Sept. 1, 1936. C. H. DANIELS 2,052,753

METHOD OF MAKING A BOOT OR SHOE

Filed Jan. 11, 1933 3 Sheets-Sheet 1

Fig. 3.

Fig. 1.

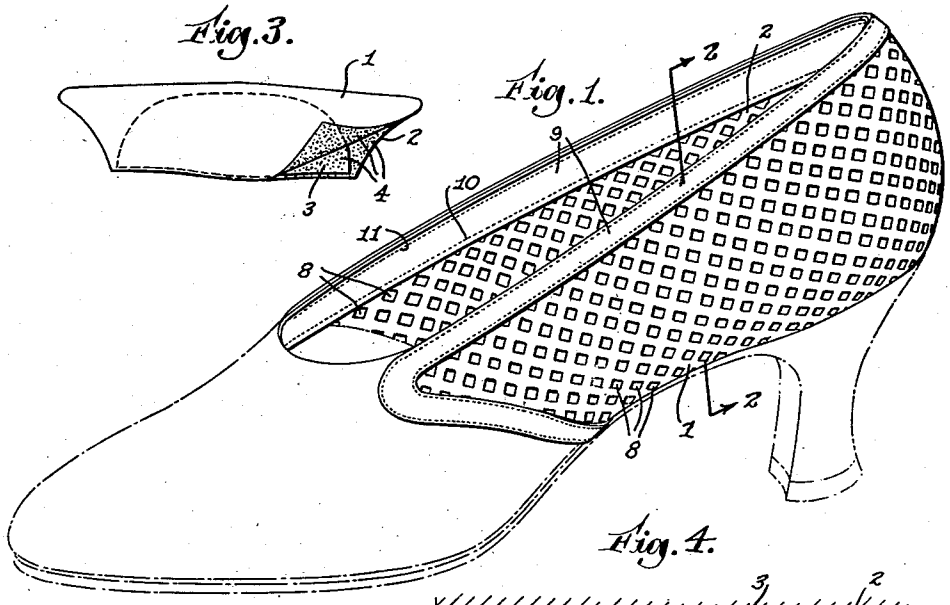


Fig. 4.

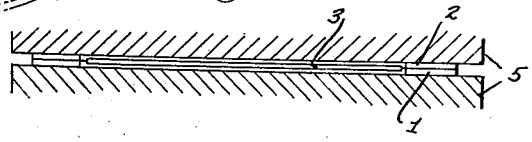
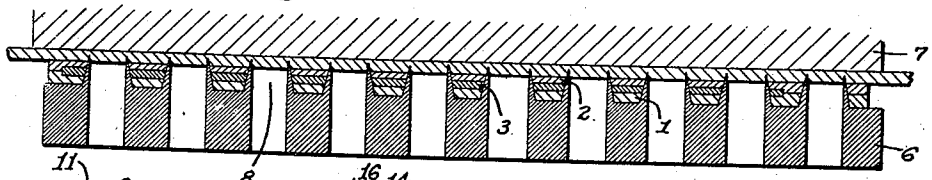


Fig. 5.



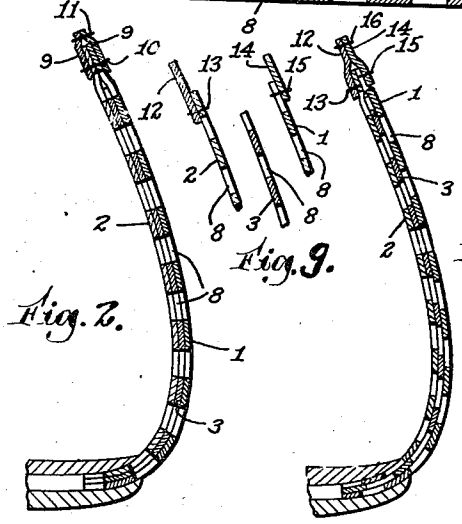


Fig. 9.

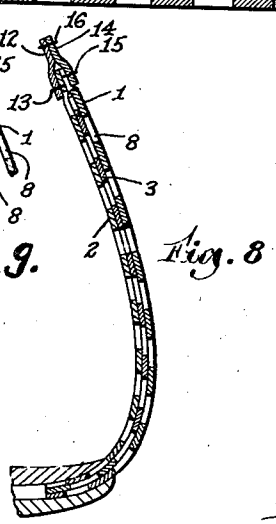


Fig. 8.

