Nov. 15, 1955 M. SHUSTERMAN 2,723,469

TOE-PROTECTOR FOR INFANT'S SHOES

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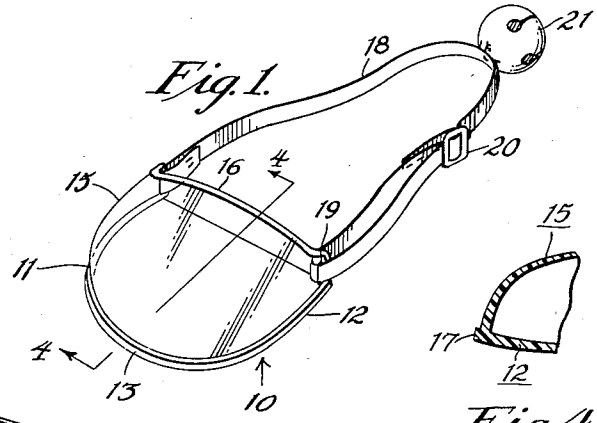

Fig. 1.

Fig. 4.

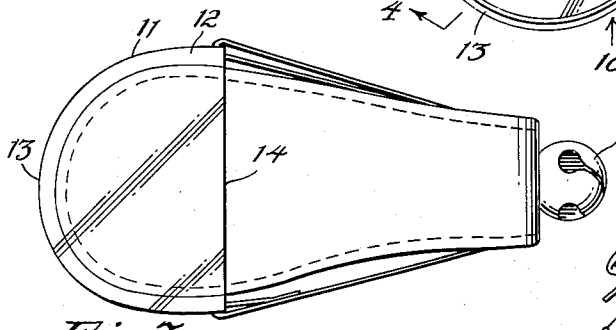

Fig. 3.

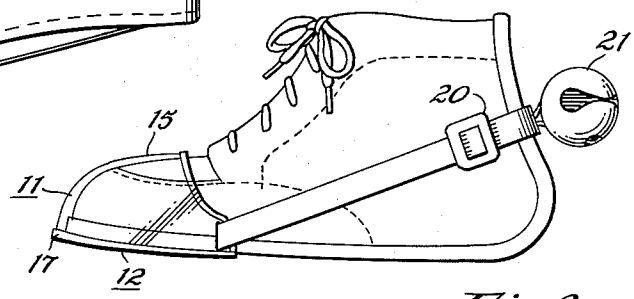

Fig. 2.

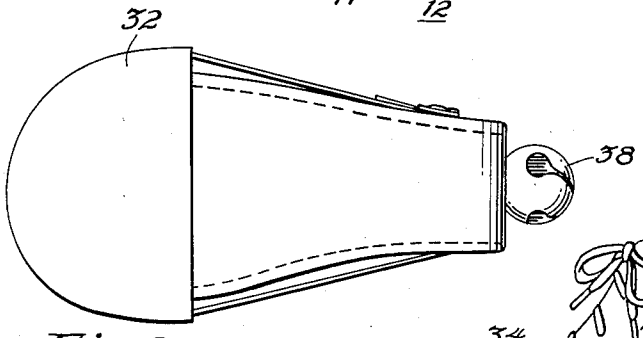

Fig. 6.

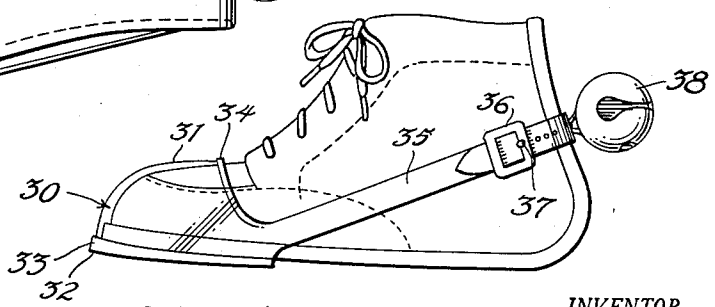

Fig. 5.

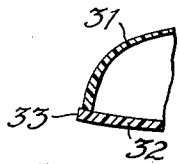

Fig. 7.

