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(54) **LEG LENGTH DISCREPANCY CORRECTIVE SOCK**

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(57) **ABSTRACT**

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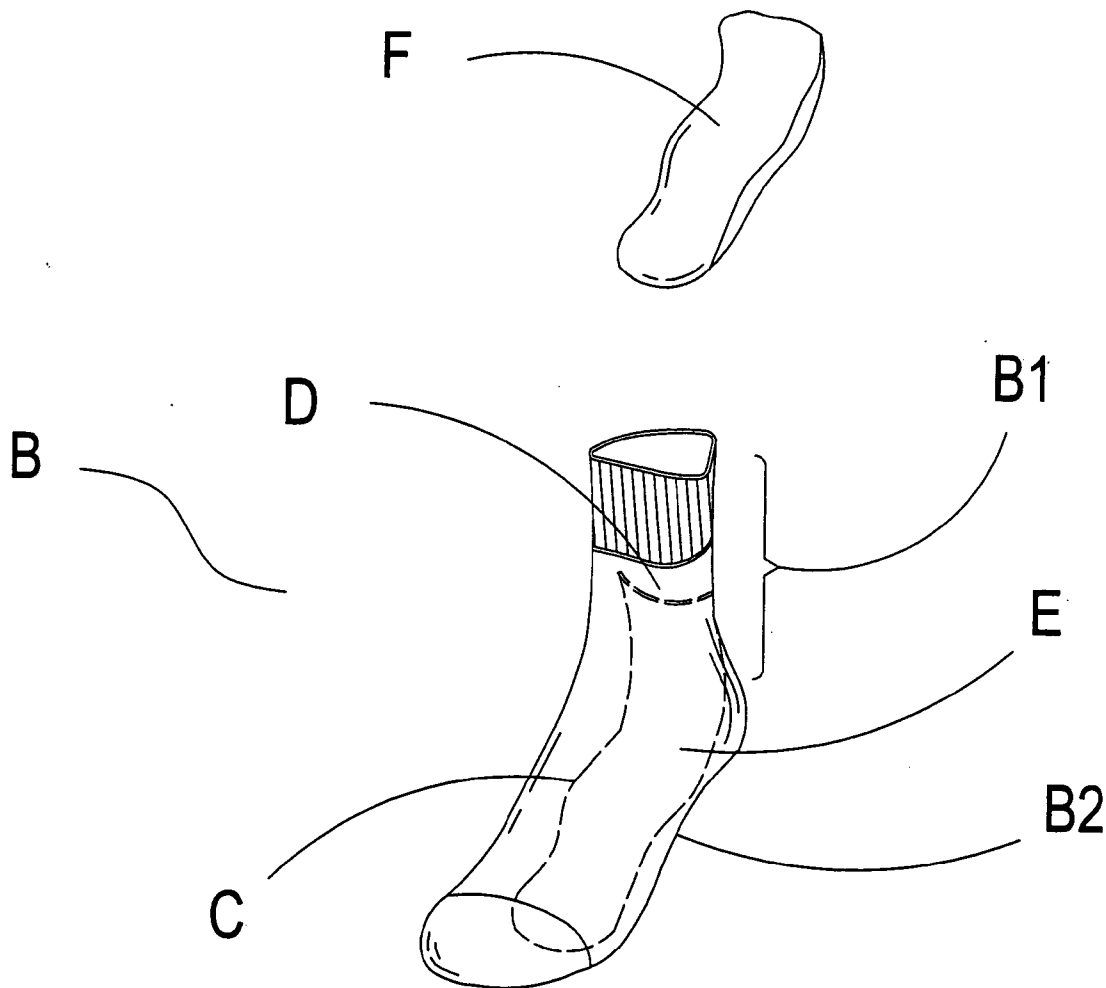
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The present invention provides a leg length discrepancy corrective sock, which has an elastic strip attached within a sock. A holding space formed between a sock body and a sock sole of the sock and the elastic strip provides for disposing a filler therein, and height of the filler achieves the objective of correcting the difference in length of the lower limbs of the leg length discrepancy sufferer. Hence, equalizing the difference in length of the lower limbs is easily achieved by wearing the leg length discrepancy corrective sock of appropriate thickness.



