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(54) **HEEL ATTACHMENT DEVICE FOR FOOTWEAR**

(71) Applicants: **Jennifer M. Belshe**, Greenville, SC (US); **Mohamed H. Behery**, Greenville, SC (US)

(72) Inventors: **Jennifer M. Belshe**, Greenville, SC (US); **Mohamed H. Behery**, Greenville, SC (US)

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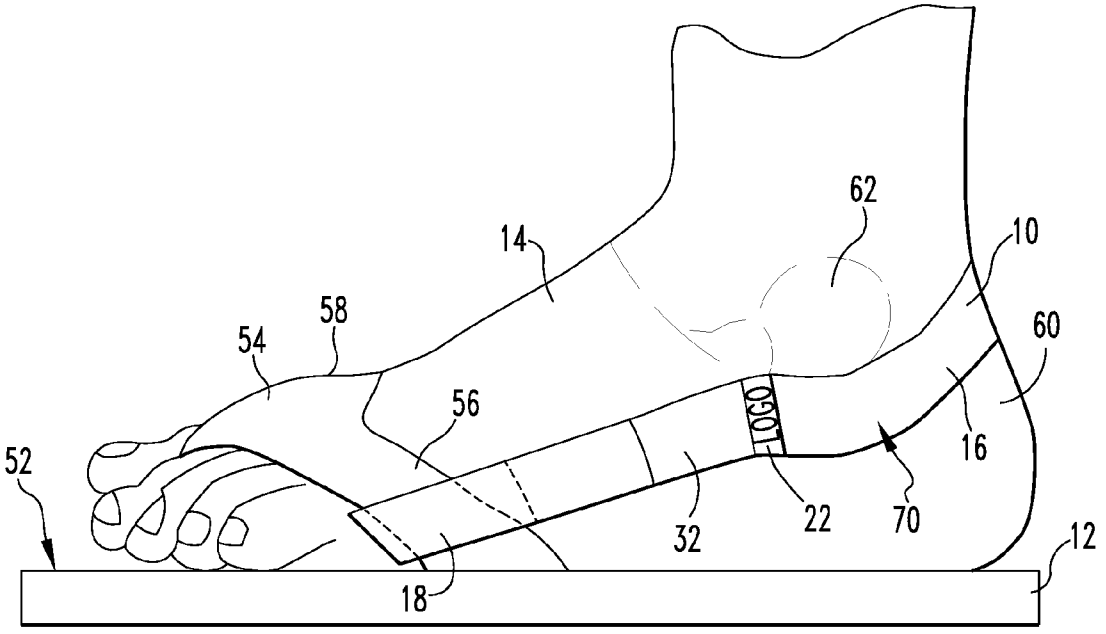
(57) **ABSTRACT**

A heel attachment device for footwear is provided that includes an elastic section that can stretch in a longitudinal direction of the device. An attachment section is also present that is contiguous with the elastic section. The elastic section can stretch a greater amount in the longitudinal direction than the attachment section.



