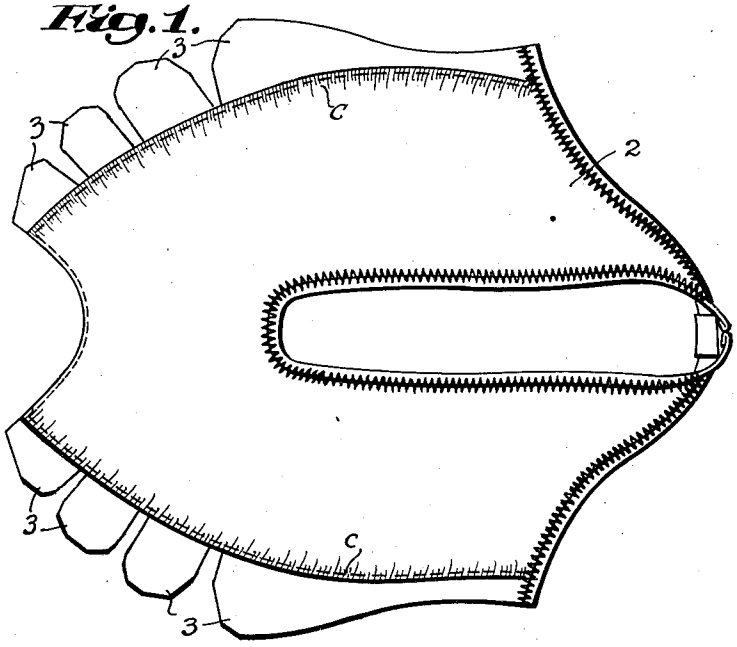
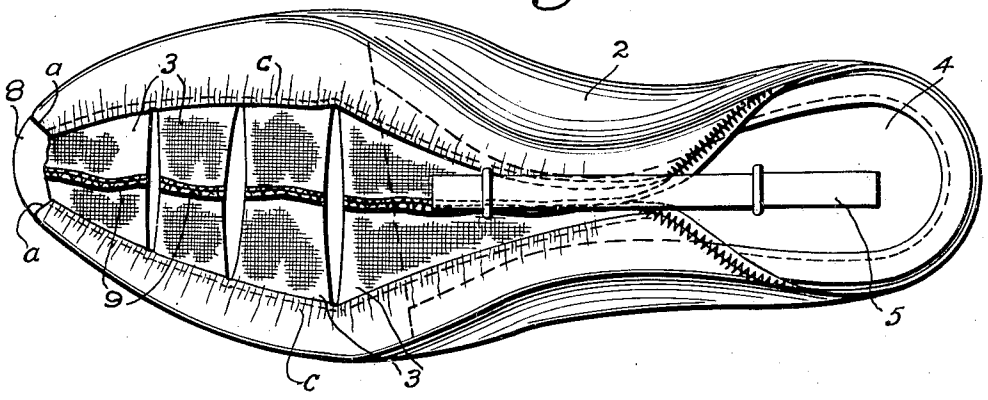



Fig. 2.




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Fig. 3.

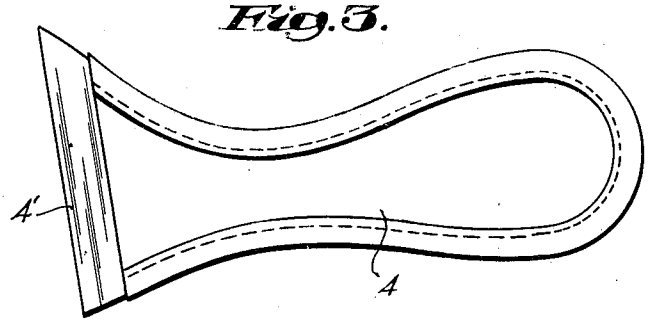
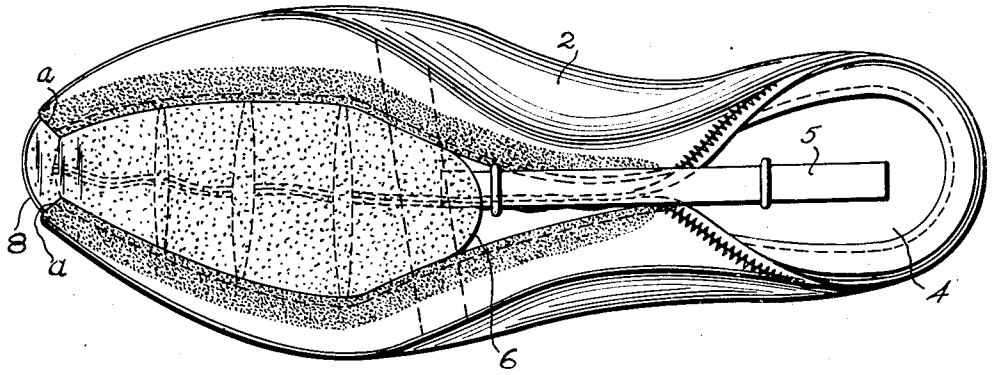



