

March 16, 1971

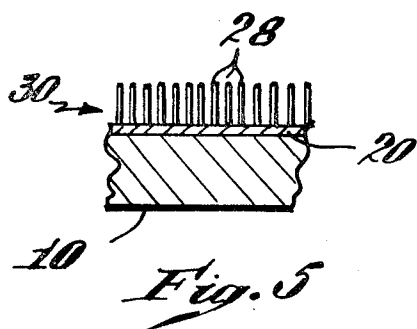
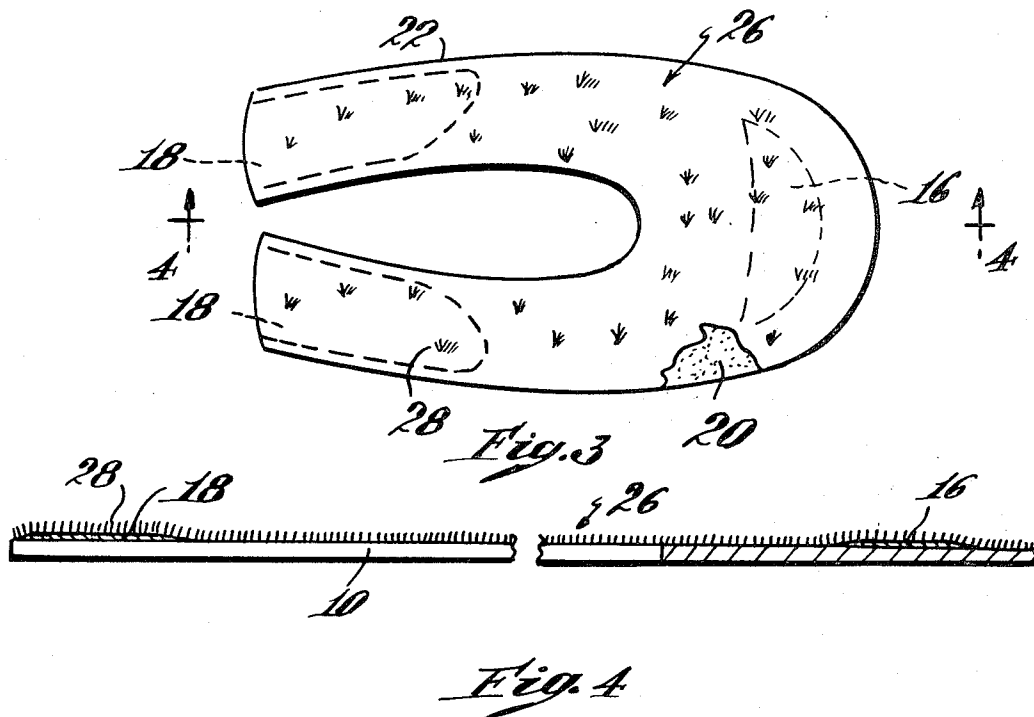
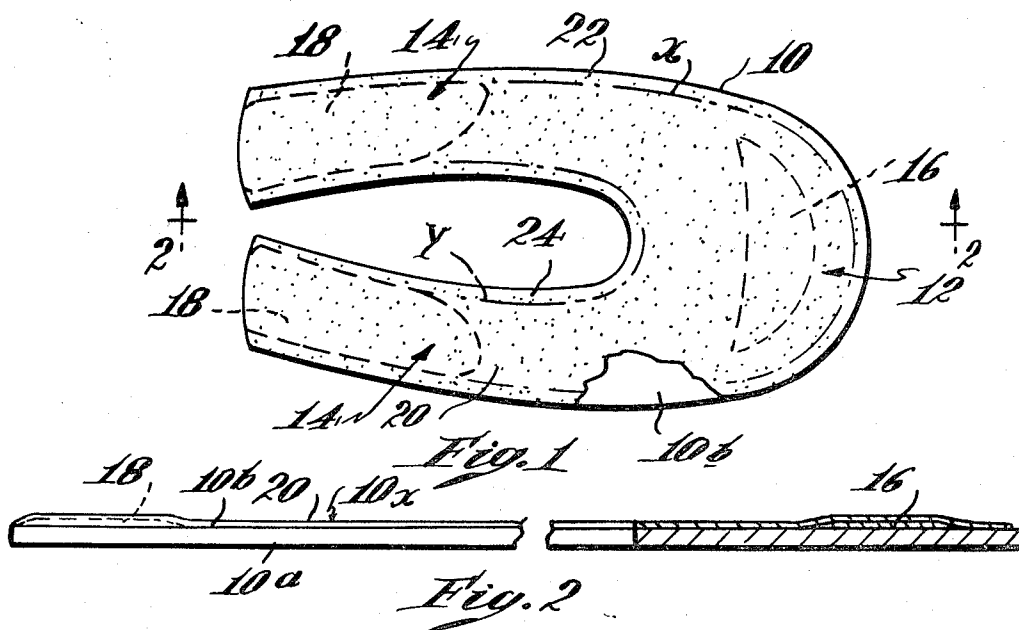
R. B. FIELD

