MY INVENTION RELATES TO A NEW AND USEFUL BUNION AND FOOT CORRECTIVE MEANS AND HAS FOR ONE OF ITS OBJECTS TO PROVIDE AN EXCEEDINGLY SIMPLE AND EFFECTIVE APPLIANCE TO BE APPLIED, ESPECIALLY, TO THE GREAT TOE AND INCLUDING MEANS ENGAGING THE SIDE OF THE FOOT IN THE REGION OF THE SEAMOID PORTION OF THE METATARSUS BONE TO FUNCTION AS A FULCRUM BETWEEN THE TOE EMBRACING ELEMENT AND A TENSION MEANS ANCHORED ABOUT THE HEEL, ALL COOPERATING TO PRODUCE AN OUTWARD PULL ON THE FIRST AND SECOND PHALANGES OF THE GREAT TOE AND AN INWARD PRESSURE ON THE SEAMOID.

Another object of the present invention is to provide means to apply a corrective force to the second toe where the latter has been deformed due to the great toe being projected either under or over said second toe.

Another object of the invention is to provide an appliance of the kind mentioned to overcome excessive pressure and strain, due to bunion deformities in any one part of the foot; to equalize the distribution of weight while standing or walking, for a true balance; and to apply counter corrective forces to adjacent portions of great toe side of the foot.

It is a well known fact that many persons have foot ailments resulting from incorrect standing and walking habits formed during childhood, resulting from the influence of past injuries to joints other than those of the great toe, resulting from the use of ill-fitting shoes, and also resulting from imbalance of the body due to favoring an aching part of the foot in an attempt to relieve pain. It is therefore, another object of this invention to overcome many foot ailments through the employment of the corrective agency herein described which will return the full tread surface of the foot to normal use and thereby properly balance the body so that many body aches and pains, which stem from malfunction of the feet, will be relieved. The apparatus is small, neat and does not interfere with the wearing of any desirable type of stylish footwear.

A further object of the present invention is to provide a foot corrective means constructed to include a pad for engagement with the side of the foot in the region of the seamoid, or directly in contact with a bunion or enlargement due partially or wholly to misalignment of the foot bones, which pad will have a massaging effect, when the foot is used, to break down the physical characteristics of any susceptible alignment whereby the residual component may be carried off by the blood stream or other body waste eliminating elements.

A still further object of the invention is to construct a foot corrective appliance comprising a toe receiving sack at the outer end of a billot of elastic material which, preferably, has its inner or contact face covered with a soft compressible shield and further provided at its inner end, with a resilient pad, and elastic metatarsal arch strap, and an elastic heel strap, which latter may also be adjustable as to size.

With the above and other objects in view this invention consists of the details of construction and combination of elements hereinafter set forth and then designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same I will describe its construction in detail, referring by numerals to the accompanying drawing forming a part hereof, in which:

Fig. 1 is a perspective view of the bunion and foot corrective means constructed in accordance with my invention and illustrating how it appears on a foot which is shown in dotted lines.

Fig. 2 is an enlarged inner side view thereof.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Fig. 4 is an inner side view of a modification wherein the parts of the apparatus are made into a unitary integral article, as from molded rubber.

Fig. 5 is a section on the line 5—5 of Fig. 4.

Fig. 6 is a frontal view of a foot looking downwardly on the instep and illustrating one use of the apparatus in its simplest form.

Fig. 7 is a similar view depicting a second and more comprehensive use of the invention.

In carrying out my invention as herein embodied 10 represents a fillet including a backing element 11 of elastic material capable of stretching substantially in all directions but to a greater extent longitudinally than laterally or obliquely and is adapted to conform to the curvilinear contour of the inner side surface of the foot adjacent the great toe and a portion of the base end of said great toe and disposed to a suitable degree over the top and under the tread of the foot and great toe. The inner or contact surface of the backing element is covered with a layer of compressible material 12 such as cham ois, which also is sufficiently elastic or stretchable to follow the conformation of the backing element to which said covering layer 12 is secured by stitches 13 or otherwise.

At the forward end of the fillet 10 is a sack 14 which snugly fits the great toe while at the rear end of said fillet on the inside or contact face thereof is pad 15 to lie against the inner
side of the foot in the region of the sesamoid bone or on an alloying part of the foot in that locality, such as on a bunion.

The sack is, preferably, formed of foraminous material, to prevent overheating of the toe, and may be a knitted or netted fabric while, preferably, the pad is composed of an envelope 16 of soft material, such as chamoi, and a filling 17 of a resilient substance, such as lamb's wool. The sack and pad are fixed to the fillet 10 by sewing the parts together in any well known and approved manner.

An elastic metatarsal arch strap 18 has portions connected to the top and bottom or opposite edges of the fillet 10 and looped in front of the contact face of said fillet as plainly shown in Fig. 2. This metatarsal arch strap joins with the top edge of the fillet, indicated at 19, a shorter distance from the sack than where said strap joins with the bottom edge of said fillet. When the appliance in use the metatarsal arch strap embraces the forward portion of the instep, the outer side of the foot and the sole or tread in the region of but, preferably, slightly forward of the ball of the foot.

