Aug. 12, 1958 L. C. LOWTH 2,847,004

CUSHIONING DEVICE

Filed April 25, 1956

Fig. 1

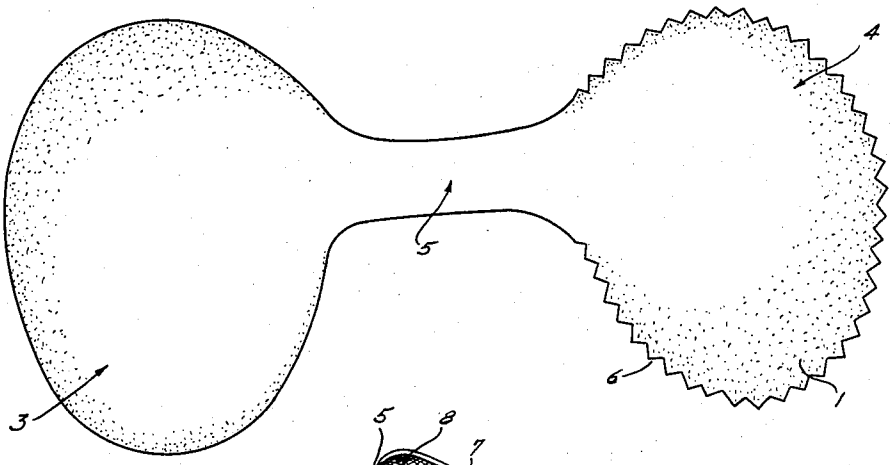


Fig. 2

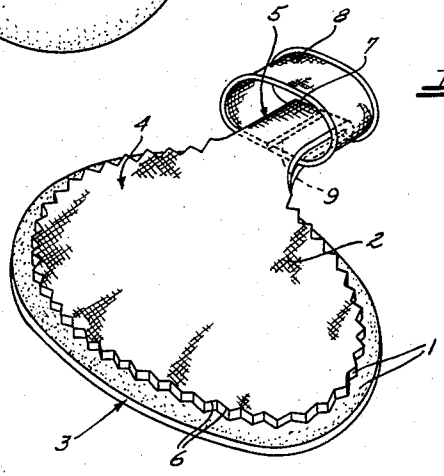
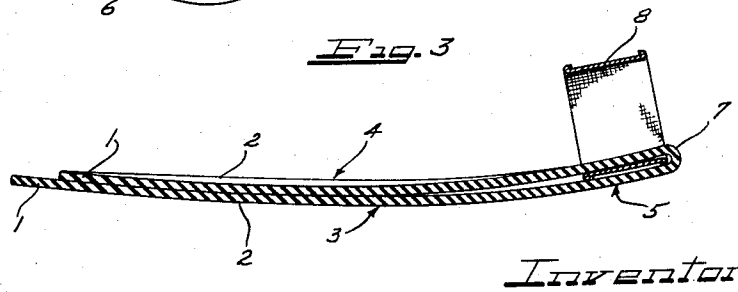


Fig. 3



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CUSHIONING DEVICE

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3 Claims. (Cl. 128—153)

This invention relates to improvements in a cushioning device, and more particularly to a cushioning device in the form of a surgical pad or the like having a digit loop connected thereto, whereby the device may be used upon either the hand or the foot of a wearer with the digit loop engaging a finger or a toe as the case may be to retain the device in proper position, and the device may have other uses and purposes as will be apparent to one skilled in the art.

In the past, many and various types of surgical cushioning elements having digit loops associated therewith have been developed. Where such a device is utilized for the treatment or alleviation of callosities and similar painful afflictions appearing on the plantar surface of the human foot beneath the metatarsal arch the use of a digit loop frequently resulted in an objectionable and aggravating crowding of the toes of the user, especially with a relatively tight fitting article of footwear. This crowding was emphasized to some extent by the fact that in most cases of pads of this character heretofore known, the digit loop was of the same thickness as the body part of the pad or, if the body part of the pad was of double thickness, then the digit loop would be of the same thickness as one member of the body part. That was because in most instances the body part of the pad and the digit loop were cut integrally from the same sheet of stock. In some instances heretofore the digit loop was coplanar with the body of the pad, and in other instances the digit loop was upstanding from the plane of the body part of the structure, but in either case there was a loop of relatively thick material encircling the digit of the user, and when that digit was a toe, objectionable crowding resulted.