3,570,150

SHOE UPPER ASSEMBLY

Filed Jan. 27, 1969

3 Sheets-Sheet 1



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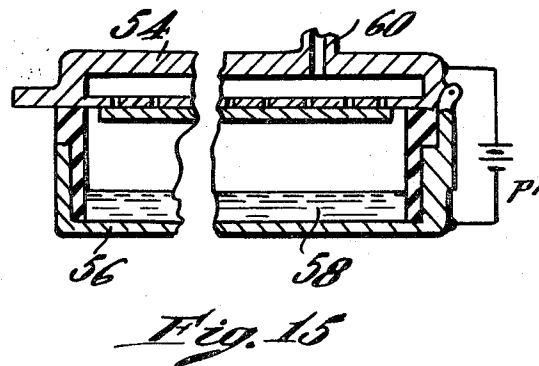
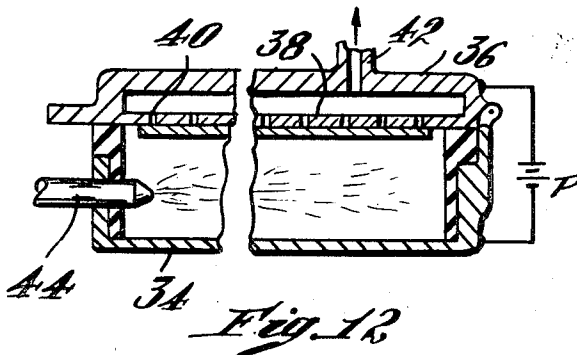
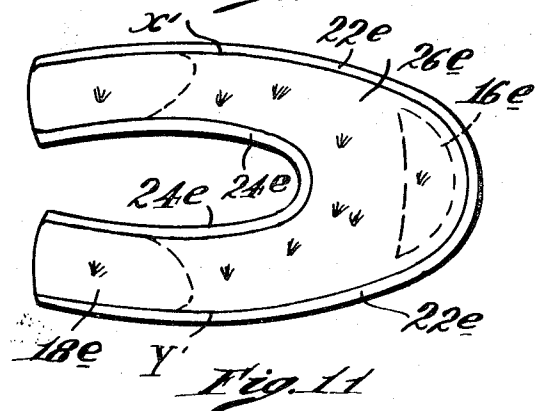
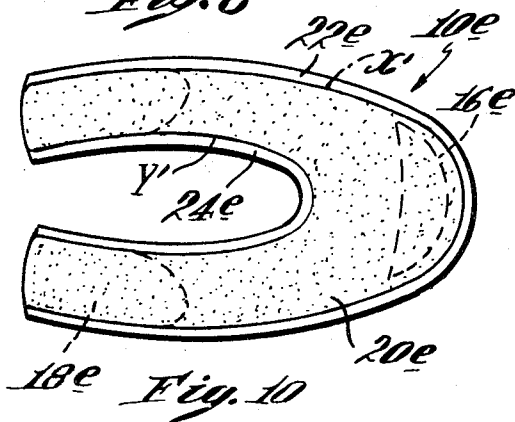
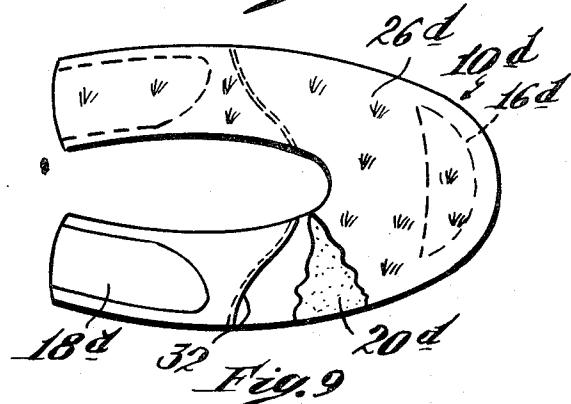
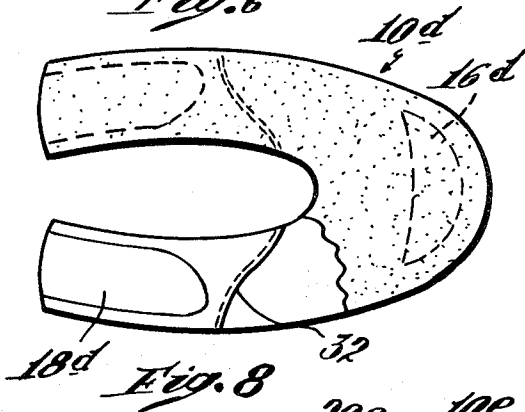
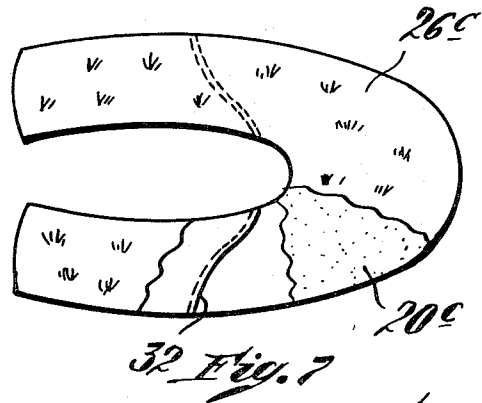
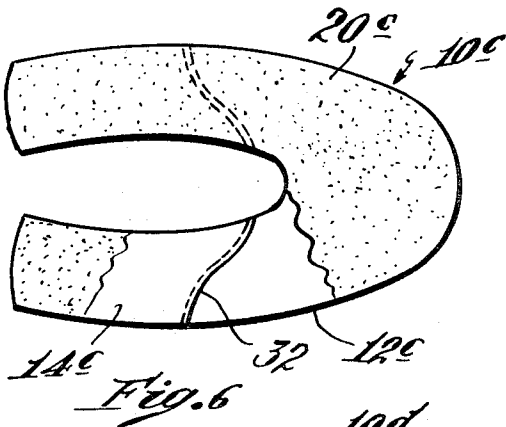
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SHOE UPPER ASSEMBLY

