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(54) **ADJUSTABLE, SQUARE-TOED SHOE WITH SYMMETRICAL SOLE**

(52) **U.S. Cl.**

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(57)

ABSTRACT

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A post-surgical shoe has a symmetrical sole and an upper stitched to the symmetrical sole. The upper has a first side with a first flap and a second side with a second flap. The first flap overlaps the second flap. A strap with a first end fixed to the first flap has a second end that passes through a loop on the second side of the upper. The symmetrical sole has an insole and an outsole. The outsole includes integrally molded, chevron-shaped projections on its longitudinal sides. The chevron shaped projections form a channel across a base of the outsole. The strap has a hook fastener and a loop fastener spaced apart along one surface that mate when the second end is drawn from the loop across to the first side of the upper. The shoe is stable and comfortable and may be tightened.

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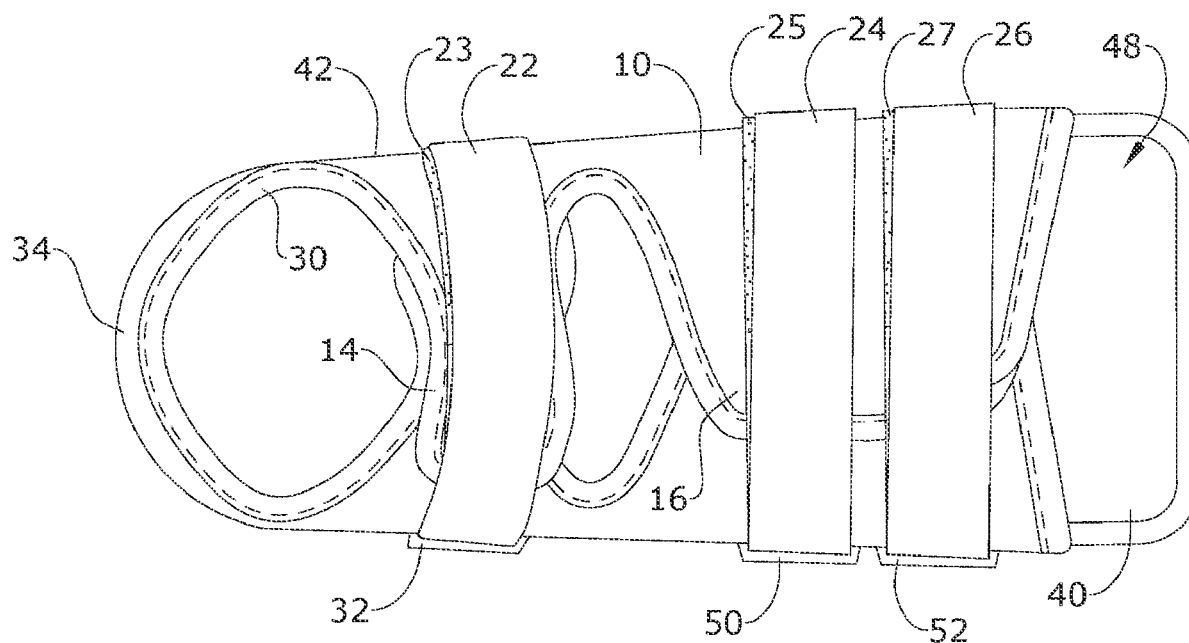
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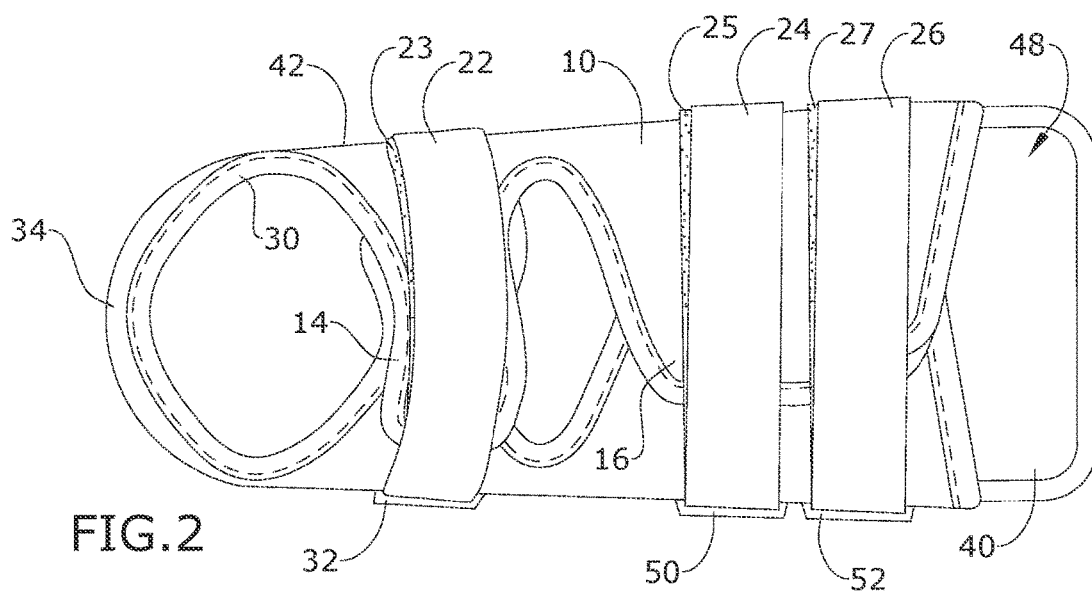
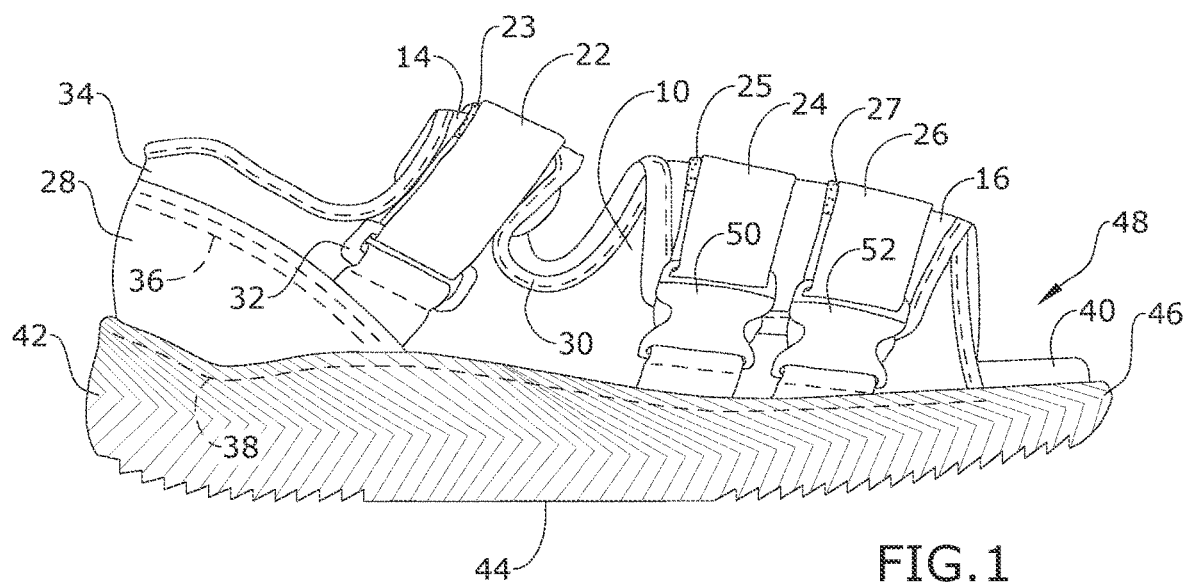
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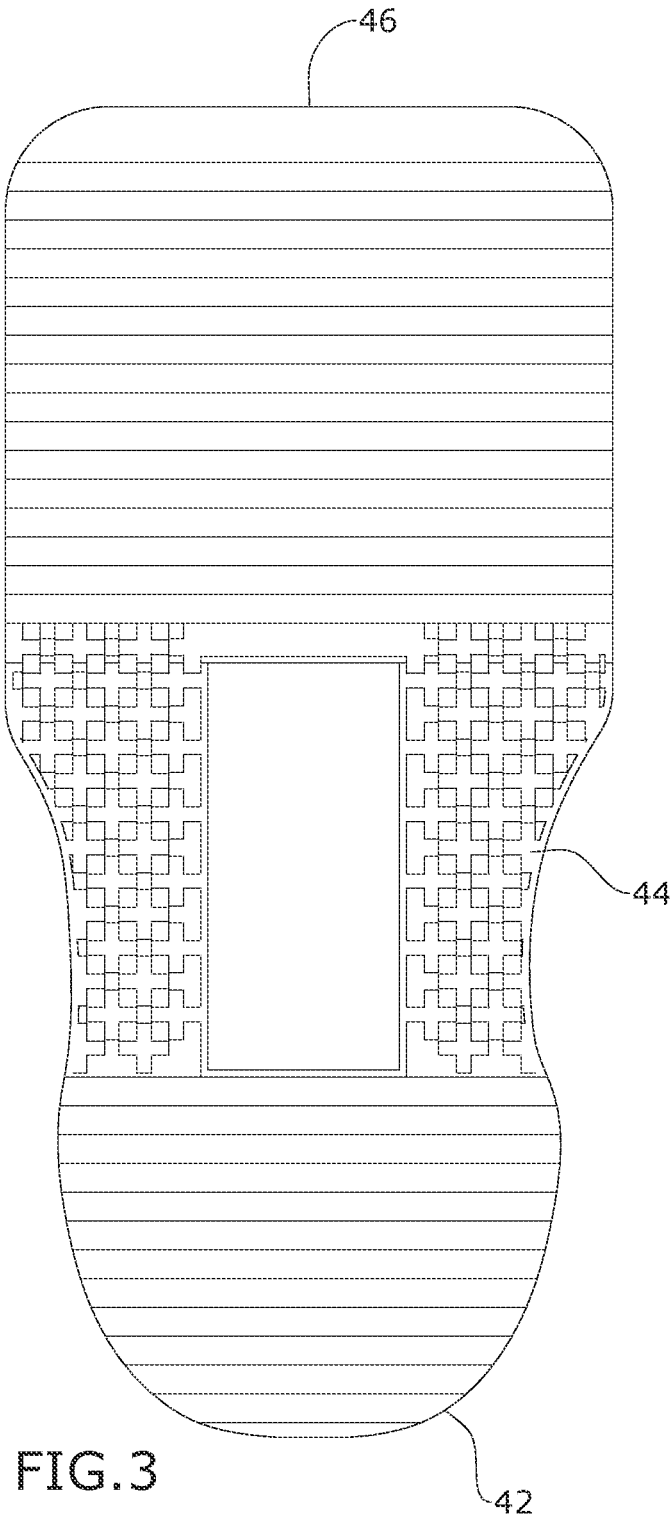
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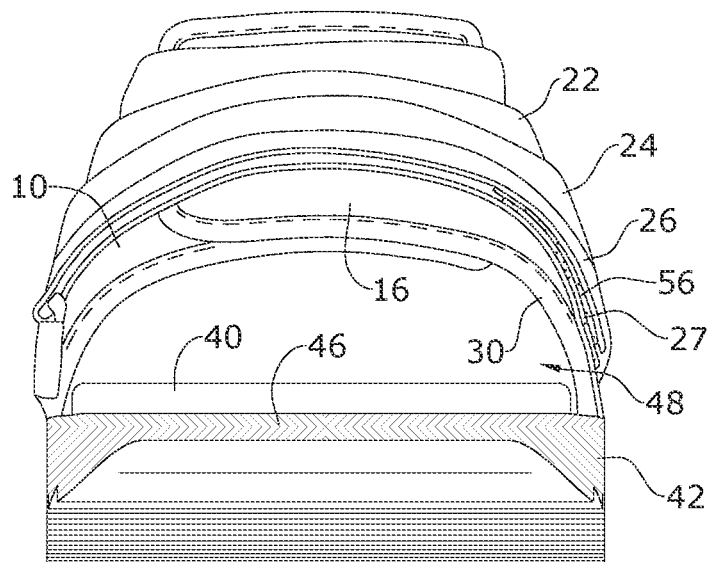