Fig. 4.




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Fig. 7.

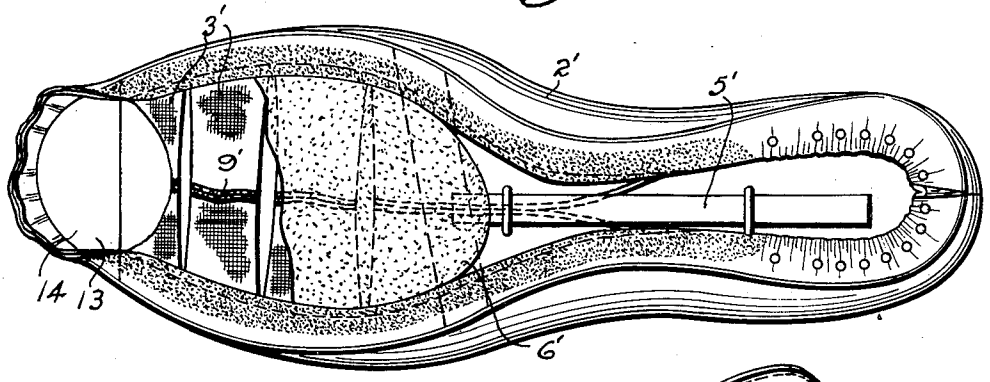



Fig. 8.

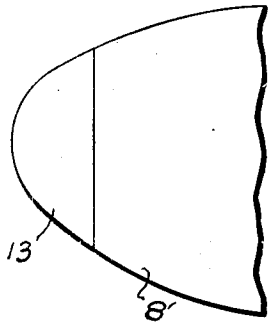
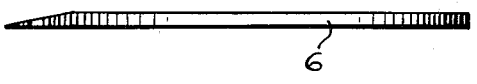



Fig. 5.




Fig. 6.




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2,485,114

# UNITED STATES PATENT OFFICE

2,485,114

## SHOE AND METHOD OF MAKING SAME

Erte Sanchioni, Needham, Mass.

Application May 28, 1947, Serial No. 750,998

4 Claims. (Cl. 36—19.5)

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This invention relates to footwear and to methods of making the same. In Patent No. 2,386,910, granted Oct. 16, 1945, a method is disclosed for making shoes which reduces very substantially the labor involved in that process and the equipment required in practicing it. The present invention has for its chief object further to improve both the method and the shoe structure disclosed in said patent with a view to increasing the comfort of shoes of the type disclosed in said patent, producing a shoe having an exceptional degree of flexibility and reducing further the expense of manufacturing shoes of this character.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawings, and the novel features will be particularly pointed out in the appended claims.

In the drawings,

Fig. 1 is a plan view of an upper assembled with a lining, the assembly being made in accordance with this invention;

Fig. 2 is a bottom view of a shoe in the process of manufacture with the upper and lining closed and assembled with a special insole on a last;

Fig. 3 is a plan view of the insole of the shoe shown in Fig. 2;

Fig. 4 is a bottom view of the shoe at a subsequent stage in the process of manufacture;

Fig. 5 is an angular perspective view of the completed shoe;

Fig. 6 is an edge view of the filler used in the bottom of the shoe shown in Figs. 2 and 4;

Fig. 7 is a view similar to Fig. 2 showing a somewhat different embodiment of the invention; and

Fig. 8 is a plan view of the toe portion of a last equipped with a tuck or toe piece preparatory to assembling the last with the upper, as shown in Fig. 7.

