Jan. 15, 1952 G. A. LYON 2,582,910

SHOE

Filed April 27, 1951

Fig. 1

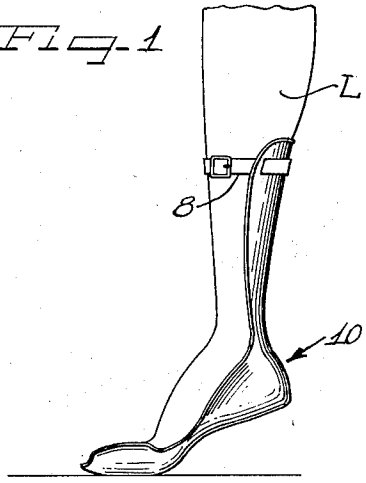


Fig. 2

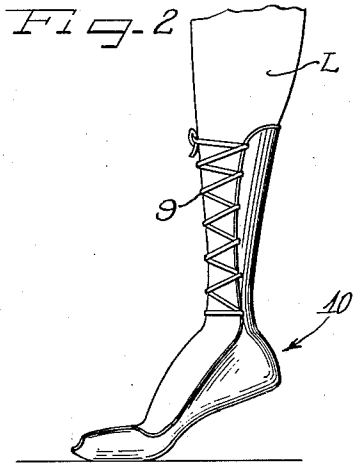


Fig. 4

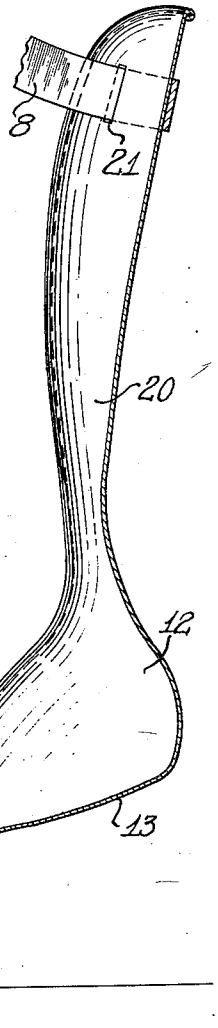


Fig. 3

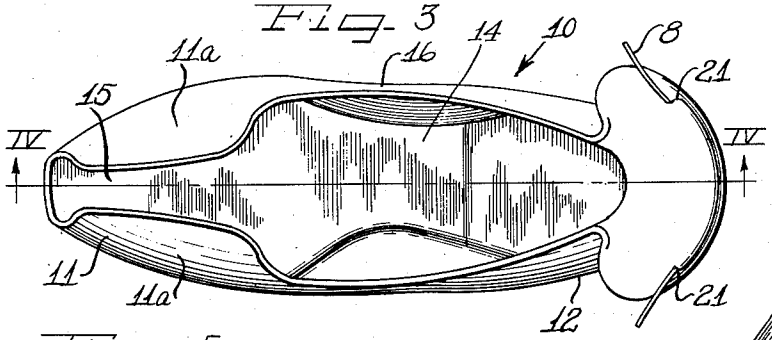


Fig. 5

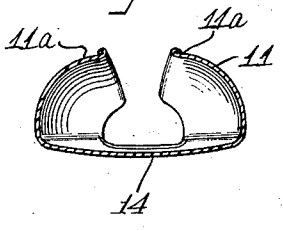
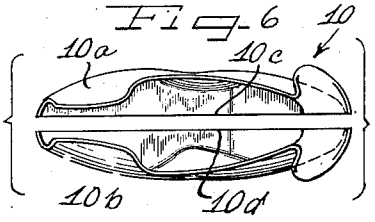


Fig. 6



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Patented Jan. 15, 1952

2,582,910

UNITED STATES PATENT OFFICE

2,582,910

SHOE

George Albert Lyon, Detroit, Mich.

Application April 27, 1951, Serial No. 223,415

8 Claims. (Cl. 36—2.5)

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This invention relates to shoes and more particularly to ladies' shoes which can be economically made from either sheet metal stampings or molded synthetic plastic material.

I have observed that in walking the major weight of a person is placed on the ball or sole of the foot and as a consequence it is not necessary that a shoe or slipper have a heel if the body of the shoe is made strong enough so that the weight of the person can be transmitted through the shoe to the sole portion thereof.

An object of this invention is to provide a shoe of such construction that it will hold the heel of the wearer elevated, without requiring the use of a heel on the shoe.

Another object of this invention is to provide a shoe or slipper wherein the resilient characteristics of the metal are employed in the flexing of the shoe and in the gripping of the foot of the wearer.

It should be noted that when I use the term "shoe," I am using it in a generic sense so as to include in its scope a slipper, moccasin or the like.