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March 16, 1971

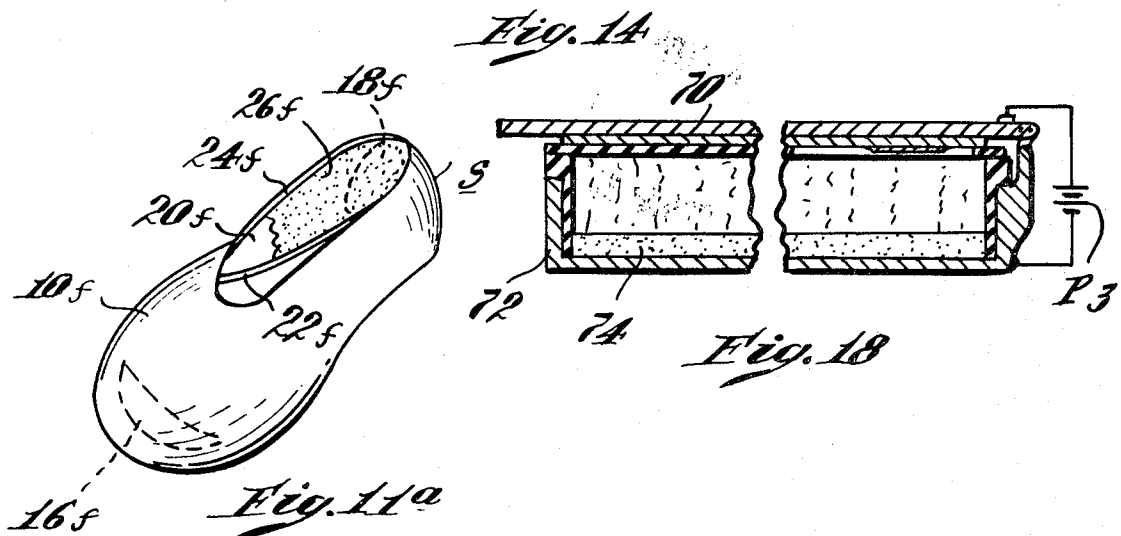
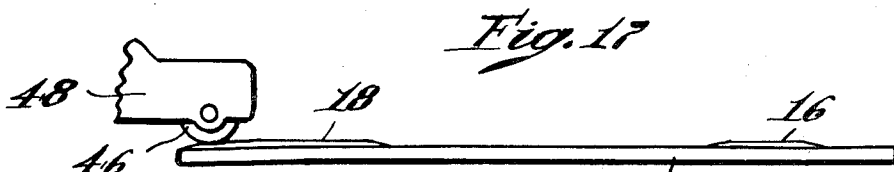
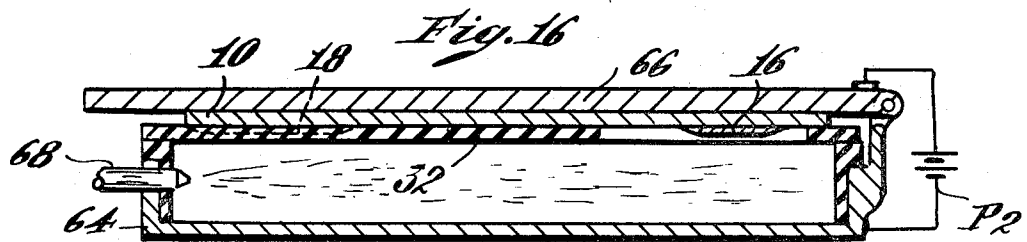
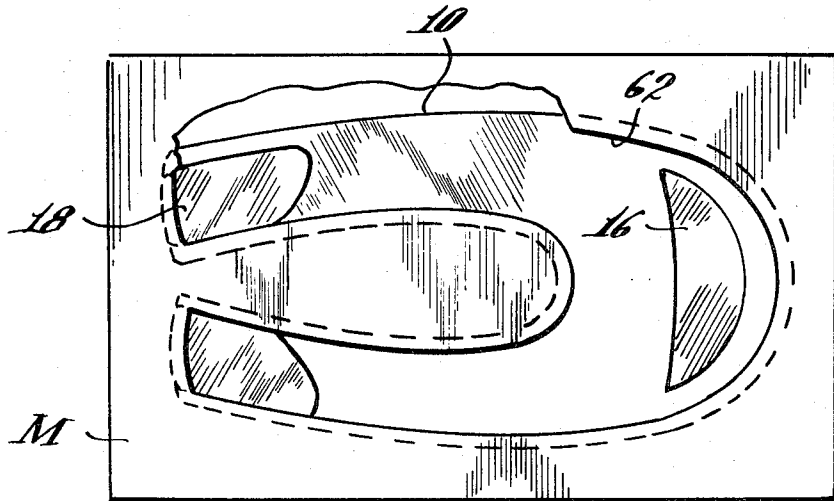
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SHOE UPPER ASSEMBLY

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3 Sheets-Sheet 3



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3,570,150
SHOE UPPER ASSEMBLY
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34 Claims

ABSTRACT OF THE DISCLOSURE

A shoe upper assembly ready for making shoes comprising an outer ply of upper material embodying a forepart and quarters and having outer and inner surfaces, the inner surface containing discontinuities in the form of stiffening means applied to the inner surface adjacent the tip of the forepart and at the rear ends of the quarters and/or seams resulting from sewing of several pieces of upper material together to form a composite structure, a continuous unbroken base layer coextensive with and united to at least that portion of the inner surface of the outer ply which will be within the interior of the finished shoe and will have contact with the foot so as to cover the surface discontinuities, and a pile of elongate fibers of predetermined length anchored at one end to the base layer with their other ends standing perpendicular to said surface.