INVENTOR.
MEYER SHUSTERMAN
BY Arthur H. Seidel
ATTORNEY.

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TOE-PROTECTOR FOR INFANT'S SHOES

Meyer Shusterman, Phoenixville, Pa.

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1 Claim. (Cl. 36—72)

This invention relates to a toe-protector for children's shoes, and more particularly to a toe-protector, which permits its fitting on the shoe to be observed and closely regulated.

The protection of the toe portion of the shoes of crawling infants and children has long presented a problem. It is a matter of common experience that the toe portion, and particularly the upper surface thereof, of creeping children's shoes may be worn and the shoes rendered useless or unsightly due to contact with the creeping surface, while the remainder of the body of the shoe is intact and undamaged. Inasmuch as children's shoes in this age bracket are relatively costly, this waste of footwear is a matter of concern to many parents, particularly young parents in the relatively low income brackets.

In the past, a variety of toe-protectors have been proposed, but without exception they have proved unsatisfactory. An adequate toe-protector must be low in cost, of a size capable of fitting over a plurality of size ranges of infant's shoes, and yet be readily removable and also furnish a satisfactory fit, so as to permit the child to crawl or walk without tripping over his toes. Moreover, the toe-protector and shoe combination must have an attractive appearance, as the appearance of children's garments and clothes is a matter of concern and satisfaction to their parents. The toe-protector should also be light in weight. Shoe protectors which cover the entire shoe are not desirable because they interfere with wearing comfort, preventing the child's foot from breathing.

Moreover, toe-protectors comprising an upper having straps passing below the sole are unsatisfactory because the resulting differences in elevation on the flat soles of the infant's shoe hinders their wearing comfort.

The use of woven or knitted fabrics or leather for toe or shoe-protectors, while perhaps advantageous for use in shoe-protectors for adults, is not satisfactory for toe-protectors for crawling children, as the inherent weight of the material renders it unsuitable for this purpose.

This invention has as an object the provision of a toe-protector for infant's shoes, which may be worn without discomfort to the child.

This invention has as a further object the provision of an inexpensive toe-protector, which may be used on a variety of infant's shoe sizes, with an excellent fit.

Further objects of the present invention will become apparent upon reading the following specifications and referring to the accompanying drawings, in which similar characters of reference represent corresponding parts in each of the several views.

Figure 1 is a perspective view of one embodiment of the toe-protector of the present invention.

Figure 2 is a side elevational view of the embodiment of the toe-protector of the present invention shown in Figure 1, operatively mounted on an infant's shoe.

Figure 3 is a plan view from below of the embodiment of the toe-protector of the present invention shown in Figure 1, operatively mounted on an infant's shoe.

Figure 4 is a longitudinal sectional view taken on line 4—4 of Figure 1.

Figure 5 is a side elevational view of a second embodiment of the toe-protector of the present invention, operatively mounted on an infants' shoe.

Figure 6 is a plan view from below of the embodiment of the toe-protector of the present invention shown in Figure 5 operatively mounted on an infant's shoe.

Figure 7 is a longitudinal sectional view through the axial center line of the embodiment shown in Figure 5.

Referring initially to Figures 1 to 4, the embodiment of the toe-protector of the present invention shown therein is designated **10**. The body of the toe-protector is designated **11** and is formed from a thin, flexible, light hard-wearing plastic, preferably a transparent plastic, polyethylene, a polymer of ethylene, made by Bakelite Co., having a thickness of about .035 to .060 inch is preferred, although other thin, pliable hard-wearing light plastics may be used, such as Vinylite, a polymer of vinyl chloride, made by Monsanto Chemical Corp., or nylon 3001, a polymer of hexamethylenediamine and adipic acid, made by E. I. Du Pont, may be used. The plastic may be tinted or translucent; however, the nature of the plastic should be such that the outline of the shoe may be observed from above or below when the toe-protector is operatively mounted. Rigid plastics, such as polystyrene, are not satisfactory for my toe-protector.

