Oct. 9, 1962 R. N. RIGSBY 3,057,086

EXPANSIBLE SHOE

Filed Oct. 17, 1961

Fig. 4

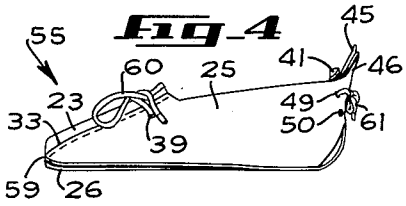


Fig. 3

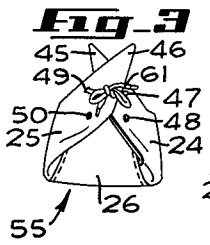
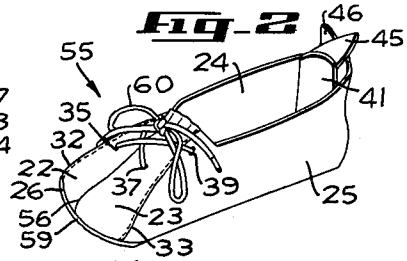


Fig. 2



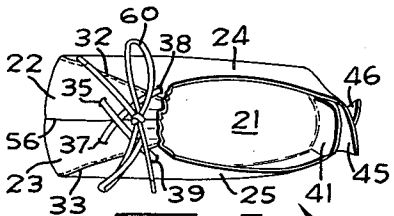


Fig. 5

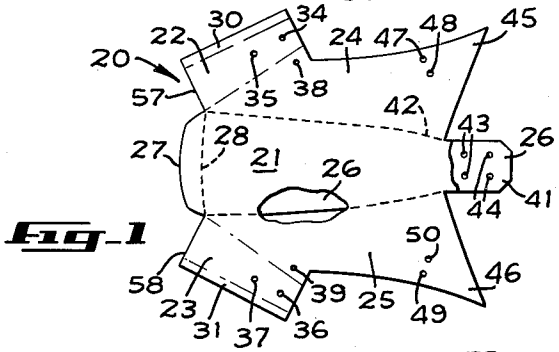


Fig. 1

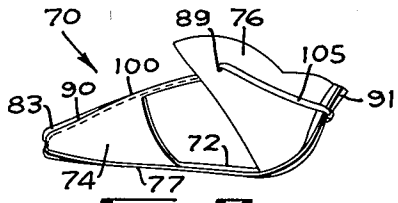


Fig. 8

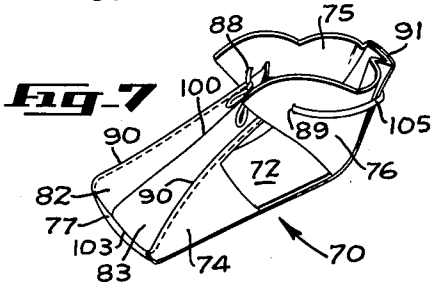


Fig. 7

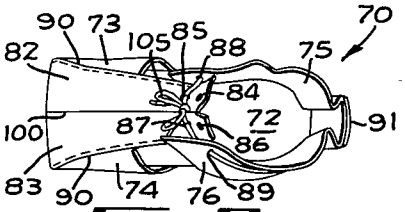


Fig. 9

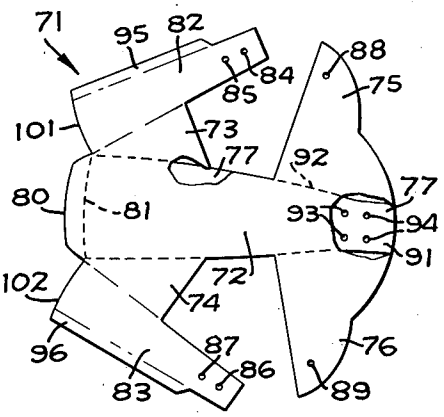


Fig. 6

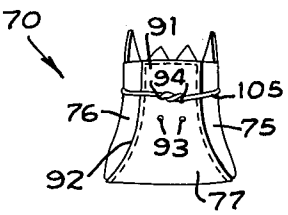


Fig. 10

INVENTOR.
ROWENA N. RIGSBY

BY Jack M. Wiseman

ATTORNEY

United States Patent Office 3,057,086 Patented Oct. 9, 1962

3,057,086

EXPANSIBLE SHOE

Rowena N. Rigsby, 720 University Drive
Menlo Park, Calif.

