United States Patent

Nobile et al.

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[54] FOOT FOR CHILD'S SLEEPING GARMENT

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[52] **U.S. Cl.** **2/80**

[51] **Int. Cl.** **A41d 11/00**

[58] **Field of Search** ..... 2/80, 83; 36/9, 9 A, 10, 11

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[57] **ABSTRACT**

The foot part of a child's sleeping garment is rendered more comfortable and less subject to wearing out by virtue of a construction embodying an upper foot element joined to, and preferably a part of, the garment leg and encompassing the top portion of the foot, a sole element joined to the lower margin of the upper element and including marginal portions along the sides and around the heel that extend somewhat above the floor when in place on the wearer, and a toe element overlying the toes of the wearer. The sole is formed from a blank or pattern in which square cut-outs are made at each corner of the heel end, and the two edges of each cut-out are then joined together thereby to form a shaped heel. The pattern of the sole piece is further characterized by substantially straight, longitudinally extending edges that taper toward each other moving from the heel toward the toe. Consequently, the height of the side parts of the sole piece that extend up from the floor gradually diminishes moving in the direction of the toe. The toe and sole pieces are formed of durable materials having external surfaces adapted to resist wear and to provide non-slip characteristics.

4 Claims, 6 Drawing Figures

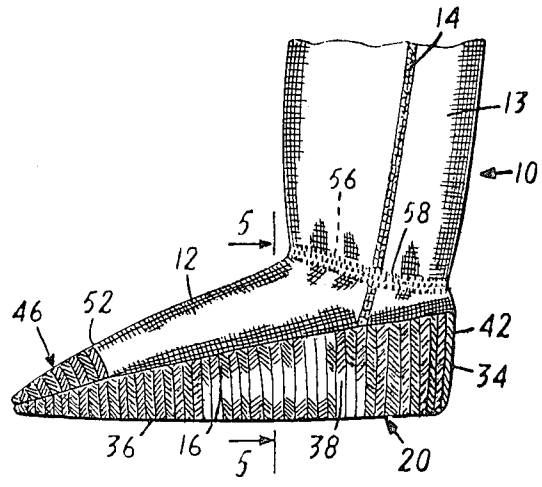


FIG. 1

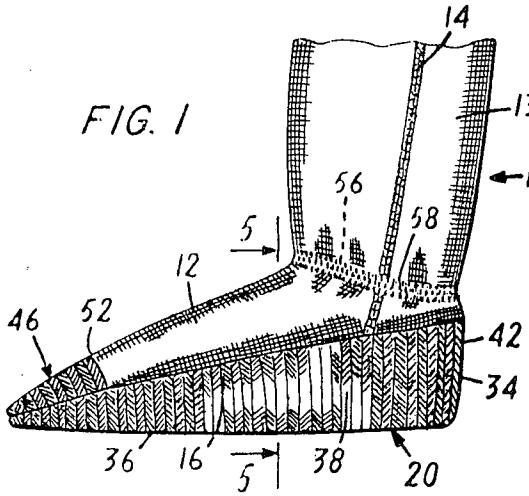
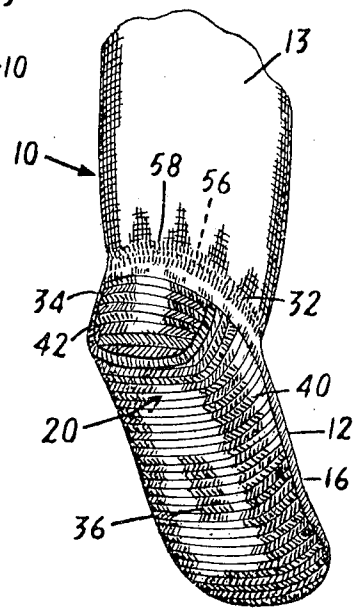