Fig. 2.

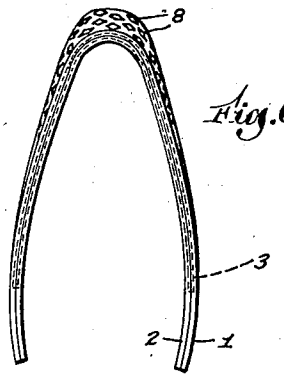


Fig. 6.

Inventor
Claude H. Daniels,
by Harold J. Clark.
Attorney

Sept. 1, 1936. C. H. DANIELS 2,052,753

METHOD OF MAKING A BOOT OR SHOE

Filed Jan. 11, 1933 3 Sheets-Sheet 2

Fig. 10.

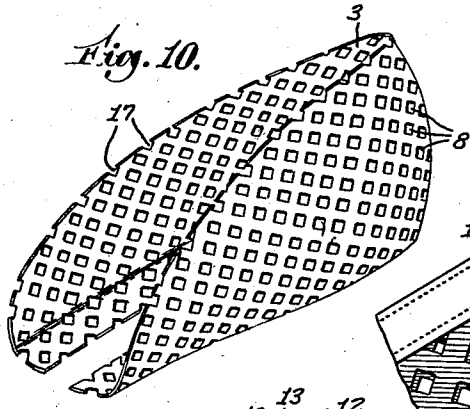


Fig. 7.

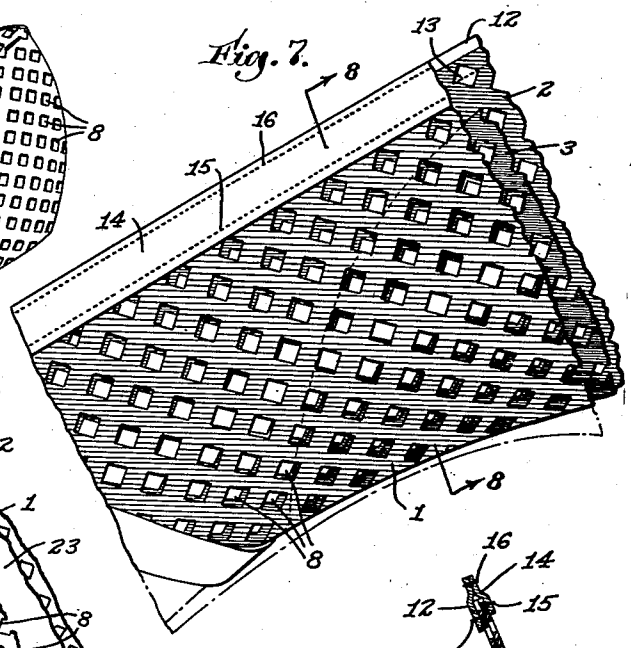


Fig. 15.

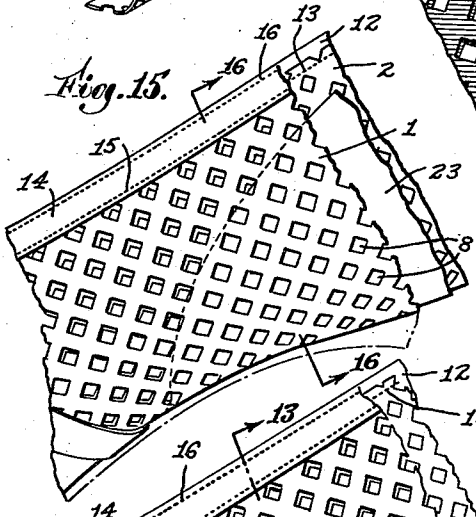


Fig. 16.

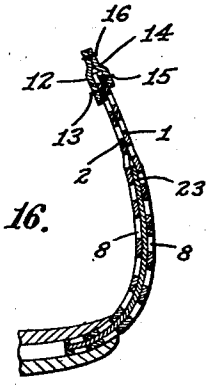


Fig. 13.

