This invention relates to improvements in a foot corrective cushion, and more particularly to a cushion designed for the alleviation of pain and discomfort resulting from bunions, tender joints, corns, calluses, and other afflictions or injuries to the foot, as well as other parts of the body, as will be apparent to one skilled in the art.

In the past, many and various types of foot corrective or cushioning pads and appliances have been developed, but difficulty has been experienced in making such devices sufficiently smooth, durable, and of such construction that they might be attached to the body with either side of the device against the skin. Further, difficulty was experienced heretofore in constructing cushion and corrective devices which would retain their shape and resiliency or cushioning effect throughout a long life and regardless of severe wear.

With the foregoing in mind, it is an important object of the instant invention to provide a corrective cushion for application to the foot or other parts of the body, and which is not only comfortable to wear but which may be disposed with either side next the skin of the user in order to enable the device to alleviate an affliction to the optimum extent.

Another object of the invention is the provision of a corrective cushion pad or pad in which the cushioning material is fully enclosed in a smooth cover, which cover is preferably skin-like and which may resemble the human skin in color and texture.

Also an object of the instant invention is the provision of a corrective pad of the character set forth hereinafter in which the cushioning material is provided with a curvate margin by virtue of the joining together of the top and bottom cover members and the cushioning material is maintained in that shape by virtue of the cover members and the junction therebetween.

Another feature of the instant invention resides in the provision of a corrective pad embodying cushioning means having an opening therethrough in an intermediate location, and a pair of thin skin-like cover members secured together inside the opening and around the bounding edge of the pad itself.

Still another object of the instant invention is the provision of a corrective pad containing cushioning material varying in thickness, and enclosed within joined cover sheets.

It is also an object of this invention to provide a corrective pad embodying cushioning material disposed between a pair of thermoplastic cover sheets, with the cover sheets heat sealed together to fully enclose the cushioning material.

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...
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pieces may be assembled by placing a cover film or sheet, 1 in position, feeding a relatively thick layer of cushioning material 2, preferably thermoplastic foam as above described, on the cover sheet. This layer 2 is provided with an opening or aperture 3 therein. Another layer of cushioning material 4 may be disposed on top of the layer 2, and the layer 4 is of less area than the layer 2, but is preferably disposed so as to be in alignment with the bounding edge of the layer 2. The layer 4 may be notched as illustrated at 5 so as not to block the aperture 3 in the layer 2. The smaller layer of cushioning material 4 may be the same substance as the layer 2, or it may be any other suitable substance.

Another cover sheet or film 6 is placed over the assembly, as seen clearly in Figs. 1 and 2, so that all of the cushioning material is disposed between the cover sheets 1 and 6, and these cover sheets are preferably identical in character.

After the parts have been assembled as seen in Fig. 2, the cover sheets 1 and 6 are preferably heat sealed together inside the opening 3 of the cushioning sheet 2, so as to provide, in effect, a web 7 that closes apertures. Preferably, the resultant web 7 is made from both sides toward the center so that the web is located substantially intermediate of the thickness of the cushion layer 2.

Following the formation of the web 7, the cover sheets 1 and 6 may then be heat sealed together around the entire bounding edge of the device to form a heat seal seam 8, whereupon the cushioning material is completely enclosed in a substantially integral envelope made from the cover sheets 1 and 6. The die utilized for the second heat sealing operation may be so shaped that upon the formation of the seam 8 the resultant pad is virtually severed from the stock sheets 1 and 6.

Now it will be particularly noted that in forming the device and heat sealing the cover members 1 and 6 together, the heat seal is made in such a manner that the marginal portions of the cushioning layers at the outer boundary of the device and also around the aperture 3 are curved inwardly toward each other, and the cushioning material is held in that shape by virtue of the tight fit of the cover sheets 1 and 6, and the heat seal seams joining those sheets. This arrangement provides a pad without any abrading edges, whereby the pad will not snag articles of wearing apparel, and whereby there will be no fine pressure points to irritate the user, but pressure from an article of apparel such as a shoe or the like will be gradually and evenly distributed to the healthy tissue around an affliction.

It will also be noted that the pad varies in thickness by virtue of the use of the smaller cushioning layer 4. It should further be noted that where either or both cushioning layers are of thermoplastic foam, the very outer edges of these layers may be caught in the heat seal seams and actually form a part of those seams to more firmly unite the structure. Except for the heat seal seams, not any of the sheets or layers are otherwise secured to each other. Leaving the layers free from each other except at the heat seal seams tends to eliminate any buckling or wrinkling of the pad during use.