BACKGROUND OF THE INVENTION

Preparation of an upper for shoe making ordinarily involves such preliminary operations as cutting and stitching the lining material, assembling the lining with the upper material and attaching it thereto, incorporating toe and counter stiffeners, trimming and the like. Such operations are carried out in the cutting room and stitching room and entail a very considerable amount of accessory machinery and skilled operators which adds materially to the cost of manufacture. In addition, the provision of a lining and stiffening means has always been troublesome, requiring particular care on the part of the operators during pulling over and lasting operations to insure correct disposition of the stiffening means and proper attachment of the lining with the right degree of tension. In spite of such care, however, attached linings are apt to pull away in part from the shoe or to become wrinkled after the shoe has been worn and hence cause foot discomfort. Accordingly, the purpose of this invention is to provide an upper assembly ready for shoe making with a lining which does not have to be precut and stitched for combination with the outer material, a lining which causes no difficulties or problems in pulling over and lasting operations, a lining which will not pull away from the upper and a lining which will provide lasting foot comfort, long wear and a substantial saving in time and money in comparison to the conventional lining. Other purposes are to provide for making the upper assemblies economically, that is, with the least amount of waste and loss of material.

SUMMARY

As herein illustrated, the shoe upper comprises an outer ply of upper material embodying a forepart and quarters, and outer and inner surfaces, the inner surface containing surface discontinuities and a continuous unbroken base layer coextensive with and united throughout its entire area to at least that portion of the discontinuous inner surface of the outer ply which will have contact with the foot. Preferably the base layer is applied to the entire inner surface. The discontinuities may be in the form of stiffening means at the inner side adjacent the tip of the forepart and at the rear ends of the quarters and/or seams at the inner surface formed when the upper is comprised of two or more pieces sewn together to form a composite

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structure. The base layer is homogeneous and optionally has anchored to it a multitude of elongate particles secured at one end to the base layer with their outer ends standing perpendicularly away from said layer, and collectively forming a pile of substantially uniform thickness over the entire inner surface. Preferably the elongate particles are of artificial or natural fibers. Optionally, the margins at the bottom and top lines of the outer ply which are for the purpose of lasting and finishing are left bare of the base layer and pile.

The shoe upper is prepared by providing a blank of suitable configuration, including margins at the bottom and top lines for lasting and for finishing, applying to the inner surface thereof, to at least that portion of the inner surface which will have contact with the foot in the finished shoe a continuous unbroken base layer, and then electrostatically depositing a multitude of elongate particles of predetermined length on the base layer. The base layer may be applied by means of a brush, by means of a calendar roll, sprayed on by means of an atomizer or electrostatically deposited. If stiffening means are to be applied these are applied to the forepart and quarters before application of the base layer so that the base layer covers not only the inner surface of the outer ply but also the inner surfaces of the stiffening means. Similarly, if the upper is to be comprised of two or more pieces these are sewn together to form a composite structure prior to application of the base layer so that the latter covers the seams on the inner surface. The base layer and cushion layer are preferably coextensive with the entire inner surface of the blank, including the margins at the bottom and top lines. However, if it is desirable to leave the margins bare of the material of the base layer and of particulate material, these margins are masked prior to applying the base layer and during the application of the particulate layer. Following attachment of the elongate particles which preferably are short clippings of natural or artificial fibers of predetermined length, the surface is subjected to a vacuuming operation to remove such particles as does not become attached to eliminate subsequent shedding.

The outer ply of the upper material may be natural leather or any man-made substitute therefor, or a woven material comprised of natural or man-made fibers. The base layer may be comprised of any homogeneous material which may be applied while liquid or semi-liquid to form a continuous layer adherent to the inner surface of the upper and to which the pile is adapted to be adhered. Thermoplastic, thermosetting, hot melt adhesives, solvent base adhesives, latex and the like are contemplated.

The invention will now be described in greater detail with reference to the accompanying drawings wherein:

FIG. 1 is a plan view of the inner surface of a shoe upper assembly with stiffening means adjacent the tip of the forepart and at the rear ends of the quarters, and a base layer of homogeneous material covering the entire inner surface except for parts broken away to show the inner surface of the outer ply;

FIG. 2 is a section taken on the line 2—2 of FIG. 1; FIG. 3 is a plan view similar to FIG. 1, showing pile covering the entire inner surface except for a part broken away to show the base layer;

FIG. 4 is a section taken on the line 4—4 of FIG. 3;

FIG. 5 is an enlarged fragmentary section showing the disposition of the elongate particles in substantially perpendicular relation to the inner surface to the shoe upper assembly and in substantially parallel relation to each other;

FIG. 6 is a plan view of the inner surface of a shoe upper assembly comprised of a forepart blank and quarter blanks sewn together to form a composite structure with

the base layer applied to the entire inner surface except for a part broken away to show the inner surface of the outer ply and the seams joining the parts;

FIG. 7 is a plan view corresponding to FIG. 6, showing the cushion layer applied to the base layer except for a part broken away to show the base layer;

FIG. 8 is a plan view of the inner surface of a shoe upper assembly comprised of a forepart blank and quarter blanks sewn to form a composite structure, stiffening means applied to the forepart and quarters, and a base layer covering the entire inner surface except for a part broken away to show the inner surface of the outer ply, the stiffening means and the seam at one side;

