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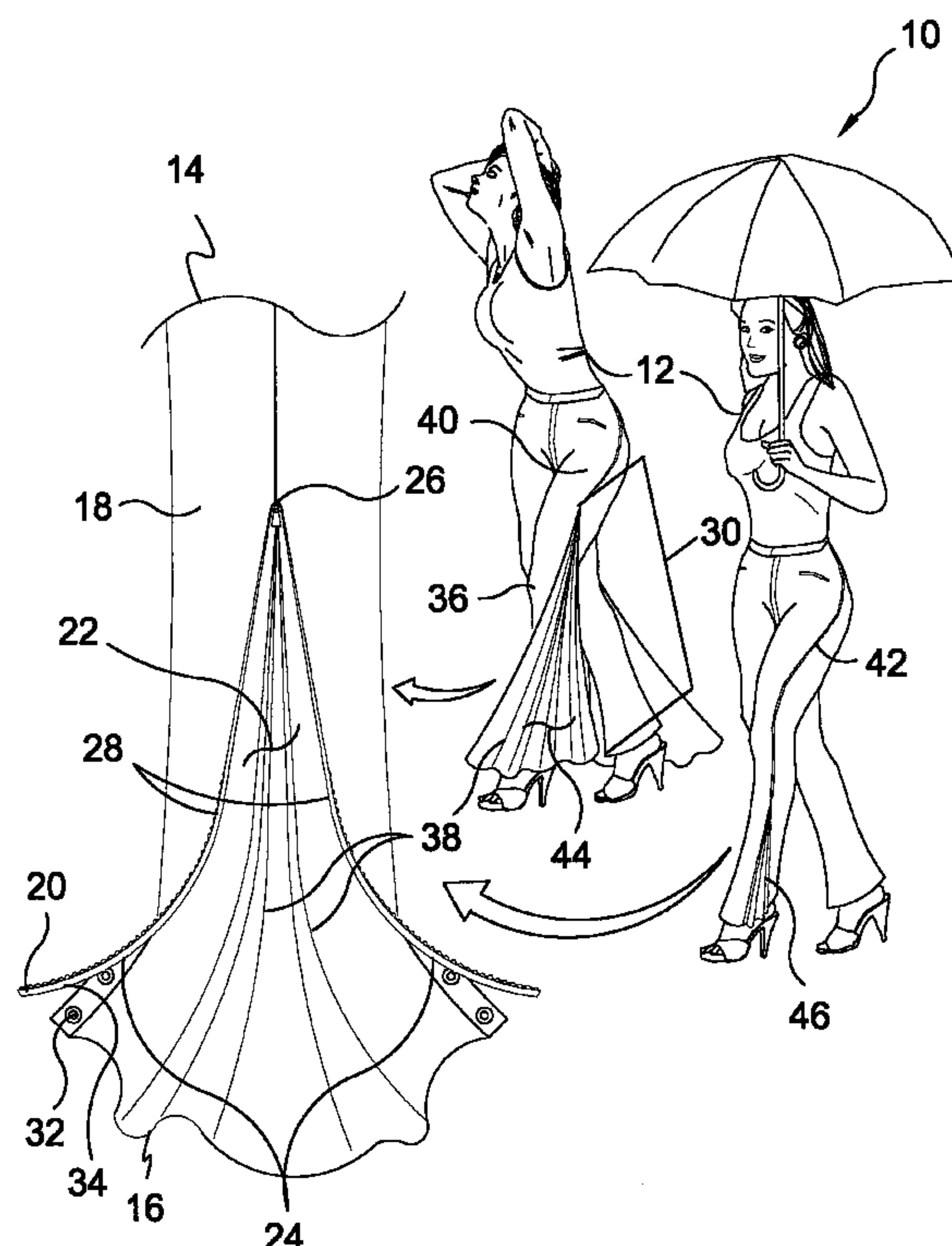
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(54) Titre : PANTALON A GOUSSETS AMOVIBLES INTERCHANGEABLES

(54) Title: PANTS WITH INTERCHANGEABLE GUSSET INSERTS



(57) Abrégé/Abstract:

A pants garment has a pant leg extending vertically from about a hip region to a bottom hem, a slit extending upward from the hem, the slit vertically dividing the pant leg into a pair of mating slit edges ending at a terminus, a zipper for releasably closing the slit along the pair of mating slit edges, a gusset formed of a vertically pleated fabric material having a peripheral length sized to match the pair of mating slit edges, and snaps, buttons, zippers or hook and loop fasteners for removably attaching the peripheral length of the gusset to an interior region of the pant leg adjacent the pair of mating slit edges of the pant leg.

ABSTRACT OF THE DISCLOSURE

5 A pants garment has a pant leg extending vertically from about a hip region to a bottom hem, a slit extending upward from the hem, the slit vertically dividing the pant leg into a pair of mating slit edges ending at a terminus, a zipper for releasably closing the slit along the pair of mating slit edges, a gusset formed of a vertically pleated fabric material having a peripheral length sized to match the pair of mating slit edges, and snaps, buttons, zippers or hook and loop fasteners for removably attaching the peripheral length of the gusset to an interior region of the pant leg adjacent the pair of mating slit edges of the pant leg.

PANTS WITH INTERCHANGEABLE GUSSET INSERTS

BACKGROUND OF THE INVENTION5 Field of the Invention

The present invention relates generally to pants and, more specifically, to a pants garment having a closable exterior slit extending vertically from the pant leg bottom to a terminus with a removably attachable inset fastened to the periphery of the slit. The inset, or gusset, is
10 removably attached by means such as snaps, zippers, buttons or Velcro.

Additionally, the gusset has a pleated and/or gathered portion causing the fabric material to ripple while walking. Additionally the gusset of the present invention is removable to allow for increased comfort while the slit is closed.

15

Description of the Prior Art

There are other pants with interchangeable inserts designed for a similar purpose. Typical of these is U.S. Patent No. 4,215,435 issued to Miele on August 5, 1980.

20

Another patent was issued to Charron on January 27, 1987 as U.S. Patent No. 5,943,699. Yet another U.S. Patent No. 6,161,223 was issued to Andrews on December 19, 2000 and still yet another was issued on October 23, 2001 to Chou as U.S. Patent No. 6,305,027.

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Another patent was issued to Blaire on November 12, 2002 as U.S. Patent No. 6,477,716. Another U.S. Patent No. 7,231,671 was issued to Allen on June 19, 2007 and yet another issued to Girod on April 1, 2008 as U.S. Patent No. 7,350,242. An International patent application was published on August 2, 2007 to Mullen as publication no. WO2007/087532.

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U.S. Patent Number 4,215,435

Inventor: Joseph Miele

Issued: August 5, 1980

5 Convertible trousers including a body portion configured to be placed on the lower half of
a human torso in a conventional manner, a pair of leg portions for accommodating therein a pair
of human legs, the leg portions each comprising a plurality of flexible interchangeable tubular
elements, and means for selectively removeably securing the flexible interchangeable tubular
elements coextensively together. The tubular elements may be joined to the body portion in
10 various configurations to produce a garment of a variable length which may be altered to present
several different visual appearances.

U.S. Patent Number 4,638,509

Inventor: Rene Charron

15 Issued: January 27, 1987

Protective trousers for wearing over the lower portion of a dry or wet diving suit include a
pair of panels joined at the crotch area and defining leg, hip and waist encircling elements. Clips
and straps are provided for connecting the open side edges of the trousers, and for securing the
20 bottom ends of the trousers to the feet of a user.

