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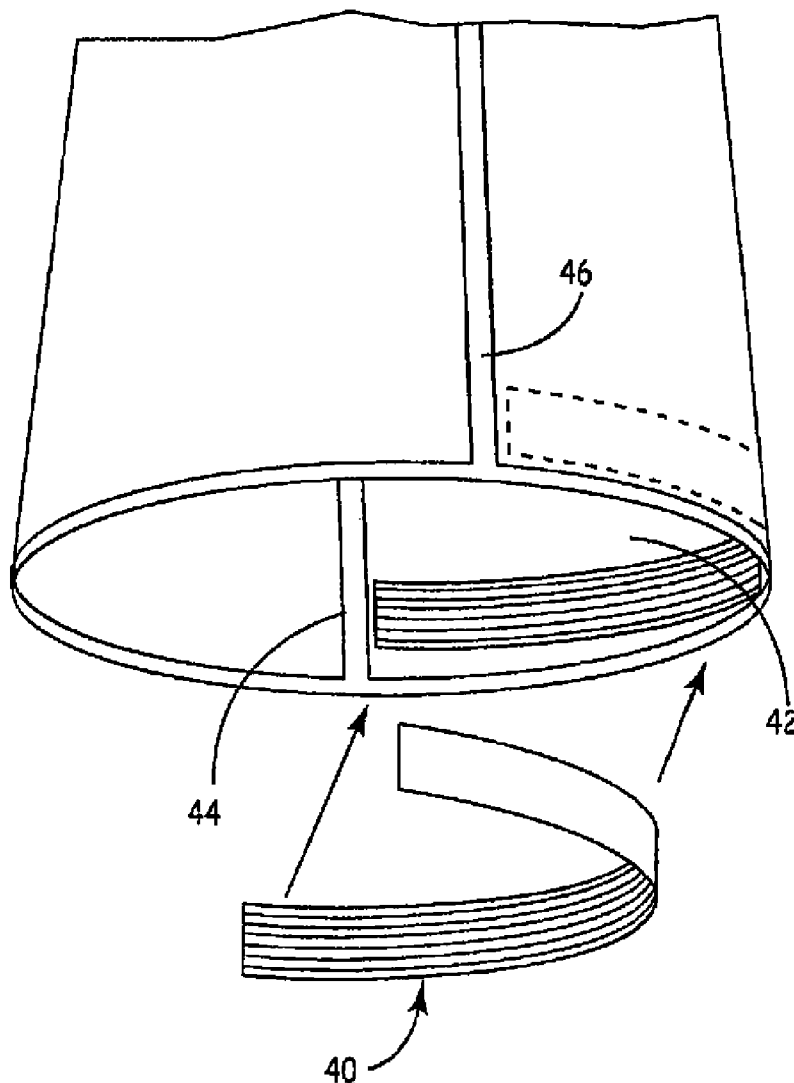
(19) **United States**(12) **Patent Application Publication**
TOYNE(10) **Pub. No.: US 2008/0127397 A1**(43) **Pub. Date: Jun. 5, 2008**(54) **PANT LEG STABILIZER****Publication Classification**(76) Inventor: **KATHLEEN MELINDA TOYNE,**
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(52) **U.S. Cl.** **2/232; 2/231; 2/256; 2/255**(57) **ABSTRACT**

The invention is directed to a pant stabilizer which provides stability, rigidity, and weight to the cuff of a pant and a method of using the pant stabilizer. The pant stabilizer may include a malleable boning device formed of tubular stays or a malleable strip. The pant stabilizer may be fastened to a pant cuff in any suitable manner such as, for example, an adhesive, one or more clips, a zipper, one or more snaps, a hook and loop fastener (e.g. Velcro), one or more larger hooks, or one or more buttons and button holes. The pant stabilizer may be torn or cut by the user in a suitable length and then fastened to an interior portion of a pant cuff. Alternatively, a pant may be manufactured with a pant stabilizer fastened to an interior portion of the pant cuff.

(21) Appl. No.: **11/970,913**(22) Filed: **Jan. 8, 2008****Related U.S. Application Data**

(63) Continuation of application No. 11/397,182, filed on Apr. 4, 2006.

(60) Provisional application No. 60/668,479, filed on Apr. 5, 2005.



