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(54) **SHOE MAT DEVICE**

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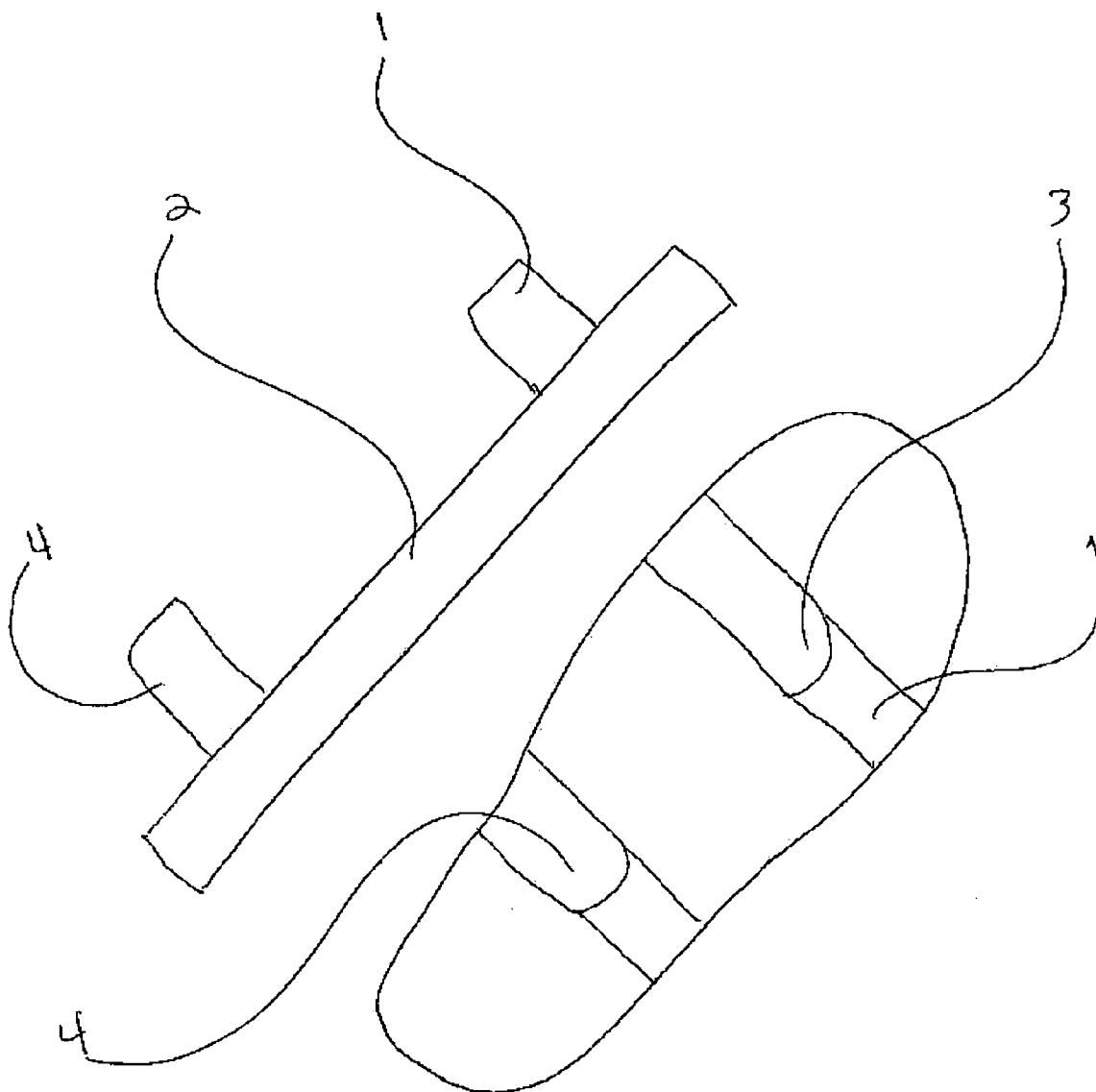
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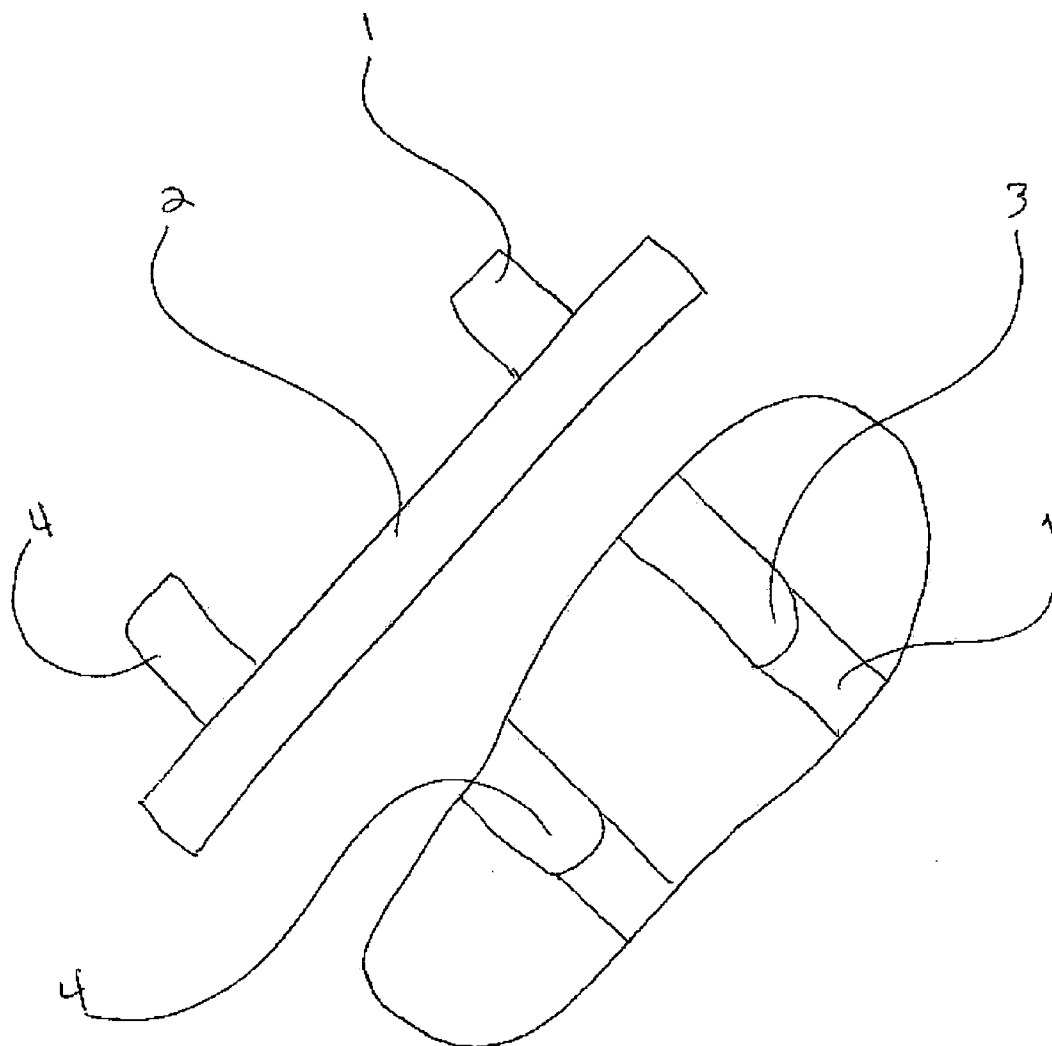
(57) **ABSTRACT**

