This invention relates to improvements in a metatarsal pad and package, and more particularly to a simple form of foot correction device easily applicable to the human foot by a user of the device to provide cushioning support for the metatarsal arch of the human foot, although the device may have other uses and purposes as will be apparent to one skilled in the art.

Many and various types of devices have been developed in the past for the purpose of lending corrective aid to the metatarsal arch of the human foot. In some instances these devices were built directly of the particular of footwear and became an integral part thereof. In other instances, the devices were built in an insertable and removable insole for an article of footwear, and still other instances the devices were made in the form of bandages to circumscribe the foot, in the manner of adhesively attachable pads or supports for attachment directly to the foot, and in the form of adhesive devices for attachment to the insole of the article of footwear rather than upon the foot itself. Many of these forms of metatarsal arch supporting means heretofore known required the attention of a skilled practitioner or operator to acquire the proper size of device and to properly locate the device. That was particularly true if the device were mounted into an article of footwear already purchased or worn by the user. In most cases in the past, difficulty was experienced in selecting the proper size of lift for the metatarsal arch, and once a support was selected and the user provided with it, thereafter there was no selectivity on the part of the user, even though the size may not have been accurate to start with. Certainly, there was no selectivity or permissible variation of the metatarsal lift portion of the device during the course of treatment and as the foot responded to the treatment. If due to response of the foot to treatment a smaller size lift was desirable, it was necessary for the user to purchase a completely new device, and in some cases have expert attention for the mounting of the new device.

With the foregoing in mind, it is an important object of the instant invention to provide a foot corrective appliance especially adaptable to aid in the ill fitting metatarsal arch, and a device so constructed that the user may readily apply the device to the foot, and the device is somewhat self-adjustable, in that it will tend to assume the proper location beneath the metatarsal arch.

A further important object of the invention is the provision of a metatarsal arch supporting device in which the user may selectively vary the size of the metatarsal lift portion of the structure, whereby the user may have the proper size at the beginning, and selectively vary the size of the metatarsal lift as the foot responds to treatment and a smaller size is required.

Another object of the invention is the provision of a metatarsal arch supporting device in which expert skill is not required in order to properly use the device.

A further feature of the invention resides in the provision of a light weight easily applied metatarsal supporting element that requires no adhesion, but is held in position underneath the metatarsal arch by the hosiery of the user, in such manner that the device will tend to assume the proper position shortly after being placed on the foot.

Still another and important feature of the instant invention resides in the provision of a metatarsal arch supporting device and a package therefor wherein the package contains an assortment of various sizes of metatarsal lifts to be applied to the body of the device selectively and when desired, whereby the user may ab initio select the proper size for his particular affliction, and then selectively graduate that size during the time it is necessary to wear the appliance.

Also a feature of the invention resides in the provision of a simple form of metatarsal arch supporting device which may be removed and replaced at will, and which may be laundered whenever deemed necessary.

While some of the more salient features, characteristics and advantages of the instant invention have been above pointed out, others will become apparent from the following disclosures, taken in conjunction with the accompanying drawings, in which:

Figure 1 is a perspective view of a package embodying principles of the instant invention shown in semi-open condition to disclose a foot corrective appliance and a plurality of metatarsal lift elements for use with that appliance;

Figure 2 is a transverse sectional view through the body of the appliance equipped with one of the metatarsal lift elements; and

Figure 3 is a longitudinal vertical sectional view through the appliance equipped with a metatarsal lift element.

As shown on the drawings:

The package of the instant invention may be a container or holder of substantially any structural character, and in the illustrated instance it is shown in the form of a mounting card 1 which may be encased in a suitable envelope 2 preferably having a transparent window 3 therein. Mounted upon the card 1 is a foot corrective appliance including a body part 4 and a toe loop portion 5. The body part is equipped with a plurality of other metatarsal lift elements 6 of one size, and the card carries a plurality of other metatarsal lift elements, three being shown in the illustrated instance and designated by numerals 7, 8 and 9. As will later appear herein, the lift 6 attached to the body 4 of the device may be removed when desired, and any of the elements 7, 8 and 9 mounted on the device in lieu thereof, so that the user has a rather complete selection of proper sizes of lifts for his particular foot.