U.S. Patent Number 5,943,699

Inventor: Claude Barbeau

25 Issued: August 31, 1999

The firefighter's turnout pants according to the invention are designed so that each pant
leg comprises a front panel and a back panel above the knee region, the panels being joined by
an outseam and an inseam, and cylindrical panels below the knee region, the cylindrical panels
being each joined by only an outseam and connected via a circumferential seam at the knee to
30 the two-panels above the knee. The absence of an inseam below the knee of the firefighter's
pants eliminates a chronic problem of abrasion of the threads used in that portion of the inseam
and subsequent failure of the inseam. The absence below the knee of an inseam with the
potential for failure reduces the maintenance and repair of the firefighter pants, reduces the risk

of burn injury resulting from a breach in the protective envelope of the firefighter's pants, and reduces the incidence of reflective trim becoming coincidentally detached from the pants.

U.S. Patent Number 6,161,223

5

Inventor: Allison Andrews

Issued: December 19, 2000

10 A pair of pants that is easily separable at the crotch into right and left leg portions. Each leg portion is selected from a set of various styles to flexibly create a custom mixed or matched style for a given wearing of the pants. A closure system is provided for quick and convenient separation and re-combination of the leg portions while also providing secure use of the pants.

U.S. Patent Number 6,305,027

15

Inventor: Chao Mu Chou

Issued: October 23, 2001

20 Pants with a spiral seam with a zipper provided from a torso part of pants extending downward to lower ends of the pants legs spirally around the respective pants leg and away from a front side of the knee.

U.S. Patent Number 6,477,716

25

Inventor: Gloria Blaire

Issued: November 12, 2002

30 Uniform pants are disclosed. The pants are particularly well suited for persons in law enforcement, the military, security, construction and the like as well as medical patients and senior citizens who desire easier access, convenience and safety when attending to their restroom needs. The pants comprise: a) a waistband; (b) two leg members extending from the waistband; a continuous fastener member positioned along the inseam of the leg members, wherein the fastener member begins at a point above the bottom edge of one leg member and extends upwardly and through the crotch area and then downwardly along the second leg member and ends at a point above the bottom edge of the second leg member; and wherein the positioning of the fastener member creates an opening between the bottom edge of the inseam

and the fastener member on each leg member; and (d) a separate protective shield positioned beneath the full length of the fastener member. Fastener members include zippers, snaps, buttons, hooks, and hook and loop type fasteners. The zipper is of the regular, visible or invisible type when positioned inside the pants. Additionally, the inclusion of a continuous outer
5 flap on top of the fastener member functions to conceal the fastener member from view. This outer flap is unnecessary when an invisible type zipper is used as the fastener member.

U.S. Patent Number 7,231,671

Inventor: Bradley Allen

10 Issued: June 19, 2007

Variable leg width trousers, offering the wearer the ability to change the diameter of the lower leg sections of the trousers near the foot end while keeping the diameter of the upper leg sections constant. Each lower leg section is formed to have a width adjustment slot. The
15 trousers may include a width adjusting insert, releasably attached to the lower leg sections by at least one joining device for each width adjustment slot, with which to vary the size of the width adjusting inserts. This allows the user to select the contraction or expansion of each lower leg section for functionality or appearance. The inserts may be constructed of the same material as the trousers or may be constructed of contrasting materials and/or colors. The width adjusting
20 inserts may incorporate decorative indicia or expressive indicia, or may bear certain functional features, such as reflectors or pockets.

U.S. Patent Number 7,350,242

Inventor: Elizabeth Girod

25 Issued: April 1, 2008

Garments having an inside-out appearance are disclosed and are designed to be inside-out and fashionable. Unique fasteners, belt carriers and modifications of pockets make possible wearing a garment having an inside-out appearance. When a conventional garment is turned
30 inside out many features such as belt carriers, zippers, and pockets become difficult or impossible to use when the garment is worn. Garments disclosed herein permit full use of features such as belt carriers, buttons, zippers, and pockets.

International Patent Publication Number WO2007/087532

Inventor: Nicole Mullen

Published: August 2, 2007

5 A garment constructed so that parts of the garment are detachable and interchangeable.
For a pair of pants, the top portion of the garment is made of a pair of shorts, Capri pants,
gauchos, or pants. A fastener is attached to each pants leg, either at the hem or some inches
above the hem. The fastener can be exposed or covered by fabric. Extenders, which may be
made of any kind of fabric and in a variety of shapes (i.e., bell bottoms, flares or straight), attach
10 to the fastener of the garment, changing the appearance and style of the garment by adding
length, various trims such as fur or leather, or various colors, textures and/or patterns to the
existing fabrics. For example, a pair of shorts could be converted into Capri or full length pants
or simply be given a trim.

15 While these pants may be suitable for the purposes for which they were designed, they
would not be as suitable for the purposes of the present invention, as hereinafter described.

SUMMARY OF THE PRESENT INVENTION

20 A primary object of the present invention is to provide pants having a closable exterior slit
extending from the pant leg bottom to a terminus.

 Another object of the present invention is to provide pants having an inset, or gusset,
which is removably attachable to the periphery of the slit.

25 Yet another object of the present invention is to provide pants having a gusset which is
removably attachable to the periphery of the slit by means selected from the group of snaps,
zippers, buttons and Velcro.

30 Still yet another object of the present invention is to provide pants with a removable
gusset having a pleated and/or gathered portion at its apex causing the fabric material to ripple
while walking.

Another object of the present invention is to provide pants having gussets that are interchangeable.

Yet another object of the present invention is to provide pants having gussets with
5 different colors and/or designs.

Additional objects of the present invention will appear as the description proceeds.

The present invention overcomes the shortcomings of the prior art by providing pants
10 having a closable exterior slit extending from the pant leg bottom to a terminus with a removably attachable gusset fastened to the periphery of the slit. The gusset is removably attached by means taken from the group of snaps, zippers, buttons and Velcro. The gusset has a pleat at its apex causing the fabric material to ripple while walking.

15 The foregoing and other objects and advantages will appear from the description to follow. In the description reference is made to the accompanying drawings, which form a part hereof, and in which is shown by way of illustration specific embodiments in which the invention may be practiced. These embodiments will be described in sufficient detail to enable those skilled in the art to practice the invention, and it is to be understood that other embodiments may
20 be utilized and that structural changes may be made without departing from the scope of the invention. In the accompanying drawings, like reference characters designate the same or similar parts throughout the several views.

The following detailed description is, therefore, not to be taken in a limiting sense, and
25 the scope of the present invention is best defined by the appended claims.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

In order that the invention may be more fully understood, it will now be described, by way
30 of example, with reference to the accompanying drawings in which:

FIGURE 1 is an illustrative view of the present invention in use.

FIGURE 2 is an exploded view of the present invention.

5 FIGURE 3 is an exploded view of the present invention.

FIGURE 4 is an assembled view of the present invention with pants slit open.

10 FIGURE 5 is a sectional view of the present invention using snap fasteners.

FIGURE 6 is a sectional view of the present invention using Velcro fasteners.

FIGURE 7 is a sectional view of the present invention using button fasteners.

15 FIGURE 8 is a sectional view of the present invention using zipper fasteners.

FIGURE 9 is an illustrative view of the present invention.

FIGURE 10 is an illustrative view of the present invention with slit in a closed position.

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DESCRIPTION OF THE REFERENCED NUMERALS

Turning now descriptively to the drawings, in which similar reference characters denote similar elements throughout the several views, the figures illustrate the pants having removable
25 gussets of the present invention. With regard to the reference numerals used, the following numbering is used throughout the various drawing figures.

