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(54) **ICE GRIP SHOE ACCESSORY**

(76) Inventor: **Veronica BARROW**, Brooklyn, NY (US)

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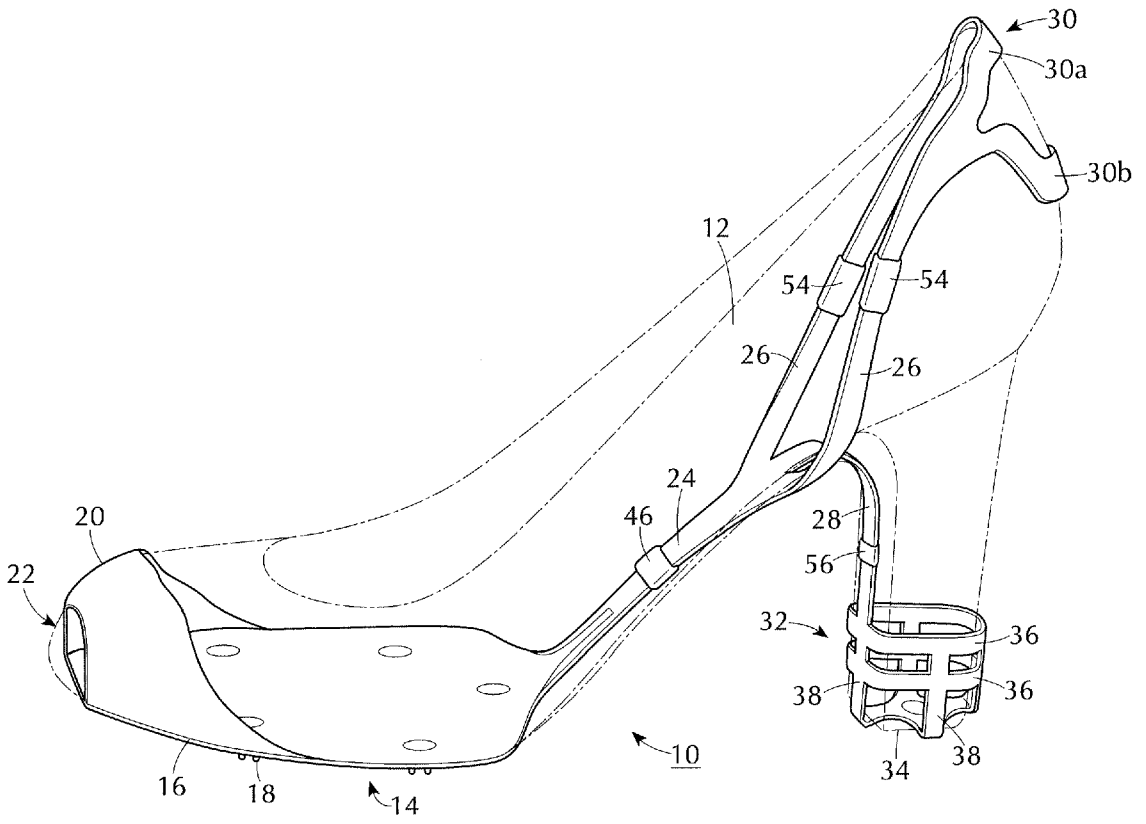
(57) **ABSTRACT**

An ice grip accessory for a shoe having a toe portion, a high heel and a sole has joined forward and rear portions. The forward portion has a toe box for engaging a toe portion of the shoe and a pad oriented upon a bottom surface of the shoe sole, the pad supporting a plurality of depending ice grip studs. The rear portion has a heel box for engaging at least a portion of the top lift of the shoe heel, the heel box supporting a heel pad oriented upon a bottom surface of the heel, the heel pad supporting a depending ice grip stud. The forward and rear portions are joined by a strap extending between and connecting the forward portion pad and the heel box, the strap including an upwardly extending portion surrounding an upper portion of the shoe counter. The straps may be length adjustable to allow the accessory to be accommodated of a variety of differently-sized shoes.