A sole supporting and cushioning member for footwear cushioning the foot/leg muscles in the form of a removable shock absorber that is adapted to afford an elastic or cushioned bearing for the wearer's feet which comprises a pliable elastomeric material to resiliently flex with the movement of the sole of any shoe.

(21) Appl. No.: **11/292,963**

(22) Filed: **Dec. 1, 2005**





**SHOE MAT DEVICE****CROSS-REFERENCE TO RELATED APPLICATION**

[0001] N/A

**STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT**

[0002] Not applicable

**REFERENCE TO SEQUENCE LISTING**

[0003] Not applicable

**FIELD OF THE INVENTION**

[0004] This invention relates to A sole supporting cushion for footwear controlling the movement of foot/leg muscles in the form of a removable, shock absorber that is adapted to secure to the sole of a shoe.

**BACKGROUND OF THE INVENTION**

[0005] This invention relates to footwear and more particularly to sole cushioning which deform temporarily when the weight of the human is transferred from the heel to the outside of the foot and then to the ball of the foot and acts as a shock absorber and torque controller to aid in the prevention of ankle, knee, leg and soreness during various physical activities.

[0006] Each foot contains, besides the bone structure, 19 muscles plus the tendons of 12 more muscles situated in the leg, more than a hundred ligaments, tough connective and protective layers of fascia and toe nails. It also contains yards of blood vessels and intricate networks of nerves.

[0007] A foot in action goes through three forward motions namely heel impact, a transitional horizontal balance phase, and the thrust of the toes, to move the individual into a repetition by the opposite foot of the exhilarating rhythm that comprises walking.

[0008] Standing and walking intensifies the shock pressure and/or stress on the feet and particularly the sole since it is the sole that supports the weight of the body during about forty percent of the motion of the leg during walking, running and exercising activities. Thus, a new sole shock absorber is needed to reduce the harmful effects of leg movement which transmits stress and bio-mechanical twisting to the foot, leg and the back muscles.

**DESCRIPTION OF THE PRIOR ART**

[0009] U.S. Pat. No. 545,705 discloses a cushioned sole for footwear which utilizes a pneumatic tubing coiled and secured beneath a foot bearing layer of leather.