Filed Oct. 17, 1961, Ser. No. 145,651
7 Claims. (Cl. 36—2.5)

The present invention relates in general to footwear, and more particularly to a baby shoe that is adapted to be enlarged to compensate for the growth of an infant's foot.

This application is a copending application of applicant's application, Serial No. 145,553, filed October 17, 1961, for an Expansible Shoe and of applicant's application, Serial No. 158,692, filed December 12, 1961, for an Expansible Shoe.

Since the feet of children grow rapidly during the early years of their lives, shoes that are properly fitted at the time of purchase are soon outgrown. Accordingly, in order that the children's feet are always enclosed in well-fitting, comfortable shoes, it is necessary to purchase new shoes at frequent intervals.

An object of the present invention is the provision of a shoe that may be enlarged to compensate for the increase in size of a child's foot so that the same shoe may be worn by the child over a protracted period of time.

Another object of the present invention is to provide a new sandal that is simple in design and economical to manufacture.

Another object of the present invention is to provide an infant's shoe having an improved arrangement for anchoring the portion of the shoe rearward of the wearer's heel for adjusting the size of the wear sole to the wearer's foot.

Another object of the present invention is to provide an infant's shoe that has an improved arrangement at both its front and rear portions which will permit enlargement of these portions to accommodate the growth of an infant's foot and still make the shoe more comfortable to the wearer.

Other and further objects and advantages of the present invention will be apparent to one skilled in the art from the following description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a plan view of a partially fabricated blank from which one embodiment of the shoe of the present invention is made.

FIG. 2 is a perspective view of the shoe made from the blank of FIG. 1.

FIG. 3 is an end elevation of the shoe shown in FIG. 2.

FIG. 4 is a side elevation of the shoe shown in FIG. 2.

FIG. 5 is a plan view of the shoe shown in FIG. 2.

FIG. 6 is a plan view of a partially fabricated blank from which another embodiment of the shoe of the present invention is made.

FIG. 7 is a perspective view of the shoe made from the blank of FIG. 6.

FIG. 8 is a side elevation of the shoe shown in FIG. 7.

FIG. 9 is a plan view of the shoe shown in FIG. 7.

FIG. 10 is an end elevation of the shoe shown in FIG. 7.

In FIG. 1, the reference numeral 20 indicates a blank made from soft leather, fabric, or pliable plastic material. The blank 20 includes a central portion 21, wings 22 and 23, and side portions 24 and 25. A wear sole 26, which may be made from soft leather or other suitable materials, has substantially the same configuration as the central portion 21 and is secured thereto by stitching along the edges thereof. Along the front or toe portion of the blank 20, the central portion 21 of the blank 20 projects beyond the wear sole 26 and has an arcuate edge 27 spaced from an arcuate edge 28 of the wear sole 26. As illustrated in FIG. 1, the bottom or wear surface of the sole 26 is facing downwardly and the finished surfaces of the blank 20, which form the exterior, upper portions of the shoe, are facing downwardly.

Marginal edges 30 and 31 are provided at the free ends of the wings 22 and 23, respectively. Along the edges of the wings 22 and 23 are formed ridges 32 and 33, respectively, which are contiguous with the forward ends of the side portions 24 and 25, respectively. Eyelets 34 and 35 are formed in the wing 22 and eyelets 36 and 37 are formed in the wing 23. Formed in the side portion 24 adjacent the ridge 32 is an eyelet 38 and formed in the side portion 25 adjacent the ridge 33 is an eyelet 39. The wear sole 26 and the overlying portion of the central portion 21 of the blank 20 are relatively wide at their forward end, which is connected to a narrow end portion 41 by a tapering transition section 42. Two pairs of spaced eyelets 43 and 44 are provided in the rear portion 41 of the wear sole 26, but not in the blank 20.