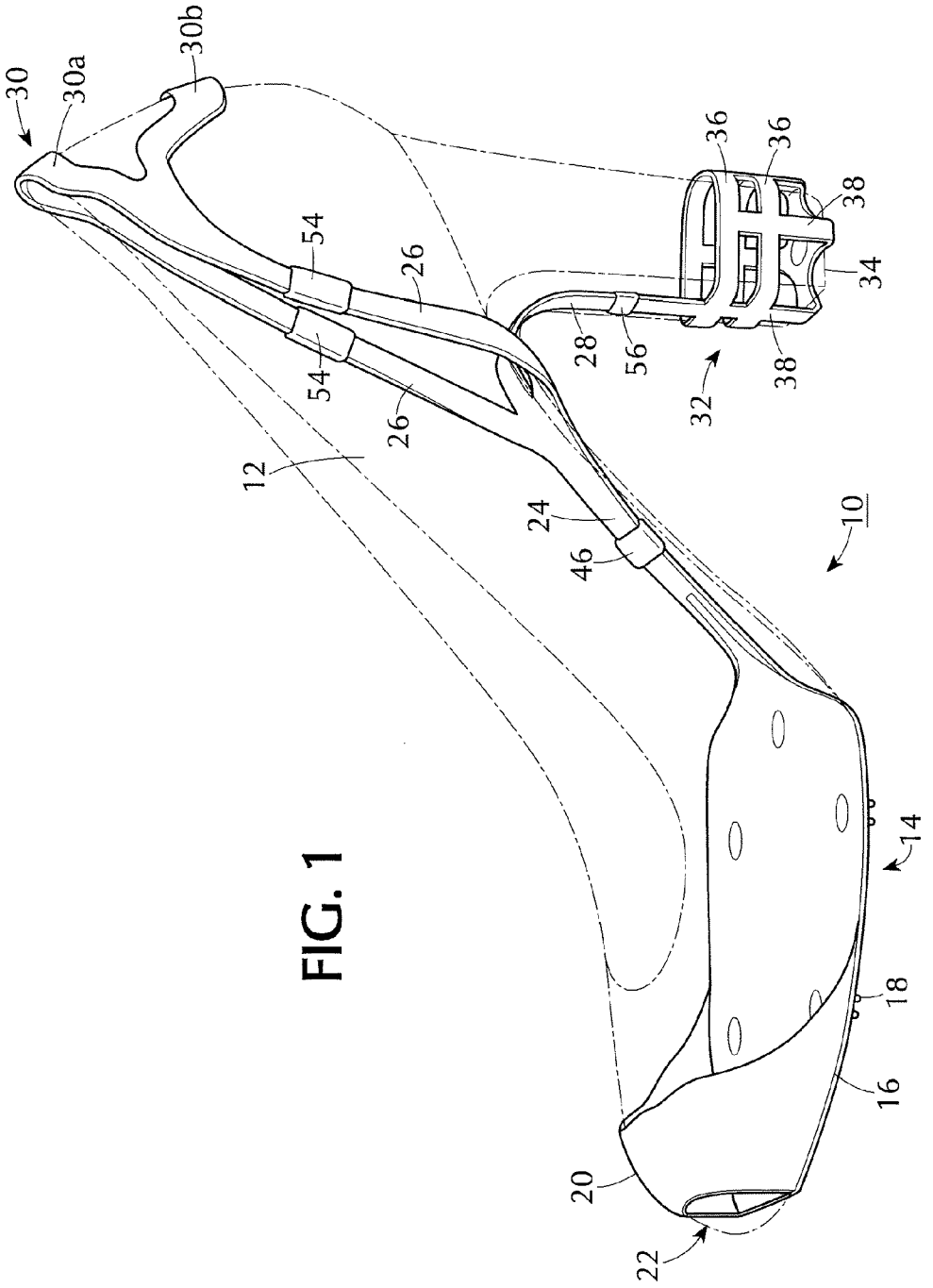

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FIG. 1

FIG. 2

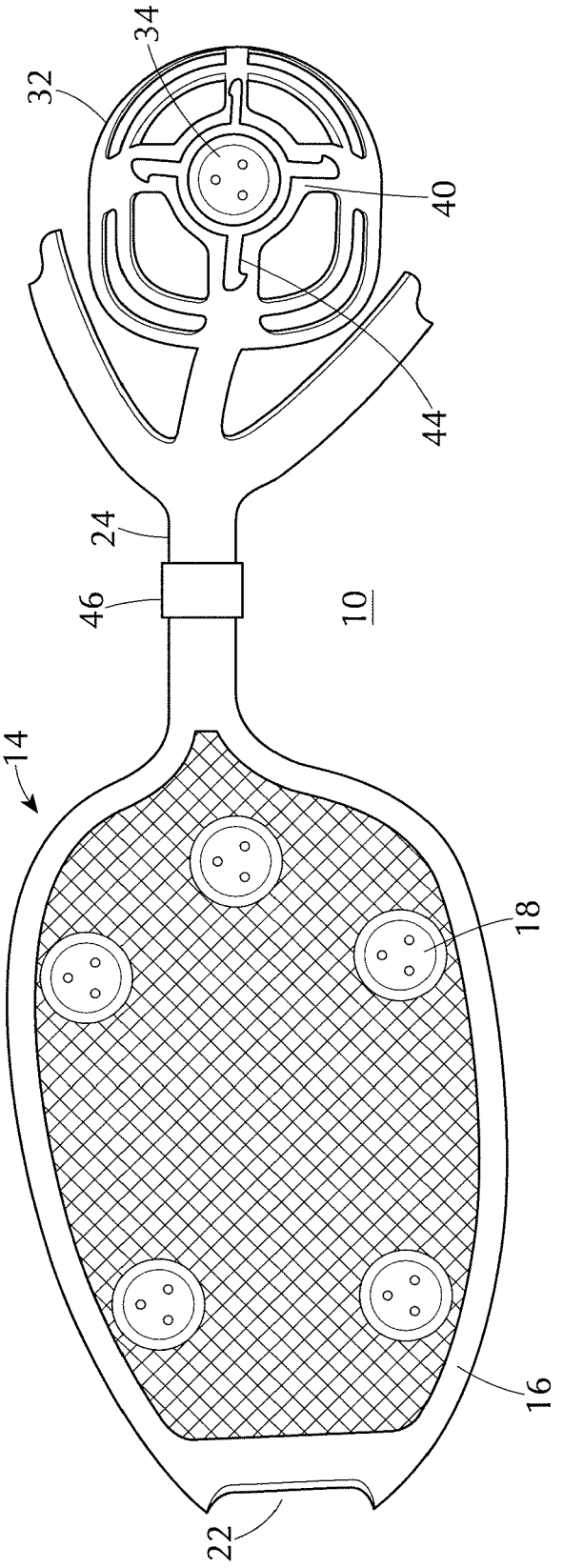