[0010] U.S. Pat. No. 1,540,430 discloses a ventilated insole for footwear comprising a multiplicity of perforations in the forward half only of the insole.

[0011] U.S. Pat. No. 2,100,492 discloses an outer sole for a shoe comprising a plurality of lengths of hollow rubber tubing disposed in longitudinal continuous direct contact with each other.

[0012] U.S. Pat. No. 3,552,044 discloses a pad filled with elastomeric pellets or particles which will conform to irregularly shaped feet.

[0013] U.S. Pat. No. 3,589,037 discloses a removable foot supporting and cushioning liner for footwear constructed from a pair of laminated gas impervious sheets of thin, lightweight, plastic material having a multiplicity of separate gas filled pockets distributed over the supporting surface of the member.

[0014] Applicant has filed a copending U.S. patent application Ser. No. 944,264, filed Sep. 21, 1978 and entitled HEEL SHOCK ABSORBER FOR FOOTWEAR directed to cushioned heel support.

**SUMMARY OF THE INVENTION**

[0015] This invention is directed to an exterior cushion for any shoe which may be formed of cushion materials such as polyester fibers or rubber. The device is developed to resiliently flex under weight transfer to and from the sole of the foot and twisting movement of the sole of the user so as to provide foot and leg muscle comfort and protection particularly during physical activity such as walking, running, jogging or the like.

[0016] It is, therefore, one object of this invention to provide a new and improved sole shock absorber and cushion for the sole of footwear.

[0017] Another object of this invention is to provide new shoe sole cushion of various footwear employing a flexible, resilient means embodied in the surface of the cushion for providing foot and leg muscle comfort and protection during physical activities.

[0018] A further object of this invention is to provide a new and improved sole cushion for footwear embodying elastomeric materials or other fluid substances in a cushion form inlaid in the sole engaging surface of the sole for not only absorbing the force of the weight transferred to and from the sole but also controlling injuries.

[0019] A still further object of this invention is to provide a new and improved conveniently removable cushion sole which may be selectively positioned in footwear and held therein by a strap or elastic means.

[0020] The device is comprised of some suitable base material such as rubber, foam, plastic or cork and placed over the sole of a shoe for providing shock absorption twist controlling movement of the foot and leg muscles and which is sanitary, lightweight and inexpensive when mass produced.

[0021] Further objects and advantages of the invention will become apparent as the following description proceeds and the features of novelty which characterize the invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

[0022] There has thus been outlined, rather broadly, the more important features of the invention in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the invention that will be described hereinafter and which will form the subject matter of the claims appended hereto.

[0023] In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

[0024] As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be utilized as a basis for the designing of other structures, methods and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.

[0025] Further, the purpose of the foregoing abstract is to enable the U.S. Patent and Trademark Office and the public generally, and especially the scientists, engineers and practitioners in the art who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection the nature and essence of the technical disclosure of the application. The abstract is neither intended to define the invention of the application, which is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

[0026] It is therefore an object of the present invention to provide shoe mat device which has many of the advantages of the closures mentioned heretofore and many novel features that result in shoe mat device which is not anticipated, rendered obvious, suggested, or even implied by any of the prior art tool guides, either alone or in any combination thereof.

[0027] It is another object of the present invention to provide a shoe mat device which may be easily and efficiently manufactured and marketed.

[0028] It is a further object of the present invention to provide a shoe mat device which is of a durable and reliable construction.

[0029] An even further object of the present invention is to provide a shoe mat device which is susceptible of a low cost

of manufacture with regard to both materials and labor, and which accordingly is then susceptible of low prices of sale to the consuming public, thereby making such shoe mat device economically available to the buying public.

[0030] Still yet another object of the present invention is to provide a shoe mat device which provides in the apparatuses and methods of the prior art some of the advantages thereof, while simultaneously overcoming some of the disadvantages normally associated therewith.

[0031] These together with other objects of the invention, along with the various features of novelty which characterize the invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and the specific objects attained by its uses, reference should be had to the accompanying drawings and descriptive matter in which there are illustrated preferred embodiments of the invention.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0032] FIG. 1 The shoe mat base 2 is placed under any shoe, while being worn, and secured in the front of the shoe by the front strap 1 and secured to the shoe in the rear by the rear strap 4. The straps are secured over the shoe by the hook and loop closures 3. Once in place, the device can be worn under any shoe to increase comfort, cushion and relaxation during standing or walking.

We claim:

1. A shoe mat device manufactured from a soft flexible material to be temporarily attached to the bottom of any shoe with adjustable straps and hook and loop closures.

2. A shoe mat device according to claim 1 wherein the device is constructed of the same material throughout.

3. A shoe mat device according to claim 1 wherein the device embodies a textured design bottom for anti-slip prevention.

4. A shoe mat device according to claim 1 wherein the device embodies a front and rear strap for attaching over any shoe.

5. A shoe mat device according to claim 1 wherein the device is manufactured with anti-slip design on the top to prevent the shoe from moving.

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