Oct. 7, 1930. W. J. DE WITT 1,777,746

SHOE FORM

Filed March 19, 1929

Fig. 1

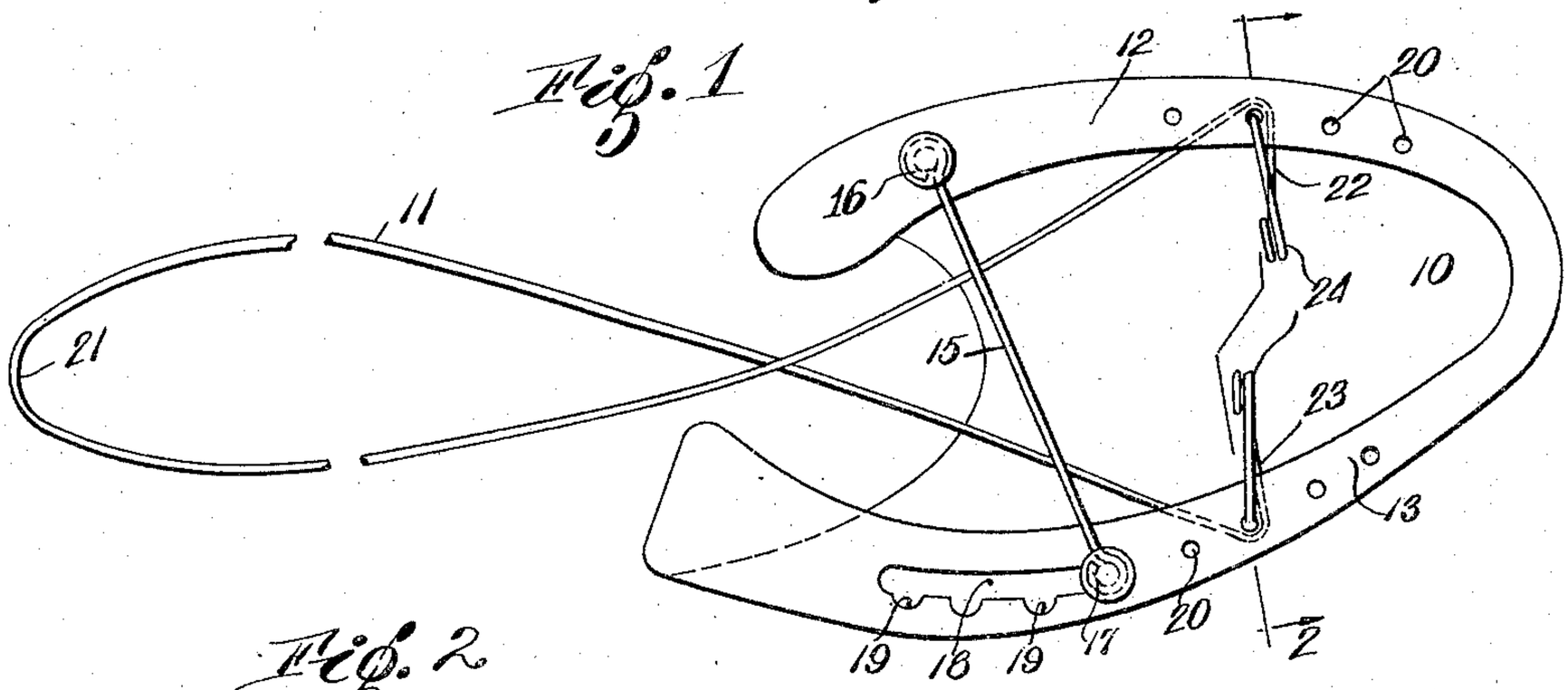


Fig. 2

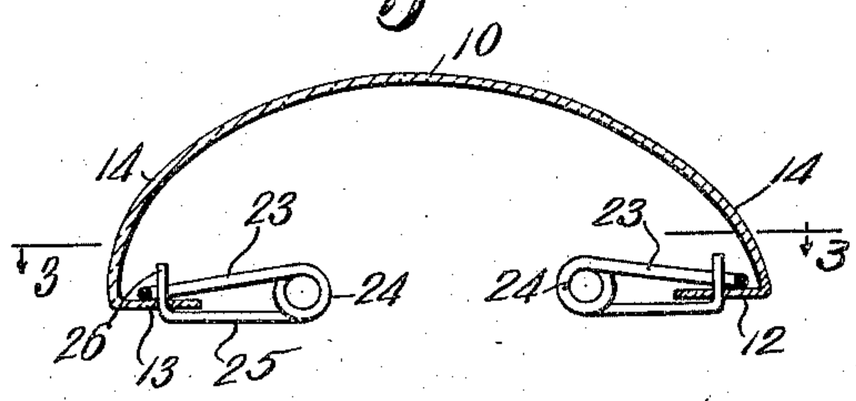


Fig. 3