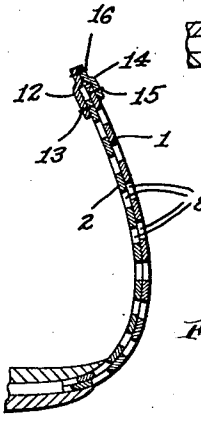


Fig. 12.

Inventor
Claude H. Daniels,
by Harold J. Clark.
Attorney

Sept. 1, 1936. C. H. DANIELS 2,052,753

METHOD OF MAKING A BOOT OR SHOE

Filed Jan. 11, 1933 3 Sheets-Sheet 3

Fig. 21.

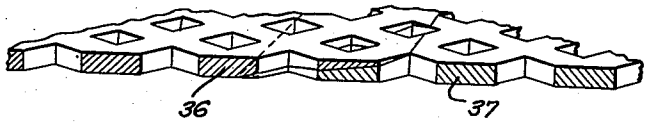


Fig. 11.

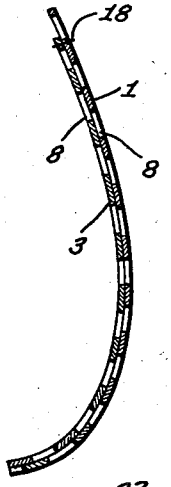


Fig. 19.

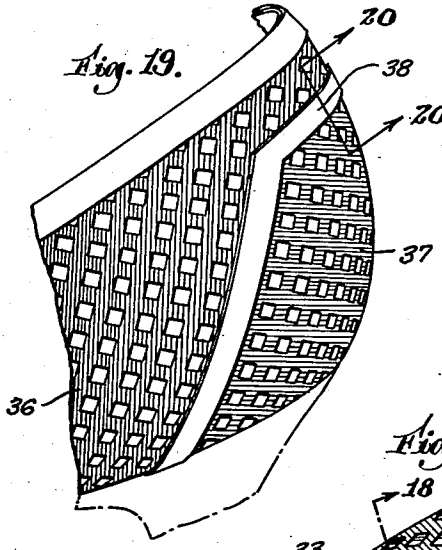


Fig. 20.

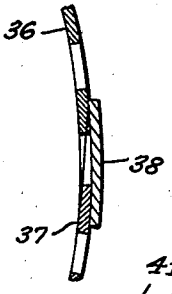


Fig. 22.

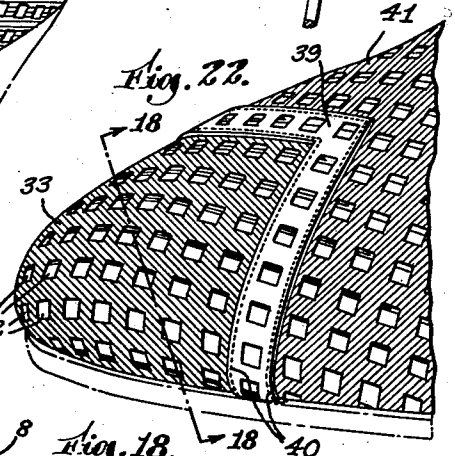


Fig. 14.

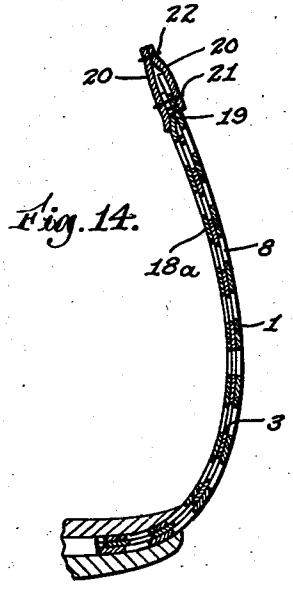


Fig. 17.

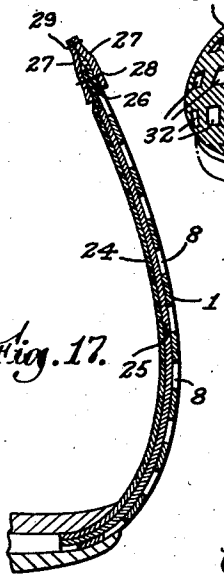
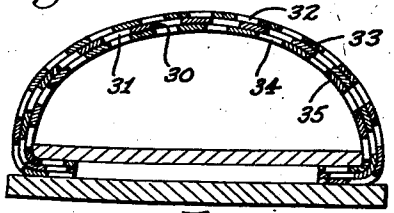


Fig. 18.