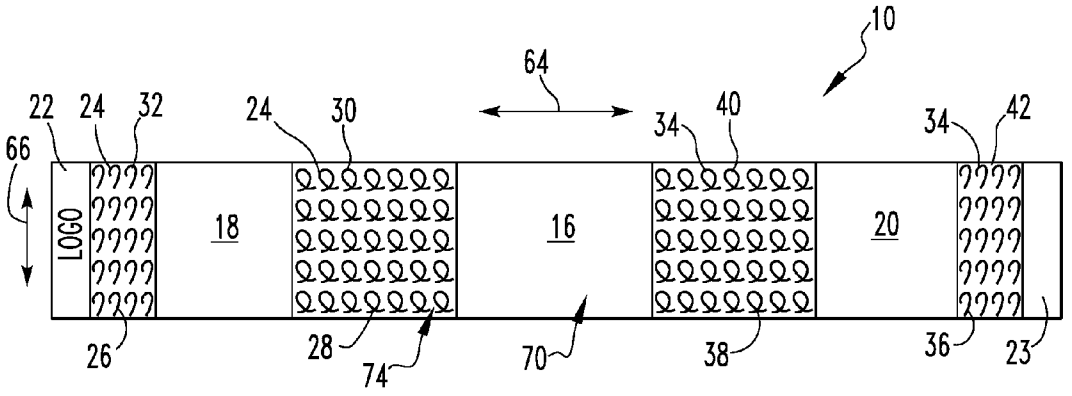


FIG.1

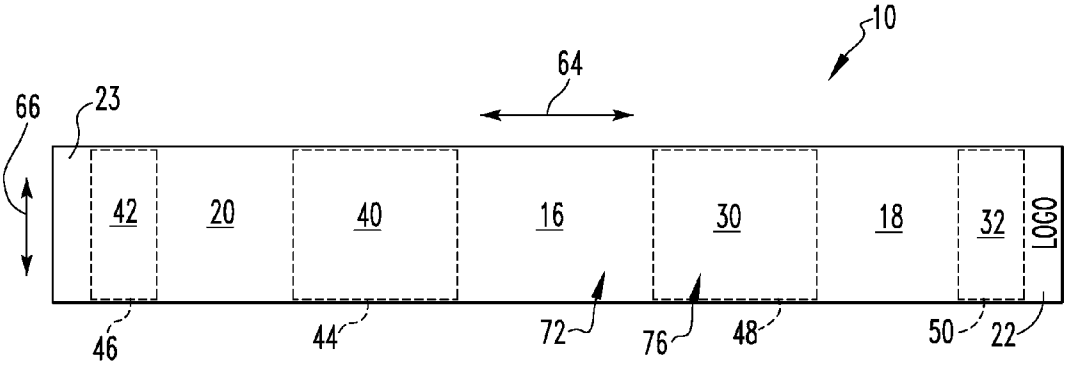


FIG.2

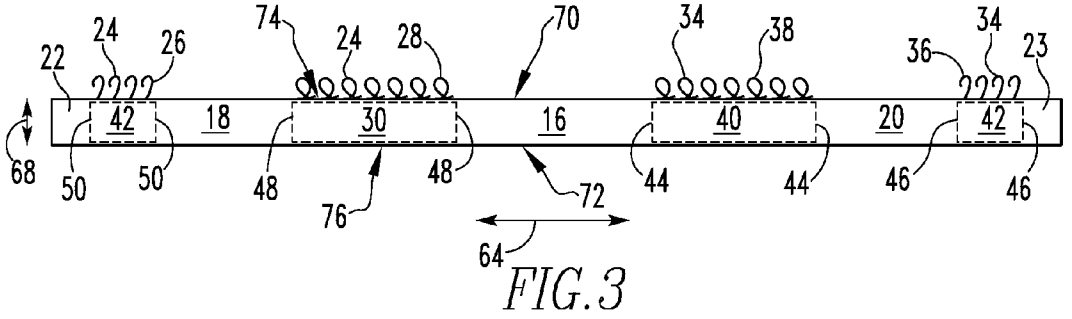


FIG.3

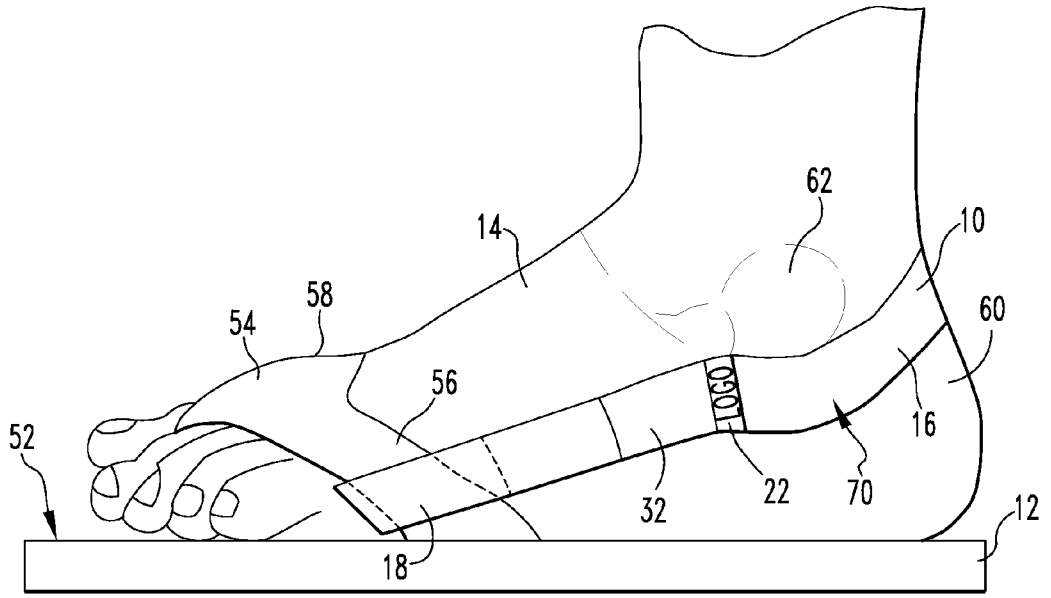

62
14
10
58
54
60
56
LOGO
16
52
22
70
32
12
18

FIG. 4

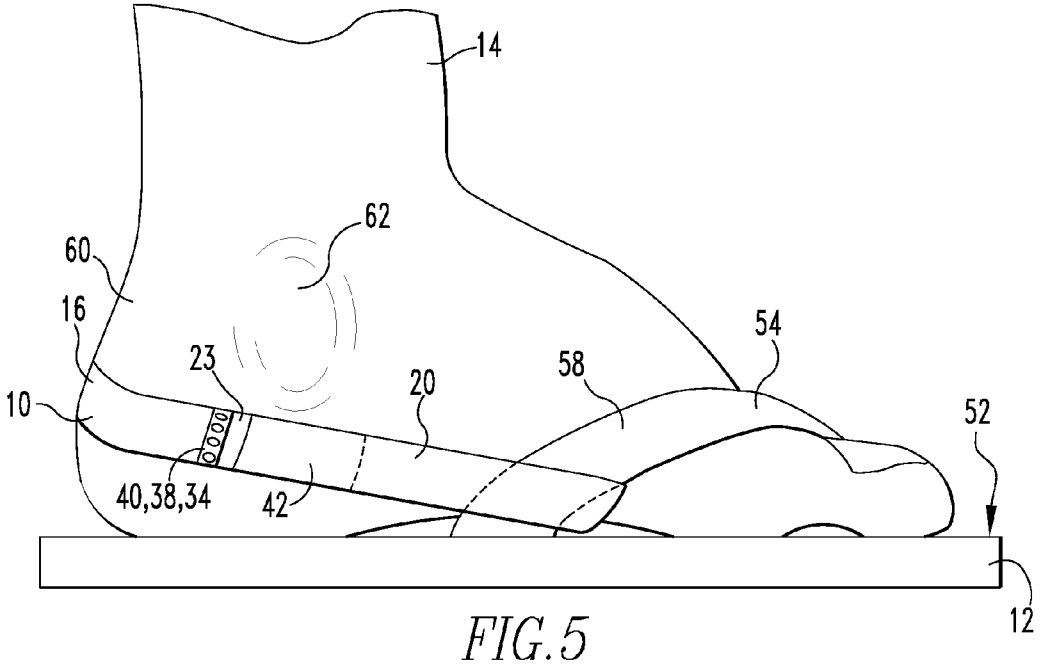

14
62
60
16
54
23
58
20
10
52
40,38,34
42
12

FIG. 5

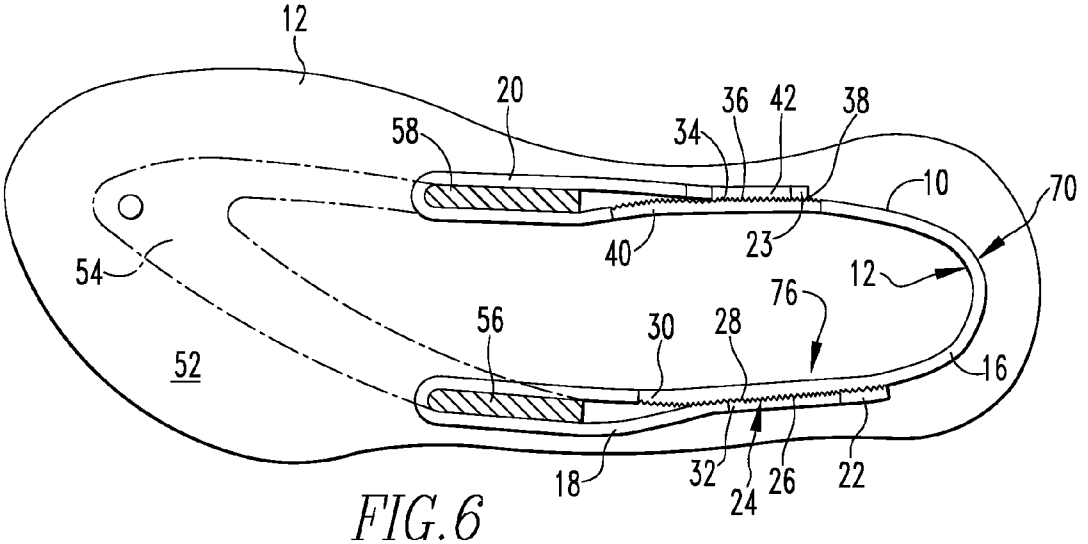

12
20
58
36
42
38
34
10
70
54
40
23
12
76
56
30
28
52
16
18
32
24
26
22

FIG. 6

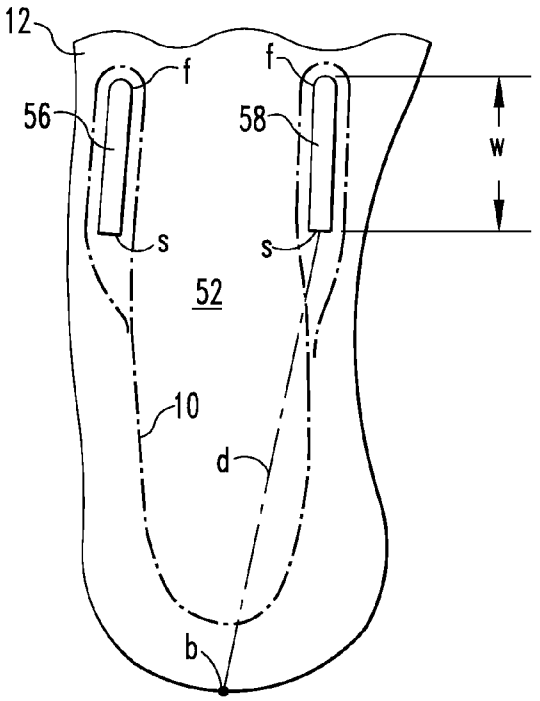

12
f
f
56
58
w
s
s
52
10
d
b

FIG. 7

HEEL ATTACHMENT DEVICE FOR FOOTWEAR

FIELD OF THE INVENTION

[0001] The present invention relates generally to an attachment device for footwear that functions to attach the heel of the foot to the footwear. More particularly, the present application relates to a heel attachment device that has elastic sections and less elastic sections, and that is adjustable in order to achieve improved fit and functioning of the heel attachment device onto the footwear and foot.

BACKGROUND

[0002] Footwear, such as sandals, flip-flops, and shoes, often have an open back in which the heel of the foot is exposed. These types of footwear sometimes feature a toe attachment into which the toes of the user are positioned. The toes of the user grasp onto the toe attachment in order to hold the footwear onto the foot of the user. This attachment may be secure enough in that the toe attachment will hold onto the toes of the user, or the user may have to consciously grasp the toe attachment with his or her toes in order to ensure that the footwear does not come off. Regardless, the heel of the foot of the user remains unattached to the footwear which leads to an uncomfortable fit, less flexibility in using the footwear, and a constant distraction. Children may easily lose footwear that lacks secure attachment to the heel of the foot.