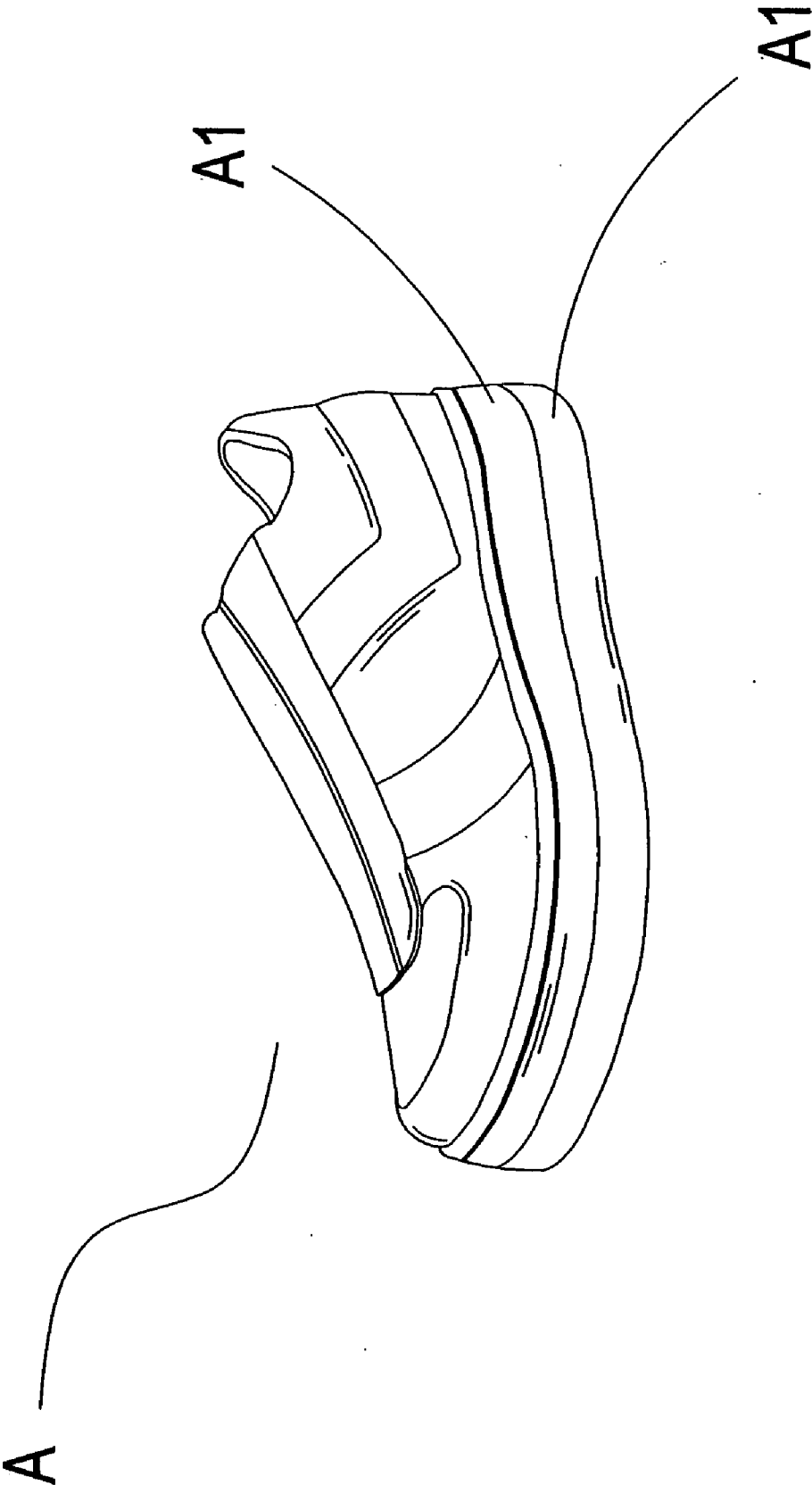


FIG.1
Prior Art

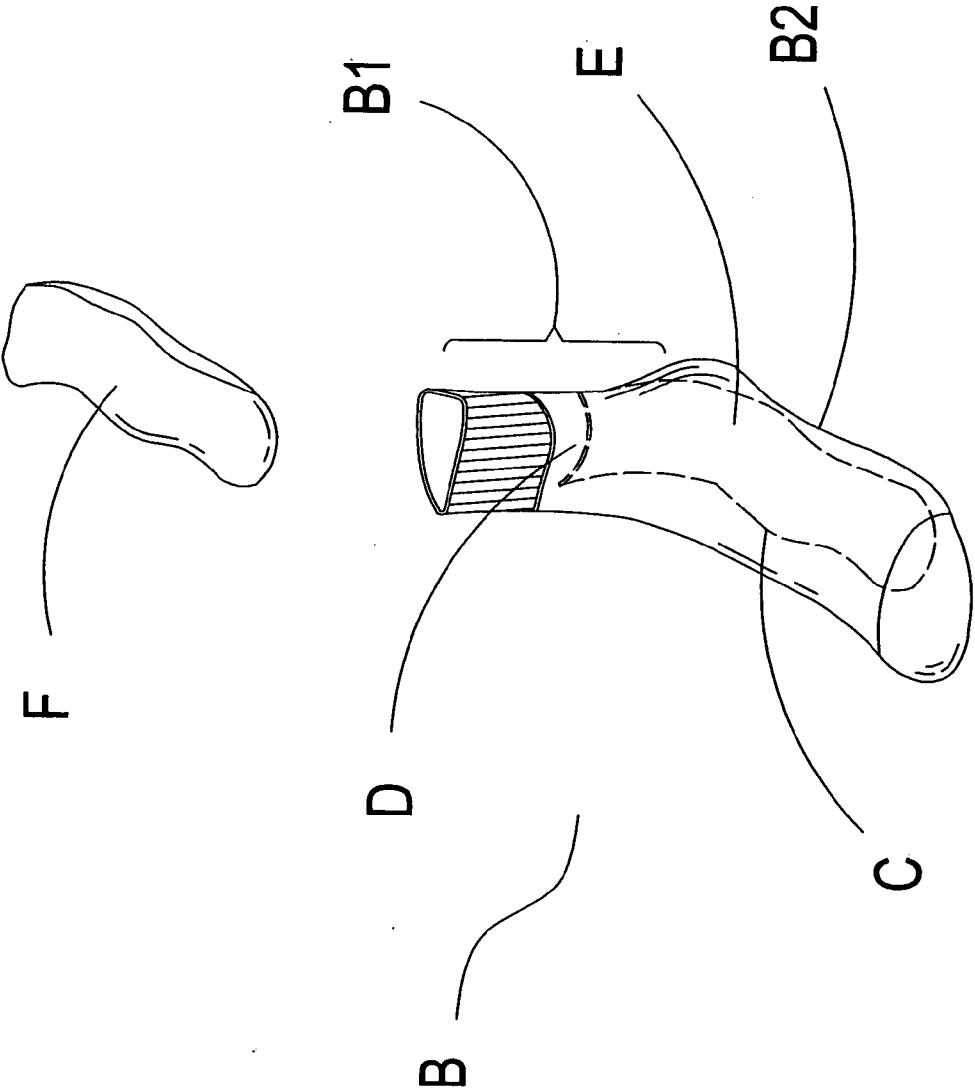