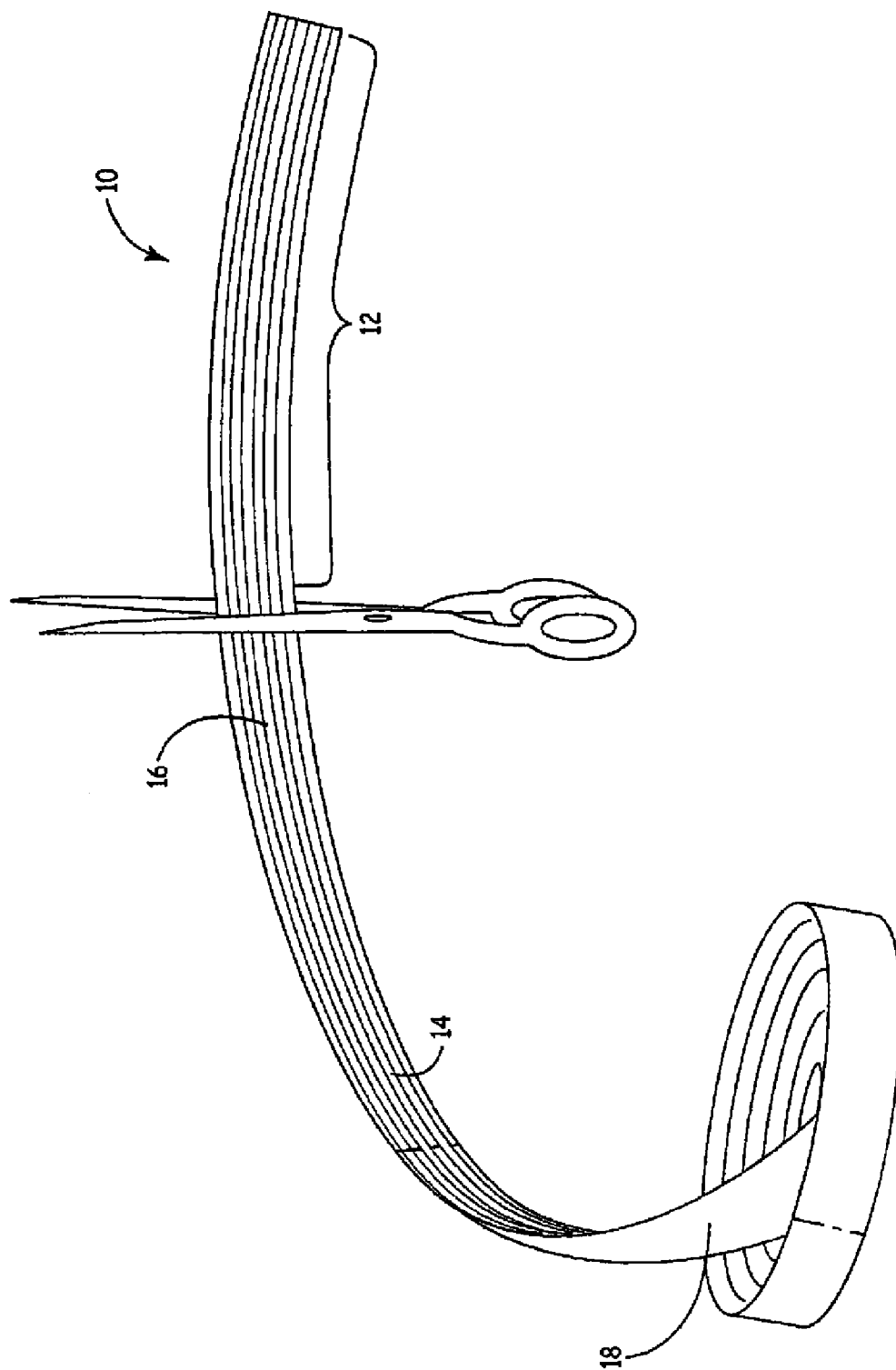


FIG. 1

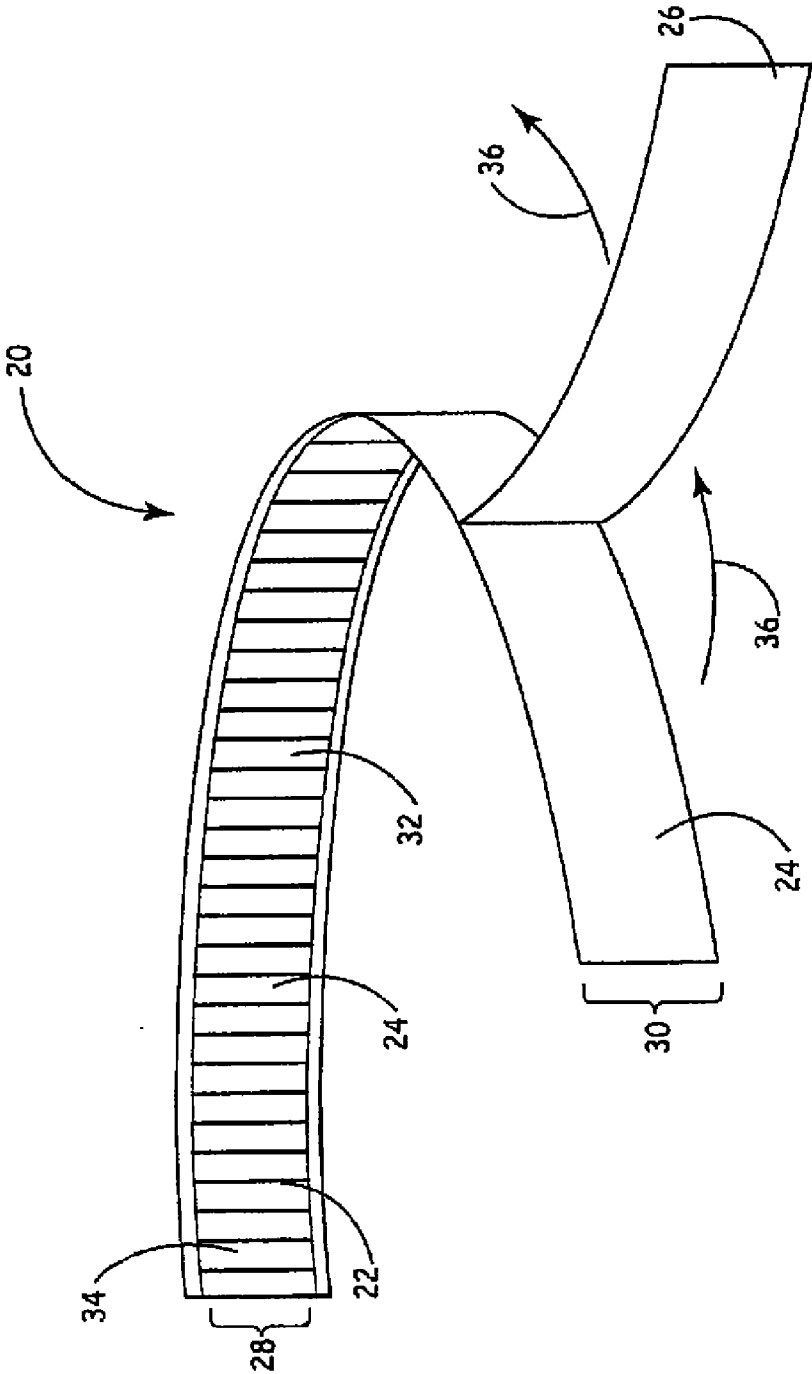


FIG. 2

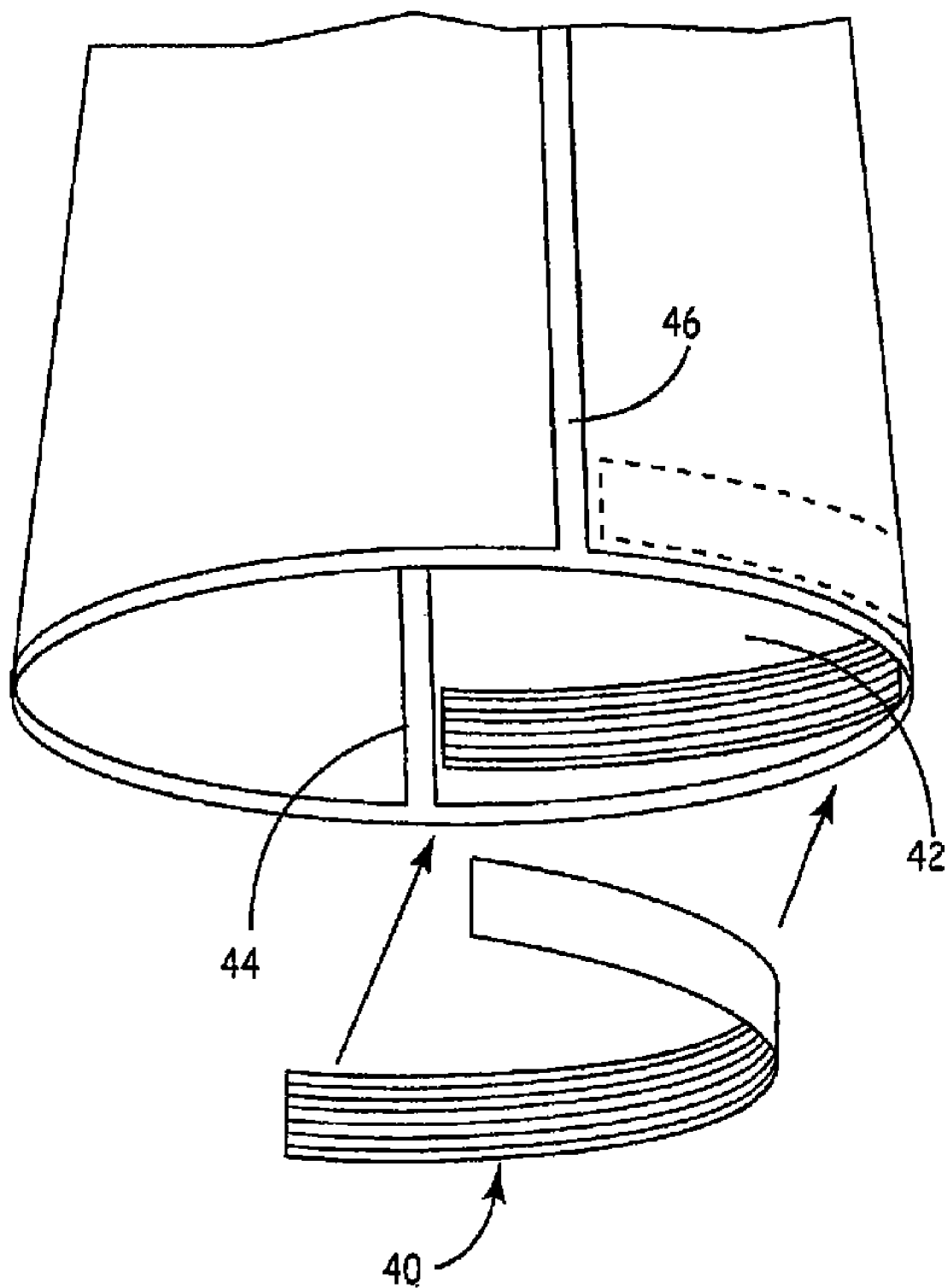


FIG. 3

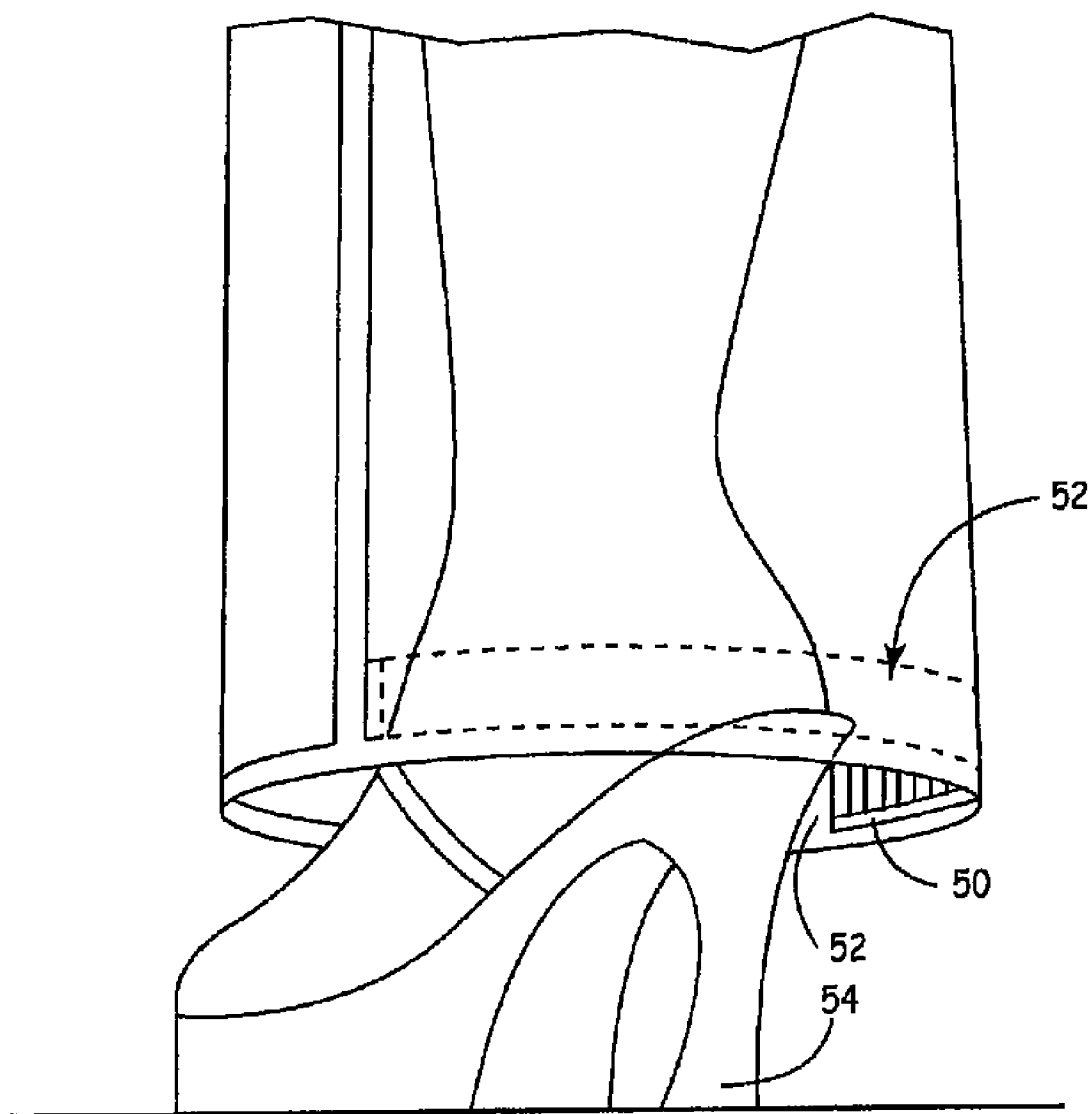


FIG. 4

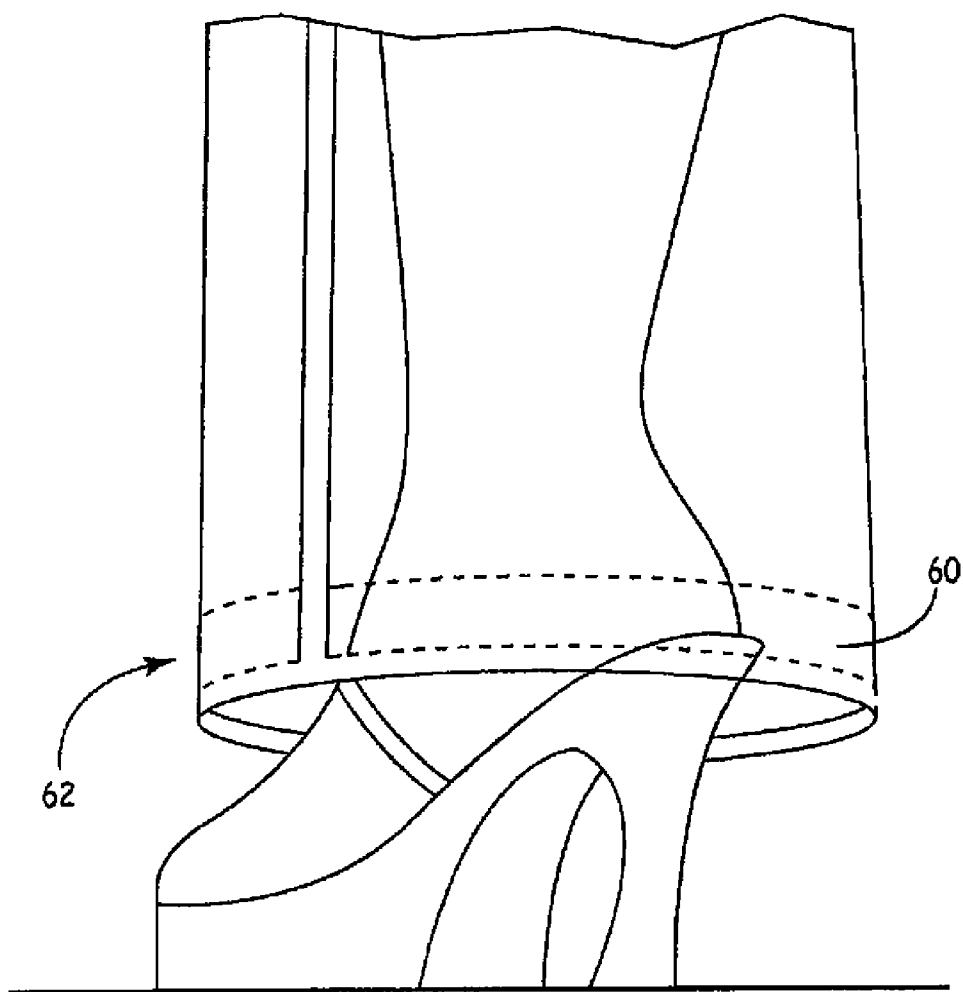


FIG. 5

PANT LEG STABILIZER

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a Continuation of U.S. Ser. No. 11/397,182 filed Apr. 4, 2006 which claims the benefit of provisional application 60/668,479, filed on Apr. 5, 2005, and titled "Pant Leg Stabilizer" which is hereby incorporated by reference.

BACKGROUND

[0002] To a person wishing to present a clean and tailored look to his or her pants, one of the more problematic areas is the cuff of the pant. The cut of most pants are designed so that the cuff of the pant moves independently from the person's leg when they are worn. This provides the pants with a fluid look. However, problems sometimes arise with pant cuffs, particularly when the pants are wide-cut in the leg giving the pant a large cuff.

[0003] One frequent problem is the tendency of cuffs to slip underneath the person's heels. This frequently occurs when the person is wearing full length pants with backless or sling-back shoes. When the person is walking and begins to take a step, the heel lifts away from the sole of the shoe thus allowing a space between the heel and the sole of the shoe. The pant cuff can then slip into this space. When the step is completed