Also an elastic heel strap 20 extends in loop formation from the rear end of the fillet 10 and adapted to encircle the heel of the foot as pictured in Fig. 1 and said heel strap may have overlapping ends with spaced coacting fastening elements 21 thereon to permit various adjustments whereby said heel strap can be regulated as to size in addition to that obtained by the elastic expansibility thereof.

Projecting from the inner exterior side of the great toe sack 14 is an elastic toe loop 22 adapted to embrace the second toe of the foot to pull it towards the great toe and thereby straighten or return said second toe to normalcy if it has been displaced by the deformity of the great toe. The toe loop is, preferably, attached to the sack, as by stitches 23, Fig. 1, so that if not needed or the user desires to treat the great toe and bunion deformity separately and prior to applying the straightening force to the second toe, said toe loop can be removed and later reattached if necessary.

In some instances it is essential, or even necessary, to apply an extra tension to the great toe and I have found that this may be accomplished by the simple expedient of passing an elastic ribbon 24 part way around the sack 14 adjacent the outer end of the latter, as at 25, and then carrying the ends rearwardly diagonally on the outer side of the exterior of said sack so that said ends cross at 26, with the extremities of said ends attached to the fillet 10 in the region of the metatarsal arch strap 18, preferably underneath of said strap. The intermediate portions of this elastic ribbon 24 are also secured in place to the sack and fillet. The use of the ribbon efficiently extends the "pull" on the great toe far out towards the outer end thereof as will be readily understood.

In the modification illustrated in Figs. 4 and 5, substantially the same elements are present but is shown as an integral unitary article of manufacture produced from suitable elastic material such as rubber, compositions thereof, or some of the well known elastic plastics. This modification includes the fillet 10a having a sack 14a at the forward end and the pad 15a at the rear end. The metatarsal arch strap is joined with the opposite edges of the fillet 10a and the part of said strap at the edge is closer to the sack 14a than is the point of connection of said strap with the bottom edge of said fillet, as indicated at 15a. Also a heel strap 26a projects from the rear end of the fillet 10a similar to the heel strap previously described. When made from any of the suitable elasticomeric substances it is possible to mold all of the parts together in one integral article but, if desired, some parts can be separately formed and then vulcanized together. For example, the pad 15a which addition effect can be produced as a separate element and suitably attached to the fillet.

The appliance is made in right and left types for use on right and left feet, respectively. In actual practice the appliance is placed over the foot until the sack encloses the great toe and the metatarsal arch strap embraces the front portion of the foot just back of the toes, as shown in Fig. 1. The heel strap is then stretched about the heel of the foot which will assist in properly positioning the pad in the region of the sesamoid bone, on any enlargement or bunion. The tension of the arch strap holds the pad snugly in place so that said pad acts as a fulcrum between the sack and heel strap. The tension of said heel strap then produces an action which tends to pull the great toe sidewise and rearwardly relative to the foot, Fig. 6, and at the same time tends to cause the pad to force the enlargement inwardly. These counter strains do have a corrective effect and, through a number of actual tests, it has been found that the foot tare is returned to its usual broad area and the former pains are much relieved and, in some cases, completely subdued. Many former ailments, such as backsaches and leg pains, not thought to be due to foot troubles, also have been relieved and walking is more natural.

While a person is walking there is some massaging action, not rubbing, of the pad on the deformity which gradually causes a reduction thereof so that the foot finally assumes an almost, if not fully, normal shape which gives a natural balance to the entire body. Where the deformity is of rather long standing or duration and the second toe may also be out of alignment the toe loop can be placed over said second toe to pull it into place, as illustrated in Fig. 7.

As soon as the appliance is placed in use, shoes of perfect fit and good style can be immediately used without ill effect and since the device is worn beneath the stocking and usually below the top of even a low shoe it is not generally visible.

Of course I do not wish to be limited to the exact details of construction herein shown and described as these may be varied within the scope of the appended claims without departing from the spirit of my invention.

Having described my invention what I claim as new and useful is:

1. A foot corrective comprising an elastic fillet in the form of a material sheet curved transversely to engage the inner side of a person's foot with opposite edges engaging the adjacent upper and underneath surfaces of the foot, a foraminous sack attached to the forward end of the fillet and adapted to enclose the great toe, a layer of soft compressible material on the contact or inner face of said fillet, a resilient pad on the rear end of the fillet imposed on the material layer, said pad adapted to engage the foot in the region of the sesamoid, an elastic heel strap attached to the rear end of said fillet and adapted to embrace a person's heel, and an elastic metatarsal arch strap attached to said fillet.
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in the region of the pad location and adapted to encircle the metatarsal arch portion of a person’s foot.

2. A foot corrective device comprising a fillet to engage the exterior of the inner side of a person’s foot from the base of the great toe rearwardly along the metatarsal arch, said fillet comprising a sheet of elastic material curved transversely and having a compressible pad on the inside surface thereof, a sack projecting from the forward end of said fillet and adapted to be placed over and envelope a person’s great toe, a resilient ribbon partially encircling the sack adjacent the outer end and the ends of said ribbon projecting rearwardly diagonally along the exterior of the outer side of said sack and crossing one another with the terminal ends engaging the fillet, means on the rear end of the fillet to engage a person’s heel, and means intermediate the ends of said fillet to embrace a person’s foot in the region of the metatarsal arch.

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