FIG. 9 is a view corresponding to FIG. 8, with the cushion layer applied to the entire inner surface except for a part broken away to show the base layer;

FIG. 10 is a plan view of the inner surface of a shoe upper comprised of a single piece of upper material, stiffening means at the forepart and heel ends, and a base layer confined to the inner surface within the margins at the top and bottom lines, the latter being left bare;

FIG. 11 is a view corresponding to FIG. 10, showing stiffening means applied to the forepart and quarters within the bottom and top margins and the cushion layer confined to the area within the bottom and top margins;

FIG. 11a is an angular view of a shoe upper assembly closed at the back line, showing stiffening means applied to the forepart and heel ends, a base layer covering the interior surface and a cushion layer adhered to the base layer;

FIG. 12 is an elevation of an apparatus for electrostatically applying the base layer to the entire inner surface of the upper;

FIG. 13 is an elevation of an alternative method of applying the base layer by means of a calendaring roll;

FIG. 14 is an elevation of still another method applying the base layer by means of a brush;

FIG. 15 is an elevation of an apparatus for electrostatically applying the cushion layer to the base layer;

FIG. 16 is a plan view of a masking plate for masking the margins at the bottom and top lines of the inner surface of the upper;

FIG. 17 is an elevation of an apparatus for applying the base layer to the masked inner surface of the upper blank; and

FIG. 18 is an elevation of an apparatus for electrostatically applying the particulate material to the masked inner surface of the upper blank.

Referring to the drawings FIG. 1 shows a flat blank 10 comprised of a suitable upper material having a forepart 12 and quarters 14. The blank constitutes the outer ply of the upper assembly, which is to be made according to this invention, and the material of which it is comprised may be of natural or man-made fibers, rubber or any substitute therefor; or any of the man-made plastics used for shoe making such as Corfam and Patina.

The outer ply 10 has an outer surface 10a and an inner surface 10b. Stiffening means 16 and 18 are applied to the inner surface 10b adjacent the tip of the forepart and at the rear ends of the quarters. The stiffening means 16, 18 may be comprised of any of the thermosetting or thermoplastic materials currently used for this purpose, cut to a shape appropriate for the areas to which they are to be attached, and, if necessary, skived at their edges to merge smoothly with the surfaces to which they are to be attached. The stiffening means are preferably comprised of dimensionally stable material impregnated with a composition which may be rendered soft by the application of heat to enable conforming the upper to the last during the lasting operation and which will set and become rigid upon cooling to retain the shape imparted thereto during the lasting operation. Optionally, the stiffening means may comprise a material which may be rendered plastic and applied directly to the inner surface of the upper by means of a stenciling operation or equivalent

printing operation, such material being at normal temperature dimensionally stable, but being adapted to be rendered soft and conformable by the application of heat just before the lasting operation.

The stiffening means are confined to the area of the inner surface within the inner boundaries X-Y of the lasting margin 22 at the bottom line and the trim margin 24 at the top line. The inner surface of the outer ply with the stiffening means applied thereto has as a consequence a discontinuous inner surface 10x (FIG. 2), in the sense that while it is relatively smooth the inwardly standing edges form ridges on the inner surface 10b of the outer ply which tend to rub against the foot and to cause irritation and discomfort.

In accordance with this invention, instead of attaching to the inner surface of the outer ply a conventional leather or fabric lining cut to a shape corresponding to that of the outer ply, a base layer 20 is applied to the entire exposed inner surface 10x which includes the exposed inner surface of the outer ply and the exposed inner surfaces of the stiffening means.

The base layer 20 is homogeneous and is comprised of a material which will adhere firmly to the inner surface of the outer ply and the inner surfaces of the stiffening means and to which may be adhered a cushion layer, as will be described hereinafter. The base layer 20 may comprise thermosetting or thermoplastic materials, plastisols, epoxys, resins, urethane, hot melt coatings, solvent base coatings, and latex base coatings. The thickness of the base layer 20 will depend to a considerable extent upon the characteristics of the material of which it is comprised but in any event should not be present in such an amount as to materially alter or interfere with the conformability of the outer ply during the lasting nor adversely affect the appearance of the outer ply in the finished product.

The outer ply with its base layer 20 may optionally be used as a complete upper assembly ready for lasting and will in this form provide a smooth continuous unbroken interior surface for the finished shoe which will protect the foot from abrasion and contact with any rough edges, ridges, or the like, at the inner side, especially if the stiffening means have not been carefully skived. Preferably, however, a cushion layer 26 (FIGS. 3 and 4) is attached to the inner surface of the outer ply by means of the aforesaid base layer 20 and comprises a multiplicity of elongate particles 28 (FIG. 5) attached at one end to the base layer 20 with their outer ends standing perpendicularly away from the inner surface and collectively forming a pile 30 of uniform thickness. The particulate material 28 is preferably comprised of natural or man-made fibers of uniform length and are coextensive in their coverage with the base layer 20. Optionally, the particulate material may, for example, be ground cork or comminuted particles of natural leather. The cushion layer provides in addition to the base layer which covers the discontinuities on the surface a yieldable surface which adds to foot comfort.