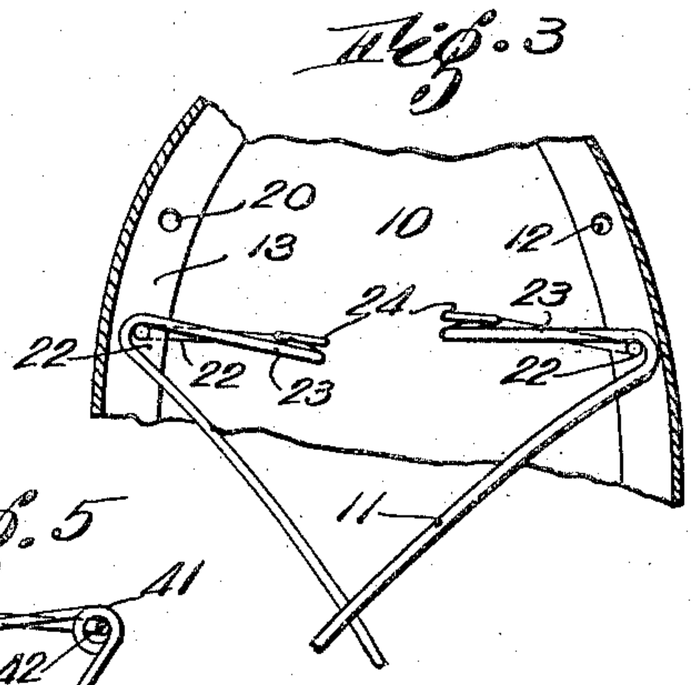


Fig. 4

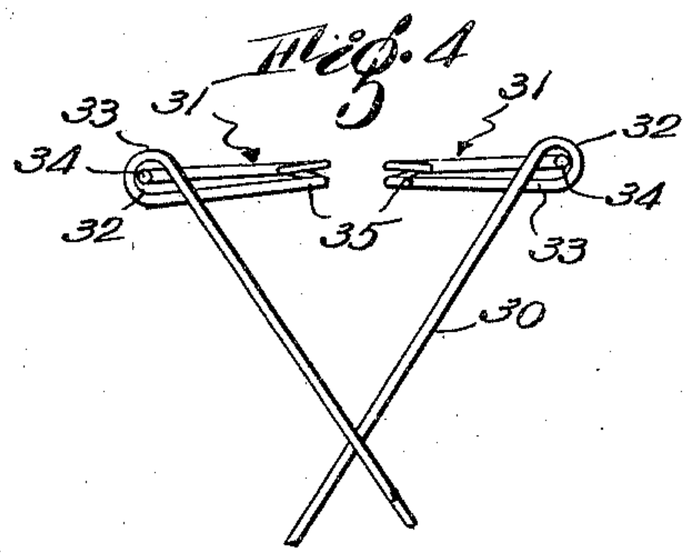


Fig. 5

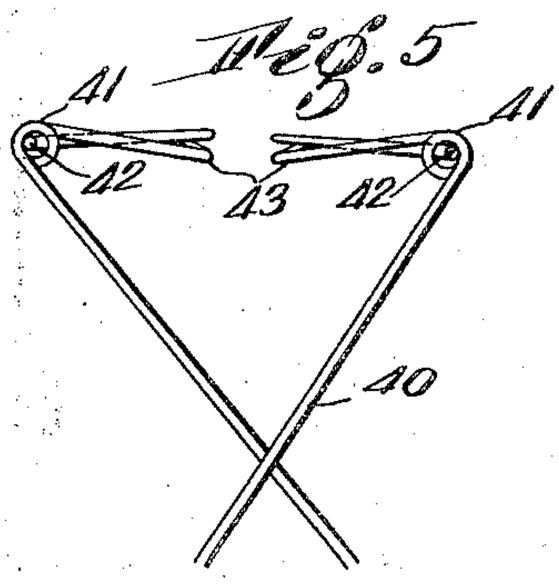
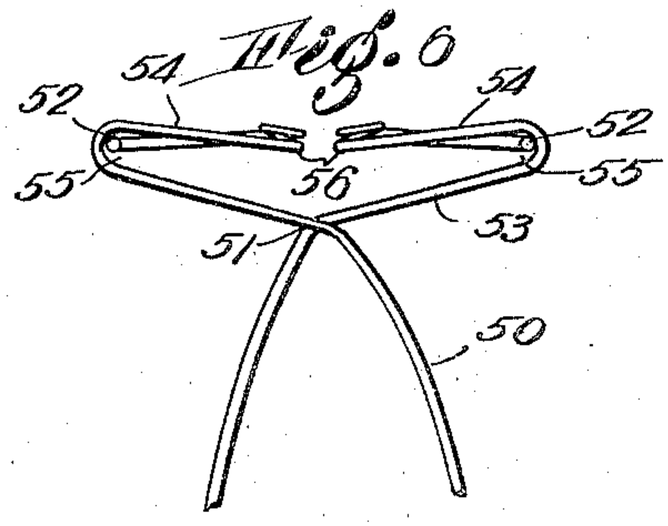