The side portions 24 and 25 include rearwardly projecting extensions or free end portions 45 and 46, respectively. Formed in the side portion 24 at the free end thereof are spaced eyelets 47 and 48, and formed in a similar manner in the side portion 25 at the free end thereof are spaced eyelets 49 and 50.

To form the shoe 55 of FIGS. 2–5, the finished surfaces of the blank 20 are facing upwardly and the wear sole 26 is facing upwardly from the blank 20. The wings 22 and 23 are folded upwardly to a position overlying the central portion 21 of the blank 20 with the marginal edges 30 and 31 disposed in face to face contact. The wings 22 and 23 are secured together by stitching along a seam 56. The portion of each wing edge lying outwardly of the seam 56 is folded back and glued to the inner surface of the associate wing so that a relatively smooth inturned flange is formed along the seam 56, excepting for the portions thereof adjacent the eyelets 34 and 36. The portions of the wings 22 and 23 adjacent the eyelets 34 and 36 are permitted to project freely.

When the wings 22 and 23 are joined along the seam 56, the side portions 24 and 25 are disposed substantially in an upright, parallel position. After the seam 56 has been formed, forward end edges 57 and 58 (FIG. 1) of the wings 22 and 23, respectively, are brought into contact with the forward end 28 of the wear sole 26, and the wings along the edges 57 and 58, the sole along the forward end 28 and the central portion 21 at the extension 27 are secured together by stitching along a seam 59 (FIG. 2). The shoe is then turned inside out so that the wear sole 26 and the finished surfaces of the wings and the side portions are on the outside of the shoe.

A lace or drawstring 60 is threaded through the forward lower eyelets 35 and 37, then crossed to pass through the exteriorly disposed forward eyelets 38 and 39. Subsequently, the lace 60 is threaded through the upper forward eyelets 34 and 36. A bow is tied in the free ends of the drawstring 60 for securing the shoe 55 to the wearer's foot.

In forming the portion of the shoe 55 that extends rearwardly of the heel of the wearer's foot, the narrow end portion 41 is disposed substantially in the upright position. Thereupon, the rearward extension 45 of the side portion 24 is positioned adjacent to and rearwardly of the narrow end portion 41. The rearward extension 46 of the side portion 25 is positioned adjacent to and rearwardly of the extension 45. A lace or drawstring 61 (FIG. 3) is threaded through the lower pair of eyelets 43 of the wear sole 26 and then threaded through the inwardly disposed lower pair of eyelets 48 and 50 of the side portions 24 and 25, respectively. A knot is tied with the free ends of the lace 61 to anchor the lower pair of eyelets 43 of the wear sole 26 to the ex-

tensions 45 and 46 of the side portions 24 and 25, respectively.

For increasing the size of the shoe 55, the drawstring 61 is removed from the above-mentioned rearward eyelets and is threaded through the upper pair of eyelets 44 of the wear sole 26 and subsequently threaded through the outwardly disposed upper pair of eyelets 47 and 49 of the side portions 24 and 25, respectively. A knot is then tied with the free ends of the lace 61 to anchor the upper pair of eyelets 44 of the wear sole 26 to the extensions 45 and 46 of the side portions 24 and 25, respectively.

It will be observed that when the lower pair of eyelets 43 of the wear sole 26 is anchored to the side portions 24 and 25 by way of the lower eyelets 48 and 50, the bendable rear portion 41 of the wear sole 26 will extend a considerable distance upwardly along the rear of the infant's foot and the side portions 24 and 25 will have a greater angle of inclination toward the rear of the wearer's foot. As a consequence of the bendable rear portion 41 extending upwardly, the portion of the wear sole 26 underlying the wearer's foot is relatively short compared to the portion thereof that underlies the wearer's foot when the upper pair of eyelets 44 of the wear sole 26 and the upper pair of eyelets 47 and 49 of the side portions are used.