[0003] One method of securing the heel of the foot onto footwear that lacks a heel attachment or sufficient heel attachment involves sewing a strap onto portions of the footwear and then wrapping the strap around the heel for attachment. The strap is attached to an opposite portion of the footwear on the other side of the foot. Although capable of adding attachment or additional attachment for the footwear, this arrangement requires the strap to be permanently attached to the footwear and reduces the ability of the user to adjust the strap into a desired position.

[0004] Another means of providing heel attachment to footwear, such as sandals or flip-flops, includes the provision of a strap that is completely elastic and has the same degree of elasticity along its entire length. This strap is wrapped in fabric along its entire length to afford a more comfortable feel to the foot of the user when wearing. Buttons are provided on either end of the strap so that the strap can be attached to the footwear in these two places. Although capable of being removed from the footwear, the attachment is not adjustable and thus the strap cannot be used on footwear of different sizes, and cannot be adjusted for user comfort or increased functionality during use. Further, as the entire strap is elastic it provides a less comfortable feel to the user and does not function to securely hold the heel of the user to the footwear. The material making up these straps are thin and subject to failure. Additionally, the fabric used to cover the elastic strap is not durable and likewise subject to failure.

[0005] Although devices are known that are capable of attaching the heel of a foot to footwear, such devices are not adjustable, are not movable to different footwear, are not durable, do not provide a comfortable feel or functional fit. As such, there remains room for variation and improvement within the art.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] A full and enabling disclosure of the present invention, including the best mode thereof, directed to one of ordinary skill in the art, is set forth more particularly in the remainder of the specification, which makes reference to the appended Figs. in which:

[0007] FIG. **1** is a front view of a heel attachment device for footwear in accordance with one exemplary embodiment.