and the person's foot hits the ground, the heel steps down on top of the pant cuff. This problem often results in excess wear and stains on the cuff, discomfort for the person, and an unsightly appearance. In addition, persons who experience this problem must stop what they are doing, pull out the pant cuff from underneath their heel, and then resume their activity.

[0004] Another problem occurs when pant cuffs cling to a person's sock or stocking in a position higher on the leg than is desirable due to static electricity. When a person sits down, the pant leg and cuff rise up the person's leg, relative to the shoe. After the person stands up, the pant cuff clings to the person's sock or stocking in the risen position resulting in a less than desirable look.

[0005] Another problem frequently associated with floor length pants occurs when the pant cuff becomes trapped underneath the user's shoe. The pant cuff is then stepped on by the person leading to fraying of the cuff, particularly the rear of the pant cuff. Stepping on the pant cuff may also cause the person to lose his or her balance and fall.

[0006] Other known devices have been developed to address these problems. In particular, U.S. Pat. No. 6,702, 582, to Milburn, describes a trouser leg retaining device which is used for maintaining a person's trouser legs in the proper position in relation to the person's shoes. This trouser leg retaining device includes an elongated elastic strap with a snap fastener device at one end and either a locking clip or an O-ring at the opposite end. The snap fastens onto the person's trouser leg while the O-ring fastens onto the person's shoe. The elastic strap has an adjuster positioned on it to adjust the length of the strap.

[0007] Although the device described by Milburn may address the problems described above, the device does not allow for a clean, tailored look for the user. Instead, a portion

of the device spans the distance from the person's pant cuff to the person's shoe and is therefore visible from the exterior of the pant.

SUMMARY OF THE INVENTION

[0008] The invention is directed to a pant stabilizer which provides stability, rigidity, and weight to the cuff of a pant and a method of using the pant stabilizer. Among other benefits, this device may prevent the cuff from slipping underneath the user's heel, particularly when the user is wearing full length pants with backless or sling-back shoes. Since the device adds weight to the pant cuff, the device may overcome the force of the static electricity that keeps the pant cuff clinging to the person's sock or stocking in a risen position relative to the person's shoe. The device may also prevent floor length pant cuffs from being stepped on by the user's shoe. By preventing the cuff from slipping underneath the user's heel or shoe, associated problems, such as stains on the cuff from contact with the user's heel, discomfort to the user, and time associated with removing the cuff from underneath the heel or shoe are avoided.

[0009] The pant stabilizer is bendable or malleable so that it is able to take on any desired form when fastened to the pant cuff. The malleability of the pant stabilizer may be particularly desirable if the pant stabilizer is applied to pants that include a pleat. By bending or shaping the pant stabilizer to follow the shape of a pleat, the pant cuffs maintain a consistent look with the leg portion of the pant. The pant stabilizer may be applied solely to the interior of the pant cuff so that the stabilizer is not visible from the exterior of the pant cuff.

[0010] In one embodiment, the pant stabilizer includes a malleable boning device. The term "boning device" as used herein means any firm object that is capable of stiffening a pant cuff, much like a collar stay or bone. In one embodiment, the boning device is formed of one or more stays. The stays may be formed of any suitable material such as, for example, a polymeric material, a metallic material, a textile, or combinations of such materials. Any suitable polymeric material may be used to form the stay or stays such as, for example, polyester or nylon. Metallic materials such as a lead or aluminum-based material may also be used. Another example of a suitable boning device includes an aluminum strip coated with polyester.