Inventor
Claude H. Daniels,
by Harold J. Clark.
Attorney

Patented Sept. 1, 1936 2,052,753

UNITED STATES PATENT OFFICE

2,052,753

METHOD OF MAKING A BOOT OR SHOE

Claude H. Daniels, Newton Center, Mass.

Application January 11, 1933, Serial No. 651,176

4 Claims. (Cl. 12—146)

My present invention relates to boots and shoes, and also includes a novel method of manufacturing the same.

An important object of the present invention resides in the provision of a boot or shoe having an openwork quarter, and having also an openwork counter, in which the openings in the counter, or at least some of them, are in alinement, or partial alinement, with the openings in the quarter section.

Also combined with this openwork quarter and openwork counter may be an openwork lining, a further provision of the invention being that the openings in the lining, or at least some of them, shall be in alinement or partial alinement with openings in the counter and quarter, so that ventilation may be had completely through the shoe at that portion occupied by the counter, a feature which has not been heretofore possible in shoes in which a counter has been incorporated. Said openwork counter, although perforated, still maintains its rigidity and strength to fully perform all its functions.

The quarter and counter, or quarter, counter and lining, may be assembled, either adhesively united or not, and the openings formed therein simultaneously, whereupon they may be assembled either as a unit, with the perforations or openings in alinement, or they may be so assembled that the openings will not be in exact registry, but at least some of the openings in each layer will be in register with openings in an adjacent layer or layers.

In the event that the counter and other elements are punched simultaneously, this will be preferably accomplished with the layers in flat formation, subsequent to which the counter, or counter and combined elements, will be shaped to substantially foot contour.

Another important feature of my invention, therefore, resides in the provision of an openwork counter or heel stiffener, as an article of manufacture, as will be readily appreciated by those skilled in this art.

I may, if desired, utilize an openwork lining and openwork quarter as above defined, in combination with a solid or imperforate counter, and in this event the openings in the lining and quarter, outside of the area covered by said counter, will afford ventilation, and furthermore, if the counter is not adhered to the lining and quarter, will permit the passage of air therearound. In this latter phase of my invention, the exposed surface of the counter, visible through the openings in the quarter, will preferably be of the same color as the outside surface of the quarter, or of a color to harmonize therewith.

Another feature of my invention resides in the provision of an openwork quarter and openwork lining, either perforated simultaneously or separately, and so united and assembled that at least some of the openings in each layer will be in alinement or partial alinement with openings in the other layer.

A further, and important feature of my invention resides in the provision of novel paneling for those shoes in which the quarter and lining are perforated overboard, or to and including their edges. This results in the presence of a rough or uneven edge, difficult to stitch and with other disadvantages. In this event, I apply to the quarter lining, a panel projecting beyond the said rough edge, and apply to the quarter a panel projecting beyond the said rough edge of the quarter. These layers are then assembled and united by top stitching through and through the panels beyond the edges of said quarter and lining.

Of course, if the lining and quarter are adhered, and perforated as a unit, the panels will be united to the same by stitching extending completely through both panels and the said lining and quarter, as well as stitching extending through the panels at a point beyond the edges of said layers.

A further novel feature of my invention resides in the provision of a boot or shoe, composed of openwork materials throughout its entire upper, with the lining and outer upper sections preferably free of attachment except at their marginal edges. This feature may, of course, be carried out through as great a portion of the shoe as desired.

Also, when using an openwork counter, said counter may be free of attachment, either to the lining or to the quarter, except at the upper marginal edges of said counter, or it may be cemented or adhered in any desirable or suitable manner.

My invention may be carried out with substantially all kinds of shoe upper materials, including leather or any substitute therefor.

Another object of my invention resides in the fact that in those types of shoes where the openings in the counter, lining, or both, are only partially alined with openings in the quarter, the exposed surfaces of said counter or lining, or both, visible through the openings in the quarter, will be either of the same color as the outside surface of the quarter, or of a color to harmonize there-

with, so that the beauty and attractiveness of my novel shoes will be greatly enhanced.