Obviously, the pad may be made in numerous sizes, as well as numerous shapes. It is not essential that the pad have the substantially true oval shape seen in Figs. 4 and 5, but it may be in the form of a long oval such as the pad 9 illustrated in Fig. 6, which is a better formation for use with a bunion or the like.

The cushioning device may be attached to the foot or other part of the body by means of an elastic band, or by adhesive strips, or in any other suitable manner. Either face of the pad may contact the skin of the user, since the pad is identical on both sides, and with that arrangement the thick portion of the pad may be disposed in any desired location.

For example, in Fig. 7 I have illustrated an elongated pad 9 attached to a foot 10 by adhesive strips 11. The pad 9 is disposed in position to alleviate discomfort from a bunion, and the thicker end of the pad is preferably placed forwardly so as to abut against the outer margin. Referring again to Fig. 5, it will be seen that one side of the pad changes in thickness more abruptly than the other side, and either side may be placed next to the skin depending upon which is deemed more desirable for a particular affliction.

A pad of the character seen in Figs. 4 and 5 might be disposed on the underside of the foot to alleviate a callus or the like beneath the metatarsal arch, and if so desired with the variation in thickness, that pad might also be disposed in position to aid in supporting the metatarsal arch, substantially as seen in Fig. 7.

In Fig. 8 I have illustrated a smaller sized pad 12 disposed in position to alleviate a hammer toe 13 or similar affliction. In this instance, the thicker end of the pad would preferably be disposed rearwardly and the side of the pad having the more abrupt change in thickness would preferably be disposed downwardly or against the toe. If a medication or the like is indicated by a particular affliction, such substance might be incorporated on the web 7 of the pad on the side thereof adjacent the body and the web would prevent that medication or any exudation from the affliction from soiling the apparel.

From the foregoing it is apparent that this invention provides an extremely durable and effective corrective cushion which will retain its resiliency and cushioning effect throughout a long life, as well as retain its initial shape. It is also to be noted that the pad may be made in various sizes and shapes and may be applied to the body of the user in any one of several different positions as may be indicated by the particular affliction. The device may also be laundered, if desired, at any time. Further, the device always presents a smooth surface without abrupt elevations so that wearing apparel will readily slide thereover. In addition, it may be mentioned that the device may be economically manufactured, and when its long life is considered, very economical to use.

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. A foot corrective pad comprising a plurality of layers of cushioning material of different areas in superposed relationship with the edges of said layers adjacent the boundary of the pad in alignment, and a thin thermoplastic film overlying each face of the superposed layers, said film being heat sealed together around the outer bounding edge of the resultant pad, at least one of said layers being of thermoplastic foam with its outer edge forming a part of the heat seal seam.

2. A foot corrective pad comprising a plurality of normally flat layers of cushioning material of different areas in superposed relationship with the edges of said layers adjacent the boundary of the pad in alignment, and a thin thermoplastic film overlying each face of the superposed layers, said films being heat sealed together around the outer bounding edge of the resultant pad, the outer margins of said layers being held inwardly curve by the heat seal seams uniting said films, and at least one of said layers being of thermoplastic foam with the edge thereof fused in said seam.

3. A foot corrective pad comprising a plurality of normally flat layers of cushioning material of different areas in superposed relationship with the edges of said layers adjacent the boundary of the pad in alignment, and a thin thermoplastic film overlying each face of the superposed layers, said films being heat sealed together in the form of a fine line heat seal seam around the bounding edge of the pad with the outer margins of said layers curving toward said fine line seam and retained so by the seam itself.

4. A foot corrective pad, comprising upper and lower
sheets of thin thermoplastic film, a layer of cushioning material having an aperture therein between said films, another layer of cushioning material of lesser area than the first said layer in superposed relation therewith between said films and to one side of said aperture, and said films being heat sealed together through said aperture and around the bounding edge of the larger layer.

5. A foot corrective pad, comprising upper and lower sheets of thin thermoplastic film, a layer of cushioning material having an aperture therein between said films, another layer of cushioning material of lesser area than the first said layer in superposed relation therewith between said films and to one side of said aperture, and said films being heat sealed together through said aperture and around the bounding edge of the larger layer, said smaller layer being aligned with the outer edge portion of the first said layer and notched on its inner edge to leave said aperture free.

6. A foot corrective pad, comprising upper and lower sheets of thin thermoplastic film, a layer of cushioning material having an aperture therein between said films, another layer of cushioning material of lesser area than the first said layer in superposed relation therewith between said films and to one side of said aperture, and said films being heat sealed together through said aperture and around the bounding edge of the larger layer, and the edges of said layers being rounded and retained in such shape by said films and the heat seal seams.

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