10 pants garment

12 user

14 pant leg

30 16 gusset

18 hip region of said pants garment

- 20 bottom hem
- 22 slit
- 24 pair of mating slit edges
- 26 terminus
- 5 28 zipper
- 30 peripheral length of gusset
- 32 means for attaching gusset to pant leg
- 34 interior region of pant leg
- 36 knee
- 10 38 vertical pleats
- 40 outside portion of pant leg
- 42 seam in pant leg
- 44 open position of zipper
- 46 partly open position of zipper
- 15 48 fabric material
- 50 snaps
- 52 ornamentation
- 54 hook and loop fasteners
- 56 buttons
- 20 57 button holes
- 58 zippers
- 60 closed position of zipper

25 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The following discussion describes in detail one embodiment of the invention (and several variations of that embodiment). This discussion should not be construed, however, as limiting the invention to those particular embodiments, practitioners skilled in the art will

30 recognize numerous other embodiments as well. For definition of the complete scope of the invention, the reader is directed to appended claims.

FIGURE 1 is an illustrative view of the present invention in use. The present invention is a pants garment **10** wearable by a user **12**, the pants garment pant legs **14** having removable and replaceable gussets **16** for flaring out the pant legs **14**. The pants garment **10** is shown as a pant leg **14** extending vertically from about a hip region **18** of the pants garment **10** to a bottom hem **20**. A slit **22** extends upward from the hem **20**, vertically dividing the pant leg **14** into a pair of mating slit edges **24** ending at a terminus **26** with a zipper **28** acting as means for releasably closing the slit **22**. A gusset **16** has a peripheral length **30** sized to match the pair of mating slit edges **24**, both of which have affixed thereto means **32** for removably attaching the gusset **16** to the pant leg **14**. Preferably, the peripheral length **30** of the gusset **16** is removably attachable to an interior region **34** of the pant leg **14** adjacent the slit edges **24**, such that the zipper **28**, when closed, maintains the gusset **16** inside the pant leg **14**. The terminus **26** can be located at any point between the hem **20** and the hip region **18**, and preferably is near or above the knee **36**.

Illustrated is an embodiment of the invention wherein the fabric material making up the gusset **16** flares out from the terminus **26** to the hem **20** and further includes a plurality of vertical pleats **38**. The pants garment **10** of the present invention can have one or both legs having removable gussets **16**. The slit **22** can be situated at any vertical line along the pant leg **14**; shown is an embodiment wherein the slit **22** runs vertically up an outside portion **40** of the pant leg **14** and is generally co-linear to a seam **42** in the pant leg **14**.

In use a user **12** attaches a gusset **16** to the pant leg **14**, then manipulates the zipper **28** to a desired position, such as an open **44**, closed or partially open **46** position. Shown is the zipper **28** in an open position **44** and a partially open position **46**. Optionally, the zipper **28** is adapted to remain in the selected position.

FIGURE 2 is an exploded view of the present invention. Shown is a pants garment **10** with pant legs **14** having removable pleated **38** gussets **16** being attached thereto. A slit **22** extends upward from the hem **20**, vertically dividing the pant leg **14** into a pair of mating slit edges **24** ending at a terminus **26** with a zipper **28** acting as means for releasably closing the slit **22**. A gusset **16**, preferably formed of a fabric material **48**, has a peripheral length sized to match the pair of mating slit edges **24**, both of which have affixed thereto means **32** selected

from snaps **50**, buttons, zippers and hook and loop fasteners (VELCRO) for removably attaching the gusset **16** to the pant leg **14**.

FIGURE 3 is an exploded view of the present invention. Shown is a pants garment **10** with pant legs **14** having removable gussets **16** being detached therefrom. A slit **22** extends upward from the hem **20**, vertically dividing the pant leg **14** into a pair of mating slit edges **24** ending at a terminus **26** with a zipper **28** acting as means for releasably closing the slit **22**. A gusset **16**, preferably formed of a fabric material **48**, has a peripheral length sized to match the pair of mating slit edges **24**, both of which have affixed thereto means **32** selected from snaps **50**, buttons, zippers and hook and loop fasteners (VELCRO) for removably attaching the gusset **16** to the pant leg **14**.

FIGURE 4 is an assembled view of the present invention with pants slit open. Shown is a pants garment **10** with pant legs **14** having a removable gusset **16** being attached thereto. A slit **22** extends upward from the hem **20**, vertically dividing the pant leg **14** into a pair of mating slit edges **24** ending at a terminus **26** with a zipper **28** acting as means for releasably closing the slit **22**. A gusset **16**, preferably formed of a fabric material **48**, has a peripheral length sized to match the pair of mating slit edges **24**, both of which have affixed thereto means **32** selected from snaps **50**, buttons, zippers and hook and loop fasteners (VELCRO) for removably attaching the gusset **16** to the pant leg **14**.

FIGURE 5 is a sectional view of the present invention **10** using snap fasteners **50**. Shown is a sectional view of the present invention using mating snap fasteners **50** as a means of attaching the gusset **16** to the pant leg **14**. Also shown is an embodiment of the invention wherein the fabric material **48** further comprises ornamentation **52**, such as patterns, textures and other adornments.

FIGURE 6 is a sectional view of the present invention **10** using hook and loop (Velcro) fasteners **54**. Shown is a sectional view of the present invention using hook and loop fasteners **54** as a means of attaching the gusset **16** to the pant leg **14**. Also shown is an embodiment of the invention wherein the fabric material **48** further comprises ornamentation **52**, such as patterns, textures and other adornments.

FIGURE 7 is a sectional view of the present invention **10** using button fasteners **56**. Shown is a sectional view of the present invention using button fasteners **56** and mating button holes **57** as a means of attaching the gusset **16** to the pant leg **14**. Also shown is an embodiment of the invention wherein the fabric material **48** further comprises ornamentation **52**, such as patterns, textures and other adornments.

FIGURE 8 is a sectional view of the present invention **10** using zipper fasteners **58**. Shown is a sectional view of the present invention using zipper fasteners **58** as a means of attaching the gusset **16** to the pant leg **14**.

FIGURE 9 is an illustrative view of the present invention **10**. Shown is a sectional view of the pant leg **14** of the present invention with the zipper **28** in a partly open position **46**. The gusset **16** contains a plurality of pleats **38**.

FIGURE 10 is an illustrative view of the present invention **10** with slit **22** in a closed position **60**. Shown is a sectional view of the pant leg **14** of the present invention with the zipper **28** in a closed position **60**. The present invention provides for pants that can be used with a formal appearance having the slit **22** closed **60** and a fashionable appearance having the slit open displaying the rippled gusset. Additionally the gusset may be removed for comfort or left remaining for future use, should the user decide to close the zipper **28**.

It will be understood that each of the elements described above, or two or more together may also find a useful application in other types of methods differing from the type described above.

While certain novel features of this invention have been shown and described and are pointed out in the annexed claims, it is not intended to be limited to the details above, since it will be understood that various omissions, modifications, substitutions and changes in the forms and details of the device illustrated and in its operation can be made by those skilled in the art without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can, by applying current knowledge, readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention.

CLAIMS

1. A pants garment comprising:

- 5 a) a pant leg extending vertically from about a hip region of said pants garment to a bottom hem;
- b) a slit extending upward from said hem of said pant leg, said slit vertically dividing said pant leg into a pair of mating slit edges ending at a terminus;
- c) means for releasably closing said slit along said pair of mating slit edges;
- 10 d) a gusset having a peripheral length sized to match said pair of mating slit edges; and
- e) means for removably attaching said peripheral length of said gusset to said pair of mating slit edges of said pant leg.

15 2. A pants garment according to claim 1, wherein said means for releasably closing said slit along said pair of mating slit edges comprises a zipper.

20 3. A pants garment according to claim 2, wherein said means for removably attaching said peripheral length of said gusset to said pair of mating slit edges of said pant leg is selected from the group snaps, buttons, zippers and hook and loop fasteners.

4. A pants garment according to claim 3, wherein said peripheral length of said gusset is removably attachable to an interior region of said pant leg adjacent said pair of mating slit edges of said pant leg.

25 5. A pants garment according to claim 4, wherein said gusset comprises a fabric material.