In the embodiment shown in Figures 1 to 4, the toe-protector body **11** is cast in one piece of the same transparent plastic.

The sole **12** is not of constant thickness but is some 25 percent thicker at its tip portion, than at its rear portion **14**, tapering gradually to increased thickness from rear to tip. The free edge of rear portion **14** may be straight, as shown in Figure 3 and is located proximate the front of the instep.

The upper **15** is preferably also constructed so that its front portion is some 25 per cent thicker than its rear portion, the thickness increasing gradually from rear to front. The rear free edge **16** of upper **15** is welted or beaded providing greater strength.

As shown in the drawings, the seam-like edge **17** between the upper **15** of the toe-protector body **11** and the sole **12** thereof, extends or projects in the plane of the sole, a small distance, such as about .020 to .060 inch, beyond the joinder of the upper **15** and the sole **12**. Outwardly projecting seamlike edge **17** furnishes great strength to the toe-protector when the infant-user crawls with the tips of his shoes perpendicular to the floor, without interfering with walking. Moreover, the increased thickness at the forward part of the toe-protector likewise furnishes the maximum protection in the region of greatest wear. Due to the natural tendency of the front part of infant's shoes to turn upwardly, and the relatively small thickness of the toe-protector, this increased thickness does not interfere from the infant's walking pattern.

The retention strap **18**, made of elastic fabric or the like, may be secured to the body of the protector **11** by being looped through openings **19** in the rear of upper **15**. Strap **18** is split and includes a buckle **20** permitting the size of the strap to be adjusted. A bell **21** may be secured, as by stitching to the rear of elastic strap **18**. This bell **21** advises the infant's parents as to its location.

I have found that by using a retention strap of adjustable size, three or four sizes of toe-protectors will cover the entire range of crawling infant shoe sizes. Inasmuch as the outline of the shoe may be seen through the upper **15** of the toe-protector body **11**, the toe-protector may be operatively mounted on the shoe, as shown in Figures 2 and 3 with the rear of retention strap **18** slipped

over the back of the shoe, and the toe of the shoe retained in the cavity within toe-protector body **11**.

In the embodiment of the toe-protector shown in Figures 5, 6 and 7, the toe-protector **30** is made of two plastic components, the upper **31** is made of relatively pliable transparent and somewhat flexible plastic, such as polyethylene, Vinylite or nylon 3001. As shown in Figure 7, the upper may be appreciably thicker, such as about 25 per cent thicker at the front than at the rear. The sole **32** may likewise be appreciably thicker, such as about 25 per cent thicker at the front than at the rear. The sole **32** in the illustrated embodiment is opaque and may be made of different plastic than the remainder of the toe-protector; or of the same plastic but dyed differently.

The upper **31** and the sole **32** are joined together as by welding or the like. A projecting margin **33** of the sole **32**, extends beyond the outer surface of the upper **31** a small distance, such as .020 to .060 inch, and furnishes great strength to the toe-protector, when the infant crawls with the tips of his shoes perpendicular to the floor. The rear edge **34** of upper **31** is beaded for strength and ease of fit.

The retention strap **35** is integral with upper **31**, and includes a buckle **36** having a tongue **37**, mating with a length of the strap having a series of perforations through which the tongue may pass. The perforations are closely spaced and due to the flexible properties of the plastic strap, an accurate fitting of the toe-protector on the shoe may be achieved. A bell **38** may be secured to the rear retention strap **35**.

While I have illustrated and described the preferred

embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claim.

I claim:

An infant's shoe toe protector comprising an open end upper and a sole integrally formed of flexible plastic and constructed and arranged for extending over the toe portion of an infant's shoe, a portion of said sole projecting beyond the outer surface of said upper for a small distance in the frontmost portion of the toe protector, the thickness of the sole diminishing from front to rear so that when said toe protector is mounted upon an infant's shoe the rearmost portion of the sole of the toe protector is adjacent the ball of the infant's foot and substantially in the plane of the sole of the infant's shoe, and a retention strap extending from the rear portion of the upper and projecting rearwardly above the plane of the sole.

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