[0008] FIG. **2** is a back view of the heel attachment device for footwear of FIG. **1**.

[0009] FIG. **3** is a side view of the heel attachment device for footwear of FIG. **1**.

[0010] FIG. **4** is a left side view of a sandal worn by the foot of the user with the heel attachment device attached.

[0011] FIG. **5** is a right side view of the sandal worn by the foot of the user with the heel attachment device attached.

[0012] FIG. **6** is a top plan view of the sandal with the heel attachment device attached while worn by the foot of the user with the foot removed for clarity and portions of the sandal shown in phantom for clarity.

[0013] FIG. **7** is a top schematic view of a portion of the sandal that shows lengths that are used in sizing the heel attachment device.

[0014] Repeat use of reference characters in the present specification and drawings is intended to represent the same or analogous features or elements of the invention.

DETAILED DESCRIPTION OF REPRESENTATIVE EMBODIMENTS

[0015] Reference will now be made in detail to embodiments of the invention, one or more examples of which are illustrated in the drawings. Each example is provided by way of explanation of the invention, and not meant as a limitation of the invention. For example, features illustrated or described as part of one embodiment can be used with another embodiment to yield still a third embodiment. It is intended that the present invention include these and other modifications and variations.

[0016] It is to be understood that the ranges mentioned herein include all ranges located within the prescribed range. As such, all ranges mentioned herein include all sub-ranges included in the mentioned ranges. For instance, a range from 100-200 also includes ranges from 110-150, 170-190, and 153-162. Further, all limits mentioned herein include all other limits included in the mentioned limits. For instance, a limit of up to 7 also includes a limit of up to 5, up to 3, and up to 4.5.

[0017] The present invention provides for a heel attachment device **10** that is attachable to and removable from a piece of footwear **12** such as a sandal. The device **10** functions to attach the heel **60** of the foot **14** of the wearer to the sandal **12** to achieve a better attachment of the sandal **12** to the foot **14** of the wearer. The device **10** may reduce the changes of the footwear **12** from slipping off of the foot **14** of the user. The device **10** includes an elastic section **16** and one or more attachment sections **30**, **32**, **40** and **42**. The elastic section **16** may be more elastic than the attachment sections **30**, **32**, **40** and **42** in a longitudinal direction **64** of the device **10**. The attachment sections **30**, **32**, **40** and **42** may be attached to the toe attachment **54** or other portion of the footwear **12** through fasteners such as hook and loop fasteners **24**, **34**. The hook and loop fasteners **24**, **34** may be adjustable along their lengths in order to achieve a desired fit of the device **10** onto the footwear **12**. The device **10** may be completely removed from the footwear **12** if use of the footwear **12** without the device **10** is desired. The device **10** may also be completely

removed from the footwear **12** and placed onto a different piece of footwear **12** to achieve additional utility of the device **10**.

[0018] A device **10** in accordance with one exemplary embodiment is illustrated in FIG. **1** which shows a front view of the heel attachment device **10**. A first elastic section **16** is located generally at the center of the device **10** in the longitudinal direction **64**. The elastic section **16** has an upper surface **70** that may be elastic. Further, the entire elastic section **16** may be elastic and may be capable of stretching in the longitudinal direction **64**. The elastic section **16** may also be capable of stretching in the lateral direction **66** of the device, or in the height direction **68**. The elastic section **16** may be capable of stretching in any one of or all of these directions **64**, **66** and/or **68** from 3%-6%, from 6%-10%, from 10%-15%, from 15%-20%, from 20%-45%, from 45%-75%, or up to 100% in accordance with different exemplary embodiments. The entire elastic section **16** can be made of a single material that is capable of stretching the desired amount, or may be made up of one or more materials that can achieve the desired amount of stretch. The first elastic section **16** may be made of a single component, or may be made of multiple components in accordance with various exemplary embodiments.

[0019] An attachment section **30** is contiguous with the elastic section **16** and is located adjacent the attachment section **30** in the longitudinal direction **64**. The attachment section **30** may be a first attachment section **30** and may interact with a second attachment section **32** that is present in the device and that is separated a distance from the first attachment section **30** in the longitudinal direction **64**. However, in other exemplary embodiments the two attachment sections **30**, **32** may be contiguous with one another. A second elastic section **18** may be located between the two attachment sections **30**, **32** and can be configured in a manner similar to the first elastic section **16** and a repeat of this information is not necessary. The attachment sections **30**, **32** may be releasably attachable with one another such that they can be repeatedly attached to one another and detached from one another.

[0020] A hook and loop fastener **24** can be included on the first and second attachment sections **30**, **32** in order to render the attachment sections **30**, **32** releasably attachable to one another. The hooks **26** may all be located on the upper surface of the second attachment section **32**, and the loops **28** may all be located on the upper surface **74** of the first attachment section **30**. In other embodiments, the hooks **26** may all be located on the first attachment section **30**, and all of the loops **28** could be located on the upper surface of the second attachment section **32**. In yet other exemplary embodiments, some of the hooks **26** could be located on both the first attachment section **30** and the second attachment section **32**, and some of the loops **28** may be located on the first attachment section **30** while other ones of the loops **28** are on the second attachment section **32**.

[0021] The elastic sections **16**, **18** may be arranged so that they are more elastic and exhibit more stretch than the attachment sections **30**, **32**. In this regard, the attachment sections **30**, **32** may be inelastic such that they do to stretch at all in any direction **64**, **66** or **68**. Alternatively, the attachment sections **30**, **32** do stretch in the longitudinal direction **64**, lateral direction **66**, and/or height direction **68** but exhibit less stretch in these directions **64**, **66**, **68** than the stretch exhibited by the elastic sections **16**, **18** in the directions **64**, **66**, **68**. The attachment sections **30**, **32** may capable of stretching from 0%-5%, from 5%-10%, or up to 20% in the longitudinal direction **64**, the lateral direction **66** and/or the height direction **68**. Again, the attachment section **30**, **32** may be inelastic and thus cannot stretch any degree in any of the directions **64**, **66** and **68**.