FIG. 5

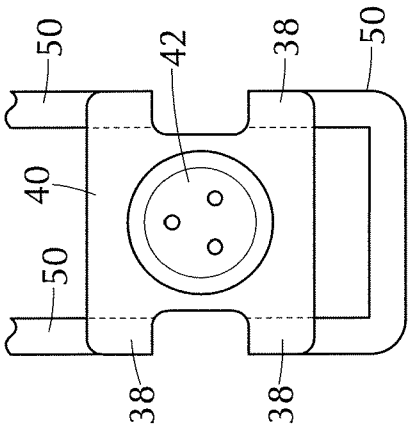


FIG. 3B

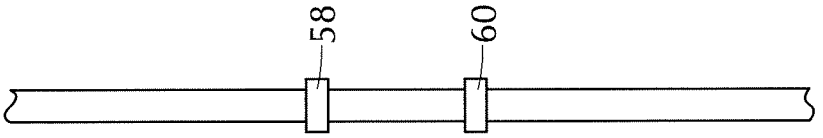
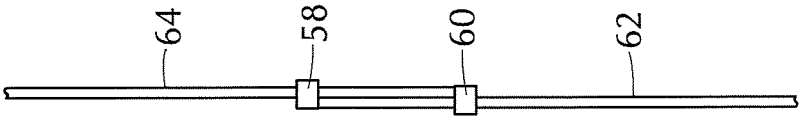