The outer ply as described above (FIGS. 1 to 4) is illustrated as comprised of a single piece of upper material. Many uppers are comprised of two or more pieces of upper material, sewn together to form a composite upper structure; for example, of a forepart blank and quarter blanks. In some kinds of shoes the forepart blank is cut to receive a plug. In manufacturing of such multi-part uppers there are, accordingly, several internal seams and these constitute discontinuities which, as well as the presence of stiffening means, rub against the foot and cause irritation and discomfort. A multi-part outer ply 10c comprising a forepart piece 12c and quarter pieces 14c joined by seams 32 is shown in FIG. 6, and this invention includes the application of a base layer 20c to the entire inner surface of the multi-piece upper, without stiffening means as shown in FIG. 6, or with stiffening means 16d, 18d as shown in FIG. 8. In addition, the invention also contemplates the application of a cushion layer 20c to a

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multi-piece upper without stiffening means, as illustrated in FIG. 7, or with a cushion layer 26d and stiffening means 16d, 18d as illustrated in FIG. 9.

Some shoe manufacturers insist upon having the margins at the bottom and top lines of the upper bare of any covering material for lasting and for turning over the edge at the top line to provide a finished edge at the foot opening, or to receive over-edge binding. Accordingly, while it is not considered necessary for good shoe making, it is within the scope of the invention to leave these margins bare by applying the base layer exclusively to the inner surface of the outer ply within the inner boundaries of the bottom and top line margins as shown in FIGS. 10 and 11. In FIG. 10 the inner edge of the bottom line margin 22e and the top line margin 24e are represented by the lines X'-Y' and the base layer 20e is confined to the inner surface of the outer ply within the lines X'-Y'. FIG. 10 also shows stiffening means 16e and 18e applied to the inner surface of the outer ply between the inner edges X'-Y' of the bottom and top margins 22e and 24e and FIG. 11 shows a cushion layer 26e applied to the base layer 20e. It is contemplated that the outer ply illustrated in FIGS. 10 and 11 may be comprised of one or more parts and that stiffening means may or may not be employed.

Although the upper assemblies illustrated and described are flat, closed upper assemblies 10f may be provided as shown in FIG. 11a, wherein the rear edges of the quarters are joined by a conventional back seam S. When supplied in this fashion the stiffening means 18f may be continuous around the back. In other respects the upper shown in FIG. 11a will be like those previously described in that it may have stiffening means 16f at the toe, may be comprised of one or more pieces sewn together, will have an inner homogeneous base layer 20f covering the stiffening means and seams, and optionally a cushion layer 26f. It is also within the scope of the invention to leave the bottom and top margins 22f and 24f naked.

The upper assemblies in any of the forms described thus far are ready for use in the manufacture of shoes by performing the conventional operations of pulling over and lasting preceded, of course, by exposing the upper to a heat-treating operation designed to condition the stiffening means according to the character of their make-up for conformance to the last during the lasting operation. According to the character of the base layer preconditioning of the upper assembly may also be necessary and any treatment appropriate to such conditioning of the upper assembly for lasting is considered as within the scope of the invention.

The upper assemblies as shown in FIGS. 1 to 12, inclusive, are made by applying the base layer to the inner surface of the upper blank with or without the stiffening means by supporting the blank with its discontinuous inner surface facing downwardly above an open top box 34 (FIG. 12), to one end of which is hinged a cover plate 36. The cover plate is hollow and has at its inner side a flat grid 38 containing a plurality of openings 40 in communication with the hollow interior of the cover. The hollow cover is connected by means of a conductor 42 to a vacuum so that when the blank is placed against the inner side of the grid it will be held flat against it. A spray nozzle 44 is mounted at one end of the box and electrical connections are provided from a suitable source of power P so as to produce an electrostatic field between the bottom of the box and the cover plate such that the particles of material of which the base layer is to be comprised, atomized by the spray nozzle and injected into the box, will be deposited uniformly against the exposed surface of the blank.

Alternatively, the material of which the base layer is to be comprised may be applied to the exposed surface of the blank by a spray gun (not shown), by a calendar roll 46 (FIG. 13) supplied with material from a receptacle 48, or by means of a brush 50 as shown in FIG. 14.

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Having applied the base layer which, as previously explained, should be of a material which provides a continuous unbroken homogeneous surface, the layer may be allowed to dry, set or cure as the case may be, and the blank, as thus processed, used in the manufacture of shoes, or subjected to the further step of applying the cushion layer thereto, that is, while the base layer is still tacky. The cushion layer is preferably applied by placing the coated upper between the cover 54 and the open top of a box 56 (FIG. 15) within which particulate material 58 is loosely placed, and providing electrical connections and a source of power P1 between the box and the cover plate which will create an electrostatic field such as to cause the loose particulate material to deposit on the exposed tacky surface of the blank. The cover 54 like the cover 36 shown in FIG. 12 is hollow and a vacuum connection 60 provides for holding the blank with the tacky coating thereon faced downwardly over the open top of the box.

The particulate material may optionally be applied by means of any commercially available flocking equipment including the spray gun type of applicator and air turbulent and beater bar type machines.

When making an upper assembly such as shown in FIGS. 10 and 11 with the margins 22e and 24e uncoated, a mask or stencil plate M be used, as shown in FIG. 16. The stencil plate contains an opening 62 corresponding in shape to the blank so dimensioned that when the blank is placed against it the margins at the bottom and top lines will be concealed by the stencil and only the surface portion to which the base layer is to be applied is exposed. The base layer is applied to the exposed surface of the blank by placing the stencil plate with the exposed surface of the blank facing downwardly above the open top of a box 64 (FIG. 17) to one end of which is hinged a cover plate 66, the latter being adapted to hold the blank flat against the stencil. A spray nozzle 68 is mounted at one end of the box and electrical connections are provided from a suitable source of power P2 so as to produce an electrostatic field between the bottom of the box and the cover plate such that the particles of material of which the base layer is to be comprised, atomized by the spray nozzle and injected into the box will be deposited uniformly against the exposed surface of the blank.