FIG.4

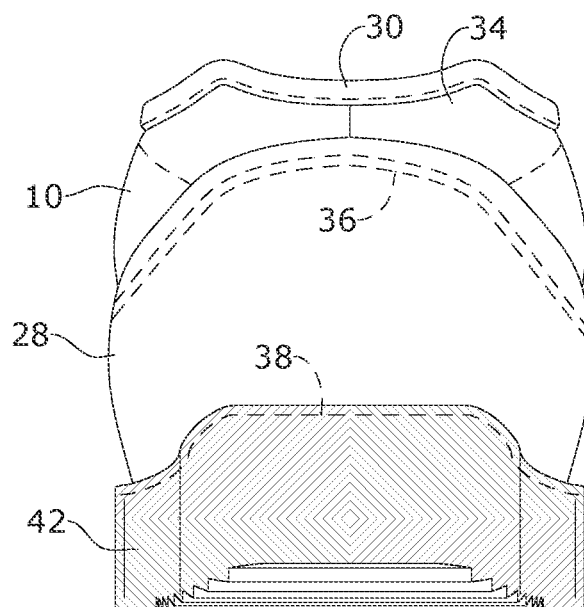
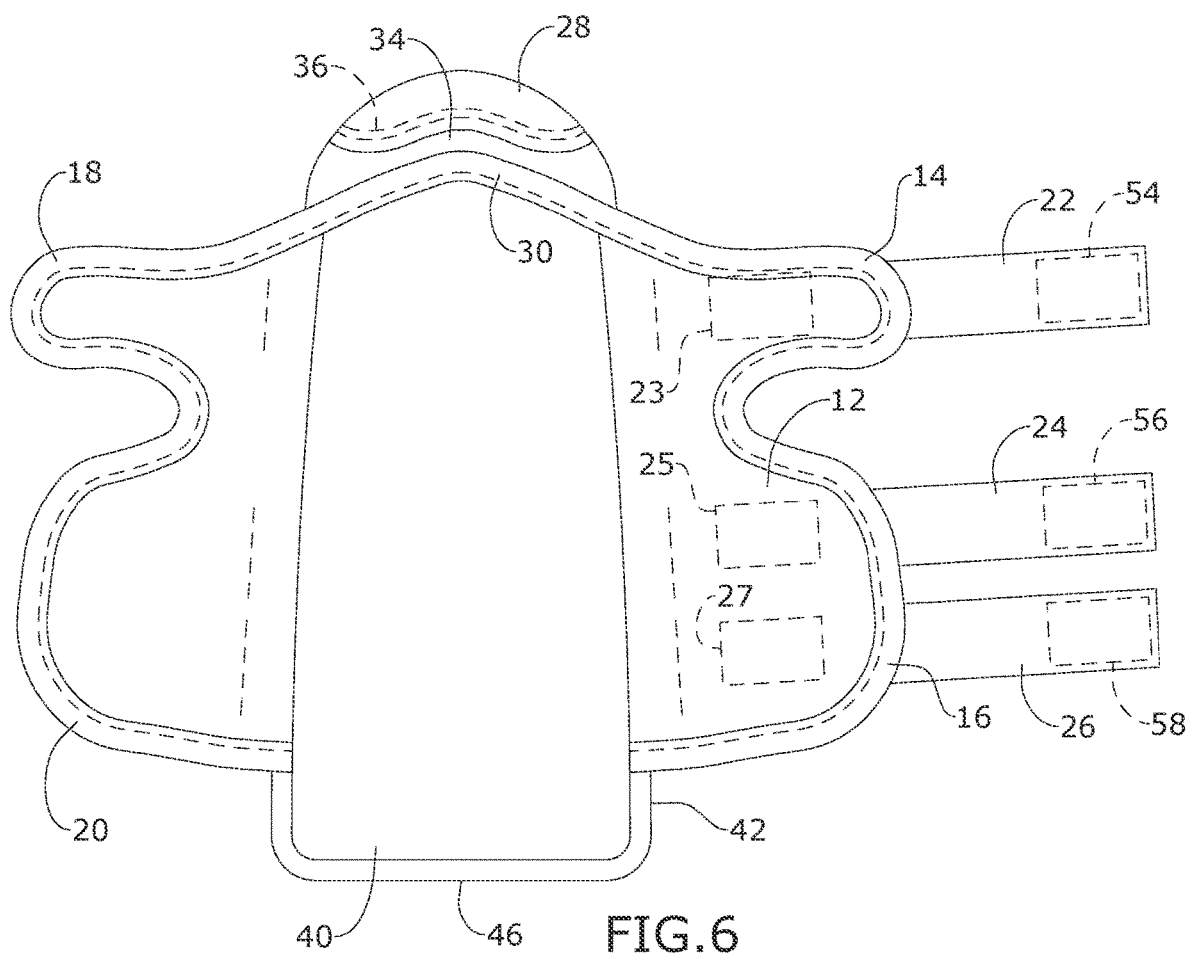


FIG.5



ADJUSTABLE, SQUARE-TOED SHOE WITH SYMMETRICAL SOLE

BACKGROUND OF THE INVENTION

[0001] The present invention relates to post-operative shoes and, more particularly, to an adjustable, square-toed shoe with a symmetrical sole.