6. A pants garment according to claim 5, wherein said fabric material further comprises ornamentation.

30 7. A pants garment according to claim 6, wherein said ornamentation is selected from patterns, textures and adornments.

8. A pants garment according to claim 5, wherein said terminus is between said bottom hem and said hip region of said pants garment.

5 9. A pants garment according to claim 8, wherein said terminus is near a knee region of said pant leg.

10 10. A pants garment according to claim 8, wherein said terminus is between a knee region of said pant leg and said hip region of said pants garment.

10 11. A pants garment according to claim 8, wherein said gusset comprises a plurality of vertical pleats.

15 12. A pants garment according to claim 11, wherein said fabric material of said gusset flares out from said terminus to said hem.

13. A pants garment according to claim 8, wherein said slit is generally co-linear to a seam in said pant leg.

20 14. A pants garment according to claim 13, wherein said seam in said pant leg runs vertically up an outside portion of said pant leg.

15. A pants garment according to claim 8, wherein said zipper is adapted to remain in a position selected from open, closed and partially open.

25 16. A pants garment according to claim 8, further comprising a second pant leg similar to said pant leg.

30 17. A method of manufacturing a pants garment comprising the steps:
a) providing a pants garment having a pant leg extending vertically from about a hip region of said pants garment to a bottom hem;
b) cutting into said pant leg a slit extending upward from said hem of said pant leg, said slit vertically dividing said pant leg into a pair of mating slit edges ending at a terminus;

- c) affixing a zipper for releasably closing said slit along said pair of mating slit edges from said hem to said terminus;
- d) providing a vertically pleated gusset formed of a fabric material and having a peripheral length sized to match said pair of mating slit edges; and
- e) affixing means selected from the group snaps, buttons, zippers and hook and loop fasteners to an interior region of said pant leg adjacent said pair of mating slit edges and said peripheral length of said gusset for removably attaching said peripheral length of said gusset to said pair of mating slit edges of said pant leg.

18. A method of manufacturing a pants garment according to claim 17, wherein said fabric material further comprises ornamentation selected from patterns, textures and adornments.

19. A method of manufacturing a pants garment according to claim 17, wherein said terminus is near a knee region of said pant leg.

20. A method of manufacturing a pants garment according to claim 19, wherein said fabric material of said gusset flares out from said terminus to said hem.

21. A method of manufacturing a pants garment according to claim 20, wherein said slit is cut generally co-linear to a seam in said pant leg.

22. A method of manufacturing a pants garment according to claim 21, wherein said seam in said pant leg runs vertically up an outside portion of said pant leg.

23. A method of modifying the appearance of a pants garment comprising the steps:

- a) providing a pants garment having a pant leg extending vertically from about a hip region to a bottom hem, a slit extending upward from said hem, said slit vertically dividing said pant leg into a pair of mating slit edges ending at a terminus, a zipper for releasably closing said slit along said pair of mating slit edges, a gusset formed of a vertically pleated fabric material having a peripheral length sized to match said pair of mating slit edges, and means selected from the group snaps, buttons, zippers and hook and loop fasteners for removably

attaching said peripheral length of said gusset to an interior region of said pant leg adjacent said pair of mating slit edges of said pant leg; and
b) removably attaching said gusset to said pant leg.

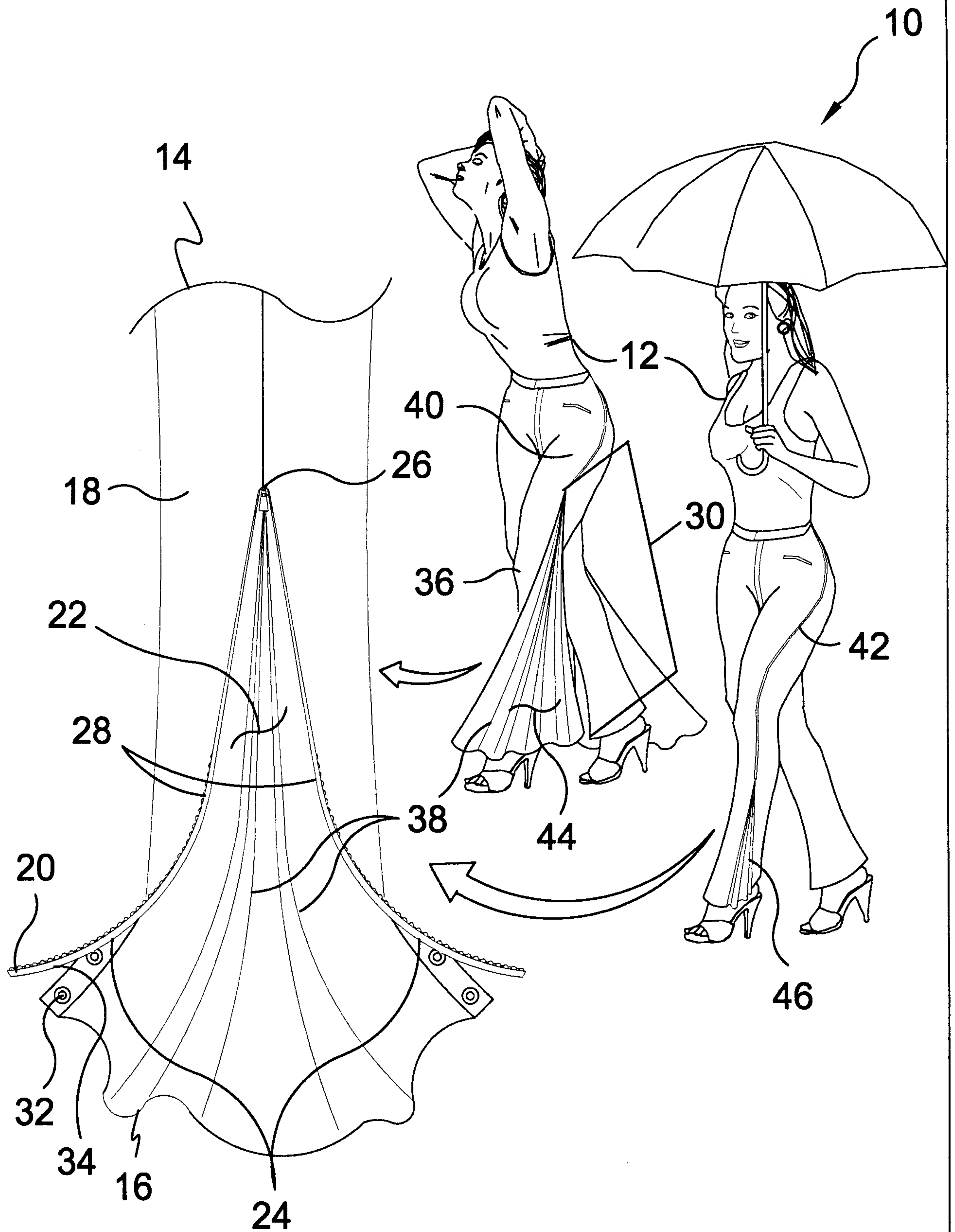
5 24. A method of modifying the appearance of a pants garment according to claim 23, further comprising the step of manipulating said zipper to a desired position along said pair of mating slit edges, said desired position selected from the group open, closed and partly open.

10 25. A method of modifying the appearing of a pants garment according to claim 23, wherein said slit is generally co-linear to a seam running vertically up an outside portion of said pant leg.

15 26. A method of modifying the appearing of a pants garment according to claim 23, further comprising the steps:
a) removing said gusset from said pant leg; and
b) manipulating said zipper to a desired position selected from the group open, closed and partly open.

20 27. A method of modifying the appearing of a pants garment according to claim 23, further comprising the steps:
a) removing said gusset from said pant leg;
b) removably attaching a second gusset to said pant leg; and
c) manipulating said zipper to a desired position selected from the group open, closed and partly open.