FIG. 2



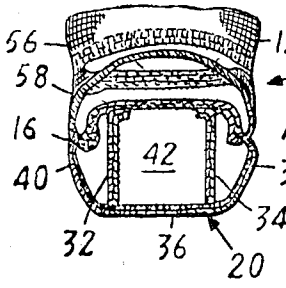


FIG. 5

FIG. 3

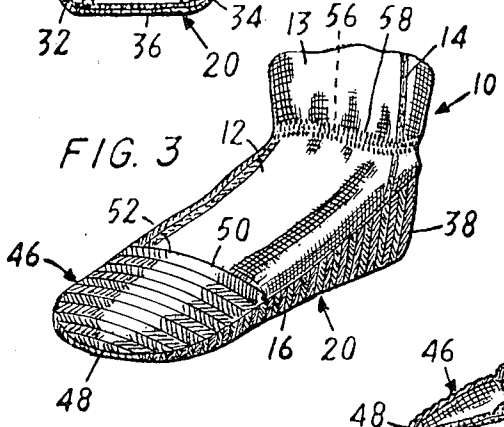


FIG. 4

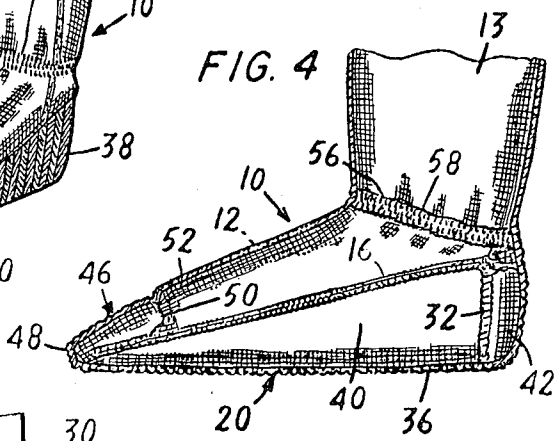
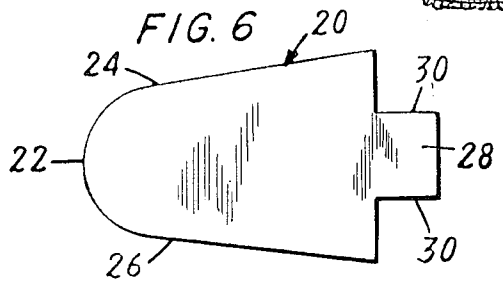


FIG. 6



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FOOT FOR CHILD'S SLEEPING GARMENT

BACKGROUND OF THE INVENTION

This invention relates to a novel and improved foot for a child's sleeping garment.

The sleeping garment predominantly worn by children in the range of ages of from, say, one to five years is the so-called "sleeper," a principal characteristic of which is the inclusion of integral feet to keep the child's feet warm. As is well known to those skilled in the art of parenthood, children of this age category are often bathed quite a while before they are put to bed and are often not dressed until some time after they arise. Consequently, the garment is worn during waking hours, and inasmuch as children are not particularly prone to sitting idly in contemplation but are, rather, most likely at all times to be crawling, running, wrestling and frolicking about, sleepers are subjected to hard use. Because children's activities are of this nature, the feet of sleepers are particularly subject to wear and have consequently been constructed of more durable materials. Moreover, the outer surface of the sole of the foot part of the sleeper have been provided with a relatively non-slip construction to make it somewhat safer for the child to frolic about while wearing it.

The feet of the conventional sleepers are usually composed of a sole piece that is designed to remain substantially flat on the floor and an upper part which is shaped to encompass and embrace the top of the foot. Although this foot construction has been generally accepted by consumers, it has also been found that the upper part of the foot, which is usually of the same material as the leg, is the part that wears out, the cause of the wear being partly the nature of children's play in which the bottoms of the feet are not necessarily the only parts that come into contact with the floor and partly the tendency of the garment foot to slip sideways on the foot of the wearer.