Referring first to Fig. 1, an upper for an open-toe and open-heel shoe is there illustrated. It comprises a vamp 2 with a full lining stitched thereto, the lining having marginal portions projecting beyond the edge of the upper and consisting of sections, indicated at 3, which are spaced apart longitudinally and are made of such dimensions that they will cooperate with the lasting allowance on the upper to nearly cover the bottom of the last. The vamp usually is made of leather or equivalent upper materials, and the

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lining also may be made of the customary lining fabrics, such as a faille combined with a drill, both the vamp and lining material being selected in accordance with the requirements of the particular shoe to be built.

Prior to stitching the vamp and lining together, the opposite lateral marginal edges of the vamp preferably are crimped. These are the edges which will be folded over upon the bottom of the last, and the crimping operation, especially if performed with heat, serves to shrink the edges somewhat and to give them and the adjacent marginal portions of the vamp a somewhat corrugated appearance, the corrugation being rather small or fine. Commercial machines are available for performing this operation, one such machine being produced by International Shoe Machinery Corporation of Cambridge, Massachusetts.

According to the preferred method of manufacture, the upper is folded on substantially its median plane so as to bring the longitudinal edges of the projecting sections 3 of lining substantially into register with each other. These registering edges then are stitched together, preferably with some form of stitch formation, such as zig-zag stitching, so that when the bottom is flattened out the thickness of the seams will not be much, if any, greater than the thickness of the material itself.

After the various stitching-room operations have been completed and the upper closed in the manner just described, a last is inserted in the closed upper where it fills out the forepart which is manipulated to center it approximately on the bottom of the last. Either before or after inserting the last, as desired, an insole or, more properly, a partial insole, as shown at 4 in Fig. 3, is inserted in the shoe and properly fitted in place. This insole member extends only from the rear end of the heel to the region at the junction of the shank and forepart and terminates there in a transversely extending skived marginal portion 4'. A shank stiffener 5 also is secured to the bottom surface of the assembly which, at this time, looks approximately as shown in Fig. 2. The upper material is rolled down on the bottom of the last which flattens the overlying corrugated marginal edges of the vamp and the sections of the seams 9 that connect the portions 3 of the lining material. By spacing these sec-

tions 3 apart and stitching them together in the manner above described, the parts of the shoe which are to underlie the wearer's foot may be made very flat, and this operation is further aided by the preliminary crimping of the margins of the upper.

Next a resilient filler piece 6, Figs. 4 and 6, preferably made of some cellular elastic sheeted material, such as sponge rubber, is applied to the bottom of the assembly where it substantially covers the seams 9 and the portions of the lining exposed between the marginal edges of the upper, and this filler piece preferably is extended to practically the extreme forward or toe end of the last 8, fitting between the ends *a*—*a* of the lasted-over portions of the vamp.

Next an outsole 10, Fig. 5, is secured to the bottom of this assembly, preferably by cementing the margins of the vamp and the end portions of the insole, as well as the upper surface of the outsole 2, if desired, placing it properly and pressing it into position in the manner well understood in this art. Subsequently a heel 11, Fig. 5, is applied to the heel seat end of the outsole, and a sock lining 12 is cemented to the upper surface of the shoe bottom assembly where it covers this entire area inside the shoe bottom, including the insole piece 4.

From the foregoing it will be observed that this invention preserves all of the advantages of the invention disclosed in the patent above designated and, in addition, it provides an exceedingly flexible and comfortable construction. These results are obtained partly by the crimping of the turned-over margins of the vamp, the nature of the seams 5, and the initial formation of the lining sections 3 in such a manner that no surplus material is left on the bottom of the assembly when applied to the last. A more important factor, however, contributing to flexibility and comfort, is the substantially complete elimination of an insole structure from the forepart section of the shoe. If, in addition, the filler 6 is made of sponge rubber, then the shoe is given a soft, cushioning, but resilient, quality under the foot which is very agreeable.

The same properties may also be built into a shoe having a closed toe or heel, or both, as illustrated in Fig. 7. In producing this shoe essentially the same steps above described are followed, except that the vamp and lining are cut to suit the requirements of this type of shoe. Another departure from the method above described consists in attaching a small section 13, called a "tuck," Figs. 7 and 8, of thin sole leather, or equivalent material, to the toe portion of the bottom of the last to cover about the area illustrated in the figures just mentioned. The last so equipped is assembled with the closed upper in the manner above described, and the upper material at the toe, Fig. 7, is gathered around the toe and lasted over upon the tuck 13, the sole function of this member being to serve as a base to which the upper material gathered around the toe and over upon the last bottom can be properly arranged and secured. Later the outsole, heel and sock lining are secured in place in the manner above described, or in any other suitable way.