With the foregoing in mind, it is an important object of the instant invention to provide a surgical cushioning appliance carrying a digit loop which may be parallel with the body portion of the device or upstanding from the plane of the body portion, and which may be made of any suitable material.

Also an object of this invention is the provision of a cushioning device provided with a digit loop of stretchable material different from that providing the cushioning properties of the body part of the device.

It is also an object of this invention to provide a cushioning appliance having a digit loop which may be of stretchable material, whereas the body portion of the device may not be stretchable.

Still another object of the instant invention is the provision of a surgical cushioning device having a digit loop thereon which digit loop is initially a separate piece from the remainder of the appliance.

Also a feature of the invention resides in the provision of a cushioning appliance having a digit loop connected thereto, which digit loop may be as thin as desired, whereas the body portion of the cushioning device may be of double thickness.

A further object of the instant invention resides in the provision of a cushioning appliance having a digit loop thereon, which appliance comprises a double thickness body part with the portions thereof integrally connected by a reversely folded neck portion, and the digit loop is attached to that neck portion.

Still a further feature of the instant invention resides in the provision of a cushioning appliance having a digit loop thereon, which appliance has a double thickness body portion, a neck portion coplanar therewith, and a digit loop secured between the folds of the neck portion.

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

Figure 1 is a plan view of a severed pattern from which a part of the device embodying the instant invention is made;

Figure 2 is a projectional top view of the completed device; and

Figure 3 is an enlarged vertical sectional view through the device including the digit loop.

As shown on the drawings:

For purposes of convenience, the illustrated embodiment of the instant invention is shown and described herein in the form of a cushioning appliance for disposition beneath the metatarsal arch of the human foot to relieve callosities and other painful afflictions in that region. It will be understood that such devices in order to fit better and conform to the metatarsal arch of the foot are preferably made in right and left types, and the illustrated embodiment is for the right foot.

The material used for the making of the body and neck portions of the device is preferably a laminated structure consisting of a sheet 1 of cushioning material, and a thin sheet 2 of smooth silky non-drag fabric or the equivalent. The sheet 2 is laminated over one face of the cushioning material. Preferably, the cushioning material is a sheet of foam latex having intercommunicating cells, whereby the entire structure is porous in character and during use air will be pumped into and out of the cells of the latex, thereby giving ventilative properties to the structure. In addition, it should be noted that the entire appliance is of such character that it may be readily and easily laundered whenever deemed necessary without injury to any portion of the appliance.

Preferably, patterns or blanks for the body and neck portions of the device are severed from a large sheet of laminated stock, and in Fig. 1 I have illustrated one of these blanks or patterns. From the disclosure in Fig. 1 it will be seen that the pattern is generally of the shape of a flat dumbbell, and embodies a body portion generally indicated by numeral 3 and a body portion of lesser size generally indicated by numeral 4, which body portions are connected by a narrow neck generally indicated by numeral 5. As seen in Figs. 1 and 2 the smaller body portion 4 is preferably provided with a toothed or serrated bounding edge as indicated at 6.

In forming the appliance, the body portion 4 is laid over the face of the body part 3 and firmly secured thereto in any suitable manner such as with the aid of an adhesive, or in some instances by curing or vulcanization in the event the cushioning sheet is latex or the equivalent. In so forming the appliance, the body part 4 would be merely turned to the left as viewed in Fig. 1, and placed over the body part 3, both exposed faces of the body parts then being in contact with each other. This forms the arrangement seen in Fig. 2, and it will be noted that a reverse fold of the neck 5 is developed as indicated at 7, so that the neck comprises a double layer the same as the resultant body of the appliance.