SUMMARY OF THE INVENTION

There is provided, in accordance with the invention, a novel and improved foot part for a child's sleeper which is more comfortable, is less prone to slipping around on the wearer's foot, and provides longer life by virtue of greater resistance to wear. The upper part of the foot is preferably constituted by an extension of the lower end of the leg of the garment, but it might well be a separate part adapted to be secured to the lower end of the leg in the area of the ankle, while the bottom or sole of the garment foot is a sole piece joined to the lower edges of the upper and constructed in a manner such that marginal portions along the sides and around the heel of the sleeper foot extend upwardly above the floor when in place on a wearer, thereby to provide portions along the sides and the heel of the wearer's foot that, like the flat portion of the sole piece, are resistant to wear and are non-slip. At the toe of the sleeper foot is a toe cover piece which is joined along its rearward edge to the forwardmost or lowermost edge of the upper and is joined at its forward edge to the toe end of the sole piece, preferably along a rounded seam. The sole and toe pieces are preferably made of the same or similar durable materials that have an outer surface which provides greater durability and non-slip characteristics, thereby to increase the life of the garment and provide greater safety for the wearer.

The sole piece of the sleeper foot is constructed in a manner providing a shaped heel that encompasses and embraces the wearer's heel. More particularly, the pattern of the sole piece includes a rounded edge at the toe, longitudinal side edges that are substantially straight but diverge somewhat to render the piece of gradually increasing width moving from the toe toward the heel, and a rear portion characterized by a central rearwardly and longitudinally extending heel element defined by substantially square cut-outs of dimensions equal to the desired distance to which the heel is to extend above the floor when in place on the wearer. The edges defining the square cut-outs are joined together to form or shape the heel and the sides of the sole piece to provide the above-the-floor portions.

In a preferred embodiment, the height of the heel is preferably the maximum upward extension of the sole piece, the height of the side portions of the sole piece, when the foot is in place on the wearer, being gradually less moving toward the toe.

When the child is walking or running forward, the tendency is for the foot to move toward the rearwardmost part of the sleeper foot, thereby bringing the heel into firm engagement with the shaped heel portion of the sleeper foot. At the same time, the shaped heel portion draws the marginal portions of the sole piece into the upwardly extending positions by virtue of a rearward pull as the wearers foot tends to push back against the shaped heel. Thus, the construction of the sleeper foot is such that the wearer's foot tends to stay in place, or to put it the other way, the sleeper foot tends to engage and nest the wearer's foot in a manner in which it resists sliding from side to side. In the meantime, the protective toe provides a similar function to the heel by providing a portion which captures the toes of the foot.

Because the sleeper foot better conforms to and embraces the wearer's foot, the sleeper is more comfortable to wear. Moreover, inasmuch as a greater portion of the foot is formed of durable materials, as compared to the conventional flat form of sole piece, the foot provides greater resistance to wear by exposing a greater area of durable material to abrasion and stress and providing wearing surfaces on the side, toe, and heel portions of the foot rather than just on the sole.

DESCRIPTION OF THE DRAWINGS

For a better understanding of the invention, reference may be made to the following description of an exemplary embodiment, taken in conjunction with the figures of the accompanying drawing, in which:

FIG. **1** is a side elevational view of the embodiment as it appears with the wearer's foot in place;

FIG. **2** is a rear, three-quarter pictorial view of the embodiment;

FIG. **3** is a front, three-quarter pictorial view of the embodiment;

FIG. **4** is a side cross-sectional view taken generally along the longitudinal center plane of the sleeper foot;

FIG. **5** is an end cross-sectional view of the sleeper foot, the view being taken generally along the lines **5—5** of FIG. **1** and in the direction of the arrows; and

FIG. **6** is a plan view of the sole piece pattern for the sleeper foot, the view being on a smaller scale than FIGS. **1** to **5**.