[0002] Uncomfortable, bulky, unstable, non-customizable, unattractive post-surgical shoes negatively impact a patient's recovery both physically and mentally. They are generally poor quality and ill-fitting.

[0003] As can be seen, there is a need for a comfortable, stable surgical shoe that has a fit adaptable closure.

SUMMARY OF THE INVENTION

[0004] In one aspect of the present invention, a post-surgical shoe comprises a symmetrical sole comprising an insole and an outsole; an upper stitched to the symmetrical sole, said upper comprising a first side having a first flap and a second side having a second flap, configured such that the first flap overlaps the second flap; and at least one strap having a first end fixed to the first flap and a second end configured to pass through a loop on the second side of the upper; wherein the outsole includes a plurality of integrally molded, chevron-shaped projections on longitudinal sides of said outsole, said chevron shaped projections forming a channel therebetween across a base of the outsole; and wherein the strap has a hook fastener and a loop fastener spaced apart along one surface and configured to mate when the second end is drawn from the loop across to the first side of the upper.

[0005] The inventive post-surgical shoe has increased utilitarian functionality, better stability, comfort, and improved visual design and may be customized with respect to tightness.

[0006] These and other features, aspects and advantages of the present invention will become better understood with reference to the following drawings, description, and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a side view of a post-operative shoe according to an embodiment of the present invention;

[0008] FIG. 2 is a top plan view thereof;

[0009] FIG. 3 is a bottom plan view thereof;

[0010] FIG. 4 is a front elevation view thereof;

[0011] FIG. 5 is a rear elevation view thereof; and

[0012] FIG. 6 is a top plan view thereof, showing the shoe in an open condition.

DETAILED DESCRIPTION OF THE INVENTION

[0013] The following detailed description is of the best currently contemplated modes of carrying out exemplary embodiments of the invention. The description is not to be taken in a limiting sense but is made merely for the purpose of illustrating the general principles of the invention, since the scope of the invention is best defined by the appended claims.

[0014] Broadly, one embodiment of the present invention is a shoe for use by health care professionals in the treatment of medical conditions of the foot, including but not limited to post-operative healing and complications of diabetes or other medical conditions such as rheumatoid arthritis, vas-

cular conditions, neuropathy, bunionectomy or due to trauma of the feet from a variety of causes including but not limited to fractured bones.

[0015] An "upper" surrounds the top of the foot and heel to keep the shoe on the foot and provide stability and protection to the injured foot. The upper comprises an outer wall with two overlapping flaps, which are double faced with padding in-between the fabric layers, positioned on the left and right side of the foot. The shape of the flaps is not particularly limited. Web tape hook and loop straps include three fabric webbing tape straps with a hook and loop closure such as Velcro®, for a customized fit, and side release buckle closures for easy closure and removal of the product. The multiple strap and closure system is versatile. Strap placement and buckle position may be optimized. The heel counter is lined from the top by a full-length padded heel collar that conforms to the Achilles triangle of the user, providing padding to the Achilles tendon and keeping the heel secured in the shoe. Rectangular loops.

[0016] A "lower" is a bottom part of the shoe, to which the upper is attached, used to provide comfort and stability to the injured foot. The lower comprises a padded insole with rounded square toe for toe protection and a chevron texture outsole having a custom tread pattern for added stability. The pattern on the lower will be a custom upswing texture on the bottom of the sole and in the treads. The sole may have a multi-pattern tread for improved stability and traction.

[0017] The shoe is straight lasted, having a symmetrical sole configuration that accommodates both the left and right foot and may be worn on either foot. The shoe may be adjusted on either side, due to the Velcro® and buckle closures, to optimize the level of tightness for comfort.

[0018] In some embodiments, the shoe may have an open toe.

[0019] In some embodiments, the shoe toe may be closed, with the toe area covered by fabric and toe darts.

[0020] In some embodiments, the shoe may have a high-top configuration with a raised ankle height for more ankle stability.

[0021] The materials of manufacture are not particularly limited. The upper may be made from high quality fabrics such as a polyester fabric, which may be knit or woven; textured fabrics; and/or leather; and may have a soft fabric lining. The upper may be made with various prints and patterns for a stylish look. The rectangular loops may be plastic. The insole may be ethylene vinyl acetate (EVA). The outsole may be thermoplastic rubber (TPR) for comfort.