FIG.2

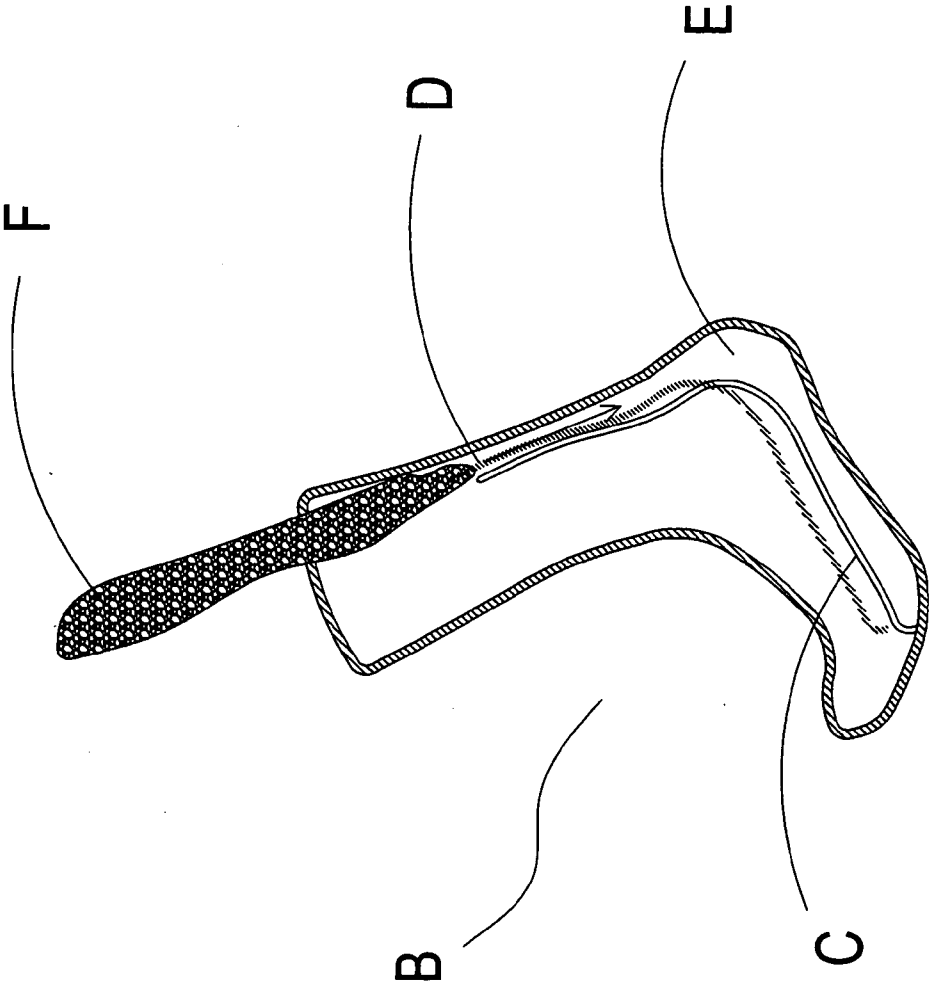


FIG.3

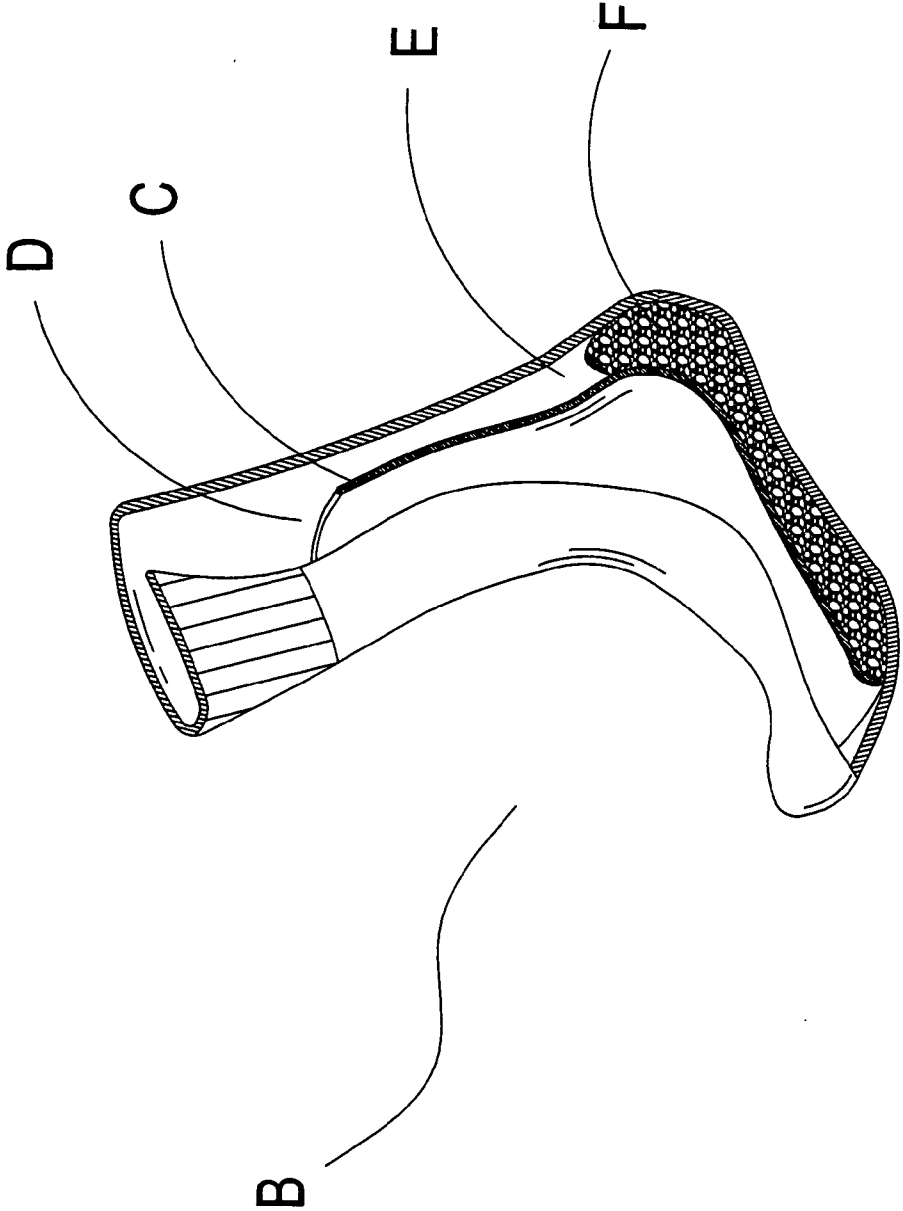