25

**FIG. 1**

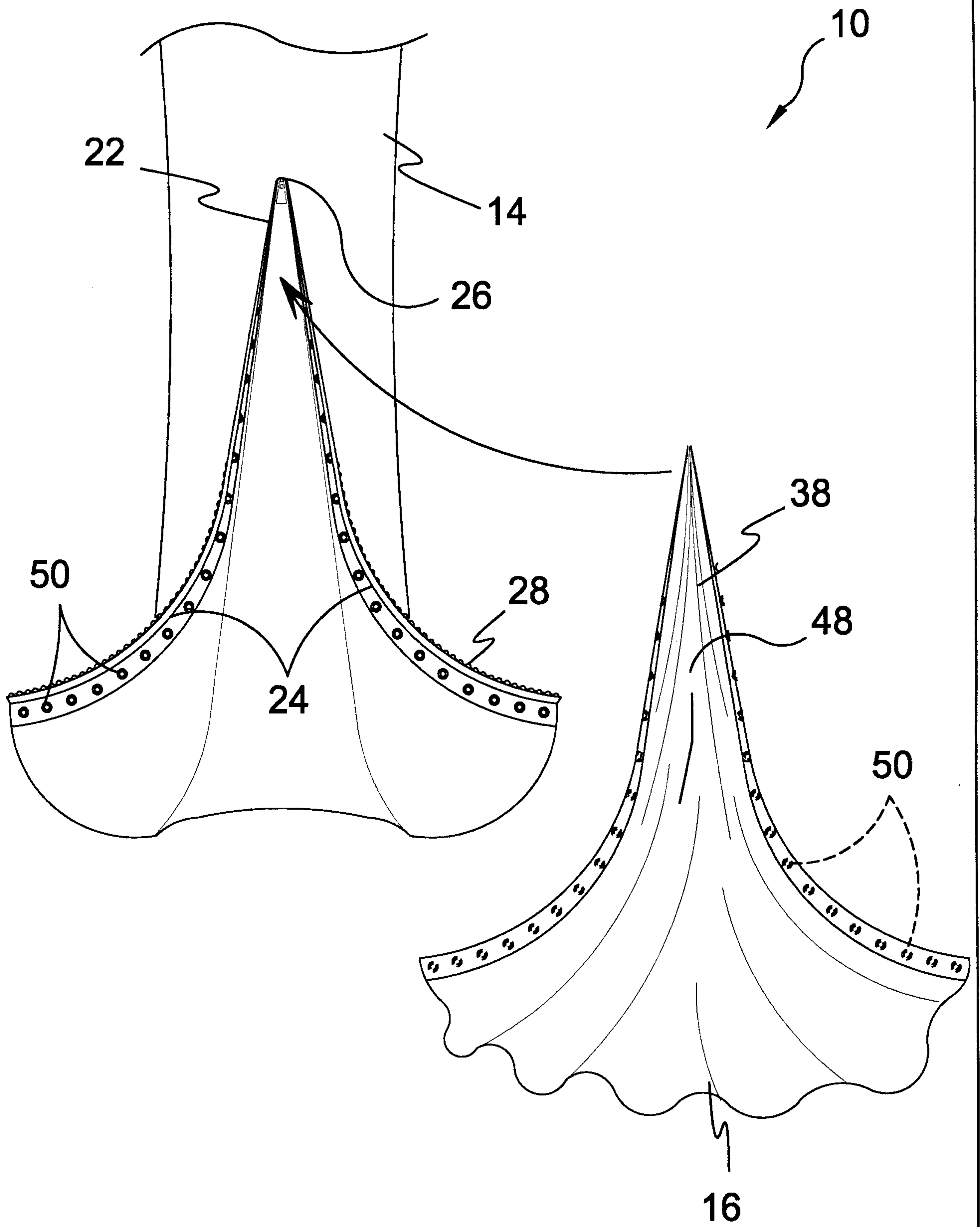


FIG. 2

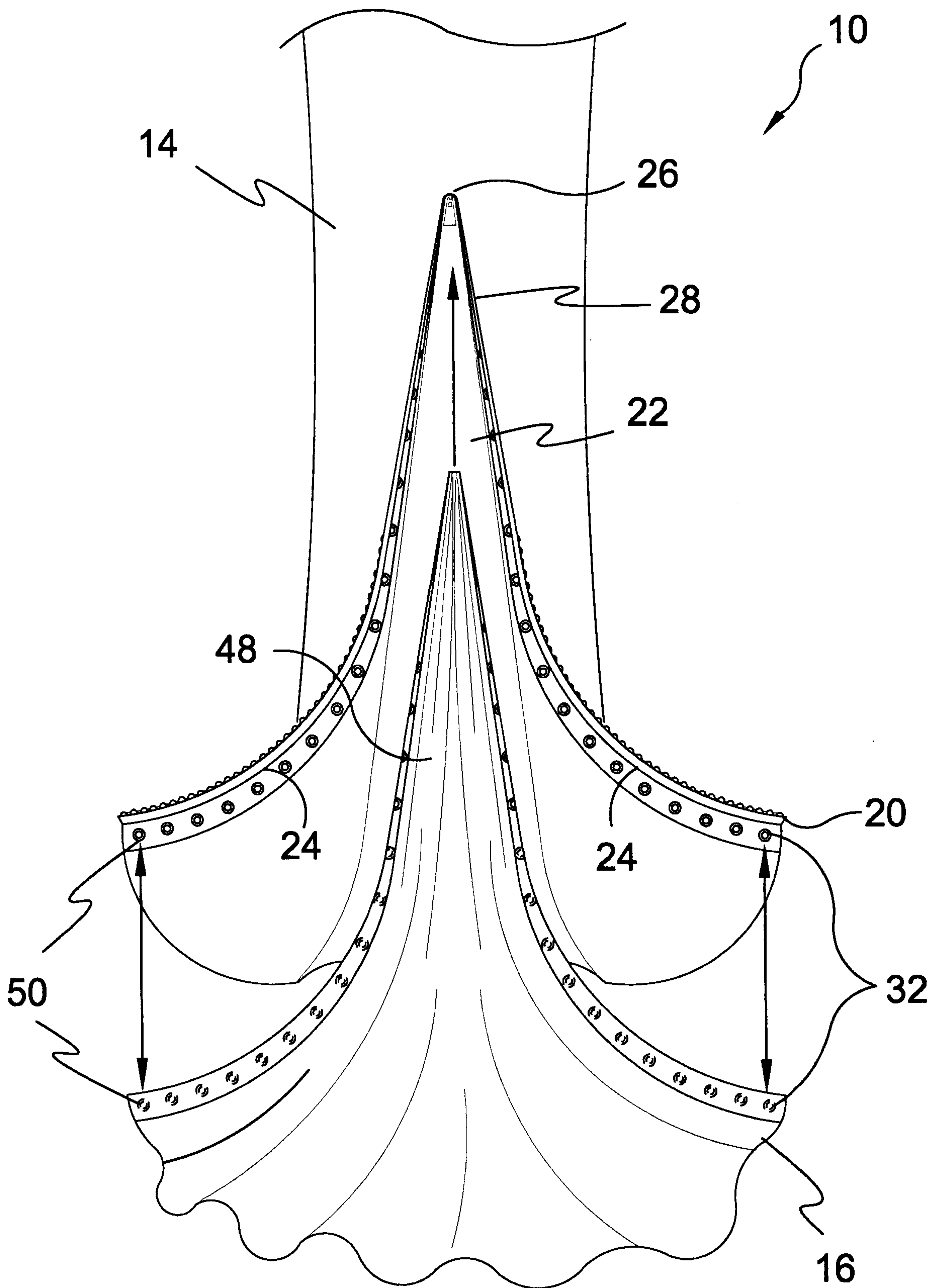