As related above, instead of applying the adhesive layer electrostatically the material of which the layer is to be comprised may be applied to the exposed surface of the outer ply by means of a spray gun (not shown), by a calendar or applicator roll 46, as illustrated in FIG. 13, or by means of a brush 50, as illustrated in FIG. 14.

The cushion layer is also applied electrostatically by placing the stencil plate 60 with the upper to which the base layer has been applied between the cover 70 and the open top of a box 72 (FIG. 18) within which the particulate material 74 is loosely placed and providing electrical connections and a source of power P3 between the bottom of the box and the cover plate which will create an electrostatic field such as to cause the loose particulate material to deposit on the exposed tacky surface of the blank. Optionally, the particulate material may be applied by means of a spray gun or by means of flocking machines.

It is to be understood that the apparatus herein illustrated, for the purpose of applying the base and the cushion layer, is illustrative only and is in no way intended to be restrictive.

It is within the scope of the invention to apply the base layer to the inner surface of the outer ply, allow it to dry and store the thus coated outer plies for future use. When it becomes desirable to apply the cushion layer the base layer may then be re-activated, for example, by radiant heat or the like.

Following deposit of the particulate material on the base layer a sufficient length of time is allowed for the base layer to set or cure and then the composite assembly is subjected to a vacuuming operation by passing a vacuum

nozzle over the surface or by exposing the surface to a negative pressure and vibration to remove or knock off any unattached or loosely attached particles.

The closed upper as shown in FIG. 11a may be similarly provided with a base layer and cushion layer by turning the closed upper inside out and spraying the exposed interior surface with a suitable material and then while it is tacky spraying the particulate material onto the tacky base layer. A mask may be employed to shield the margins.

Both the base layer and the cushion layer may be appropriately colored or dyed to blend with or to provide a contrast to the exterior surface of the upper. Additionally, both the base layer and the cushion layer may be pretreated with a deodorant and a bactericide.

The upper assembly as thus manufactured ready for lasting, reduces labor costs such as cutting, stitching and fitting, drafting, cobbling to eliminate wrinkles and other factory damage in manufacture, reduces cutting waste, provides for automatic fitting room operations, reduces inventory, enables faster color changes of linings without prior scheduling of materials, increases production without adding to the labor force, provides a covering for printed and/or box toes and counters and reduces the need for highly skilled personnel. Additionally, reduction in the overall retail price of the shoe is achieved, greater foot comfort is obtained with or without foot pads, and better ventilation is provided through increased surface area and thus more moisture absorption which is particularly beneficial in conjunction with man-made upper materials. A reduction in overall weight of the shoe and a non-bleeding barrier between the inner surface of the upper material and the foot of the wearer are also achieved.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents falling within the scope of the appended claims.

I claim:

1. A shoe upper assembly ready for lasting comprising an outer ply of upper material, said outer ply embodying a forepart and quarters and having outer and inner surfaces, said inner surface containing within that portion which will have contact with the foot surface discontinuities and a continuous unbroken inner lining layer of finite thickness comprised of a homogeneous integrated material, said layer being coextensive with and united throughout its entire area to at least that portion of said discontinuous inner surface of said outer ply which will have contact with the foot, said lining layer covering the discontinuities and providing an interior in the finished shoe conducive to foot comfort.

2. A shoe upper ready for lasting according to claim 1, wherein a particulate material is distributed uniformly on said layer and anchored thereto.

3. A shoe upper ready for lasting according to claim 1, comprising a multitude of elongate particles anchored at one end to the inner side of the inner lining layer, characterized in that the ends of the particles anchored in said inner lining layer are rooted therein, and that the outer ends stand perpendicularly away from said inner layer and collectively form a pile of uniform thickness over said entire surface of the outer ply.

4. A shoe upper ready for lasting according to claim 3, wherein said elongate particles are clippings of artificial fiber of predetermined length.

5. A shoe upper ready for lasting according to claim 3, wherein said elongate particles are clippings of natural fibers of predetermined length.

6. A shoe upper ready for lasting according to claim 1, wherein the inner layer is comprised of a thermo-setting material.

7. A shoe upper ready for lasting according to claim 1, wherein said inner layer is comprised of a thermo-plastic material.

8. A shoe upper ready for lasting according to claim 1,

wherein said inner layer is comprised of a latex base material.

9. A shoe upper ready for lasting according to claim 1, wherein the inner layer is comprised of a material which is normally dimensionally stable but may be rendered flaccid for a sufficient length of time to enable conforming the upper to the last during the shoe-making operation, and then will return to its normally dimensionally stable condition.

10. A shoe upper assembly ready for lasting comprising an outer ply of upper material, said outer ply having a forepart and quarters, outer and inner surfaces and embodying two or more pieces of upper material sewn to form a composite structure, the inner side of which contains two or more seams constituting discontinuities in said surface, and a continuous unbroken inner lining layer of finite thickness comprised of a homogeneous integrated material, said layer being coextensive with and united throughout its entire area to at least that portion of said discontinuous inner surface of the outer ply which will have contact with the foot.

11. A shoe upper ready for lasting according to claim 10, comprising a multiplicity of elongate particles rooted at one end in the exposed surface of said continuous inner layer with their outer ends standing perpendicularly away from said surface and collectively forming a pile of uniform thickness.