A further feature of my invention resides in constructing the outer upper sections, either at the toe tip, foxing, or the like, of contrasting colors, with the adjacent edges either butted or lapped, and overlaid at the jointure thereof with a reinforcing strip, either plain, perforated or colored, which reinforcing strip may be cemented or stitched in position, as desired.

In this event, the parts carrying the contrasting colors may be punched or perforated either individually, or may be joined and then perforated simultaneously, subsequent to which the reinforcing strip will be applied in the manner aforesaid.

Another object of my invention resides in the provision, in combination with an openwork quarter, or quarter and lining, of a counter pocket, either perforated or imperforate, in which is positioned or inserted a counter, either perforated or imperforate, the counter pocket being stitched along its upper marginal edges either to the quarter lining or the inside of the quarter.

In that type of shoe wherein an openwork quarter and openwork counter is utilized, with no lining, the inner surface of the said counter will preferably be of a color to harmonize with the remainder of the interior of the shoe.

Other objects and features of my invention reside in the particular construction and arrangement of my novel shoes, and the various steps of manufacture thereof, and all of the above, together with other objects and features of the invention, advantages, combinations of parts, and details of construction, will be hereinafter more fully pointed out, described, and claimed.

I believe that the boots or shoes above described, in all their phases, are novel, and have therefore claimed the same broadly herein.

I also believe that the above described steps of manufacture are novel, and have therefore claimed said steps as a process in this application.

I furthermore believe that the openwork or perforated counter, as an article of manufacture, is novel, and said counter is likewise claimed in this application.

Referring to the drawings, illustrating preferred embodiments of my invention,

Fig. 1 is a perspective view of a shoe in which my invention of openwork quarter, openwork lining and openwork counter, perforated as a unit and assembled with all openings in register, is illustrated;

Fig. 2 is a cross-sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a plan view of the component layers in assembled and adhered condition before perforating;

Fig. 4 is a fragmentary side elevation illustrating a pressure die firmly uniting said three layers;

Fig. 5 is a fragmentary cross-sectional view illustrating the step of simultaneously perforating the three layers comprising counter, quarter and lining, although it will be appreciated that this step may be performed whether or not said layers are adhesively united;

Fig. 6 is a top plan view illustrating the parts shaped to substantially foot contour;

Fig. 7 is a partial side elevation illustrating the quarter, lining and counter assembled with the openings in partial register;

Figs. 8 and 9 are sectional details illustrating the paneling of the quarter and lining;

Fig. 10 is a perspective view of the perforated counter as a separate unit;

Fig. 11 is a cross-sectional view illustrating the assembly of an openwork quarter and counter, without lining;

Fig. 12 is a partial side elevation illustrating an openwork quarter and lining, without counter, with the openings in partial alinement;

Fig. 13 is a cross-sectional view on the line 13—13 of Fig. 12;

Fig. 14 is a cross-sectional view illustrating a modification utilizing openwork quarter, openwork counter, and openwork counter pocket-forming piece;

Fig. 15 is a partial side elevation illustrating an openwork quarter and openwork quarter lining, with an imperforate counter;

Fig. 16 is a cross-sectional view on the line 16—16 of Fig. 15;

Fig. 17 is a cross-sectional view illustrating the use of a solid counter and solid counter pocket-forming piece;

Fig. 18 is a cross-sectional view on the line 18—18 of Fig. 22, illustrating the embodiment of my invention in the toe portion of a shoe;

Fig. 19 is a partial perspective view of the heel portion of a shoe illustrating the use of multi-colored quarter and foxing;

Fig. 20 is a cross-sectional view on the line 20—20 of Fig. 19;

Fig. 21 is a partial perspective view, partly in section, illustrating lapped sections for simultaneous perforation; and

Fig. 22 is a partial perspective view of the toe portion of a shoe illustrating multi-colored vamp and toe tip.

Referring now to the drawings, for a particular description of the invention, and the methods of carrying out the same, my novel shoe includes a quarter 1, quarter lining 2 which may be in the form of a counter pocket-forming piece, and counter 3. The contacting faces of these elements may be coated with a suitable adhesive, as at 4, 4, either or both of said surfaces being thus coated.

These three adhered layers are preferably assembled in flat formation, as illustrated in Fig. 3, and are then subjected to a pressure operation, as between the two presser members 5, in Fig. 4, which members may be heated or not, as desired. This pressure operation will firmly and integrally unite the layers 1, 2 and 3 as will be readily apparent.