DESCRIPTION OF AN EXEMPLARY EMBODIMENT

The figures of the drawings show only the foot part (designated generally by the reference numeral **10**) of the garment, but is will be clear, of course, that the foot is joined to the leg of a sleeping garment of the so-called "sleeper" type. The sleeper may be either one-piece or two-piece, depending on the age of the wearer, and in either case it includes legs that extend down at least to the ankle. In the embodiment of the invention illustrated in the drawings, the upper part of the foot, which is designated generally by the reference numeral **12** in the drawings, forms an integral extension from the lower end of the leg **13**, but it may also be a separate part joined to the lower end of the leg at, say, the ankle. The leg **13** and upper part **12** of the foot may be various fabrics, such as a brushed knit knapped jersey, a thermal knit and various others. The leg may be constructed of one or two pieces joined along a seam or seams, the embodiment shown being of the type in which the leg is one piece, folded and stitched along a seam **14** extending along the inside of the leg.

Joined to the foot upper **12** along a seam **16** that extends along the major portion of the upper **12** is a sole piece **20** which is preferably formed of a material having a soft, comfortable interior surface and an external surface that is durable and has nonslip characteristics. Advantageously, the sole piece is made of a relatively heavy flannel having on its outer surface (as constructed in the foot) a multiplicity of small

beads or ribs of durable, high friction material, such as polyvinyl chloride. The beads are strongly adhered to the flannel by partial embedment and are in a suitable pattern, such as a herringbone, contributing to the non-slip properties of the surface. This form of material not only provides the desired wearing and non-slip surface but at the same time is not an overall film and therefore permits the sole piece to "breath" for improved comfort.

Referring to FIG. 6 particularly, the sole piece 20 is cut to a pattern which, in flattened condition, is composed of a rounded front edge 22, longitudinally extending side edges 24 and 26 and a rear edge characterized by a rearwardly projecting heel portion 28 defined by substantially square cut-outs 30. The cut-outs 30 have equal lengthwise and transverse dimensions, relative to the sole piece pattern, that are equal to a desired height above the floor to which the heel is to be shaped. The side edges 24 and 26 of the sole piece pattern diverge moving away from the curved toe edge 22 toward the heel.

The sole piece 20 is shaped to conform to and to embrace the heel and the side portions of the foot by joining the edges of the cut-out portions along seams 32 and 34 (see especially FIGS. 4 and 5), thereby to produce a three-dimensional configuration in which the sole piece is composed of a flat base portion 36, side marginal portions 38 and 40 extending upwardly a substantial distance above the base 36 and an upwardly extending heel portion 42 (constituted by the heel extension 28) joined to the rear or heel ends of the side marginal portions 38 and 40. The side marginal portions 38 and 40 and the heel portion 42 of the sole piece 20 provide marginal structure around the lower part of the sleeper foot that extends somewhat above the floor and embraces the heel and sides of the wearer's foot. The exterior surface of this upwardly extending portion provides improved wear and greater safety than is available with the conventional flat form of sole piece. Inasmuch as the longitudinal edges 24 and 26 of the original pattern diverge from each other moving toward the heel, the side marginal portions 38 and 40 are of substantially uniformly increasing height beginning with a relatively small height at the toe and increasing moving toward the heel.

The embodiment of the sleeper foot, according to the invention, further comprises a toe toe 46 formed of a material having a durable and preferably non-slip external surface, conveniently and advantageously the same material as the sole piece, and positioned on the foot structure to overlie the toes of the wearer's foot. The toe piece 46 includes a rounded forward edge 48 that is of substantially the same size and shape as the rounded forward edge 22 of the sole piece 20 and a back edge 50 that extends transversely across the foot at substantially right angles to the side longitudinally extending edges 24, 26 of the sole piece.

The stitching or other means of joining the parts making up the sleeper foot are best understood by reference to the following description of the preferred way of fabricating the foot. The extension portions at the lower end of the leg 13 that make up foot upper 12 will have previously been cut to a pattern approximating, but preferably somewhat oversized and the seam 14 along the leg will have previously been formed in the course of fabricating the sleeper body and legs.