Having thus described my invention, what I desire to claim as new is:

1. A shoe comprising an upper including a vamp and a lining therefor, the lower edges of said vamp being crimped and stitched to the vamp lining by lines of stitches, both said edges and said lines of stitching being spaced widely apart at the bottom of the shoe but the lining having marginal sections extending across said space with their edges stitched directly together in the general region of the median line of the shoe, said sections being spaced lengthwise of the shoe, the seams securing said sections together extending longitudinally of the shoe bottom, a resilient filler covering said seams and the adjacent portions of the lining between the edges of the vamp, an insole extending from the heel end of the shoe to approximately the junction of the shank with the forepart and terminating at that point, the lateral margins of said lining and said crimped edges of the vamp being overlapped upon said insole, an outsole cemented to the margins of the vamp at the bottom of the shoe and extending from the toe of the shoe back to the end of the heel, and a sock lining, separate from said vamp lining, covering the upper surfaces of the shoe bottom inside the shoe, the forepart of the bottom of the shoe being substantially devoid of an insole and consisting mainly of said outsole, filler, marginal lining sections, and said sock lining.

2. That improvement in methods of making shoes which consists in providing a lined upper with the margins of said upper that are to overlie the bottom of the shoe being crimped and said lining having a plurality of sections spaced apart longitudinally and extending laterally beyond its edges, stitching said crimped edges to said lining, folding said upper to substantially register the longitudinal edges of said lining sections on one side with those on the opposite side, stitching said registered edges together and thereby producing seamed sections extending lengthwise of the bottom of the shoe and closing the lined upper, forcing a last into said closed upper and lining and thereby lasting the shoe, inserting an insole for the shank and heel end portions only of the shoe into said closed upper and securing it in place, leaving most of the forepart of the shoe without an insole, applying a resilient filler to the bottom of said assembly where it covers said seams and the portions of said lining exposed on the forepart of the shoe bottom, securing an outsole to said insole and to the margins of the upper which overlie the bottom of the last, and cementing a sock lining to the upper surfaces of the shoe bottom inside the shoe.

3. That improvement in methods of making shoes which consists in providing a lined upper with the margins of said upper that are to overlie the bottom of the shoe being crimped and said lining having a plurality of sections spaced apart longitudinally and extending laterally beyond its edges, folding said upper to substantially register the longitudinal edges of said lining sections on one side with those on the opposite side, stitching said registered edges together and thereby producing seamed sections extending lengthwise of the bottom of the shoe and closing the upper, attaching a tuck to the toe portion of a last where it extends backwardly from the end of the toe far enough for the lasting of the upper material at the toe over upon the tuck, inserting the last so equipped in said closed upper, fitting a prefabricated insole for the shank and heel portions only of the shoe into said closed upper with the shank terminating at approximately the junction of the shank and forepart sections of the shoe, applying a resilient filler to the bottom of said assembly where it covers said seams and the portions of said lining exposed on the forepart of the shoe bottom, cementing an outsole to said insole and to

the margins of the upper which overlie the bottom of the last, and securing a sock lining to the upper surfaces of the shoe bottom inside the shoe.

4. A shoe comprising an upper including a vamp and a lining therefor, the edges of said vamp being spaced widely apart at the bottom of the shoe but the lining having marginal sections extending across said space with their edges stitched directly together in the general region of the median line of the shoe, said sections being spaced lengthwise of the shoe, the seams securing said sections together extending longitudinally of the shoe bottom, a resilient filler covering said seams and the adjacent portions of the lining between the edges of the vamp, an insole extending from the heel end of the shoe to approximately the junction of the shank with the forepart and terminating at that point, an outsole cemented to the margins of the vamp at the bottom of the shoe and extending from the toe of the shoe back to the end of the heel, a sock lining covering the



upper surfaces of the shoe bottom inside the shoe, the forepart of the bottom of the shoe being substantially devoid of an insole and consisting mainly of said outsole, filler, marginal lining sections and said sock lining, said shoe being of the closed toe type and including a tuck upon which the toe end portions of the upper are lasted, the tuck extending backwardly from the toe only far enough to support said lasted-over material.

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## REFERENCES CITED

The following references are of record in the file of this patent:

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| Number | Name | Date |
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| 802,075 | Engel | Oct. 17, 1905 |
| 2,386,910 | Sanchioni | Oct. 16, 1945 |