Subsequent to the pressure operation, I then subject the united layers to a perforating operation, the die 6 operating in conjunction with an anvil 7 to perforate a mass of apertures, perforations or openings 8 completely through the united materials, including the counter layer 3. As clearly illustrated in Fig. 1, this mass of perforations extends over the entire area of the quarter, even to the edges thereof.

Thereafter, the united and perforated unit comprising the quarter, lining and counter are shaped in any suitable or desirable manner to substantially foot contour as illustrated in Fig. 6. Thereafter the complete upper materials are assembled, lasted and the shoe completed, paneling strips 9 being applied as illustrated in Fig. 2, and united to the quarter and lining by through and through stitching 10 and by top stitching 11. These panels effectually cover and conceal

the rough marginal edges left by the mass perforations, as will be readily understood.

It will be appreciated that, in place of cementing and simultaneously perforating the three layers, as above described, these may be simultaneously perforated without cementing, or may be perforated individually. Thereafter, the three layers, quarter, lining and counter are assembled, and the perforations 8, or at least some of them, will be in partial register or alinement with the perforations in an adjacent layer or layers.

In this latter event, it is desirable that the exposed surfaces of the lining 2, and counter 3, should be of the same color as the color of the outside surface of the quarter 1, or at least of a color to harmonize therewith. In Fig. 7 I have illustrated the same as being of the same color, for clarity, and it will be readily appreciated, from a glance at Fig. 7, that this color scheme will be carried out on those portions of the underlaid layers that are visible through the openings 8 in the quarter 1.

In paneling the quarter and lining of the shoe of Fig. 7, the layers 1, 2 and 3 not being adhesively united, I first secure a panel 12 to the lining 2 by a row of stitching 13, and apply a panel 14 to the quarter 1 by stitching 15. Thereafter, when the three layers 1, 2 and 3 are assembled, the panels 12 and 14 are united by top stitching 16, as illustrated in Fig. 8. It will be understood that these panels project beyond the rough edges of the quarter and lining, and effectually cover and conceal said edges, as well as providing a firm hold for the top stitching 16.

In Fig. 10 I have illustrated the counter 2 when perforated and shaped without adhesion to the quarter or lining, as a separate article of manufacture, and in this Figure 10 the rough edge 17 is clearly illustrated, caused by the overboard mass perforating of said counter, this same feature being present in the lining and quarter. As illustrated in Fig. 10, substantially one-quarter of the counter is opened by perforations 8.

In either of the forms of shoes thus far briefly described, wherein the openwork counter is utilized, full ventilation of the shoe at this important point is obtained, the counter 3 retaining substantially its full strength and rigidity and capacity for performing all of its important functions.

In Fig. 11 I have illustrated a slight modification, wherein the quarter 1 and counter 3 are assembled and united by stitching 18 around the upper marginal edges of said counter, without any quarter lining. In some types of shoes the lining will not be essential, and my feature of ventilation through the counter may be carried out in these types of shoes with equal facility. In order that the appearance of the shoe thus constructed may not be impaired, the inner surface of the counter 3 would preferably be of the same color as the remainder of the interior of the shoe, or of a color or shade to harmonize therewith.

In Figs. 12 and 13 I have illustrated another form wherein the counter is omitted, the lining 2 and quarter 1 being provided with openings 8, which may be either in alinement or partial alinement as shown. In this form of the invention the harmonized color scheme would also be preferably carried out. The paneling 12 and 14 is applied in the same manner as heretofore described.

In Fig. 14 is illustrated a modification wherein a perforated counter pocket 18a is fixed to the inside of the quarter 1 by a row of stitching 19, and a counter 3 is inserted therebetween, as clearly shown. The paneling 20 is united to the pocket 18a and quarter 1 by through and through stitching 21 and top stitching 22.

In Figs. 15 and 16 I have illustrated the perforated quarter 1, perforated quarter lining 2, and an imperforate counter 23, colored to harmonize with the quarter lining, as aforesaid, and still providing for ventilation, particularly where no adhesion between counter and lining or quarter is utilized.

In Fig. 17 I have illustrated the utilization of a perforated quarter 1, an imperforate counter pocket 24, and imperforate counter 25, the counter pocket 24 being united to the inside of the quarter 1 by stitching 26 and the paneling 27 being united to the pocket and quarter by through and through stitching 28 and top stitching 29.