The sole piece 20 and toe piece 46 are cut to a pattern that is oversized but conforms generally to the final pattern. The heel portion of the sole piece 20 is then shaped by forming the seams 32 and 34 that connect the heel flap or extension 28 of the pattern to the edges of the cut-outs 30. Next, the rear edge 50 of the toe piece 46 is joined to the free edge or end of the foot upper 16 at a seam 52. Finally, the shaped sole piece 20 is joined to the previously assembled toe and upper along the seam 16 which, as mentioned above, extends about the entire periphery of the foot. As may best be seen in FIG. 5, the transverse dimensions of the sole and upper in the region between the toe and instep are substantially equal, thereby facilitating formation of the seam 16 joining the sole to the upper.

The several parts making up the foot are desirably joined together inside out so that the seams will lie on the interior of the sleeper foot. Although various types of stitching can be employed, and if materials having a substantial thermoplastic content are used, heat sealing techniques may find use in constructing the foot, it is preferred to employ Merrow-type stitching. Furthermore, the construction of the sleeper foot is facilitated and neater, more uniform seams are formed by employing a cutting and stitching machine, as is consistent with the cutting of oversized patterns.

Inasmuch as child's sleepers are often purchased overly large to allow for the rapid growth of the child, it is desirable to provide an elastic band 56 to embrace the wearer's ankle and assist in retaining the sleeper foot on the wearer's foot. The elastic band 56 may be appropriately joined to the leg, such as by stitching 58, around the circumference of the ankle portion.

The embodiment of the invention described above and illustrated in the drawings is intended to be merely exemplary, and those skilled in the art will be able to make numerous variations and modifications of it without departing from the spirit and scope of the invention. All such variations and modifications are intended to be included within the scope of the invention as defined in the appended claims.

We claim:

1. In a child's sleeping garment having leg portions, a foot part comprising an upper foot element joined to the lower end of each leg of the garment and encompassing the ankle and top portion of the foot when in place on the wearer, a sole element joined to the lower margin of the ankle and upper foot element, the sole element including a base portion normally in contact with the floor when the wearer is standing, side marginal portions extending longitudinally along either side of the base and extending upwardly above the floor when the wearer is standing, and a heel portion between the heel ends of the side marginal portions and similarly extending upwardly from the floor when in place on the wearer, the height of the heel portion being higher than the side marginal portions at all points along said side marginal portions except at the juncture between said heel ends of said side marginal portions and said heel portion, and the side marginal portions being of substantially uniformly decreasing height at points closer to the toe portion of the foot, and an upper toe element joined to the lower end of the upper element and to the margins of the sole element and overlying the toes when in place on the wearer, the sole and upper toe elements being formed of a base material that is resistant to wear and having a non-slip material thereon thereby to endure wear and provide safety, and the sole element being shaped upon being formed and joined to the said upper foot element from a fabric piece that has when in flat condition a rounded edge at the toe, substantially straight side margins extending from the ends of the rounded margin and diverging from each other, the divergence and increase being at successive points moving toward the heel, a heel part extending longitudinally away from the toe and of substantially lesser width in the flattened condition than the width of the side margins and being defined by substantially square cut-outs at the heel portion, the heel part having side edges defined by one side of each cut-out and the side margin portions having back edges defined by the other sides of the cut-outs and the said side edges and back edges being joined thereby to form the heel and shape the sole piece into a form providing the upwardly extending heel portion and side marginal portions.

2. A foot part for a child's sleeping garment according to claim 1 wherein the upper toe element comprises a substantially straight back edge extending generally transversely across the top of the foot and a rounded front edge extending between the extremities of the back edge and joined to the rounded edge of the sole element.

3. A foot part for a child's sleeping garment according to claim 3 wherein the rounded edges of the toe and sole elements are of substantially the same size and shape.

4. A foot for a child's sleeping garment according to claim 3 wherein the transverse dimensions of the upper element and sole element are substantially equal when the part is in flattened condition along a substantial portion of the front part of the foot between the toe and instep portions.

* * * * *