[0011] If the boning device is formed of more than one stay, such tubular rods, the stays may be arranged in any suitable fashion that allows the boning device to remain malleable. For example, the stays may be arranged parallel to each other or woven together. If the stays are parallel to each other, they may either parallel or perpendicular to the pant cuff. The stays may also be woven into, or otherwise coupled to, a fabric. The fabric may be formed of any suitable material such as polyester, nylon, or other suitable polymer, or cotton, wool, or other textile. The stays may also be held together with adhesive, such as those described below.

[0012] In another embodiment, the pant stabilizer includes a malleable strip. The strip may be formed of any suitable material such as the polymeric materials or metallic materials described herein. The strip may be smooth or textured. If the strip is textured, it may be able to engage with the fabric of the pant cuff pocket and remain in the location in which it is placed, rather than sliding around the pant cuff pocket, as described below.

[0013] The pant stabilizer may be fastened to the pant cuff in any suitable manner. In one embodiment, the pant stabilizer

includes an adhesive which allows the boning device to adhere to the pant cuff. With an adhesive, the pant stabilizer may be applied to one pant cuff, removed, and then re-used on a different pant cuff. The adhesive may be formed of any suitable material. Suitable adhesives will generally be those that allow the pant stabilizer to fasten to the cuff of the pant during use without falling off, but also allow the pant stabilizer to be peeled from the interior of the pant leg without tearing the pant. Even more suitable is an adhesive that leaves little or no residue on the pant cuff when the pant stabilizer is removed. Since some adhesive may remain on the pant cuff, another suitable feature of the adhesive is water-solubility so that the person may easily wash any residual adhesive off of the cuff. Examples of suitable adhesives include two-sided acid-free tape, acid-free pressure sensitive adhesive, and other adhesives known in the art. The adhesive may be applied to the boning device in any suitable manner, such as coating or pressing.

[0014] The pant stabilizer may also include a cover. The cover ensures that the adhesive remains clean and free of debris, such as lint, so that the adhesive will thoroughly adhere to the pant cuff. The cover may be formed of any suitable material, such as, for example, a polymer or polymer-coated paper.

[0015] In still another embodiment, the pant stabilizer includes a boning device having a first major surface and a second major surface and an adhesive disposed on the first major surface. In this embodiment, the pant stabilizer may be rolled so that the adhesive contacts the second major surface of the boning device, as well as the first major surface. When the pant stabilizer is unrolled to a suitable length, the adhesive may pull away from the second major surface so as to expose clean adhesive while maintaining contact with the first major surface. The second major surface of the boning device serves the same function as the cover in other embodiments. The boning device and the adhesive may be selected so that the adhesive adheres more to the first surface of the boning device than the second surface.

[0016] The pant stabilizer may be fastened to the pant cuff in any number of suitable ways. For example, the pant stabilizer may be fastened to the pant cuff using one or more clips, a zipper, one or more snaps, a hook and loop fastener (e.g. Velcro), or one or more larger hooks. In another embodiment, the pant stabilizer may be fastened to the pant cuff using one or more buttons and button holes. For example, the pant stabilizer may include buttons which engage with button holes on the cuff of the pants. In this embodiment, the button holes may be formed on the inside of the pant cuff so that pant stabilizer is not visible from the exterior of the cuff. Other manners of fastening the pant stabilizer to a pant cuff may also be used.

[0017] In yet another embodiment, the boning device may be sewn onto an interior portion of the pant cuff or it may be inserted into a circular pocket around the pant cuff. Pant cuffs are typically formed by taking the rough end of the pant leg material, folding it up once or twice, and sewing the rough end to the pant leg so that it is not visible. This creates a circular pant cuff pocket around the end of the pant cuff. The boning device may be inserted into the pant cuff pocket and either left loose, or secured in place by some suitable mechanism. For example the pant stabilizer may be sewn into the pocket. This may be particularly suitable if the pant stabilizer includes perforations along a length of the boning device to provide holes for threading. The pant cuff pocket may then be

sewn closed again to create a permanent pant stabilizer. Alternatively, the pant cuff may be left open so that the pant stabilizer can be removed from the pant cuff.

[0018] The pant stabilizer may be any suitable length. In one embodiment, the length of the stabilizer is substantially equal to the circumference of the interior portion of the pant cuff. In another embodiment, the length of the stabilizer is less than the circumference of the interior portion of the pant cuff. For example, the length of the stabilizer may be substantially equal to one-half the circumference of the interior portion of the pant cuff or less than one-half the circumference of the interior portion of the pant cuff.

[0019] The pant stabilizer may have any suitable width, such as the width of any typical pant cuff. In one embodiment, the width of the pant stabilizer is about one-half to two inches, however other widths may also be suitable. The width of the boning device may be substantially equal to the width of the adhesive, less than the width of the adhesive, or greater than the width of the adhesive.

[0020] The pant stabilizer may be packaged and dispensed in any suitable manner. In one embodiment, the pant stabilizer is packaged and dispensed as a roll. A roll of the pant stabilizer may include markings that indicate a suitable length for the pant stabilizer and show the user where the pant stabilizer may be cut. The pant stabilizer may also include perforations that extend the width of the pant stabilizer thereby providing the user a suitable location at which to easily tear or cut the pant stabilizer. In another embodiment, the pant stabilizer is packaged and dispensed as pre-cut strips so that the user does not have to cut the pant stabilizer to a stabilizer length before using the pant stabilizer. As with other embodiments, the stabilizer may be of any suitable length.