FIG. 3

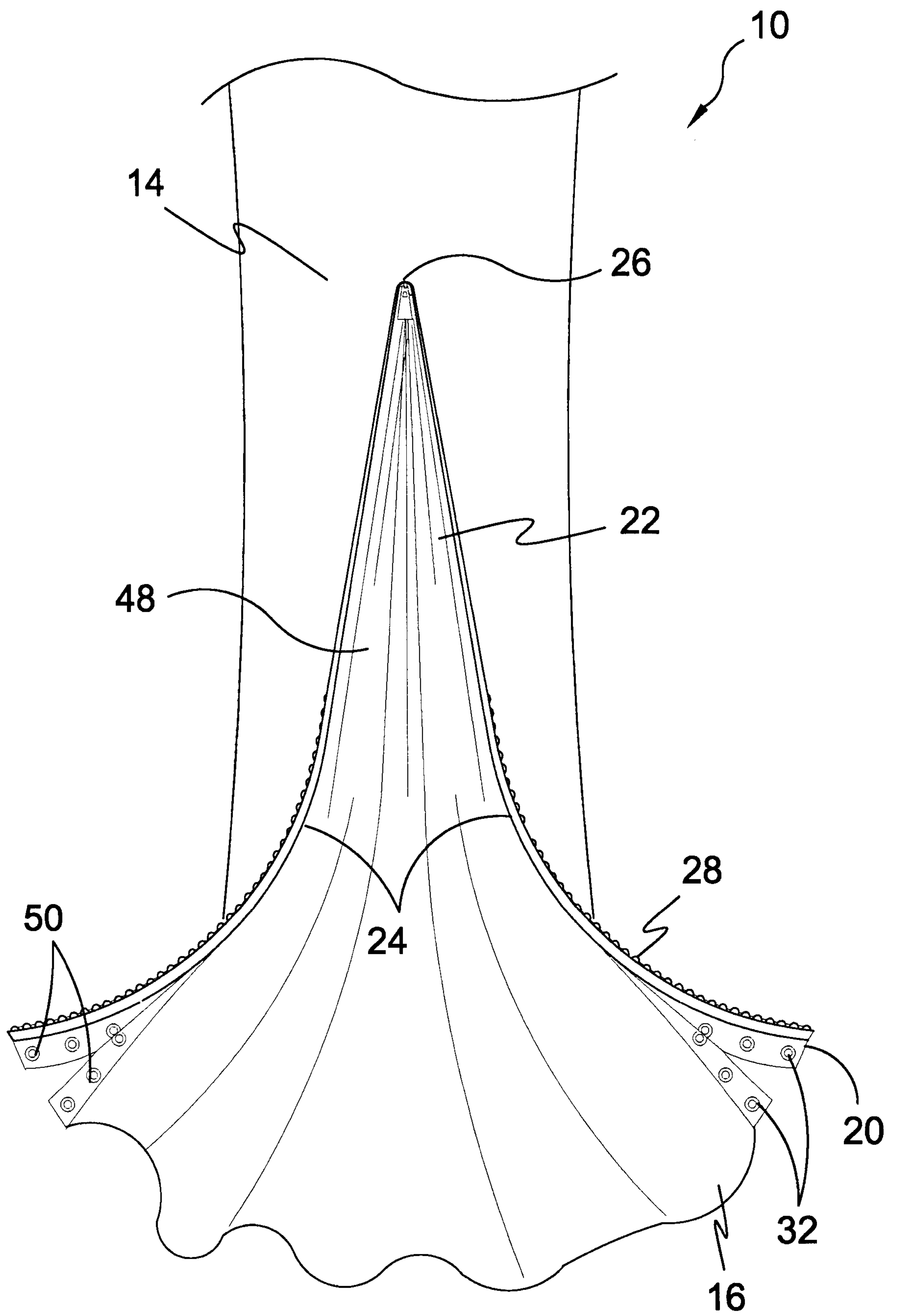


FIG. 4

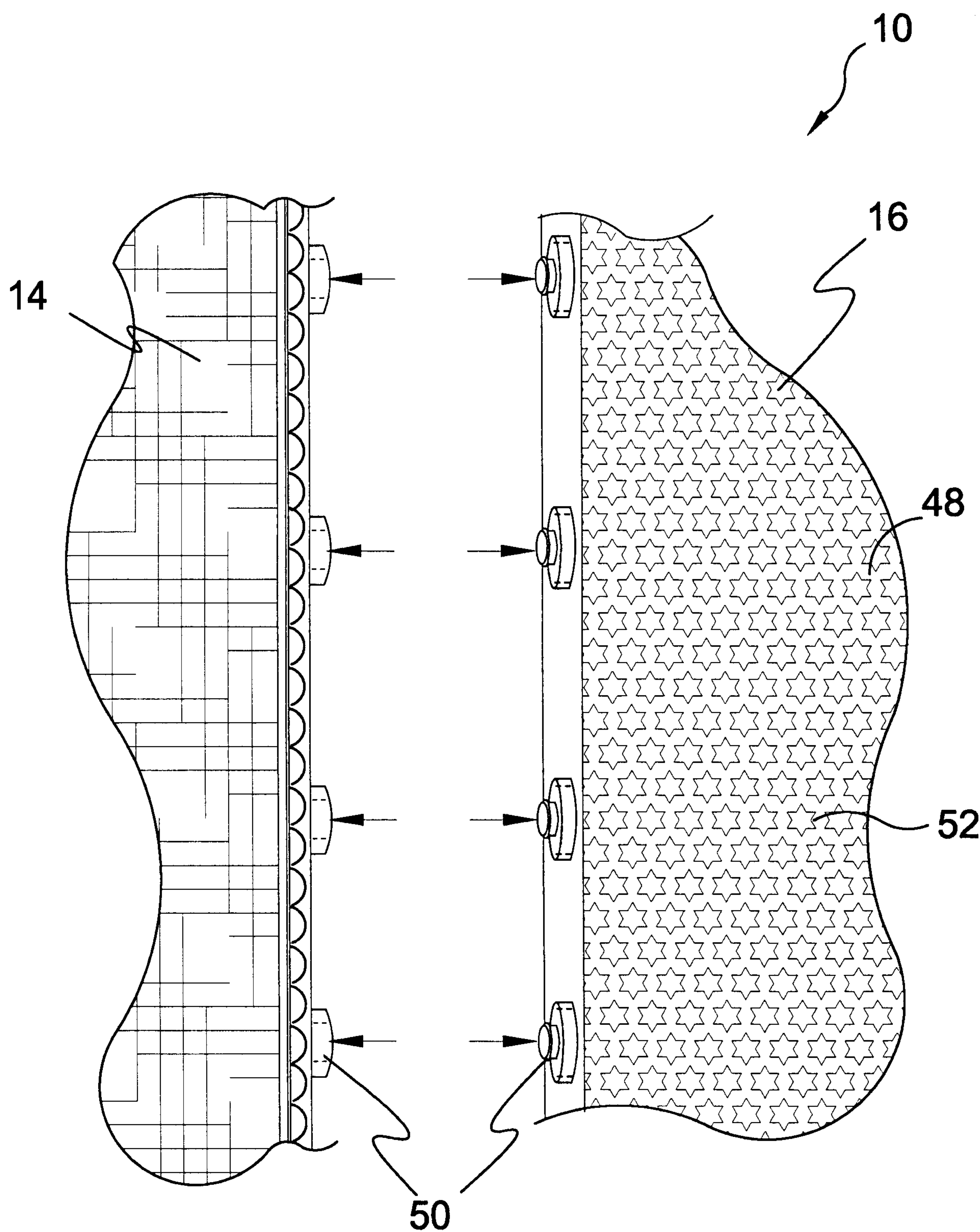