Fig. 6



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1,777,746

UNITED STATES PATENT OFFICE

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SHOE FORM

Application filed March 19, 1929. Serial No. 348,256.

This invention relates to an improvement in shoe forms, and more particularly in shoe forms of the type which comprise a hollow toe form and a back part wire. Such shoe forms are particularly designed to keep footwear plumped out or free from wrinkles and the toe form is shell like in quality being usually and preferably of celluloid or other resilient thin material. The toe form is held in position in the footwear by the back part wire which rests against the heel counter and is removed from its position by disengaging the back part wire from the heel counter and exerting a pulling force upon the wire.

In order to adapt these shoe forms to use with footwear varying in length the back part wire should be longitudinally adjustable and the primary object of this invention is to provide a back part wire having longitudinal adjustability and which acts as a positive means for withdrawing the toe form from the shoe by pulling upon the wire without danger of separating the wire from the form.

Another object of this invention is to provide in such a shoe form a back part wire which can be adjustably secured directly to the toe form so as to adapt it for use in shoes of various sizes. A further object of this invention is to provide in such a shoe form a back part wire which is so formed that it yieldingly bears against the heel counter of the shoe to hold the toe form in place but which can be used to exert a positive withdrawing pull upon the toe form when the shoe form is removed from the shoe.

Other objects of the invention will be apparent to one skilled in the art from a consideration of the following specification taken in connection with the drawings which form a part thereof and in which

Fig. 1 is a bottom plan view of a shoe form embodying this invention;

Fig. 2 is a sectional view taken along the line 2—2 of Fig. 1;

Fig. 3 is a sectional view taken along the line 3—3 of Fig. 2; and

Figs. 4, 5 and 6 are views illustrating in elevation other forms of back part wire that might be employed in carrying out this invention.

The shoe form here illustrated comprises a toe form 10 and a back part wire 11. The toe form 10 preferably is of celluloid or other flexible material and is provided at its bottom with inturned flanges 12 and 13 which may be joined at the tip and form a continuous flange as here shown. In order to hold the walls 14 of the form 10 at the proper position a cross wire 15 is provided, being pivotally secured to a pin 16 in the flange 12 of one wall of the form and having a button 17 which enters a slot 18 formed in the flange 13 of the opposite wall of the form. The slot 18 may have a plurality of suitably spaced recesses 19 which receive and position the button 17.

In the flanges 12 and 13 are provided a plurality of holes 20 suitably spaced from one another to which the back part wire 11 may be secured. The wire 11 is preferably bent upon itself to provide a loop 21 intermediate its ends, the forward ends being bent at acute angles 23 toward each other from the main body of the wire, each end including a portion 23, a coil 24 and a portion 25, and terminating in a tip 26 at right angles to the portion 25. The tips 26 pass through one of the holes 20 in each flange and enter the angles 22 as shown particularly in Fig. 3.

From the construction thus described it will be obvious that the cross wire 15 is set in the slot 18 to determine the width of the toe form and that form is first inserted in the toe of the footwear. Force is then exerted on the wire 11, preferably at the loop 21, causing the coils 24 to yield so that there will be a continuous yielding pressure exerted against the toe form. The loop 21 is then placed against the heel counter so that the wire will continue to exert such pressure. The amount of pressure and the effective length of the wire may be adjusted by selecting the proper holes 20 to receive the tips 26. When the shoe form is to be removed from the shoe the loop 21 is disengaged from the counter and a pulling force is exerted on the wire 11 which causes the portions 23 to shift into contact with the forward faces of the

tips 26, thus transmitting a direct pull to the toe form 10 and facilitating the removal of that form.

The embodiment of the back part wire shown in Fig. 4 differs from that previously described in that the end portions 31 of the wire 30 are bent at the angles 32 into loops 33 which surround the tips 34. With a wire so constructed it is obvious that the loops 33 will shift under either forward or retractive force, into contact with the tips 34 which are held in the flange holes by coils 35 and the toe form (not shown) will be positively inserted or extracted from the shoe.