Yet another object of this invention is to provide an improved shoe which lends itself to very economical manufacture on a large production scale.

In accordance with the general features of this invention there is provided a shoe made of relatively thin material which includes a toe and counter or back but no heel and yet which in itself is inherently strong enough to hold the heel of the wearer elevated by transmitting the person's weight through the wall of the shoe directly to the ball or sole portion.

Another feature of the invention relates to the provision of a shoe or slipper which can be made of thin gauge resilient material comprising two substantially duplicate but oppositely opening shell-like halves joined together along a line lengthwise of the shoe and which together forming the toe, back and sole portions of the shoe or slipper.

A still further feature of this invention relates to the forming of the toe portion of the shoe so as to include two oppositely curved springy portions relatively flexible for fitting around and engaging the toes of the wearer while the heel of the foot is elevated without the provision of any supporting heel in the shoe.

A further feature of the invention relates to the provision of a shoe as aforesaid with an upward extension transversely curved for resilient engagement around the leg above the foot and so

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formed that ribbon or lace can be used as strings for tying the extension to the lower portion of the leg.

Other objects and features of this invention will more fully appear from the following detailed description taken in connection with the accompanying drawing which illustrates several embodiments of the invention and in which

Figure 1 is a side view of my shoe or slipper strapped to the leg of a person;

Figure 2 is a view similar to Figure 1 but wherein a lacing is employed instead of a strap;

Figure 3 is a plan view of my novel shoe or slipper removed from the foot of the wearer;

Figure 4 is an enlarged fragmentary cross-sectional view taken on the line IV—IV of Figure 3 looking in the direction indicated by the arrows;

Figure 5 is a cross-sectional taken on the line V—V of Figure 4 looking in the direction indicated by the arrows and shows the construction of the toe portion; and

Figure 6 is an exploded view showing two stampings or halves going to form my shoe or slipper prior to their being welded or otherwise joined together.

As shown on the drawings:

The reference character 10 designates generally a shoe or slipper embodying the features of my invention and which may be made from any suitable self-sustaining but yet resilient material. For illustration, I contemplate the shoe may be made from sheet metal stampings or from a resilient synthetic plastic material of which there are many kinds on the market.

In Figure 6 I have shown how this shoe can be made from two substantially duplicate but oppositely facing sheet metal stampings 10*a*—10*b*, each of which has a straight edge 10*c*—10*d* which when engaged with the straight edge of the other half can be welded, fused, etc., to join the two halves together. While I prefer to make my shoe from two halves it should be feasible to mold the shoe from plastic material in one piece.

In the event the halves 10*a*—10*b* are made from sheet metal stampings, a welded joint may be employed which can be so ground whereby the two halves appear to comprise a single unitary sheet metal fabrication.

Excellent results may be attained by stamping the right and left halves 10*a*—10*b* from resilient stainless steel sheet metal such as so-called 18–8 stainless steel. Preferably a very thin gauge of metal should be used such, for illustration, as a sheet of .018 thickness.

After the aforesaid joining of the shoe edges, suitable buffing and polishing apparatus can be employed for giving the sheet metal a very high lustre if the same is desired. On the other hand, any suitable finishes, colored or otherwise, can also be imparted to this fabrication.

Now referring to Figures 1–5, inclusive, it should be observed that it is the same shoe or slipper illustrated in all figures with the exception that laces 9 are employed in Figure 2 instead of a strap 8 shown in Figure 1 for tying the shoe to the leg of the wearer. For this reason the same reference numerals will be used in all figures with the exception of those used on the fastening strap and lacing. As a matter of fact in Figures 3 and 4 the fastening means shown may be either the strap 8 or the lacing 9.

In Figures 3–5, inclusive, it will be perceived that the shoe includes a toe portion 11, a back portion 12, with an elevated heel supporting portion 13 and a sole portion 14. The toe portion 11 includes two opposite curved toe gripping portions 11*a*—11*a* (Figure 5) between which is a keyhole shaped space 15 through which the toes of the wearer of the shoe are visible.

In order to reinforce and ornament the entire portion of the shoe, I curl or bead the edge at 16. This bead also serves the purpose of eliminating any sharp edge which would cut or injure the wearer.

Now one of the features of my invention relates to forming the body of the shoe of material so that it is sufficiently self-sustaining or rigid that its heel portion 13 can be elevated a given space from the ground without requiring the use of a heel on the shoe. This arrangement is such that the weight of the wearer is transmitted through the wall body of the shoe directly to the sole portion which contacts the ground and supports the foot of the person with the heel elevated and also without requiring the use of a heel on the shoe. If it is so desired, a conventional fabric or leather insole (not shown) could be inserted in the shoe on top of the sole portion 14. The use of such an inner sole, of course, is well known and old in the shoe art generally and for that reason is not being shown or claimed herein.