FIG.4

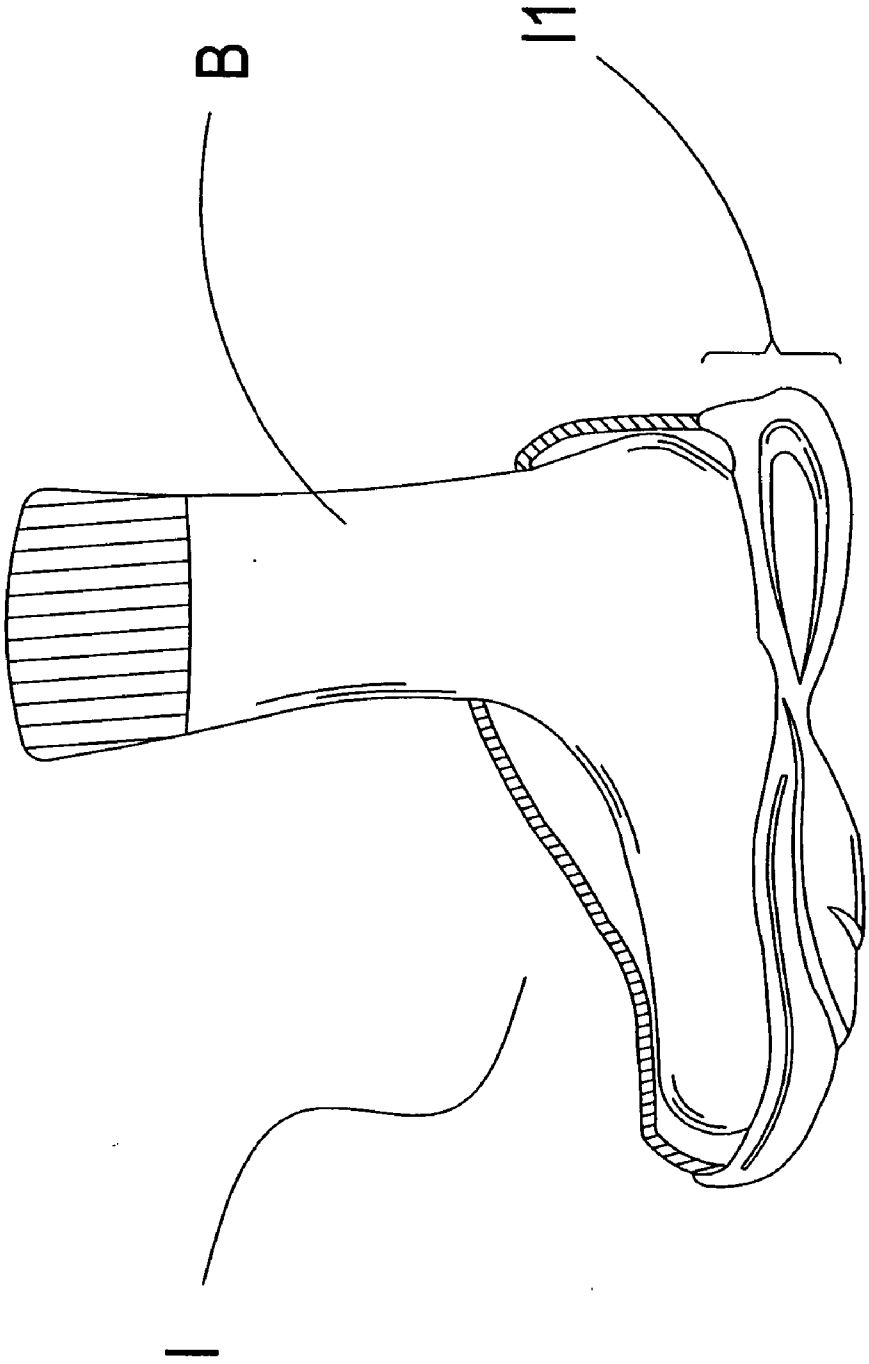


FIG. 5

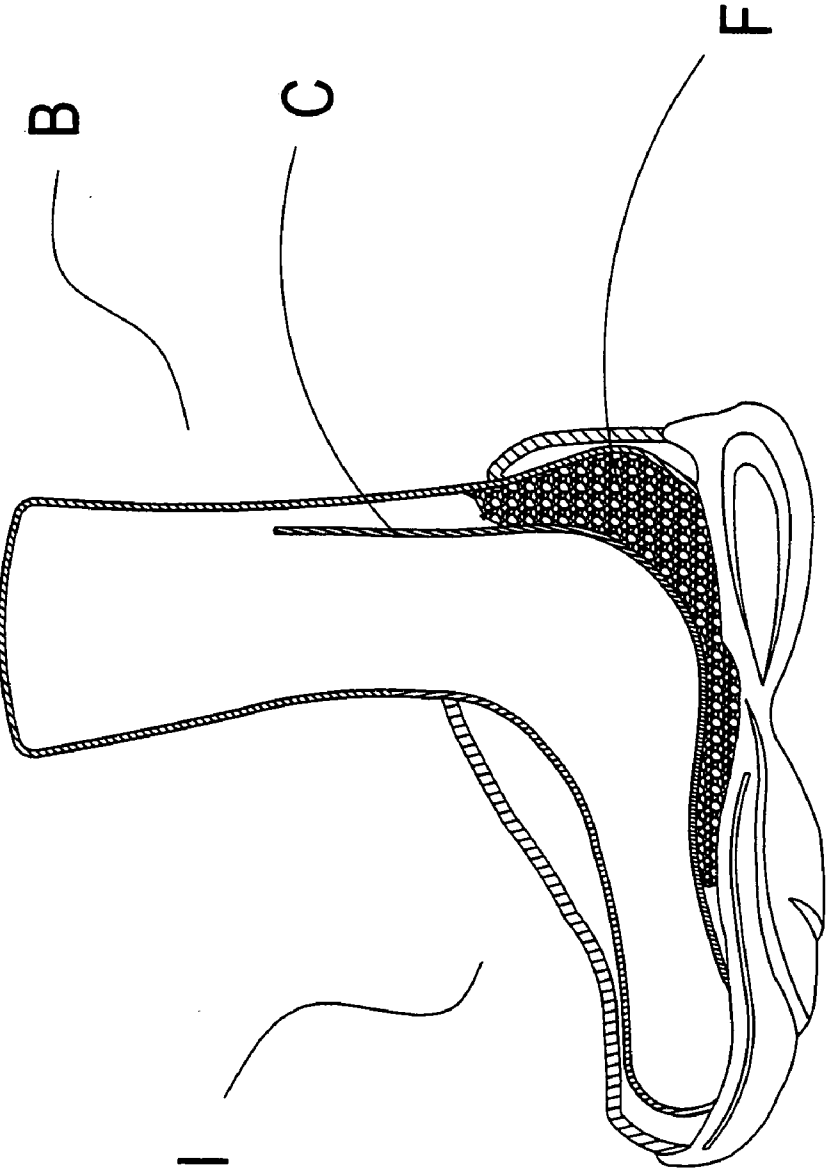