[0021] The invention is also directed to a method of stabilizing a pant cuff by fastening a pant stabilizer to an interior portion of a pant cuff. The pant stabilizer may be fastened either by the end user of the pant or by the manufacturer of the pant. The interior portion of a pant cuff generally includes any portion of the fabric on the leg of the pant that is below the user's knee and is not visible when a user is wearing the pants. The interior portion also includes the area of the pant cuff that faces the user's leg as well as the pant cuff pocket, described above.

[0022] In one embodiment, the pant stabilizer may be fastened to the pant cuff so that the physical object that is used as the pant stabilizer is not visible from an exterior of a pant cuff. In this embodiment, the pant stabilizer does not extend below the pant cuff and does not attach to the outside of the pant cuff or pant leg. The pant stabilizer may, however, cause a deformation of the pant cuff fabric so that the outline of the stabilizer may be visible from the exterior of the pant cuff.

[0023] In one embodiment, the method also includes the steps of cutting a pant stabilizer to a suitable length. In another embodiment, the method includes the step of tearing the pant stabilizer to a suitable length. As described above, the pant stabilizer may include perforations that extend through the device so that the user or manufacturer may simply tear the pant stabilizer at the perforation instead of cutting it.

[0024] In another embodiment, the method of using the pant stabilizer includes re-using a pant stabilizer on other pant cuffs. In this embodiment, the method includes the steps of fastening the pant stabilizer to an interior portion of a first pant cuff, removing the pant stabilizer from the first pant cuff, and fastening the pant stabilizer to an interior portion of a second pant cuff. If the pant stabilizer includes an adhesive,

the pant stabilizer may be peeled from the interior portion of the second pant cuff and re-used on subsequent pant cuffs so long as the pant stabilizer sufficiently adheres to the pant cuff so that it does not fall off during use.

[0025] In still another embodiment, the invention is directed toward a method of using a pant stabilizer in which the pant stabilizer includes adhesive but not a cover. In this embodiment, the method includes the steps of unrolling roll of a pant stabilizer to a stabilizer length, cutting or tearing the pant stabilizer to a stabilizer length, fastening the pant stabilizer to an interior portion of a pant cuff, and peeling the pant stabilizer from the interior portion of the pant cuff when the user is finished with the pant stabilizer. In this embodiment, the step of unrolling the pant stabilizer exposes clean adhesive. As described above, clean adhesive allows the pant stabilizer to thoroughly adhere to the pant cuff.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] FIG. 1 illustrates a perspective view of the step of cutting a pant stabilizer to a suitable length in a method of using a pant stabilizer.

[0027] FIG. 2 illustrates a perspective view of a pant stabilizer that includes a boning device, an adhesive, and a removable cover. This figure also illustrates the step of removing the cover from the adhesive in a method of using a pant stabilizer.

[0028] FIG. 3 illustrates a perspective view of the step of fastening the pant stabilizer to an interior portion of a pant leg in a method of using a pant stabilizer.

[0029] FIG. 4 illustrates a perspective view of one embodiment of using the pant stabilizer in which the pant stabilizer is applied to a rear interior portion of a pant cuff.

[0030] FIG. 5 illustrates a perspective view of another embodiment of using the pant stabilizer in which the pant stabilizer is applied to the circumference of a pant cuff.

DETAILED DESCRIPTION OF THE INVENTION

[0031] In one embodiment, the pant stabilizer includes a malleable boning device having at least one major surface, an adhesive disposed on the at least one major surface, and a removable cover disposed on the adhesive. One example of such a pant stabilizer is illustrated in FIG. 2. The pant stabilizer 20 is formed of a malleable boning device 22 having at least one major surface (not shown), an adhesive 24 disposed on the at least one major surface of the boning device 22, and a removable cover 26 disposed on the adhesive 24. The boning device 22 may include a series of parallel stays 32 woven into a fabric 34. The boning device 22 may also include a boning device width 28 and an adhesive width 30. In the illustrated embodiment, the boning device width 28 is less than the adhesive width 30.

[0032] The invention is also directed to a method of stabilizing a pant cuff which includes the steps of fastening a pant stabilizer to an interior portion of a pant cuff. In one embodiment of the method, illustrated in FIG. 1, a pant stabilizer 10 is first cut to a stabilizer length 12. In this illustrated embodiment, pant stabilizer includes a boning device 14, an adhesive 16 disposed on the boning device 14, and a removable cover 18 disposed on the adhesive 16. Other embodiments of the pant stabilizer may be used with this method. In another embodiment of the method, not illustrated, the stabilizer may simply be torn to a stabilizer length, particularly if the stabilizer includes perforations that extend the width of the pant

stabilizer. In still another embodiment, the stabilizer is packaged in pre-cut pieces so that the user does not have to cut or tear the stabilizer.

[0033] If the pant stabilizer includes a cover, as illustrated in FIG. 2, the cover 26 is removed from the adhesive 24 before the pant stabilizer is applied to the pant cuff. A force 36 may be applied to peel the cover 26 from the adhesive 24.

[0034] As illustrated in FIG. 3, the pant stabilizer 40 may then be applied to an interior portion of a pant cuff 42. In one embodiment, shown here, the pant stabilizer 40 may be applied to a rear interior portion of the pant cuff 42. As described above, in a particular embodiment, the pant stabilizer has a stabilizer length that is substantially equal to one-half the circumference of the interior portion of the pant cuff. In this embodiment, the pant stabilizer 40 may be applied such that it extends from an interior pant seam 44 to an exterior pant seam 46. Using the pant seams 44, 46 as markers may help center the pant stabilizer 40 to the rear of the cuff 42. As described above, the pant stabilizer 40 may be applied with an adhesive, it may be sewn in place, or it may be applied into the circular pocket created by the pant cuff.