Now, in addition, if so desired the back portion 12 of the shoe may be provided with an upper extension 20 beyond the beaded edge 16 which is transversely curved or arched so as to conform generally to the shape of the back of the leg of the wearer and so as to grip resiliently and lightly the sides of the leg. The upper end of this extension 20 may be provided with apertures 21—21 for receiving either type of fastening means, namely, the strap 8 in Figure 1 or the lace 9 shown in Figure 2. This fastening attaches the shoe or slipper to the leg in much the same manner as a ballet shoe is now tied to the leg of the wearer. However, this extension feature may be dispensed with without detracting from the utility of my invention. If the back extension 20 is used, it serves as a hose guard in protecting the hose immediately above the shoe back portion 12.

By reason of the fact that my novel shoe may be made of highly resilient very thin gauge sheet metal, the entire shoe can flex readily in the bending of the foot in much the same manner as a leather shoe now flexes as one walks with the same on. In addition, the yieldable clip-like toe portions 11*a* snugly engage the toes of the wearer so as to assist in fitting the shoe to and holding it on the foot.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

I claim as my invention:

1. As an article of manufacture a shoe made of thin gauge resilient material comprising two substantially duplicate but oppositely opening shell-like halves and joined together to form the toe, sole, back and wall portions of the shoe with the back portion elevated above the sole portion and being supported solely by the wall of the shoe in raised position spaced upwardly from the ground contacting area of the sole portion and out of direct contact with the ground.

2. As an article of manufacture a shoe made of thin gauge resilient material comprising two substantially duplicate but oppositely opening shell-like halves and joined together to form the toe, sole, back and wall portions of the shoe with the back portion elevated above the sole portion and being supported solely by the wall of the shoe in raised position spaced upwardly from the ground contacting area of the sole portion and out of direct contact with the ground, said back portion having an upward extension transversely curved for engaging around the leg above the shoe proper.

3. As an article of manufacture a shoe made of thin gauge resilient material comprising two substantially duplicate but oppositely opening shell-like halves and joined together to form the toe, sole, back and wall portions of the shoe with the back portion elevated above the sole portion and being supported solely by the wall of the shoe in raised position spaced upwardly from the ground contacting area of the sole portion and out of direct contact with the ground, said toe portion comprising two oppositely curved springy portions for fitting about and engaging the toes.

4. As an article of manufacture a shoe made of thin gauge resilient material comprising two substantially duplicate but oppositely opening shell-like halves and joined together to form the toe, sole, back and wall portions of the shoe with the back portion elevated above the sole portion and being supported solely by the wall of the shoe in raised position spaced upwardly from the ground contacting area of the sole portion and out of direct contact with the ground said back portion having an upward extension transversely curved for engaging around the leg above the shoe proper, said upward extension being resiliently yieldable for gripping the back and side portions of the leg.

5. As an article of manufacture a shoe made of thin gauge resilient material comprising two substantially duplicate but oppositely opening shell-like halves and joined together to form the toe, sole, back and wall portions of the shoe with the back portion elevated above the sole portion and being supported solely by the wall of the shoe in raised position spaced upwardly from the ground contacting area of the sole portion and out of direct contact with the ground, said back portion having an upward extension transversely curved for engaging around the leg above the shoe proper, said upward extension being resiliently yieldable for gripping the back and side portions of the leg, said extension also being provided with means for tying the same to the leg as by means of a ribbon and the like.

6. As an article of manufacture a shoe made of thin gauge material comprising two substantially duplicate but oppositely facing shell-like halves which are joined to form the toe, back and sole portions of the shoe with the back por-

tion elevated above the sole portion out of contact with the ground and supporting the weight of the person solely through the sole portion.

7. As an article of manufacture a shoe made of thin gauge material comprising two substantially duplicate but oppositely facing shell-like halves which are joined to form the toe, back and sole portions of the shoe with the back portion elevated above the sole portion out of contact with the ground and supporting the weight of the person solely through the sole portion, said toe portion comprising two oppositely curved resiliently springable portions for fitting around and engaging the toes to hold the toes lightly against the sole portion of the shoe.

8. As an article of manufacture a shoe made of thin gauge material, which is resilient and at the same time form sustaining, comprising substantially duplicate but oppositely facing shell-like portions together forming the toe, back and sole portions of the shoe with the back portion fixedly held elevated above the sole portion out of contact with the ground and supporting the weight of the person solely through the sole portion.

GEORGE ALBERT LYON.

No references cited.