With reference now more particularly to Figs. 2 and 3, it will be seen that the appliance equipped with one of the lift elements, the lift element 6 for example, is substantially an integral unitary structure wherein the element attached thereto. Preferably the body 4 comprises a sheet of cushioning material, and the toe loop extension 5 is preferably integral with that body part. The under surface of the body and toe loop may be covered with a thin layer of fabric as indicated at 10 if so desired. A preferred substance for the latter is a rubberized or latex of the variety having intercommunicative cells therein so as to provide some ventilation due to the pulsations caused by successive applications and releases of foot pressure on the device. A sheet of foam latex may be vulcanized to a sheet of fabric 10, and then the device together with the body and toe loop portion may be stamped out of that laminated sheet. As seen in both Figs. 2 and 3, the body portion of the device is preferably of at least slightly concavo-convex shape with the concave side uppermost.
Each of the lift elements 6, 7, 8 or 9 is also of cushioning material, and preferably of the same character of foam latex as the body 4. The undersurface of each lift element is preferably provided with a relatively thin layer of adhesive 11 of the pressure sensitive variety and of a character that will not too firmly adhere to a foam latex surface under pressure as to preclude ready removal when desired. The adhesive surface will, however, adhere sufficiently to unite the lift to the body 4 against accidental or unintentional removal.

As seen best in Figs. 2 and 3 the lift 6, preferably tapers in all directions away from a thicker central portion, and while the underside of the lift may be flat, if so desired, the upper side presents a convex surface. Both faces of the lift may be convex if so desired, but in any event when the lift is attached to the concave face of the body 4, the lift definitely does present a convex upper surface.

Thus, when the device is in use, there is a convex upper surface against the plantar face of the metatarsal arch which is in keeping with the structure of the metatarsal arch, and yet the body portion of the device is sufficiently concave so as to receive two or more of the metatarsal heads in a manner to provide a soft yielding cushion support for the metatarsal arch.

The adhesive undersurface of each of the lifts is sufficient to retain the lifts on the card or sheet 1 pending removal for use. Of course, the mounting element 1 may be provided with a surface non-injurious to the adhesive. The corrective appliance may easily be attached to the mounting element 1 by hooking the loop 5 over a tab 1a bent reversely from the element 1 or secured thereto in any suitable fashion.

In use, the instant invention is extremely simple and effective. The user may place one of the lifts 6, 7, 8 or 9 upon the body portion 4 of the device, and try them until the proper size of lift is made apparent. In applying the device to the foot it is a simple expedient to pass the toe loop 5 over one of the intermediate toes of the foot, and in most cases it will be passed over the second or third toe, so that the body of the device as well as the lift extends rearwardly under the metatarsal arch of the foot. That is all that is necessary for the application of the device, and when the hose of the user is drawn on over the foot, the device is properly positioned. When the foot is placed in an article of footwear, and the user stands or walks, the device will be in the proper location within a very short interval. At any time during use, the device may be removed, laundered if desired, and easily replaced. Or, if desired, the particular lift then on the device may be removed and another lift substituted therefor as the foot progresses in its response to treatment. No special skill is required at any time for the proper use of the device, it is simple in construction, economical, and highly durable.

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:

A foot aid package for the graduated and extended treatment of a foot affliction, comprising a mounting element, a tab projecting from said element, a corrective appliance having a toe loop hooked over said tab to hold the appliance on the element pending use, a cushion lift having an adhesive surface by which it is removably attached to said appliance, a plurality of similar lifts of different sizes removably attached by their adhesive surfaces to said element pending selective use on said appliance, and a wrapper enclosing said mounting element.

References Cited in the file of this patent

UNITED STATES PATENTS

<table>
<thead>
<tr>
<th>Patent Number</th>
<th>Inventor</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>191,083</td>
<td>Sutton</td>
<td>May 22, 1877</td>
</tr>
<tr>
<td>936,777</td>
<td>Herzfelder</td>
<td>Oct. 12, 1909</td>
</tr>
<tr>
<td>1,633,197</td>
<td>Sayder</td>
<td>June 21, 1927</td>
</tr>
<tr>
<td>2,209,210</td>
<td>Scholl</td>
<td>July 23, 1940</td>
</tr>
<tr>
<td>2,591,378</td>
<td>Scholl</td>
<td>Apr. 1, 1952</td>
</tr>
<tr>
<td>2,633,129</td>
<td>Crawford</td>
<td>Mar. 31, 1953</td>
</tr>
<tr>
<td>2,705,955</td>
<td>Nesset et al.</td>
<td>Apr. 12, 1955</td>
</tr>
<tr>
<td>2,711,166</td>
<td>Digate</td>
<td>June 21, 1955</td>
</tr>
</tbody>
</table>