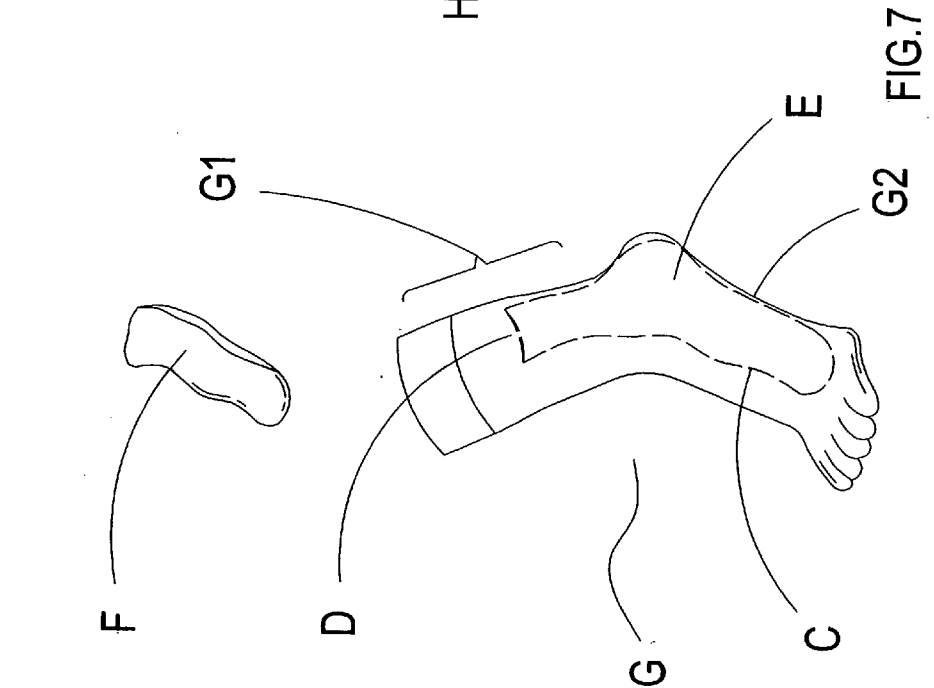
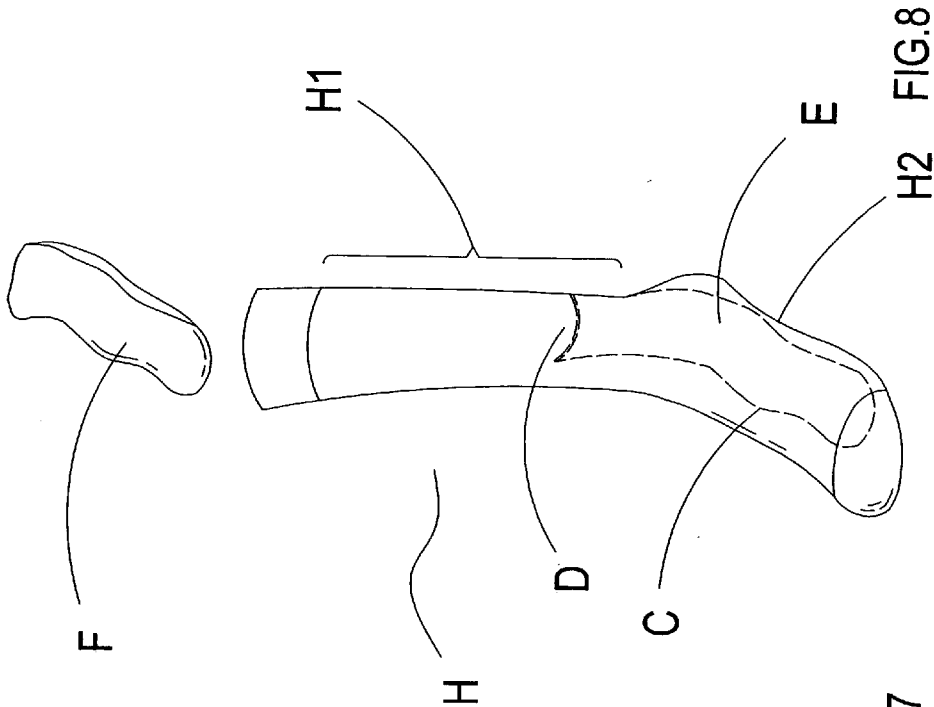