FIG. 3A



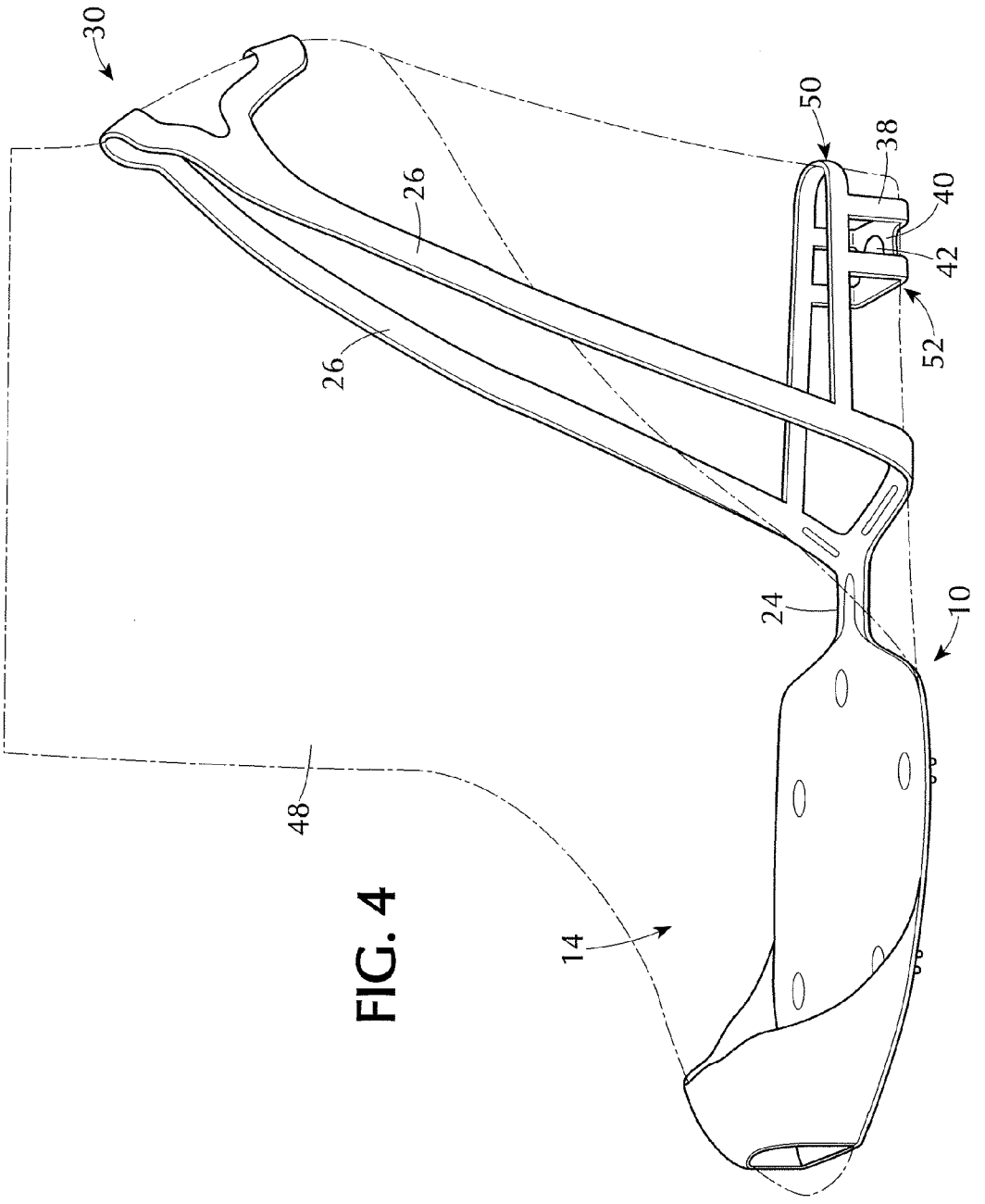


FIG. 4

ICE GRIP SHOE ACCESSORY

[0001] The present invention relates to a new and improved accessory for women's high heel shoes, and in particular to a removable accessory providing increased traction on snow and ice.