[0022] The attachment sections **30**, **32** can be made of one or more materials that render the sections **30**, **32** less elastic than the elastic sections **16**, **18**. Alternatively, the attachment sections **30**, **32** may include the same material or materials as the elastic section **16**, **18** but may include an additional component or may be treated in some other manner to render them less elastic. For example, the sections **16**, **18**, **30** and **32** may all be made of the same elastic material and may all be integrally formed with one another so as to be a single component. The hooks **26** may be located on a base of material that is sewn onto the upper surface of the second attachment section **32** all the way through the second attachment section **32** to the back of the second attachment section **32**. In a similar manner, the loops **28** may be on a base of material that is attached to the upper surface **74** of the first attachment section **30**. This attachment may again be through sewing, or could be through adhesion, sonic welding, or integral formation in accordance with different exemplary embodiments.

[0023] With reference to FIG. **2**, the first attachment section **30** has seams **48** that extend through the first attachment section **30** from its upper surface **74** to its lower surface **76**. The seams **48** function to attach the loops **28** to the first attachment section **30** as previously discussed. The second attachment section **32** likewise has seams **50** that extend through the second attachment section **32** from the upper surface to the lower surface to attach the hooks **26** to the second attachment section **32**. The sewing of the hooks **26** and loops **28** to their attachment sections **30**, **32** functions to reduce the elasticity of the attachment sections **30**, **32** as the base sections of the hook **26** and loops **28** have less elasticity than the rest of the attachment sections **30**, **32**. However, it is to be understood that alternate mechanisms of rendering the attachment sections **30**, **32** to be less elastic than the elastic sections **18**, **20** are possible in accordance with other exemplary embodiments.

[0024] With reference back to FIG. **1**, a tab **22** is contiguous with the attachment section **32** and is located at a first terminal end of the device **10**. The tab **22** may be made of the same material that makes up the various sections **16**, **18**, **30** and **32** or could be made of a different material. For example, the entire tab **22** may be made of fabric. A logo or other indicia may be located on the upper and/or lower surface of the tab **22** to identify the device **10** or provide other information. The tab **22** may be used by a user of the device **10** to assist in engagement and disengagement of the attachment sections **30**, **32**. A second tab **23** may also be present and is located at a second terminal end of the device **10** opposite from tab **22**. The second tab **23** may be contiguous with the attachment section **42**. The second tab **23** can be arranged in a similar manner as previously discussed with respect to tab **22** and a repeat of this information is not necessary. The device **10** can be arranged so that both tabs **22** and **23** are present, so only one of the tabs **22** or **23** is present, or so that neither one of the tabs **22** or **23** are present.

[0025] The device **10** may include a third attachment section **40** that is contiguous with the first elastic section **16** such that the first elastic section **16** is located between the first attachment section **30** and the third attachment section **40** in the longitudinal direction **64**. A third elastic section **20** may be contiguous with the third attachment section **40** such that the

third attachment section **40** is located between the third elastic section **20** and the first elastic section **16**. A fourth attachment section **42** can be contiguous with the third elastic section **20** and may be located at a second terminal end of the device **10**. The third elastic section **20** may be configured in a similar manner to the first and second elastic sections **16**, **18** as discussed above and a repeat of this information is not necessary. Further, the third attachment section **40** could be arranged in the same manner as the first attachment section **20**, and the fourth attachment section **42** could be arranged in a similar manner as the second attachment section **32** as discussed above.

[0026] A second hook and loop fastener **34** may be employed to render the third and fourth attachment sections **40**, **42** releasably attachable to one another. The hooks **36** may be on the fourth attachment section **42**, and the loops **38** may be on the third attachment section **40**. As with the first hook and loop fastener **24**, the hooks **36** may be on a base that is sewn onto the upper surface of the fourth attachment section **42** to form seams **46** in the device **10**, and the loops **38** could be attached to the upper surface of the third attachment section **40** through seams **44**. The attachment sections **40**, **42** may exhibit less elasticity than the elastic sections **16**, **18**, **20** through any of the previously discussed configurations with respect to the other attachment sections **30**, **32**.

[0027] The hook and loop fasteners **24**, **34** can be positioned so that they do not engage the foot **14** of the user. In this regard, the hooks **26**, **36** and loops **28**, **38** do not contact the foot **14** of the user. The elastic sections **16**, **18** and **20** can be provided so that they do not have any hook and loops fasteners located thereon.

[0028] The various sections **16**, **18**, **20**, **30**, **32**, **40** and **42** may all be of the same length in the lateral direction **66**. The first elastic section **16** may be the longest section in the longitudinal direction **64**. The first and third attachment sections **30**, **40** may have the same length in the longitudinal direction **64** and can be the second longest sections in the longitudinal direction **64**. The second and third elastic sections **18**, **20** may have the same length in the longitudinal direction **64** and may be the third longest sections in the longitudinal direction **64**. The second and fourth attachment sections **32**, **42** may have the same length in the longitudinal direction **64** and may be the fourth longest sections of the device **10**. The tab **22** may have the same length in the lateral direction **66** as the rest of the sections **16**, **18**, **20**, **30**, **32**, **40** and **42** and may have the smallest length in the longitudinal direction **64** than any of the other sections.

[0029] With reference to FIG. **3**, the various sections **16**, **18**, **20**, **30**, **32**, **40**, **42** and **22** may all have the same height in the height direction **68**. However, the hooks **26**, **36** and loops **28**, **38** may extend in the height direction **68** to such a degree that they cause the sections **42**, **30**, **40** and **42** to have a height that is greater than the remaining sections **22**, **18**, **16** and **20** of the device **10**. Although shown as having the same height, the tab **22** may have a lesser height in the height direction **68** than other sections **16**, **18**, **20**, **30**, **32**, **40** and **42** of the device **10** in accordance with other exemplary embodiments.