FIG.6



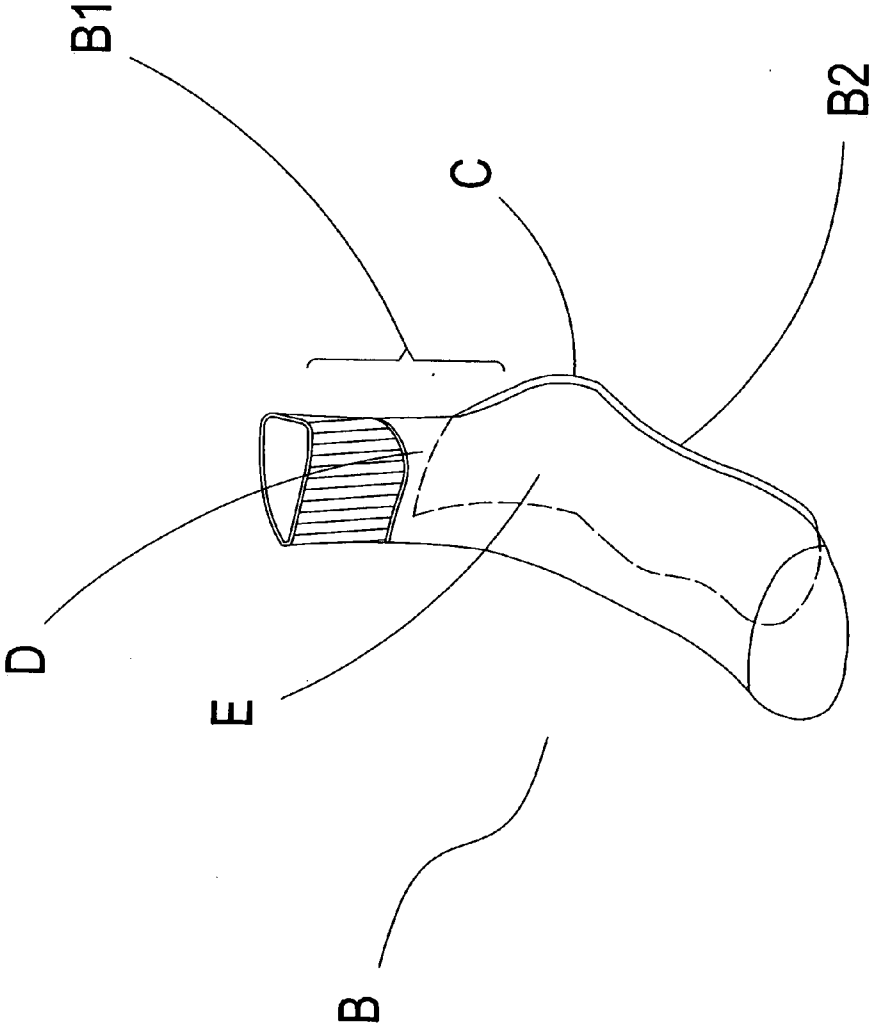


FIG.9

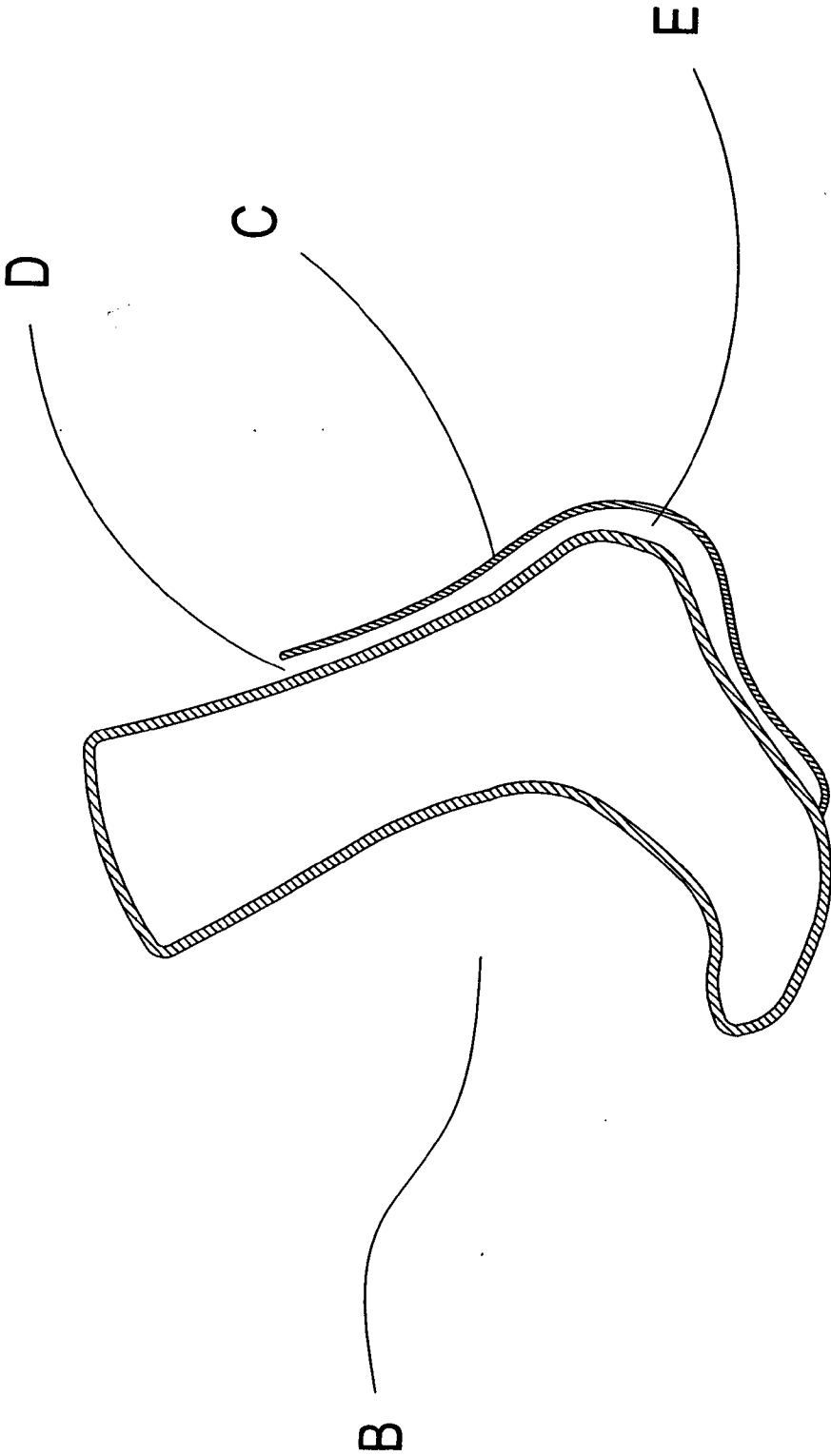


FIG.10

LEG LENGTH DISCREPANCY CORRECTIVE SOCK

BACKGROUND OF THE INVENTION

[0001] (a) Field of the Invention

[0002] The present invention relates to a leg length discrepancy corrective sock, which has an elastic strip attached to a sock body and a sock sole of a sock, thereby forming an opening on the sock body. A filler is inserted into the opening and disposed within a holding space, thereby elevating the elastic strip above the sock sole to accord with the difference in length of the lower limbs of the leg length discrepancy sufferer, which thus achieves objective of correcting the leg length discrepancy.