BACKGROUND OF THE INVENTION

[0002] The use of devices to improve the traction of shoe on difficult terrain, including snow, ice, mud and the like is well known. Generally, such devices comprise an auxiliary panel covering at least a portion of the shoe's sole, with a spike or protrusion arrangement to provide enhanced grip or "bite" into the ice or snow. Often such arrangements require that the shoe be especially adapted to accommodate the device, as exemplified by the structures presented in U.S. Pat. No. 1,758,091 to Tagler, and U.S. Pat. No. 729,371 to Lutz, or that the accessory be semi-permanently mounted to the sole, as be screws, as presented in U.S. Pat. No. 217,761 to Winn.

[0003] The provision of devices to provide enhanced traction on snow and ice for women's shoes has been particularly problematical, especially with respect to court, block and wedge heel styles. The wide variety of styles has heretofore made it difficult to provide an accessory capable of being used on a plurality of shoes and heel types, heights, shapes, and circumferences, given the number of pairs of shoes that may be found in a typical woman's wardrobe, it is impractical for a woman to have a specific accessory who's use is limited to a single pair of shoes, or is convenient and efficient for use in connection with shoes having a high heel.

SUMMARY OF THE INVENTION

[0004] The present invention is directed to a shoe accessory, particularly adapted to be removably attached to a woman's shoe, and particularly high heel shoes, to provide increased traction on ice and snow. The accessory includes a first portion that mounts to the toe portion of the shoe, overlying the front portion of the shoe sole, and a second portion that is mounted to the heel of the shoe and likewise overlies at least a portion of the bottom surface of the heel. Both portions are provided with downward-extending studs or projections to engage and provide increased traction for the shoe in ice or snow. The first and second portions may form a unitary construction, or may constitute separate elements irremovably joined together by a fastener. The two piece construction facilitates the interchange of elements to allow the accessory to be used in conjunction with a variety of shoe styles.

[0005] Both portions or elements may be constructed of an elastomer, allowing the elements to conform to the contour of the shoe portion to which they are affixed. The front element encircles the shoe's top portion, while the rear element wraps substantially around at least a portion of the top lift of the heel, and is further supported on the heel counter by means of an adjustable upwardly-extending strap.

[0006] A fuller understanding of the present invention will be obtained upon consideration of the following description of currently preferred, but nonetheless illustrative embodiments of the invention, in association with the annexed drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. **1** is a perspective view of the an ice grip accessory of the present invention in place on a block heel women's shoe, the shoe being shown in phantom;

[0008] FIG. **2** is bottom plan view of the accessory of FIG. **1**, the straps thereof being truncated for clarity;

[0009] FIGS. **3***a* and **3***b* are details view of a length-adjusting clasp that may be used in connection with the invention;

[0010] FIG. **4** is a perspective view of an ice grip accessory of the present invention on a wedge heel woman's shoe, the shoe being shown in phantom; and

[0011] FIG. **5** is a bottom plan view of the heel box of the construction of FIG. **4**.

DETAILED DESCRIPTION

[0012] With initial reference to FIGS. **1** and **2**, ice grip accessory **10** is shown in position on shoe **12**, a woman's "block heel" shoe. As used herein, a "block heel" shoe is a type of "high heel" shoe in which the wearer's heel is raised significantly above the toes. A block heel shoe has a gap or open area between the toe and heel portions, and in which the heel portion is of significant diameter, as opposed to a narrow "court" or "stiletto" high heel shoe. The present invention can be used in connection with both types of shoes, as well as still other high heel shoe constructions, including wedge heels, in which there is no significant gap or open area between the toe and heel portions, a representation of which can been seen in FIG. **4**.