In view of the fact that the illustrated appliance is for a right foot, the neck portion 5 is preferably offset from the direct centers of the body parts, so that it will be off-

set in the resultant appliance, since this neck part preferably underlies the second toe of the foot.

A digit loop 8 for attaching the appliance to the body of the wearer is provided, and in this instance the digit loop is associated with the neck portion 5 in such a manner as to be upstanding from the plane of the body and neck of the appliance, so that the digit loop will fit flatly around a toe. The digit loop 8 preferably has its ends brought together as indicated at 9 between the folds of the neck portion 5 and is secured to the neck portion inside thereof in any suitable manner, such as by a proper adhesive. The loop 8 may be made of any suitable or desirable material, and need not be made of the material of the body part of the device. If desired, the loop may be made of the same material as the thin sheet 2 on the body part, but preferably the loop is made of a stretchable material such as a knitted fabric, a lace net with rubber strands therein, or it can be made simply of a thin sheet of rubber or synthetic rubber. Substantially any material, however, that is comfortable to the user, may be used for the digit loop 8.

From the showing in Fig. 3, it will be noted that the body part of the appliance is preferably slightly concavo-convex with the concave side uppermost so that the device better fits beneath the ball of the foot and is more comfortable to the user.

With the illustrated embodiment of the invention, the resultant appliance will have the thin smooth covering 2 on the top thereof adjacent the foot of the user and also on the underside of the body part. However, should it be desired to have the foot and the insole of the shoe in contact with the cushioning sheet 1, the body part may be made by folding the neck portion in the opposite direction. With the illustrated pattern, folding in the opposite direction would result in the provision of a device suitable for the left foot of the user, owing to the offsetting of the neck 5.

When the device is applied to the foot of a user, the digit loop is generally engaged over the second toe of the foot, thus having the longer axis of the body part disposed substantially parallel to the metatarsal arch of the foot so that the device is comfortably placed in position beneath the plantar surface of the foot. The hosiery or footwear of the user maintains the device in proper position during wearing. No discomfort occurs to the user from the appliance, and the elimination of all discomfort is materially aided by the serrated edge 6 on the upper body part 4. It will be noted from the showing in

Fig. 2 that the serrated edge is within the bounding edge of the lower body part 3, and the serrations eliminate any abrupt edge in contact with the foot of the user, since these serrations will provide a more gradual taper when compressed and abrupt edge contact is thus eliminated.

The appliance is easily put on, easily removed, and as stated above may be laundered whenever deemed necessary. Likewise, when in use there is no crowding of the toes of the user, since the digit loop 8 may be made of a thin material as desired. Consequently, there is always a comfortable feeling to the user over and above the relief of the particular affliction for which the use of the device has been advocated.

It will also be noted that the entire appliance is simple in construction, very light in weight, economical to manufacture and possesses long life.

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. In a cushioning device for application to a body extremity, a pair of superposed body parts secured together, a reversely folded neck portion integral with said body parts, and a digit loop engaged with said neck portion, said body parts and said neck portion comprising a sheet of cushioning material and a sheet of smooth material laminated to one face of said cushioning material.

2. In a cushioning device for application to a body extremity, a pair of superposed body parts secured together, a reversely folded neck portion integral with said body parts, and a digit loop engaged with said neck portion, said body parts and said neck portion comprising a sheet of foam latex and a thin smooth sheet of material laminated to one face of said latex sheet.

3. In a cushioning device for application to a body extremity, a pair of superposed body parts secured together, a reversely folded neck portion integral with said body parts, a digit loop engaged with said neck portion, said body parts and said neck portion comprising a sheet of foam latex and a thin smooth sheet of material laminated to one face of said latex sheet, and said digit loop being of different material than the latex sheet.

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