12. A shoe upper ready for lasting according to claim 10, comprising stiffening means interposed between said inner surface and said inner layer.

13. A shoe upper ready for lasting according to claim 10, comprising stiffening means applied to the inner surface of the outer ply at the heel ends of the quarters between said inner surface and said inner layer.

14. A shoe upper ready for lasting according to claim 10, comprising stiffening means applied to the inner surface of the outer ply at the forepart and heel ends between said inner surface and said inner layer.

15. A shoe upper ready for lasting comprising an outer ply of upper material, said outer ply having a forepart and quarters, outer and inner surfaces, and means for stiffening the outer ply adjacent the tip of the forepart and the rear ends of the quarters, said stiffening means constituting discontinuities on the inner surface of the outer ply, and a continuous unbroken inner lining layer comprised of a homogeneous integrated material, said lining layer being coextensive with and united throughout its entire area to said entire surface including the inner surface of said stiffening means.

16. A shoe upper ready for lasting according to claim 15, comprising a multitude of elongate particles set into the exposed surface of the inner layer at one end with their outer ends standing perpendicularly away from said inner layer and collectively forming a pile of uniform thickness over said entire inner surface of the outer ply.

17. A shoe upper complete for lasting comprising an outer ply of upper material embodying a forepart and quarters, said outer ply having outer and inner surfaces and margins at the bottom and top lines, said inner surface containing discontinuities, and a continuous unbroken inner lining layer comprised of a homogeneous integrated material, said lining layer being coextensive with and united throughout its entire area to said discontinuous inner surface of the outer ply within said margins.

18. A shoe upper according to claim 17, comprising means stiffening the outer ply adjacent the tip of the forepart and at the rear ends of the quarters.

19. A shoe upper ready for lasting according to claim 17, comprising a multitude of elongate particles adhesively secured at one end to the exposed surface of the inner layer with their outer ends standing perpendicularly away from said inner layer and collectively forming a pile of uniform thickness over said entire inner surface of the outer ply within said margins.

20. A shoe upper ready for lasting according to claim

17, wherein the outer ply is comprised of two or more pieces of upper material sewn together to form a composite structure and having as the result thereof two or more seams constituting, in conjunction with the stiffening means, additional discontinuities.

21. The method of preparing shoe upper assemblies complete for lasting comprising providing an outer ply of upper material embodying a forepart and quarters and applying a homogeneous integrated covering layer of finite thickness to at least that portion of said inner surface of the outer ply which will be exposed at the interior of the finished shoe.

22. A method according to claim 21, comprising providing the upper with stiffening means of appropriate configuration at the inner surface adjacent the tip of the forepart and at the rear ends of the quarters prior to applying the inner covering layer.

23. The method according to claim 21, comprising forming said covering layer by calendaring the material of which the layer is to be formed to said inner surface.

24. The method according to claim 21, comprising forming the covering layer by spraying the material of which the layer is to be comprised on said inner surface.

25. The method according to claim 21, comprising forming the covering layer by electrostatically depositing the material of which the layer is to be comprised on said inner surface.

26. The method according to claim 21, comprising forming the covering layer of a material adapted to adhere to the inner surface of the outer ply and embodying adherent characteristics, and while the layer is tacky depositing thereon dimensionally stable particulate material of predetermined particle size and longer in one dimension than the other with their longer dimensions perpendicular to said surface.

27. The method according to claim 26, wherein the particulate material comprises clippings of artificial fibers.

28. The method according to claim 26, wherein the particulate material comprises clippings of natural fibers.

29. The method according to claim 26, comprising electrostatically depositing the particulate material.

30. The method of preparing a shoe upper assembly complete for lasting comprising providing an outer ply of appropriate configuration, defining upon the inner surface thereof an exposed pile-receiving area by masking marginal portions of said surface and adhesively attaching a coating of pile to said exposed area.

31. The method of preparing a shoe upper assembly complete for lasting comprising providing an upper ply of appropriate configuration, defining upon the inner surface thereof the area which will be exposed at the inside of the

finished shoe by masking the marginal portions bordering said area, and then applying a continuous unbroken covering layer of finite thickness to said exposed area.

32. The method according to claim 31, comprising applying a layer of flock to said covering layer while still tacky.

33. The method of preparing shoe upper assemblies for making shoes comprising providing an outer ply of upper material embodying a forepart and quarters and having margins at the bottom and top lines, applying stiffening means adjacent the tip of the forepart and at the rear ends of the quarters, masking the inner side of the outer ply so as to cover said margins, leaving the inner side comprising the inner exposed surfaces of the stiffening means and the exposed inner surface of the outer ply, applying a continuous base layer of material to said exposed surfaces which is adapted to adhere to and form a dimensionally stable ply next to said surfaces, said material being characterized in that it may be rendered adhesive again by application of heat, exposing said base layer to heat to render it tacky and while said base layer is tacky electrostatically depositing particulate material on said tacky surface.

34. The method of preparing shoe upper assemblies for making shoes comprising providing an outer ply of upper material embodying a forepart and quarters and having margins at the top and bottom lines, applying stiffening means adjacent the tip of the forepart and at the rear ends of the quarters to the inner side, joining the rear ends of the quarters to form a closed upper, masking the marginal edges of the inner side of the closed upper at the bottom and top lines, leaving exposed the surfaces of the stiffening means and the outer ply between said margins, forming a continuous adherent layer on said exposed interior surfaces and, while the layer is still tacky, applying a flocking to said layer.

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