[0022] A method of manufacture may include producing a sole mold with a custom tread pattern; injecting TPR into the mold and removing the injected TPR to harden into a chevron texture outsole; placing an insole atop the outsole; cutting and printing upper fabric from pattern pieces; sewing fabric bindings onto upper piece edges with edgestitch; stitching the upper pieces together; inserting a heel counter liner and stitch fabric over; attaching Velcro® and buckles to web straps; sewing straps to upper flap pieces; attaching the upper pieces to the insole and the outsole with thick stitching and glue. The heel may be reinforced with a double needle stitch.

[0023] Referring to FIGS. 1 through 6, FIG. 1 shows a shoe according to an open-toed embodiment of the present invention comprising an upper 10 mounted to a symmetrical

sole with a rounded square toe **46** and secured with a first row of stitching **38**, forming a toe opening **48** therebetween.

[0024] The sole comprises an insole **40** joined to a chevron texture outsole **42** having tread **44**. The insole **40** is more clearly shown in FIG. 6 and the outsole **42** is more clearly shown in FIG. 3. The rounded square toe **46** is also shown in FIGS. 2, 3, and 4.

[0025] The upper **10** is shown in more detail in FIGS. 2 and 6. The shoe upper comprises a first small flap **14** and a second small flap **18** at an ankle portion. The first small flap **14** is configured to overlap the second small flap **18** when in a closed condition. The upper **10** further comprises a first large flap **16** and a second large flap **20** adjacent to the toe opening **48**. The first large flap **16** is configured to overlap the second large flap **20** when in the closed condition. The first small flap **14** has a first strap **22** extending therefrom, configured to feed through a loop **32** joined to the upper **10** at a base of the second small flap **18** when in the closed condition, as shown in FIGS. 1 and 2. The first large flap **16** has a second strap **24** adjacent to the ankle and a third strap **26** adjacent to the toe opening **48**. The second strap **24** and the third strap **26** extend in parallel from the first large flap **16**, with the second strap **24** being fed through a first buckle closure **50** and the third strap **26** being fed through a second buckle closure **52** when in a closed condition. The first buckle closure **50** and the second buckle closure **52** both operate as a side release. As shown in FIG. 6, the first strap **22** has a mated pair of hook and loop closure portions **54**, **23**, the second strap **24** has a mated pair of hook and loop closure portions **56**, **25**, and the third strap **26** has a mated pair of hook and loop closure portions **58**, **27**.

[0026] As FIG. 6 illustrates, the upper **10** has a soft lining **12** on its interior and a binding **30** along its perimeter. The upper **10** further comprises a padded ankle collar **34** with a heel counter **28** coupled thereto with stitching **36**. The stitching **36** also secures the loop **32** in place. The padded ankle collar **34** and heel counter **28** are shown in more detail in FIGS. 5 and 6.

[0027] It should be understood, of course, that the foregoing relates to exemplary embodiments of the invention and that modifications may be made without departing from the spirit and scope of the invention as set forth in the following claims.

What is claimed is:

1. A post-surgical shoe, comprising:

a symmetrical sole comprising an insole and an outsole; an upper stitched to the symmetrical sole, said upper comprising a first side having a first flap and a second side having a second flap, configured such that the first flap overlaps the second flap; and

at least one strap having a first end fixed to the first flap and a second end configured to pass through a loop on the second side of the upper;

wherein the outsole includes a plurality of integrally molded, chevron-shaped projections on longitudinal sides of said outsole, said chevron shaped projections forming a channel therebetween across a base of the outsole; and

wherein the strap has a hook fastener and a loop fastener spaced apart along one surface and configured to mate when the second end is drawn from the loop across to the first side of the upper.

2. The post-surgical shoe of claim 1, wherein the outsole has a base characterized by a tread pattern.

3. The post-surgical shoe of claim 1, wherein the upper further comprises a padded ankle collar.

4. The post-surgical shoe of claim 1, wherein the loop is formed in a side release buckle closure stitched to the second side of the upper.

5. The post-surgical shoe of claim 1, wherein the symmetrical sole has a rounded square toe.

6. The post-surgical shoe of claim 1, wherein the upper has a binding along its perimeter.

7. The post-surgical shoe of claim 1, further comprising a heel counter stitched to the upper.

8. The post-surgical shoe of claim 1, wherein the upper and the symmetrical sole form a toe opening therebetween.

9. The post-surgical shoe of claim 8, wherein the first flap and the second flap are formed at an ankle portion of the upper and a third flap and a fourth flap are formed adjacent to the toe opening.

10. The post-surgical shoe of claim 9, further comprising a second strap and a third strap each having a first end fixed to the third flap.

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