In alternative constructions of footplates used in the embodiments discussed above, a combination of materials may be used, such as layers of polymers and carbon fiber composites.

The numerous advantages, features and functions of the various prosthetic feet will become readily apparent and better understood in view of the following description, appended claims, and accompanying drawings. The following description is not intended to limit the scope of the prosthetic feet, but instead merely provides exemplary embodiments for ease of understanding.

21

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a cross-sectional view of an embodiment of a prosthetic foot.

FIG. **2** is a cross-sectional view of another embodiment of a prosthetic foot.

FIG. **3** is a cross-sectional view of still another embodiment of a prosthetic foot.

FIG. **4** is a cross-sectional view of yet another embodiment of a prosthetic foot.

In the various figures, similar elements are provided with similar reference numbers. It should be noted that the drawing figures are not necessarily drawn to scale, but instead are drawn to provide a better understanding of the components thereof.

22

DETAILED DESCRIPTION OF VARIOUS EMBODIMENTS

A. Environment and Context of the Various Embodiments

The prosthetic feet in accordance with this disclosure are designed for implementation in connection with typical artificial limb hardware including prosthetic sockets, prosthetic

It is during the stance phase that the mechanics of a prosthetic foot come into play. Any suitable prosthetic foot must be able to provide some cushioning during heel-strike, and some energy storage at least during mid-stance, terminal stance, and toe-off. In addition, a prosthetic foot must provide stability during mid-stance and terminal stance, at which time the entire weight of a user is transmitted through the prosthetic foot to a supporting surface.

Conventional prosthetic feet perform all of these functions, but with the tradeoff of expensive and complex designs. The embodiments of the prosthetic feet of this disclosure provide all of the basic attributes required of a prosthetic foot in an economical, light-weight design that may be economically manufactured.

2. Definitions

For further ease of understanding the prosthetic feet as disclosed herein, a description of a few terms is necessary. As used herein, the term "proximal" has its ordinary meaning and refers to a location that is closer to the heart than another location. Likewise, the term "distal" has its ordinary meaning and refers to a location that is further from the heart than another location. The term "posterior" also has its ordinary meaning and refers to a location that is behind or to the rear of another location. Lastly, the term "anterior" has its ordinary meaning and refers to a location that is ahead of or to the front of another location.

B. Detailed Description of a First Embodiment

A first embodiment of a prosthetic foot **100** is shown in FIG. **1**. The prosthetic foot **100** is constructed around a resilient footplate **120**. The footplate **120** is appropriately shaped and configured to provide load bearing support and prosthetic foot characteristics permitting smooth ambulation.

Thus, the footplate **120** may be substantially planar, or may include one or more slight or gradual curves. The footplate **120** may include at least one recessed portion or cut out (not

23a

ments to other alternative embodiments and/or uses of the invention and obvious modifications and equivalents thereof. Thus, it is intended that the scope of the present invention herein disclosed should not be limited by the particular disclosed embodiments described above, but should be determined only by a fair reading of the claims below.

The invention claimed is:

23

1. A prosthetic foot comprising:

a first foam element having a first stiffness;

a second foam element having a second stiffness different than the first stiffness of the first foam element;

a resilient footplate embedded within the first and second foam elements, and having proximal and distal surfaces, and anterior and posterior portions;

wherein the first foam element is disposed along the proximal surface of the footplate and the second foam element is disposed along substantially the entire distal surface of the footplate;

a third foam element having a third stiffness that is greater than the first and second stiffnesses of the first and second foam elements, respectively, the third foam element extending into the second foam element spaced from the distal surface of the footplate; and

an outer shell defining a cosmesis surrounding the first and second foam elements wherein the third foam element extends through a distal posterior surface of the cosmesis into a distal posterior portion of the second foam element.

2. The prosthetic foot according to claim **1**, wherein the third foam element has proximal and distal surfaces, and is in the shape of a trapezoid with the distal surface larger than the proximal surface.

3. The prosthetic foot according to claim **1**, wherein the second stiffness of the second foam element is greater than the first stiffness of the first foam element.

4. The prosthetic foot according to claim **1**, wherein the second stiffness of the second foam element is less than the first stiffness of the first foam element.

5. The prosthetic foot according to claim **1**, wherein the stiffness of the cosmesis is within the range of 45-55 on the Shore A scale.

6. The prosthetic foot according to claim **1**, wherein the stiffness of the first foam element is within the range of 45-55 on the Shore A scale.

7. The prosthetic foot according to claim **1**, wherein the stiffness of the second foam element is about 60 on the Shore A scale.

8. The prosthetic foot according to claim **1**, wherein the footplate is a carbon or carbon fiber composite footplate.

9. The prosthetic foot according to claim **1**, wherein the footplate is a plastic or fiber reinforced plastic footplate.

10. The prosthetic foot according to claim **1**, wherein the footplate is a molded chopped fiber footplate.

23b

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