When the upper pair of eyelets 44 of the wear sole 26 is anchored to the side portions 24 and 25 by way of the upper eyelets 47 and 49, the bendable rear portion 41 will be lowered and the side portions 24 and 25 will have a lesser angle of inclination toward the rear of the wearer's foot. As a consequence thereof, the portion of the wear sole 26 underlying the wearer's foot is increased.

In FIGS. 7–10, a second embodiment of the shoe of the present invention is illustrated, which is formed from a blank 71 shown in FIG. 6. The blank 71, which is made from leather, fabric or other pliable material, includes a central portion 72, forward wings 73 and 74, and rearward wings 75 and 76. A wear sole 77, which may be made of leather or other suitable material, has substantially the same configuration as the central portion 72 and is secured thereto by stitching along the edges thereof. Along the front or toe portion of the blank 71, the central portion 72 projects beyond the wear sole 77 and has an arcuate edge 80 spaced from an arcuate edge 81 of the wear sole 77. As illustrated in FIG. 7, the bottom or wear surface of the sole 77 is facing downwardly and the finished surfaces of the blank 71, which form the exterior, upper portions of the shoe, are facing downwardly.

Rearwardly annd outwardly disposed propections 82 and 83 are provided at the free ends of the wings 73 and 74, respectively. At the rearward portion of the extension 82 are provided spaced eyelets 84 and 85. Similarly, at the rearward portion of the extension 83 are provided spaced eyelets 86 and 87. The rearward wings 75 and 76 are provided with eyelets 88 and 89, respectively. A ridge 90 has been formed in each of the wings 73 and 74 by folding the material and by securing the folded portion by stitching.

The wear sole 77 and the overlying portion of the central portion 72 of the blank 71 are relatively wide at their forward end, which is connected to a narrow end portion 91 by a tapering transition section 92. Two pairs of spaced eyelets 93 and 94 are provided in the rear portion of the wear sole 77, but not in the blank 71.

To form the shoe 70 of FIGS. 7–10, the blank 71 has the finished surfaces thereof facing upwardly and the wear sole 72 is facing upwardly from the blank 71. The wings 73 and 74 are folded upwardly and the extensions 82 annd 83 are disposed in overlying relation with the central portion 72. The marginal edges 95 and 96 of the extensions 82 and 83, respectively, are placed in face to face contact. The wing extensions 82 and 83 are secured together by stitching at the marginal edges 95 and 96 along a seam 100.

The portion of the shoe formed by the joined wing extensions 82 and 83 is herein referred to as the expansible front body member or tongue. The portion of each wing extension lying outwardly of the seam is folded back and glued to the inner surface of the extension so that a relatively smooth inturned flange is formed along the seam 100.

After the seam 100 has been formed, forward arcuate edges 101 and 102 of the wing extensions 82 and 83, respectively, are brought into contact with the forward end of the wear sole 77, and the wing extensions 82 and 83, the sole 77, and the central portion 72 are secured together by stitching along a seam 103. The shoe is then turned inside out so that the wear sole 77 and the finished surfaces of the wings 73—76 are on the outside of the shoe.

A lace or drawstring 105 is threaded optionally through either the lower pair of rear eyelets 93 or the upper pair of rear eyelets 94 in the rear portion 91 of the sole 72 and a knot is tied to lock the lace in place. The free ends of the lace 105 are brought forwardly. One end of the lace 105 will contact the outer surface of the rearward wing 76 and pass through the eyelet 89 thereof. The other end of the lace 105 will contact the outer surface of the rearward wing 75 and pass through the eyelet 88 thereof. Subsequently the free ends of the lace 105 are threaded optionally through either the upper pair of front eyelets 84 and 86 or the lower pair of front eyelets 85 and 87 of the wing extensions 82 and 83. After the lace 105 is threaded through a selected pair of front eyelets, the free ends thereof are joined by a knot and a bow is tied over the knot.