[0003] The filler is made from soft material, and when a leg length discrepancy sufferer is wearing the corrective sock of the present invention, apart from sharing the pressure burden on the foot resulting from the discrepancy in length of the two legs, the filler further alleviates pressure endured by the spine, thereby improving the degree of comfort when wearing the corrective sock, as well as equalizing the difference in length of the lower limbs.

[0004] (b) Description of the Prior Art

[0005] Current feet ailments, such as flat feet, deformed feet and unequal length of the two legs (commonly called leg length discrepancy), are especially prevalent in developing children and youngsters

[0006] The high percentage of children and youngsters in Taiwan suffering from lateral spinal curvature can be mainly attributed to leg length discrepancy, which not only seriously affects the lifestyle of the sufferers, but also means those seriously affected undergoing a surgical operation to remedy their ailment. In 1981, a medical journal reported that if the difference in length between the two legs of the leg length discrepancy sufferer is greater than 9 mm, then the sufferer is more likely to suffer from lumbago and lower back pains when compared to a non-sufferer. Moreover, if the sufferer normally stands or walks for long periods of time in their daily work, for instance, teachers, attendants, salespeople, police, nurses, sportspeople, and so on, and if the difference in length between their two legs is 3-5 mm, then the person is even more likely to suffer from lumbago and lower back pains when compared to non-sufferers of leg length discrepancy.

[0007] When symptoms of leg length discrepancy are slight, the first course of treatment is for the sufferer to wear a shoe with an insole or a high sole shoe to improve the symptoms. Referring to **FIG. 1**, which shows a shoe A structured to include two layers of soles A1. When a leg length discrepancy sufferer wears the shoe A on the foot of his shorter leg, the difference in length of the lower limbs is thus equalized. Moreover, the number of layers of soles A1 can be increased or decreased according to discrepancy in length of the two legs. However, because of the uneven weight of the shoes on the two feet, a child or youngster wearing the shoe A having a number of layers of soles A1 very easily stumbles or results in an unsteady center of gravity when walking. Furthermore, height adjustment of the sole A1 is difficult, and different discrepancies in length between the two legs and change in length of the legs during

a rehabilitation process results in inability to accurately match the sole A1 appropriate to the length discrepancy.

[0008] Furthermore, because the length of time the leg length discrepancy sufferer wears a shoe having an added insole or a high sole shoe everyday is limited, thus, effectiveness of correcting leg length discrepancy is correspondingly limited. Moreover, when the leg-discrepancy sufferer has occasion to take off his shoes, apart from the embarrassment of a limp resulting from his leg length discrepancy and the unusual expression in the eyes of other persons or their abnormal concern distressing the sufferer, moreover, he incurs heartless secondary harm both psychologically and to his self-esteem.

[0009] Hence, the inventor of the present invention proposes to resolve and surmount existent technical difficulties to eliminate the aforementioned shortcomings by providing a leg length discrepancy corrective sock that is able to conceal the embarrassment of a limp, does not limit the length of time and occasion where the sock can be worn and equalizes the difference in length of the lower limbs.

SUMMARY OF THE INVENTION

[0010] Referring to **FIGS. 2 and 3**, which show a leg length discrepancy corrective sock of the present invention structured to comprise a sock, an elastic strip and a filler.

[0011] The sock comprises a sock body and a sock sole;

[0012] The present invention is characterized in that the elastic strip having good soft and elastic properties is attached to the sock body and the sock sole within the sock, thereby forming a holding space having an opening. The filler is inserted into the opening and disposed within the holding space, thereby elevating the elastic strip above the sock sole to accord with the difference in length of the lower limbs of the leg length discrepancy sufferer, which thus achieves objective of correcting the leg length discrepancy.

[0013] The filler is made from soft material, and when a leg length discrepancy sufferer is wearing the sock of the present invention, apart from sharing the pressure burden on the foot resulting from the discrepancy in length of the two legs, the filler is also able to alleviate pressure endured by the spine, thereby improving the degree of comfort when wearing the sock. Furthermore, an interior of the filler holds air, liquid or related filler fluids, and the filler can be fitted as a fixed volume with an adjustable inner filler material that transforms the volume.

[0014] An attachment method used to attach the elastic strip between the sock body and the sock sole is by stitching, gluing or associated art related to mutual joining together of materials.

[0015] The elastic strip can be fabricated from elastic nylon fabric, cotton woven fabric, knitted fabric, sponge, rubber or related elastic materials.

[0016] The sock can be formed as a recreational sock, five-toed sock, panty hose, a bubble sock, a sports sock, a long sock, a short sock, a silk sock or any other related sock worn on the foot.