FIG. 5

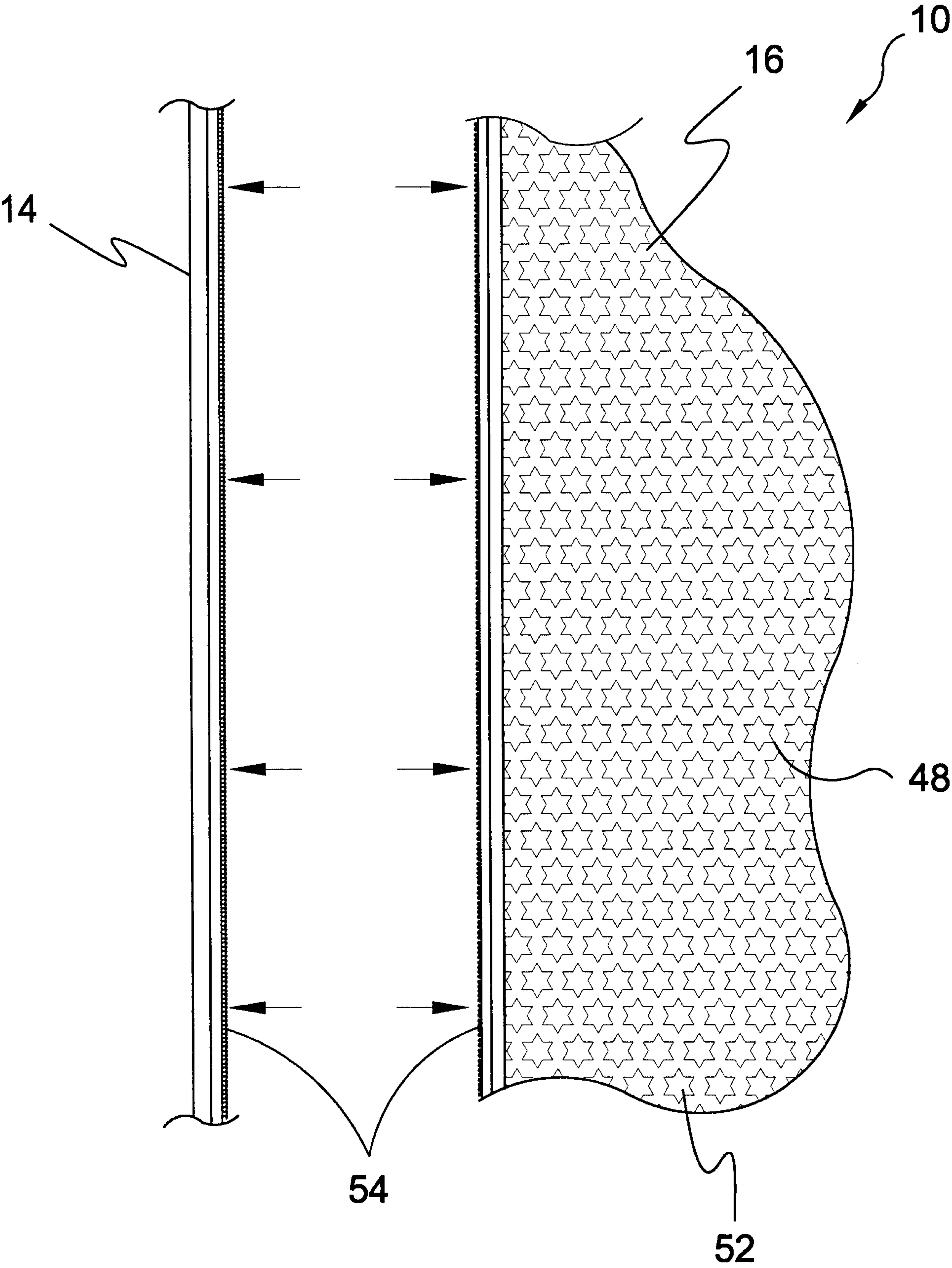


FIG. 6

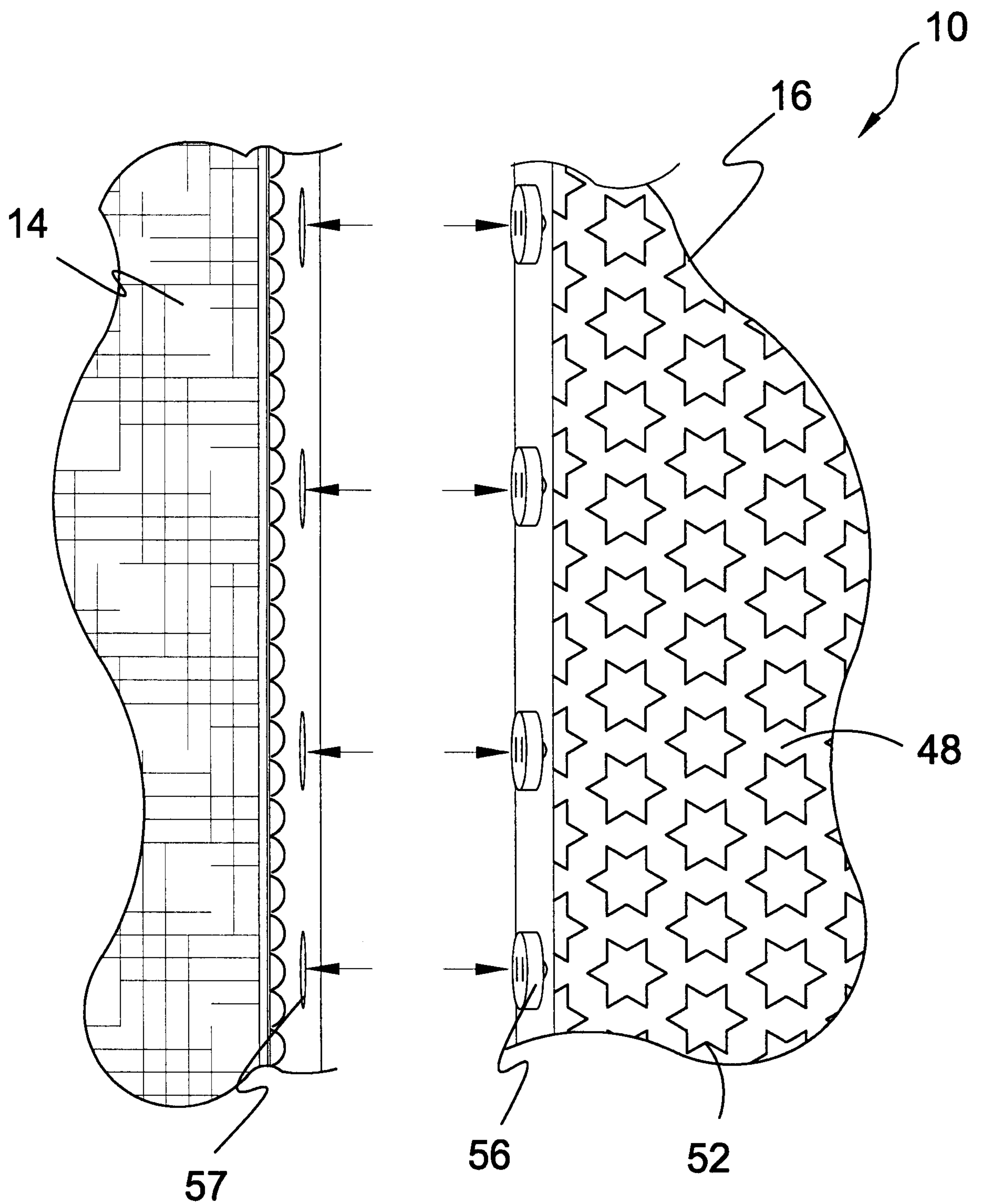