It is to be observed that the lace 105 bears against the rearward wings 75 and 76, and does not engage the wearer's foot. Thus, the drawing of the lace 105 does not cause any discomfort to the foot of the wearer. In addition, there is no frictional contact between the drawstring 105 and the foot of the wearer to cause any discomfort while the shoe is being worn.

From the foregoing, it is apparent that when the lower pair of eyelets 93 of the wear sole 77 is used as a rear anchor for the lace 105, the bendable rear portion 91 of the wear sole extends a considerable distance upwardly along the rear of the infant's foot, and the portion of the wear sole underlying the wearer's foot is relatively short compared to the portion that underlies the wearer's foot when the upper pair of eyelets 94 is employed.

Accordingly, it will be recognized that the lace 105 secures the shoe 70 on the wearer's foot, and that the lace 105 and the pairs of eyelets 93 and 94 provide means whereby the effective length of the wear sole 77 may be varied. In general, the lace 105 draws the yieldable rear portion 91 of the wear sole 77 upwardly against the rear of the foot, thereby causing the rear portion 91 to bend at a pivot point close to the heel of the wearer, thus selecting the proper length of sole for the wearer's foot.

As previously noted, the lace 105 may be threaded through either the lower front eyelets 85 and 87 or the upper front eyelets 84 and 86 of the wing extensions 82 and 83. When the lace is fully drawn, the front body member or tongue will be swung down against the instep.

It is, of course, evident that any lace that is disposed around the front of a person's foot will tend to assume a position in the area where the vertical front portion of the leg meets the arch of the foot. Since this area is the most comfortable and effective location for the lace, the shoe 70 provides means, in the form of pairs of front eyelets 85, 87 and 84, 86 by which the lace 105 may be anchored adjacent this area for any enlarged position of the shoe. The upper pair of front eyelets 84 and 86 is adjacent substantially the same part of the foot in the full position as the lower pair of front eyelets 85 and 87 is swung to the

expanded position. Thus, the provision of more than one pair of eyelets in the expansible front body portion of the shoe 70 makes possible the selection of a comfortable and effective anchoring spot for the lace 105.

It is to be understood that modifications and variations of the embodiment of the invention disclosed herein may be resorted to without departing from the spirit of the invention and the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. A shoe comprising a sole having a forward section and a flexible rear section including a first portion underlying the heel of the foot of a wearer and a second portion projecting rearwardly and upwardly from said underlying portion, means providing an upper and a lower pair of eyelets in said second section of said sole, a shoe upper secured to the sides of said sole and having free end portions extending rearwardly of said second section of said sole in juxtaposition therewith, means providing an upper and a lower pair of eyelets in said shoe upper at the free end portions thereof, and a drawstring selectively threaded through either said upper pair of eyelets of said sole and said upper pair of eyelets of said shoe upper or through the lower pair of eyelets of said sole and said lower pair of eyelets of said shoe upper, whereby said sole is adjusted to a greater length when said drawstring is disposed in said upper pairs of eyelets and tightened than when said drawstring is disposed in said lower pairs of eyelets and tightened.

2. A shoe comprising a sole having a forward section and a flexible rear section including a first portion underlying the heel of the foot of a wearer and a second portion projecting rearwardly and upwardly from said underlying portion, means providing an upper and a lower pair of eyelets in said second section of said sole, a shoe upper secured to the sides of said sole and having free end portions extending rearwardly of said second section of said sole in juxtaposition therewith, means providing an upper and a lower pair of eyelets in said shoe upper at the free end portions thereof, and a drawstring selectively threaded through either the upper pair or the lower pair of eyelets in said second section of said sole and selectively threaded through either the upper pair or the lower pair of eyelets in said free portions of said shoe upper, whereby the tightening of said drawstring when disposed in selected pairs of eyelets of said sole and said shoe upper adjusts the length of the sole underlying the foot of the wearer.