[0030] The device **10** can be constructed of a piece of single elastic material that extends through all of the sections **42**, **18**, **30**, **16**, **40**, **20** and **42** thus causing all of these sections to be integrally formed with one another. The hook and loop fasteners **24** and **34** may be attached to this single piece of material through sewing to form seams **44**, **46**, **48** and **50**. The tab **22** may also be made of a separate material from the remainder of the device **10**.

[0031] The device **10** may be attached to a piece of footwear **12** such as a sandal, boot, shoe, or slipper. The device **10** may be useful for footwear **12** that lacks sufficient attachment of the heel **60** to the footwear **12**. The footwear **12** may have no mechanism for heel **60** attachment, or may have a mechanism that is insufficient for holding purposes of the heel **60** to the footwear **12**. The device **10** can provide secure attachment of the heel **60** so that the footwear **12** does not fall off of the foot **14** of the user or is otherwise more securely positioned onto the foot **14** during activity. The device **10** can be attached to and removed from the footwear **12** for cleaning purposes, or may be removed if it is no longer desired. Further, the device **10** can be removed from the footwear **12** for attachment to a different piece of footwear **12**. The device **10** may be provided in pairs for the user such that one can be used for the left footwear **12** and the other for the right footwear **12**. The two devices **10** may be identically configured and can be interchangeable between the left and right footwear **12**.

[0032] The device **10** may be attached to the footwear **12** before the user places his or her foot **14** into the footwear **12**. In this regard, all of the attachment sections **30**, **32**, **40** and **42** may be attached and the user may slip his or her foot into place on the footwear **12**. Alternatively, one pair of attachment sections (either **30**, **32** or **40**, **42**) may be attached to the footwear **12** and the other not attached. For example, the attachment sections **30**, **32** may be attached to the toe attachment **54** of a sandal **12**, and the attachment sections **40**, **42** may be unattached to the toe attachment **54** or any portion of the sandal **12**. The user may place his or her foot **14** into the sandal **12** in the normal manner such that the bottom of the foot **14** rests on the upper surface of the platform **52** of the sandal **12**. The user may slide their foot **14** against the toe attachment **54** of the sandal **12** so that the toe attachment **54** is slid between the big toe and the toe next to the big toe of their foot **14**. Next, the user may pull the device around their heel **60** and attach the attachment sections **40**, **42** to the toe attachment **54** to secure the device **10** onto the sandal **12** and foot **14** of the user.

[0033] A still alternative means of attachment of the device **10** may be made by first placing the foot **14** into the sandal **12** such that the toes are positioned between the toe attachment **54** and the foot **14** rests onto the platform **52**. The user may then attach the attachment sections **30**, **32** to the toe attachment **54**, and then pull the device **10** around the heel **60** and then attach the other attachment sections **40**, **42** to the toe attachment **54**.

[0034] The device **10** is shown attached to the sandal **12** and foot **14** of the user in FIG. **4**. The device **10** engages the skin of the foot **14** and the attachment sections **30**, **32** are attached to one another. The second elastic section **18** encircles the left section **56** of the toe attachment **54**. The left section **56** is attached to the remainder of the sandal **12** at the platform **52** and engages the foot **14**. With reference also to FIG. **6**, the first hook and loop fastener **24** is engaged such that the first and second attachment sections **30** and **32** are attached to one another. Neither one of the attachment sections **30** or **32** engage the left section **56** or any other portion of the toe attachment **54**. The loops **28** of the first attachment section **30** are longer in length in the longitudinal direction **64** than the hooks **26** of the second attachment section **32**. The hooks **26** may engage different areas of the loops **28** to allow the device

10 to be adjustable in that it can be stretched different amounts as desired. Attaching the hooks **26** closer to the first terminal end may cause one or more of the elastic sections **16**, **18** or **20** to stretch a greater amount than if the hooks **26** were attached to an area of the loops **28** that are farther from the first terminal end of the device **10**.

[0035] When attached, the upper surface **74** may face away from the foot **14**, and the lower surface of the second attachment section **32** may face towards the foot **14**. The second elastic section **18** may engage the foot **14**, and the tab **22** may not engage the foot **14**. The tab **22** can be grasped by the user and used to pull the second attachment section **32** into engagement at the desired location with the first attachment section **30**. When disengagement is desired, the tab **22** can again be grasped and pulled in order to effect release of the hook and loop fastener **24**.

[0036] With reference back again to FIG. **4**, when the device **10** is attached the first elastic section **16** may extend around the heel **60** and the lower surface **72** may engage the heel **60**. The first elastic section **16** may be positioned below the ankle **62** of the foot **14**. However, in other arrangements of the device the first elastic section **16** may extend over a portion or all of the ankle **62**. The first elastic section **16** may stretch as it is worn by the user and this stretching may function to provide a more snug fit of the device onto the foot **14** to more firmly attach the heel **60** to the sandal **12**.

[0037] FIG. **5** shows the opposite side of the foot **14** and sandal **12** from that illustrated in FIG. **4**. The first elastic section **16** extends around the heel **60** and is again located below the ankle **62** on this side of the foot **14**. The device **10** is connected on this side to the right section **58** of the toe attachment **54**. In this regard, and referring also to FIG. **6**, the third elastic section **20** circles the right section **58** and is stretched when attached to the sandal **12**. The fourth attachment section **42** does not engage the foot **14**, and the inner surface of the third attachment section **40** does engage the foot **14**. The upper surface of the third attachment section **40** faces away from the foot **14**, and the upper surface of the fourth attachment section **42** faces towards the foot **14** when the third and fourth attachment sections **40**, **42** are attached. The loops **38** of the third attachment section **40** are longer in the longitudinal direction **64** than the hooks **36** of the fourth attachment section **42**. As shown in FIG. **5** a portion of the area of the loops **38** are visible as the hooks **36** are attached to a portion of the loops **38** spaced some distance from the second terminal end of the device **10**. In this manner, the engagement between the third and fourth attachment sections **40**, **42** is adjustable to achieve a desired attachment or fit of the device **10** to the sandal **12**.