[0035] FIG. 4 illustrates one embodiment of using the pant stabilizer 50 in which the pant stabilizer 50 is applied to the rear interior portion of the pant cuff 52. As illustrated, the pant stabilizer 40 does not fasten to the person's shoe 54, and is not visible from the exterior of the pant cuff 52. The dashed lines in FIGS. 3 and 4 indicate the placement of the pant stabilizer 50 on a rear interior portion of the pant cuff 52. It is not meant to show what is visible from the exterior of the pant cuff 52.

[0036] FIG. 5 illustrates another embodiment of using a pant stabilizer 60. In this embodiment, the pant stabilizer 60 has a length that is equal to the circumference of the pant cuff 62. As shown, the pant stabilizer is located in the circular pocket created by the pant cuff 62 and is therefore not visible from the exterior of the pant cuff 62.

[0037] Various modifications and additions can be made to the exemplary embodiments discussed without departing from the scope of the present invention. For example, while the embodiments described above refer to particular features, the scope of this invention also includes embodiments having different combinations of features and embodiments that do not include all of the described features. Accordingly, the scope of the present invention is intended to embrace all such alternatives, modifications, and variations as fall within the scope of the claims, together with all equivalents thereof.

1-11. (canceled)

12. A pant stabilizer comprising:

a pant leg having a circumference, a lower end, a first vertical seam and a second vertical seam,

the first and second vertical seams being positioned opposite from one another on the circumference of the pant leg to define a rear portion and a front portion of the pant leg;

a pant cuff at the lower end of the pant leg having an inside and an outside;

an elongated boning device attached to the inside of the pant cuff and extending along only the rear portion of the pant leg from the first vertical seam to the second vertical seam;

the elongated boning device being located on the inside of the pant leg so as not to be visible from the outside of the pant leg;

a plurality of stays in the boning device extending parallel to one another; and

the boning device being malleable so as to impart rigidity and weight to the pant cuff greater than the pant cuff had before attachment of the boning device to the pant cuff.

13. The pant stabilizer according to claim **12** wherein the boning device includes a first surface and a second surface, an adhesive being on the first surface thereof, and the stays being on the second surface thereof.

14. The pant stabilizer according to claim **13** wherein a removable cover is on the first surface of the boning device, the removable cover being removed and the adhesive engaging and holding the boning device to the inside of the pant leg not being visible from the outside of the pant leg.

15. The pant stabilizer according to claim **12** wherein the pant cuff includes a folded up portion at the lower end of the pant leg, the folded up portion forming a pocket around the lower end of the pant leg, the boning device being located within the pocket and not being visible from outside the pant cuff.

16. A pant stabilizer comprising:

a pant leg having a lower end, an inside, an outside, a rear portion and a front portion;

a pant cuff comprising a folded up portion at the lower end of the pant leg;

the folded up portion of the pant cuff and the pant leg being sewed together so as to create a pocket around the end of the leg material;

an elongated boning device within the pocket that is not visible from the outside the pant cuff and outside the pant leg;

a plurality of stays in the boning device extending parallel to one another; and

the boning device being malleable so as to impart rigidity and weight to the pant cuff greater than the pant cuff had before attachment of the boning device to the pant cuff.

17. The pant stabilizer according to claim **16** wherein the pant leg includes a circumference, the pant leg also including first and second vertical seams positioned opposite one another on the circumference of the pant leg to define a rear portion and a front portion of the pant leg, the boning device being attached to the inside of the pant leg so as not to be visible from outside the pant leg.

18. The pant stabilizer according to claim **16** wherein the boning device includes a first surface and a second surface; an adhesive on the first surface of the boning device, and a cover in covering relation over the adhesive.

19. The pant stabilizer according to claim **18** wherein the cover is removed and the adhesive adheres the boning device to the inside of the cuff whereby the boning device is not visible from outside the cuff.

20. A pant stabilizer comprising:

a pant leg having a lower end, an inside and an outside;

a pant cuff at the lower end of the pant leg;

an elongated boning device having a first surface and a second surface;

an adhesive on the first surface of the boning device;

a removable cover on the adhesive of the first surface of the boning device and adapted to cover the adhesive and protect the adhesive;

the removable cover being removed from the first surface of the boning device so as to expose the adhesive;

the boning device being adhesively attached to the inside of the pant cuff so as not to be visible from the outside of the pant cuff;

a plurality of stays in the boning device extending parallel to one another; and

the boning device being malleable so as to impart rigidity and weight to the pant cuff greater than the pant cuff had before attachment of the boning device to the pant cuff;

21. The pant stabilizer according to claim **20** wherein the pant leg includes a circumference and first and second seams that are opposite one another across the circumference so as to define a rear portion and a front portion of the pant leg; the boning device being attached to the inside of the rear portion of the pant leg and extending only to the first and second seams.

22. The pant stabilizer according to claim **20** wherein the pant cuff comprises a folded up portion at the lower end of the pant leg; the folded up portion of the pant cuff and the pant leg being sewed together so as to create a pocket around the end of the leg material; the elongated boning device being within the pocket and not visible from outside the pant cuff and outside the pant leg.

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