3. A shoe comprising a sole having a forward section and a flexible rear section including a first portion underlying the heel of the foot of a wearer and a second portion projecting rearwardly and upwardly from said underlying portion, means providing an upper and a lower pair of eyelets in said second section of said sole, a shoe upper secured to the sides of said sole and having free end portions extending rearwardly of said second section of said sole in juxtaposition therewith, means providing a pair of eyelets in said shoe upper at the free end portions thereof, and a drawstring threaded through said pair of eyelets in said shoe upper and selectively threaded through either the upper pair or the lower pair of eyelets in said second section of said sole, whereby the tightening of said drawstring when disposed in the selected pair of eyelets of said sole adjusts the length of the sole underlying the foot of the wearer.

4. A shoe comprising a sole having a forward section and a flexible rear section including a first portion underlying the heel of the foot of a wearer and a second portion projecting rearwardly and upwardly from said underlying portion, means providing an upper and a lower pair of eyelets in said second section of said sole, a first shoe upper section secured to one side of said sole and having a free end portion extending rearwardly of said second section of said sole in juxtaposition therewith, means providing a plurality of vertically spaced eyelets in said first shoe upper section at the free end portion thereof, a second shoe upper section secured to another side of said sole and having a free end portion extending rearwardly of said second section of said sole in juxtaposition with the free end portion of said first upper section, means providing a plurality of vertically spaced eyelets in said second shoe upper section at the free end portion thereof laterally aligned with the vertically spaced eyelets in said first shoe upper section, and a drawstring selectively threaded through either the upper pair or the lower pair of eyelets in said second section of said sole and selectively threaded through laterally aligned eyelets of said first and second shoe upper sections, whereby the tightening of said drawstring when disposed in selected eyelets of said sole and said shoe upper sections adjusts the length of the sole underlying the foot of the wearer.

5. A shoe comprising a sole having a forward section and a flexible rear section including a first portion underlying the heel of the foot of the wearer and a second portion projecting rearwardly and upwardly from said underlying portion, means providing an upper and a lower pair of eyelets in said second portion of said sole, a vamp secured to the forward section of said sole to overlie the instep of the foot, means defining eyelets in said vamp, laterally disposed wings secured to the rearward section of said sole to contact the side portions of the foot, means defining eyelets in said wings, and a drawstring disposed in the eyelets of said vamp and in the eyelets of said wings so as to engage the exterior surfaces of said wings and selectively threaded through either the upper pair or the lower pair of the eyelets in said second portion of said sole, whereby when said drawstring is disposed in said lower pair of eyelets and is tightened, the sole will be shorter than when the drawstring is disposed in said upper pair of eyelets and tightened.

6. A shoe comprising a sole having a forward section and a flexible rear section, said rear section being of a length to project rearwardly from the heel of the foot of the wearer, a vamp connected to the forward section of the sole, a tongue flexibly connected to said vamp, means providing an upper and a lower pair of openings in said tongue and in said flexible rear sole section, laterally disposed wings secured to said sole adjacent said rear section, means providing a pair of openings in said wings adjacent said tongue, and a drawstring disposed within the pair of holes of said wings to engage the exterior surfaces thereof and selectively threaded through either the upper or the lower pair of openings in said tongue and selectively threaded through either the upper or lower pair of openings in said flexible rear sole section, whereby when said drawstring is threaded through selected openings in said tongue and in said sole section and tightened around said wings, said tongue will be flexed downwardly to engage the instep of the foot and said rear section will be flexed upwardly around the heel of the foot to adjust the length of the sole to the length of the foot of the wearer.

7. A shoe comprising a sole having a forward section and a flexible rear section including a first portion underlying the heel of the foot of a wearer and a second portion projecting rearwardly and upwardly from said underlying portion, a shoe upper projecting from the sides of said sole and having free end portions extending rearwardly of said second section of said sole in juxtaposition therewith, anchoring means in said shoe upper at the free end portions thereof, and a drawstring secured in said second sole portion and connected to said anchoring means for adjusting, when tightened, the length of the sole to the length of the foot of the wearer.

References Cited in the file of this patent

UNITED STATES PATENTS

2,169,337	Davis	Aug. 15, 1939
2,523,449	Rosenzweig	Sept. 26, 1950
2,803,894	Morgan	Aug. 27, 1957