[0038] The various elastic sections **16**, **18**, **20** are exposed in that they are not covered by fabric or any other covering and directly engage the foot **14** or are otherwise viewable to the user. In this manner, the elastic material making up the elastic sections **16**, **18** and **20** directly contact the foot **14** and are viewable to the user. However, other embodiments are possible in which fabric or some other material is included in the elastic sections **16**, **18** and **20** to cover certain portions of the elastic sections **16**, **18** and **20** or provide a more comfortable feel against the skin of the wearer's foot **14**.

[0039] The various sections **22**, **30**, **32**, **40**, **42**, **18**, **16**, and **20** can be formed as a unitary piece or can be different pieces that are attached to one another such as by sewing or other means.

[0040] A method of sizing the heel attachment device **10** is disclosed with reference to FIG. **7** that shows the top of a portion of the footwear **12**. The device **10** is shown in an attached position on the footwear **12** with the foot **14** no present for sake of clarity. The device **10** is attached to the footwear at the left section **56** and right section **58** of the toe attachment **54**. The size and location of the sections **56**, **58** may be different between different types of footwear **12**, between different manufacturers, different sizes of the same type of footwear **12**. The method of sizing the device **10** takes into account the size and positioning of the toe attachment **54**.

[0041] With reference to FIG. **7**, the left and right sections **56**, **58** of the toe attachment **54** are shown. The method uses only one of the sections **56**, **58** and for sake of example, the right section **58** will be used to size the device **10**. However, it is to be understood that the left section **56** may be used alternatively as well. The front of the section **58** is designated with the letter f, and the back of the section is designated with the letter s. The width of the section **58** is designated by the letter w, and this may be expressed as w=s−f. The width w of the toe attachment **54** may thus be measured from the front of the section **58** to the back of the section **58** that is closest to the heel of the footwear **12**.

[0042] The base of the heel of the footwear **12** is designed by the letter b in FIG. **7**. This point b may be the center of the heel of the upper surface **52** which is the surface of the footwear **12** that the foot **14** engages. The point b may be the apex of the heel of the upper surface **52** and thus the point that is located at its extreme terminal end. If this portion of the upper surface **52** is flat or otherwise has multiple points that are at its extreme terminal end the point b may be the point that is in the center of this flat portion or multiple component portions.

[0043] The letter d is the distance from the right section **58** to the base of the heel b. In particular, d is the distance from the base of the heel b to the closest part of the section **58** which is the back of the section **58** s. The distance d may be represented by the expression d=b−s. A distance of 0.5 inches may be present from the base of the heel b to the closest portion of the device **10** in accordance with one exemplary embodiment.

[0044] The length of the device **10** is the length of the device **10** as measured in the longitudinal direction **64** with reference back to FIG. **1**. The length of the device **10** may be represented by the letter r and may be expressed by the equation r=[(d−0.5)+(2(w+0.5))+1]*2. The units may be in inches.

[0045] This equation that gives rise to the length r of the device **10** is developed by the component d−0.5 which is the distance from the heel to the closest part of the toe attachment on one of the sides with 0.5 inches subtracted from this distance d. The reason that 0.5 inches is subtracted is to allow for elasticity because there needs to be a stretch of the device **10** to allow the device **10** to function.

[0046] The component of the equation w+0.5 inches is due to the width of the right section **58**. Because the elastic device **10** will have a certain degree of thickness, for example approximately $1/16^{th}$ of an inch, the wrapping of the elastic device **10** around the right section **58** will add to the length of the device **10**. This is determined to be 0.5 inches.

[0047] Since there are two sections **56**, **58** the wrapping number must be doubled to thus double the length to arrive at the component 2 (w+0.5).

[0048] The +1 in the equation is included in order to add one inch to the length of the device **10** to allow for at least one

inch of contact of the hook **26**, **36** portions of the device to the loop portions **28**, **38**. A minimum of one inch is added in order to ensure the device **10** stays on and does not disconnect from itself. The multiplication of 2 in the equation is done in order to double the entire calculation to account for the other half of the device **10**. The calculated length r of the device **10** may be the length in the longitudinal direction before the device **10** is attached to the footwear **12** or otherwise stretched. The length r of the device **10** may be the lengths between the extreme terminal ends in the longitudinal directions **64**. Alternatively, the length r of the device **10** may be the length between the extreme terminal ends of the attachment sections **32** and **42** thus leaving off the tabs **22** and/or **23**.

[0049] The equation for the calculation of the length r may be made in order to determine the appropriate length of the device **10** for the particular piece of footwear **12**. However, other equations or methods are possible in other exemplary embodiments. The aforementioned equation may be used by a customer to help them determine the size of device **10** they need by submission of the measurements d and w. The manufacturer, distributor, or other can help the customer determine what size device **10** they need, such as whether the longitudinal length r of the device **10** should be 13 inches, 15 inches, or 17 inches.

[0050] While the present invention has been described in connection with certain preferred embodiments, it is to be understood that the subject matter encompassed by way of the present invention is not to be limited to those specific embodiments. On the contrary, it is intended for the subject matter of the invention to include all alternatives, modifications and equivalents as can be included within the spirit and scope of the following claims.

What is claimed:

1. A heel attachment device for footwear, comprising:

an elastic section that can stretch in a longitudinal direction of the device; and

an attachment section that is contiguous with the elastic section, wherein the elastic section can stretch a greater amount in the longitudinal direction than the attachment section.

2. The heel attachment device as set forth in claim **1**, wherein the attachment section is a first attachment section, and further comprising a second attachment section that is attached to the first attachment section through releasable engagement, wherein the elastic section can stretch a greater amount in the longitudinal direction than the second attachment section.

3. The heel attachment device as set forth in claim **2**, wherein the first attachment section and the second attachment section have a hook and loop fastener that allows for releasable engagement between the first attachment section and the second attachment section, wherein the hooks of the hook and loop fastener are located on the second attachment section, and wherein the loops of the hook and loop fastener are located on the first attachment section.