[0013] Accessory **10** includes a forward portion **14**, which comprises bottom pad **16** bearing depending ice grip projections **18**, bottom pad **16** being positioned by toe box portion **20** wrapping about the toe portion of the shoe to which the accessory is mounted. The toe box may have an open front area **22** to allow it to more easily conform to the shape of the shoe.

[0014] The bottom pad **16** narrows at its rear end into rearwardly extending strap **24**, which lies along the bottom surface of the shoe between the toe and heel portions. Proximate the shoe heel the strap bifurcates into a pair of strap portions **26** which together encircle the counter of the shoe and a depending strap portion **28** that leads downwardly along the forward surface of the shoe heel. The strap portions **26** join at the counter, and may have at that location a widened bifurcated portion **30** with upper and lower aims **30***a* and **30***b* to improve the contact between the strap and shoe and more positively retain the accessory in position.

[0015] Depending strap portion **28** connects to heel box **32**, which embraces the lower portion of the heel and supports a rear ice grip projection unit **34**.

[0016] With further reference to FIG. **2**, accessory **10** may be constructed of a thermoplastic elastomer or rubber, to provide physical durability and a degree of stretch to allow the accessory to be accommodated by differently shaped shoes, although it is contemplated that the accessory will be manufactured in different sizes and contours as appropriate to generally fit various shoe shapes. Injection molding may be an appropriate production method. The bottom pad **16** of forward portion **14** is of a closed construction, and may be provided with embossed integral treads of varying depths to provide added traction, with the stud units **18** mounted in a series of spaced correspondingly-shaped molded reception bores. The stud units **18** may be of an appropriate hard material, such as tungsten carbide, coated or uncoated, with each stud unit having a base portion of molded hard plastic to be mounted in a reception bore and one or more, and preferably one to three, carbide engagement points. The stud units may be five in number, positioned generally about the periphery of the bottom pad, although other numbers and arrangements of

the units are within the contemplation of the invention. The stud units may be permanently affixed in the reception bores, or may be removable to allow replacement.

[0017] Heel box **32** surrounds the lower portion of the shoe heel and supports an additional stud unit **34**. The heel box may be constructed as a pair of spaced heel-surrounding bands **36** that support vertical straps **38** which in turn join together at the bottom (top lift) of the heel to form rear stud mounting pad **40**. The vertical straps may be four in number, equally spaced about the bands **36**, with a forwardly positioned strap aligned with depending strap portion **28**. As with forward bottom pad **16**, pad **40** is provided with a reception bore for the stud unit **34**. The portions of the straps **38** located at the base of the top lift may be provided with molded spines **44** to strengthen the straps and provide a greater degree of wear resistance and traction.

[0018] While both toe box **20** and heel box **32** may be formed as parts of a unitary construction, the invention further contemplates that the two portions may be removably joined together. Towards that end coupling or clasp **46** may be provided along strap **24**. The coupling may be a simple snap fastener, or may provide a length adjustment for the strap as known to accommodate a variety of shoe sizes or lengths. In a similar manner, strap portions **26** may be provided with length adjustment means in the form of clasps **54**, while strap portion **28** may be provided with clasp **56**.

[0019] FIG. **3** presents a structure that may be employed for length-adjusting clasps **46**, **54** and **56**. As shown therein, the clasp may comprise a pair of rings **58**, **60**, each of which is affixed to the end of a corresponding strap portion **62**, **64**, the two strap portions together comprising a strap element to be length-adjusted. Each of the rings is sized and dimensioned to frictionally engage an overlying opposite strap element (i.e. ring **58** embraces and engages strap portion **64**, while ring **60** embraces and engages strap portion **62**). By manually gripping and sliding the rings towards or away from each other, the effective overall length of the two strap portions **62** and **64** may be adjusted by the wearer. The frictional fit of the rings about the straps is chosen such that the rings may be moved by manual force, but in the absence of such force the rings remain in fixed position against the normal force developed when the accessory is in place on the shoe and subject to walking stresses. Other clasp means, such as a pin and hole, belt-like arrangement associated with the strap portions or other frictional engagement means can likewise be employed.