[0017] To enable a further understanding of said objectives and the technological methods of the invention herein,

brief description of the drawings is provided below followed by detailed description of the preferred embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

- [0018] FIG. 1 shows an elevational view of a conventional leg length discrepancy corrective shoe.
- [0019] FIG. 2 shows an elevational view according to the present invention.
- [0020] FIG. 3 shows a cutaway elevational view according to the present invention.
- [0021] FIG. 4 shows a first view of an embodiment according to the present invention.
- [0022] FIG. 5 shows a second view of the embodiment according to the present invention.
- [0023] FIG. 6 shows a third view of the embodiment according to the present invention.
- [0024] FIG. 7 shows elevational views of further embodiments according to the present invention.
- [0025] FIG. 8 shows elevational views of further embodiments according to the present invention.
- [0026] FIG. 9 shows an elevational view of a holding space of another embodiment according to the present invention.
- [0027] FIG. 10 shows a side view of the holding space of the other embodiment according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

- [0028] Referring to FIGS. 4, 5 and 6, which show an embodiment of a leg length discrepancy corrective sock of the present invention, wherein a filler F is disposed within a holding space E of a sock B, thereby elevating an elastic strip C above a sock sole B2. When a user is wearing the sock B inside a shoe 1, an opening D of a sock body B1 is at a position higher than that of a shoe upper I1, thus, the filler F is able to cling to the sock sole B2 and the shoe 1 when the user is walking.
- [0029] Referring to FIGS. 7 and 8, which shows the elastic strip C having good soft and elastic properties attached to sock bodies G1, H1 and sock soles G2, H2 of a short sock G and a long sock H respectively and disposed therein, thereby forming the holding spaces E having the opening D in each of the respective socks G, H. The filler F is inserted into the opening D and disposed within the holding space E, thereby elevating the elastic strip C above each of the sock soles G2, H2 to accord with the difference in length of the lower limbs of the leg length discrepancy sufferer, which thus achieves objective of correcting the leg length discrepancy.
- [0030] Referring to FIGS. 9 and 10, which show the elastic strip C having good soft and elastic properties attached to an external portion of the sock body B1 and the sock sole B2 of the sock B, thereby forming the holding space E having the opening D. The filler F is inserted into the opening D and disposed within the holding space E, thereby elevating the elastic strip C above the sock sole B2 to accord with the difference in length of the lower limbs of the leg

length discrepancy sufferer, which thus achieves the objective of equalizing the length of the lower limbs.

- [0031] In order to better explicitly disclose practicability and advancement of the present invention, a comparison with conventional art is described hereinafter:
- [0032] Shortcomings of Conventional Art:
- [0033] 1. Multiple layers of soles are used to correct the leg length discrepancy.
- [0034] 2. An unsteady center of gravity easily results when walking as a consequence of shortcoming 1.
- [0035] 3. Accidental stumbling easily results as a consequence of shortcoming 1.
- [0036] 4. Adjusting height of the shoe to correct length discrepancy in the lower limbs is difficult as a consequence of shortcoming 1.
- [0037] 5. Pressure endured on the foot is relatively large as a consequence of shortcoming 1.
- [0038] 6. The corrective shoe must be specially designed, prohibiting the leg length discrepancy sufferer from wearing a conventional shoe.
- [0039] 7. Because the leg length discrepancy sufferer is confined by the need to wear the corrective shoe, thus the sufferer is unable to conceal the embarrassment of a limp when he takes his shoes off.
- [0040] 8. Because the leg length discrepancy sufferer is confined by the need to wear the corrective shoe, thus, the period of time the shoe is worn each day is limited.
- [0041] 9. Because the leg length discrepancy sufferer is confined by the need to wear the shoe, thus, occasions where the shoe can be worn is limited.
- [0042] Advantages of the leg length discrepancy corrective sock of the present invention:
- [0043] 1. The corrective sock is freely adaptable to complement conventional shoes.
- [0044] 2. Because the leg length discrepancy sufferer is not confined by the need to wear shoes, thus, there is no limitation on the length of time the corrective sock can be worn.
- [0045] 3. Because the leg length discrepancy sufferer is not confined by the need to wear shoes, thus, there is no limitation on the occasions where the corrective sock can be worn.
- [0046] 4. When entering a place requiring the shoes to be taken off, the leg length discrepancy sufferer is not embarrassed by a limp, and thus does not attract sidelong glances from other people, and thus increases self-esteem of the sufferer.
- [0047] 5. Balance in the leg length discrepancy and spine is achieved whenever and wherever the sufferer wears the corrective sock, moreover, method of adjustment is quick.
- [0048] 6. The filler is made from soft material, and thus reduces pressure on the foot.
- [0049] 7. Following on from advantage 3, the corrective sock helps to improve spinal comfort.

[0050] 8. The corrective sock can be quickly and conveniently cleaned and replaced, moreover, the corrective sock is easy to use.

[0051] 9. Provided with practicability and advancement.

[0052] 10. Increases industrial competitiveness.

[0053] In conclusion, the present invention in surmounting structural shortcomings of prior art has assuredly achieved effectiveness of anticipated advancement, and, moreover, is easily understood by persons unfamiliar with related art. Furthermore, contents of the present invention have not been publicly disclosed prior to this application, and practicability and advancement of the present invention clearly comply with essential elements as required for a new patent application. Accordingly, a new patent application is proposed herein.

[0054] It is of course to be understood that the embodiments described herein are merely illustrative of the principles of the invention and that a wide variety of modifications thereto may be effected by persons skilled in the art without departing from the spirit and scope of the invention as set forth in the following claims.

What is claimed is:

1. A leg length discrepancy corrective sock comprising a sock, an elastic strip and a filler;

wherein the sock comprises a sock body and a sock sole;

and characterized in that the elastic strip having good soft and elastic properties is attached to the sock body and

the sock sole within the sock, thereby forming a holding space having an opening; the filler is inserted into the opening and disposed within the holding space, thereby elevating the elastic strip above the sock sole to accord with the difference in length of the lower limbs of the leg length discrepancy sufferer, achieving a corrective effect that equalizes the difference in length of the lower limbs.

2. A leg length discrepancy corrective sock as described in claim 1, wherein the filler is soft material, and the soft filler holds air, liquid or related filler fluids; the filler is further fitted as a fixed volume with an adjustable inner filler material that transforms the volume.

3. A leg length discrepancy corrective sock as described in claim 1, wherein the attachment method used to attach the elastic strip between the sock body and the sock sole is by stitching, gluing or associated art related to mutual joining together of materials.

4. A leg length discrepancy corrective sock as described in claim 1, wherein the elastic strip is further fabricated from elastic nylon fabric, cotton woven fabric, knitted fabric, sponge, rubber and related elastic materials.

5. A leg length discrepancy corrective sock as described in claim 1, wherein the sock is further formed as a recreational sock, five-toed sock, panty hose, a bubble sock, a sports sock, a long sock, a short sock, a silk sock, an ankle sock or any other related sock worn on the foot.

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