4. The heel attachment device as set forth in claim **2**, wherein the elastic section is a first elastic section, and further comprising a second elastic section that is contiguous with the first attachment section and the second attachment section and is between the first attachment section and the second attachment section, wherein the second elastic section can stretch a greater amount in the longitudinal direction than the first attachment section and the second attachment section.

5. The heel attachment device as set forth in claim **4**, further comprising:

a third elastic section;

a third attachment section that is contiguous with the first elastic section;

a fourth attachment section that is attached to the third attachment section through releasable engagement, wherein the third elastic section is contiguous with the fourth attachment section and is located between the third attachment section and the fourth attachment section, wherein the third elastic section can stretch a greater amount in the longitudinal direction than the third attachment section and the fourth attachment section.

6. The heel attachment device as set forth in claim **5**, wherein the third attachment section and the fourth attachment section have a hook and loop fastener that allows for releasable engagement between the third attachment section and the fourth attachment section, wherein the hooks of the hook and loop fastener are located on the fourth attachment section, and wherein the loops of the hook and loop fastener are located on the third attachment section, wherein the fourth attachment section is located at a terminal end of the device.

7. The heel attachment device as set forth in claim **2**, further comprising a tab that is contiguous with the second attachment section, wherein the tab is located at a terminal end of the device.

8. The heel attachment device as set forth in claim **1**, wherein the heel attachment device is attached to the footwear, wherein the footwear is worn by a foot of a user, wherein the attachment section and the elastic section directly contact the foot of the user.

9. The heel attachment device as set forth in claim **1**, wherein the elastic section has a lower surface that is elastic that directly engages skin of a user's foot when the device is attached to footwear that is worn by the foot of the user.

10. The heel attachment device as set forth in claim **1**, wherein a length (r) of the device in the longitudinal direction is determined based on the equation:

$$r=[(d-0.5 \text{ inches})+(2(w+0.5 \text{ inches}))+1]*2$$

wherein the units are in inches;

wherein w is the width of a section of a toe attachment to which the device is attached measured from a front to a back of the section; and

wherein d is the distance from a base of a heel of the footwear to the back of the section.

11. A heel attachment device for footwear, comprising:

a first attachment section;

a second attachment section that is attached to the first attachment section through releasable engagement, wherein the first attachment section and the second attachment section have a hook and loop fastener to attach the first attachment section and the second attachment section through releasable engagement.

12. The heel attachment device as set forth in claim **11**, wherein the second attachment section is attachable along different areas of the first attachment section to render the attachment between the first and second attachment sections adjustable.

13. The heel attachment device as set forth in claim **11**, wherein all of the hooks of the hook and loop fastener are

located on the first attachment section, and wherein all of the loops of the hook and loop fastener are located on the second attachment section.

14. The heel attachment device as set forth claim **11**, further comprising:

a first elastic section that is contiguous with the first attachment section, wherein the first elastic section can stretch a greater amount in a longitudinal direction than the first attachment section and the second attachment section; and

a second elastic section that is contiguous with both the first attachment section and the second attachment section, wherein the second elastic section is located between the first attachment section and the second attachment section.

15. The heel attachment device as set forth in claim **14**, further comprising:

a third attachment section that is contiguous with the first elastic section;

a fourth attachment section that is attached to the third attachment section through releasable engagement, wherein the third attachment section and the fourth attachment section have a second hook and loop fastener to attach the third attachment section and the fourth attachment section through releasable engagement; and

a third elastic section that is contiguous with both the third attachment section and the fourth attachment section, wherein third elastic section can stretch a greater amount in the longitudinal direction than the third attachment section and the fourth attachment section.

16. The heel attachment device as set forth in claim **15**, wherein the fourth attachment section is attachable along different areas of the third attachment section to render the attachment between the third and fourth attachment sections adjustable.

17. The heel attachment device as set forth in claim **11**, wherein the first attachment section elastic section has a lower surface that directly engages skin of a user's foot when the device is attached to footwear that is worn by the foot of the user.

18. A heel attachment device for footwear, comprising:

a first elastic section that can stretch in a longitudinal direction of the device, wherein the first elastic section has a lower surface that is elastic that directly engages skin of a user's foot when the device is attached to footwear that is worn by the foot of the user;

a first attachment section that is contiguous with the first elastic section, wherein the first elastic section can stretch a greater amount in the longitudinal direction than the first attachment section;

a second elastic section that can stretch in the longitudinal direction, wherein the second elastic section is contiguous with the first attachment section, wherein the first attachment section is located between the first and second elastic sections, wherein the second elastic section can stretch a greater amount in the longitudinal direction than the first attachment section;

a second attachment section that is contiguous with the second elastic section, wherein the second elastic section is located between the first and second attachment sections, wherein the second attachment section is attached to the first attachment section through releasable engagement, wherein the first attachment section and the second attachment section have a first hook and loop fastener to attach the first attachment section and the second attachment section through releasable engagement, wherein the second attachment section is attachable along different areas of the first attachment section to render the attachment between the first and second attachment sections adjustable;

a third attachment section that is contiguous with the first elastic section, wherein the first elastic section can stretch a greater amount in the longitudinal direction than the third attachment section, wherein the first elastic section is located between the first and third attachment sections;

a third elastic section that can stretch in the longitudinal direction, wherein the third elastic section is contiguous with the third attachment section, wherein the third attachment section is located between the first and third elastic sections, wherein the third elastic section can stretch a greater amount in the longitudinal direction than the third attachment section;

a fourth attachment section that is contiguous with the third elastic section, wherein the third elastic section is located between the third and fourth attachment sections, wherein the fourth attachment section is attached to the third attachment section through releasable engagement, wherein the third attachment section and the fourth attachment section have a second hook and loop fastener to attach the third attachment section and the fourth attachment section through releasable engagement, wherein the fourth attachment section is attachable along different areas of the third attachment section to render the attachment between the third and fourth attachment sections adjustable.

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