[0020] Referring to FIG. **4**, accessory **10** is shown in place on wedge heel shoe **48**, which also may employ does not display a physical separation or gap between the shoe toe and elevated heel. Forward portion **14** is of the general construction as that of FIG. **1**, and again is joined to rear heel box portion by strap **24**, and likewise can also be affixed using a coupling **46** (not shown) along strap **24**, which is considerably shorter than the strap in FIG. **1**, as the shoe heel of a wedge heel is significantly longer than a block heel. Strap **24** divides into portions **26** at a location proximate the front of the shoe heel, the strap portions again encircling an upper heel portion of the shoe and being provided with widened bifurcated portion **30** at the back of the shoe.

[0021] Rear heel box portion **32** is of a modified construction to accept the wedge heel of the shoe. In particular, the heel box does not fully surround the heel, as the heel is not isolated from the forward part of the shoe, and comprises a single band **50** that encircles the lower or top lift rear portion of the heel **52**, which may be of incrementally greater height than the remainder of the heel, supported by and terminating at the heel straps **26**. As further detailed in FIG. **5**, a pair of vertical straps **38** depends from heel band **50** to the bottom of the heel to form the stud mounting pad **40**, which supports the stud unit **42**.

[0022] Mounting of the accessory upon a shoe is accomplished simply by inserting the toe portion of the shoe into the toe box portion **20** until a snug fit is accomplished, the resiliency of the accessory allowing the toe box to conform to the shape of the shoe. If the accessory is of a two part construction, the heel portion is then connected to the forward portion. The heel box is then fit about the heel of the shoe and the straps **26** positioned high on the shoe heel to retain the heel box in position. The clasps **52**, **54** and **56** are then adjusted as appropriate to maintain a snug fit.

[0023] It is to be appreciated that variations and modifications to the invention as specifically set forth herein may be made without departing from the scope of invention as set forth in the claims hereof.

I claim:

1. An ice grip accessory for a shoe having a toe portion, a high heel and a sole, comprising;

a forward portion having a toe box for engaging a toe portion of the shoe and a pad oriented upon a bottom surface of the shoe sole, the pad supporting a plurality of depending ice grip studs;

a rear portion having a heel box for engaging at least a portion of the top lift of the shoe heel, the heel box supporting a heel pad oriented upon a bottom surface of the heel, the heel pad supporting a depending ice grip stud; and

a strap extending between and connecting the forward portion's pad and the heel box, the strap including an upwardly extending portion surrounding an upper portion of the shoe counter.

2. The ice grip accessory of claim **1**, wherein the heel box comprises at least one strap surrounding at least a portion of the heel and a plurality of vertical straps supporting the heel pad.

3. The ice grip accessory of claim **2**, wherein the at least one strap fully surrounds the heel and the vertical straps are at least four in number.

4. The ice grip accessory of claim **2**, wherein the at least one strap is a single strap partially surrounding the heel and supports the vertical straps.

5. The ice grip accessory of claim **1** further including a length-adjusting clasp for at least one of the straps connecting the pad and the heel box and the upwardly extending portion of the strap.

6. The ice grip accessory of claim **5** wherein the clasp comprises a pair of rings each mounted to an opposed overlapping end portion of a strap to be adjusted and frictionally engaging the opposed overlapping end portion.

7. The ice grip accessory of claim **1** wherein the shoe is a block heel or a court heel shoe, the strap dividing into the upwardly extending portion and a further portion extending along a front surface of the heel to the heel box.

8. The ice grip accessory of claim **1** wherein the shoe is a wedge heel shoe, the strap further including a portion extending from the upwardly extending portion around the heel and comprises a portion of the heel box.

9. The ice grip accessory of claim **1** wherein the pad of the forward portion is of a solid construction having traction elements of varying depths, and includes bores in which the ice grip studs are mounted.

10. The ice grip accessory of claim **1** wherein the upwardly extending portion of the strap includes a bifurcated portion at the rear of the shoe heel.

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