The embodiment shown in Fig. 5 functions in the same way as and is similar to that shown in Fig. 4, differing therefrom solely in that the loops 41 of the wire 40 comprise coils which completely enclose the tips 42 which are held in place by coils 43.

In the embodiment shown in Fig. 6 the legs forming the body of the wire 50 are crossed at 51 which is so close to the tips 52 of the wire that the sections 53. 54 forming the angle 55 are approximately parallel. The tips 52 are held in place by coils 56 and the application of force either forward or retractive will cause the sections 53 or 54 to bear against the tips 52.

It will be noted that in each instance upon the application of retractive force portions of the wire bear directly against the tips which enter the angles of the wire and are yieldingly held in the holes 20 by the coils. Thus there is no tendency to tilt the tips and draw them out of the holes 20 but on the contrary the tips transmit to the flanges of the toe form a positive rearward urge.

Furthermore it will be noted that the ends of the wire exert a downward pressure upon the flanges of the toe form and thus counteract any tendency of the shoe sole to curl upwardly, a condition which takes place particularly in a pull over or a shoe with a very thin sole and which quickly destroys the appearance of the footwear.

While certain embodiments of this invention have been shown and described herein I am not limited thereto since other embodiments might be made without departing from the spirit and scope of the invention as set forth in the following claims.

I claim:

1. A shoe form comprising a flanged hollow toe form and a back part wire, the forward ends of the wire being bent toward each other at angles to the body, terminating in tips and including coils intermediate said tips and angles, and the flanges of the toe form being provided with holes through which the tips project into the angles formed at the joinder of the forward ends with the body of the wire.

2. A shoe form comprising a flanged hollow toe form and a back part wire, the forward ends of the wire being bent toward each other at angles to the body of the wire, terminating in tips and including coils intermediate the tips and angles and portions connecting each coil with the tip and angle, and the flanges of the toe form being provided with holes through which the tips project into the angles behind the portions connecting the angles and coils whereby when retractive force is exerted upon the wire such portions will bear against the tips and the force will be transmitted directly to the toe form.

3. A shoe form comprising a flanged hollow toe form and a back part wire, the forward ends of the wire being bent toward each other at angles to the body of the wire, terminating in tips and including portions extending from the body, and the flanges of the toe form being provided with holes through which the tips project into the angles and behind the portions whereby when retractive force is exerted upon the wire such portions will bear against the tips and the force will be transmitted directly to the toe form.

4. A shoe form comprising a flanged hollow toe form and a back part wire, the forward ends of the wire being bent at angles to the body and terminating in tips and the flanges of the toe form being provided with holes through which the tips project into the angles formed at the joinder of the forward ends with the body of the wire.

5. A shoe form comprising a hollow toe form and a back part wire, the forward ends of the wire being bent at angles to the body of the wire and terminating in tips which enter the angles and the toe form, being provided with holes through which the tips project to unite the toe form and wire.

6. A shoe form comprising a hollow toe form and a back part wire, the forward ends of the wire being bent at angles to the body of the wire and terminating in tips, and the toe form being provided with holes through which the tips project into the angles formed at the joinder of the forward ends with the body of the wire.

7. A shoe form comprising a hollow toe form and a back part wire terminating at its forward end in a tip which removably engages the walls of the form, and having an intermediate angular portion with which said tip coacts upon the movement of the wire in one direction whereby said tip is positively engaged by the intermediate portion and the force applied to the wire is directly transmitted to the form.

8. A shoe form comprising a flanged hollow toe form, a cross wire pivotally secured to one flange and having a slidable connection with the other flange, and a back part wire connected to at least one flange independently of the cross wire connection

whereby the width of the toe form may be determined by the cross wire and the toe form held yieldably in a shoe by the back part wire.

9. A shoe form comprising a flanged hollow toe form, a cross wire pivotally secured to one flange and having a slidable connection with the other flange, one of said flanges having perforations therein and a back part wire having forwardly extending legs the tip of one of which legs enters one of the perforations in the flange, said perforations being independent of the cross wire connections.

10. A shoe form comprising a flanged hollow toe form, a cross wire pivotally secured to one flange and having a slidable connection with the other flange, one of said flanges having perforations therein and a back part wire, having forwardly extending ends, one of which is bent at an angle to the body of the wire and terminates in a tip which projects through one of the flange perforations into the angle formed at the joinder of the forward end with the body of the wire.

Signed by me at Boston, Massachusetts, this 14th day of March, 1929.

WILLIAM J. DE WITT.