In Fig. 18 I have illustrated the carrying out of the second phase of my invention with respect to the toe stiffener and toe portion of my novel shoe. In this instance the toe stiffener 30 is provided with perforations 31 to cooperate with the openings 32 in the toe tip 33 and the openings 34 in the lining 35 in the same manner as heretofore described, either in alinement or partial alinement, and with the advantages as above pointed out for the openwork counter and heel portion of the shoe.

In Figs. 19 to 22 is illustrated that phase of my invention which includes a multi-part outer upper section of contrasting colors. For example, in Fig. 19 a quarter 36, of one color, is assembled with a foxing 37 of another or contrasting color. These two parts may be butted or lapped, as shown in Fig. 21, and may be first joined and then simultaneously perforated, or may be perforated and then joined. After joining, the union between the two parts is preferably covered and concealed by a reinforcing strip 38, which may be imperforate, as illustrated in Fig. 19, and cemented to the two parts, or may be perforate as illustrated by the strip 39 in Fig. 22 and attached by stitching 40 to the two parts.

In Fig. 22 it is the toe tip 33 and vamp 41 which are of contrasting colors and perforated, instead of the quarter 36 and foxing 37 of Fig. 19.

It will thus be appreciated that many beautiful and harmonious color schemes and effects may be carried out with my invention, greatly enhancing the range of styles and designs possible in shoe manufacture.

It will be understood and appreciated that the colors shown in the drawings of this application are for illustrative purposes only, and that I am in no way limited to any particular colors or combinations of colors, this being left to discretion and personal taste.

It will be appreciated that I have necessarily described my present invention somewhat in detail in this application, but that I am not limited to the specific showings or descriptions thereof, but may vary the size, shape, arrangement of parts, designs and the like, within wide ranges without departing from the spirit of the invention, and that the features illustrated and described herein may be applied to any part or parts of a shoe, or throughout as great an area or surface of a shoe as may be desired.

It will also be apparent that the perforations shown herein are merely for illustrative purposes, and that any size, shape or arrangement

of perforations, apertures or openings is equally within the scope of my invention.

It will also be appreciated and understood by those skilled in this art that the various phases of my invention are simple of adaptation, and present no difficulties in the processes of shoe manufacture.

A preferred and inexpensive method of producing the counter illustrated in Fig. 10, is to perforate, in sheet form, the material from which said counter is formed, and thereafter to die out the counters from said sheet, said died-out counters being provided with the desired perforations, as clearly shown in Fig. 10. Thereafter, the individual counters are skived, or molded, in the customary manner.

My invention is further described and defined in the form of claims as follows:

1. The improved process of shoe manufacture, which includes the steps of assembling a two-part outer upper section of contrasting colors, with the surfaces of both parts on the same plane, simultaneously perforating a plurality of apertures through each of said parts, and thereafter applying an openwork reinforcing strip over said two parts at the union thereof in such relation to the apertures in said outer upper section at said union that at least some of the apertures in said upper section will be alined with the apertures in said reinforcing strip.

2. The improved process of shoe manufacture, which includes the steps of assembling a two part outer upper section of contrasting colors, adhesively uniting said outer upper section to a lining, and maintaining the surface of the outer upper section in a substantially continuous plane, simultaneously perforating a plurality of apertures through each of said parts and lining as a unit, and thereafter applying a narrow reinforcing strip over the two parts of said outer upper section at the union thereof.

3. The improved process of shoe manufacture which comprises supplying a shoe upper in which the quarter and quarter lining have had perforations cut through them in close formation in the counter area, then inserting between said quarter and lining a counter through which perforations have been cut in close formation over substantially its entire area, then assembling the combination of upper and counter on to the last, then lasting and completing the shoe in any suitable manner.

4. The improved process of shoe manufacture which comprises supplying a shoe upper in which the quarters have had perforations cut through them in close formation in the counter area and in which the quarter lining has openings in close formation in the counter area, then inserting between said quarters and lining a counter through which perforations have been cut in close formation over substantially its entire area, then assembling the combination of upper and counter on to the last, then lasting and completing the shoe in any suitable manner.

CLAUDE H. DANIELS.