FIG. 7

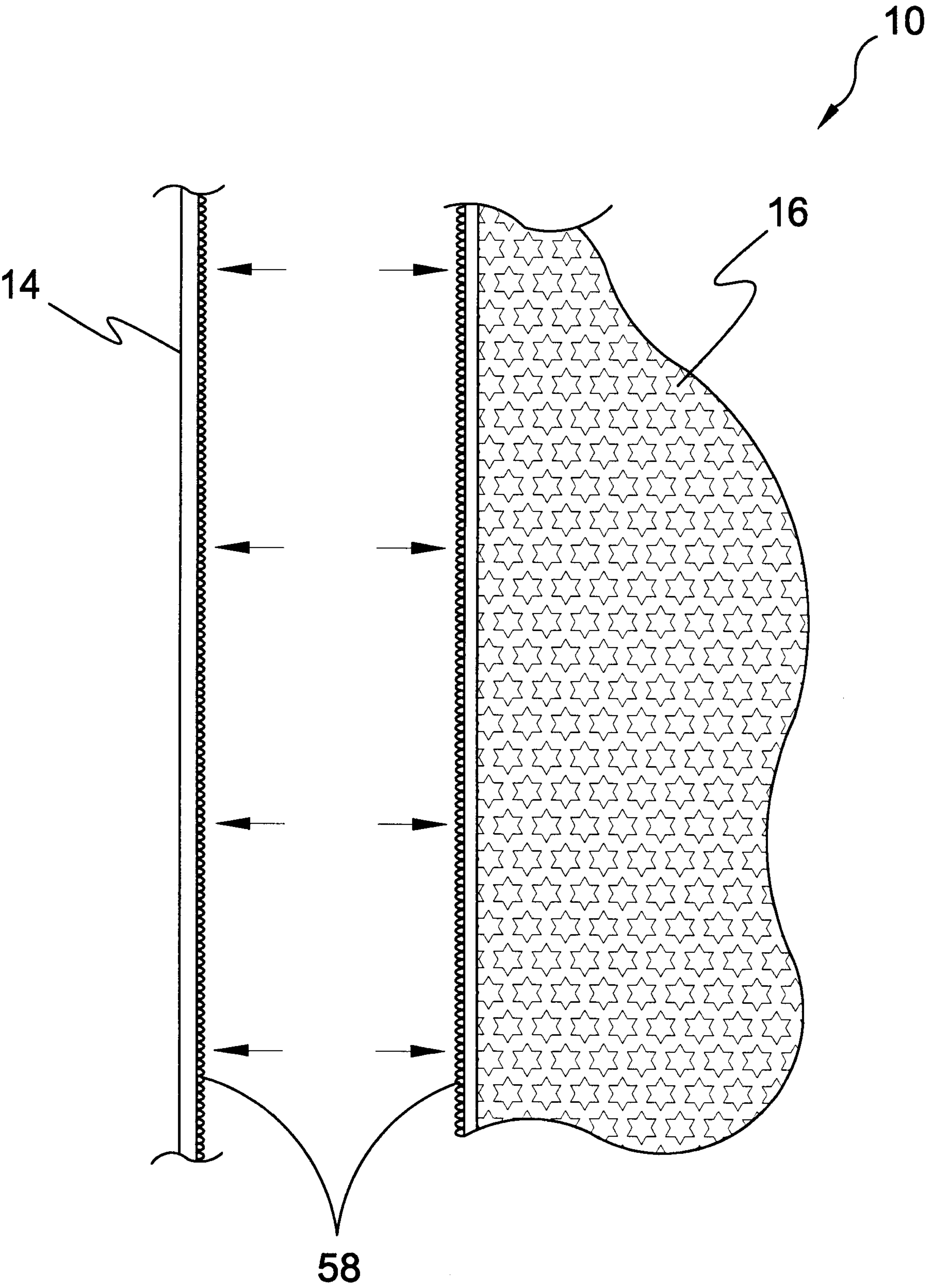


FIG. 8

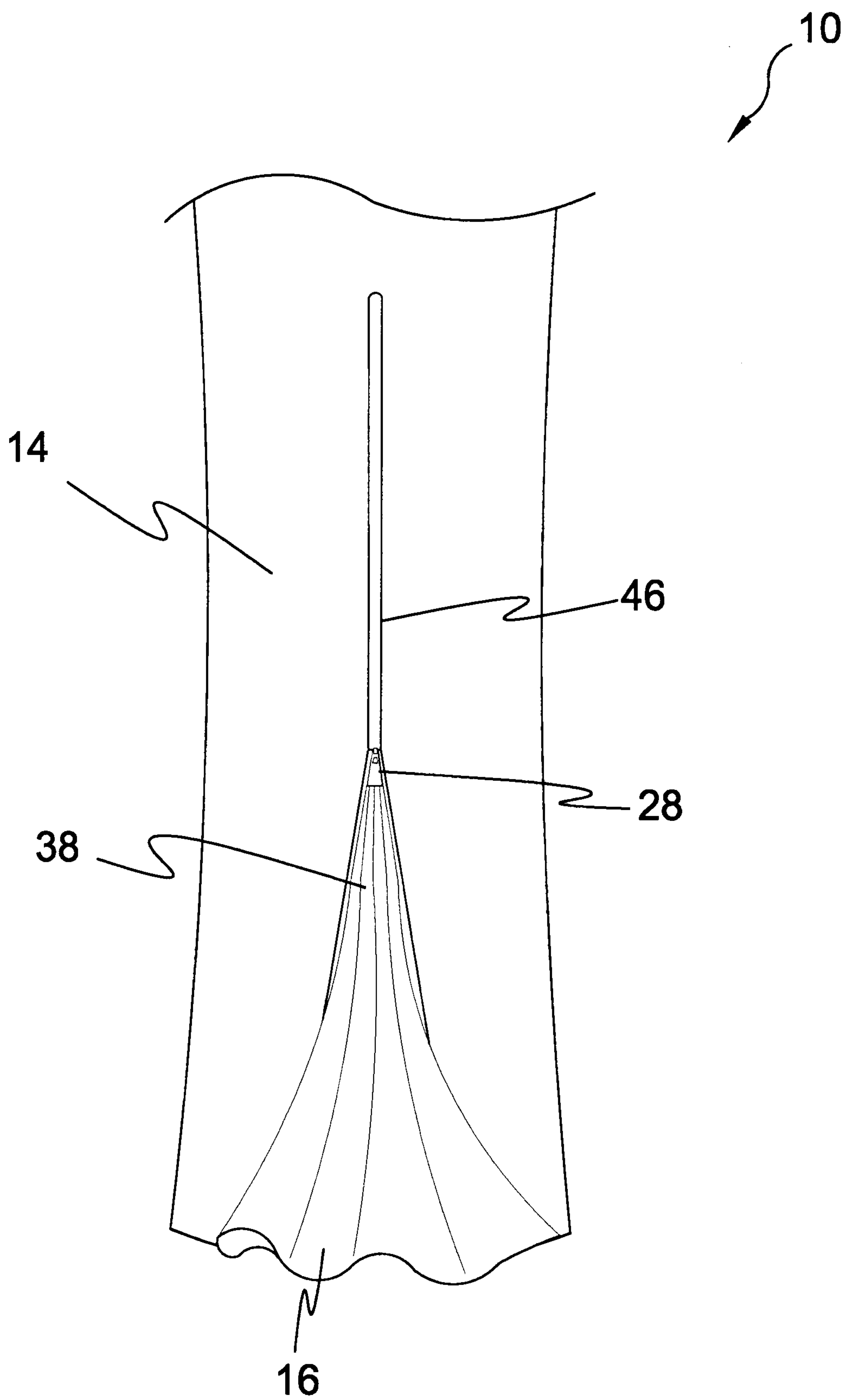


FIG. 9

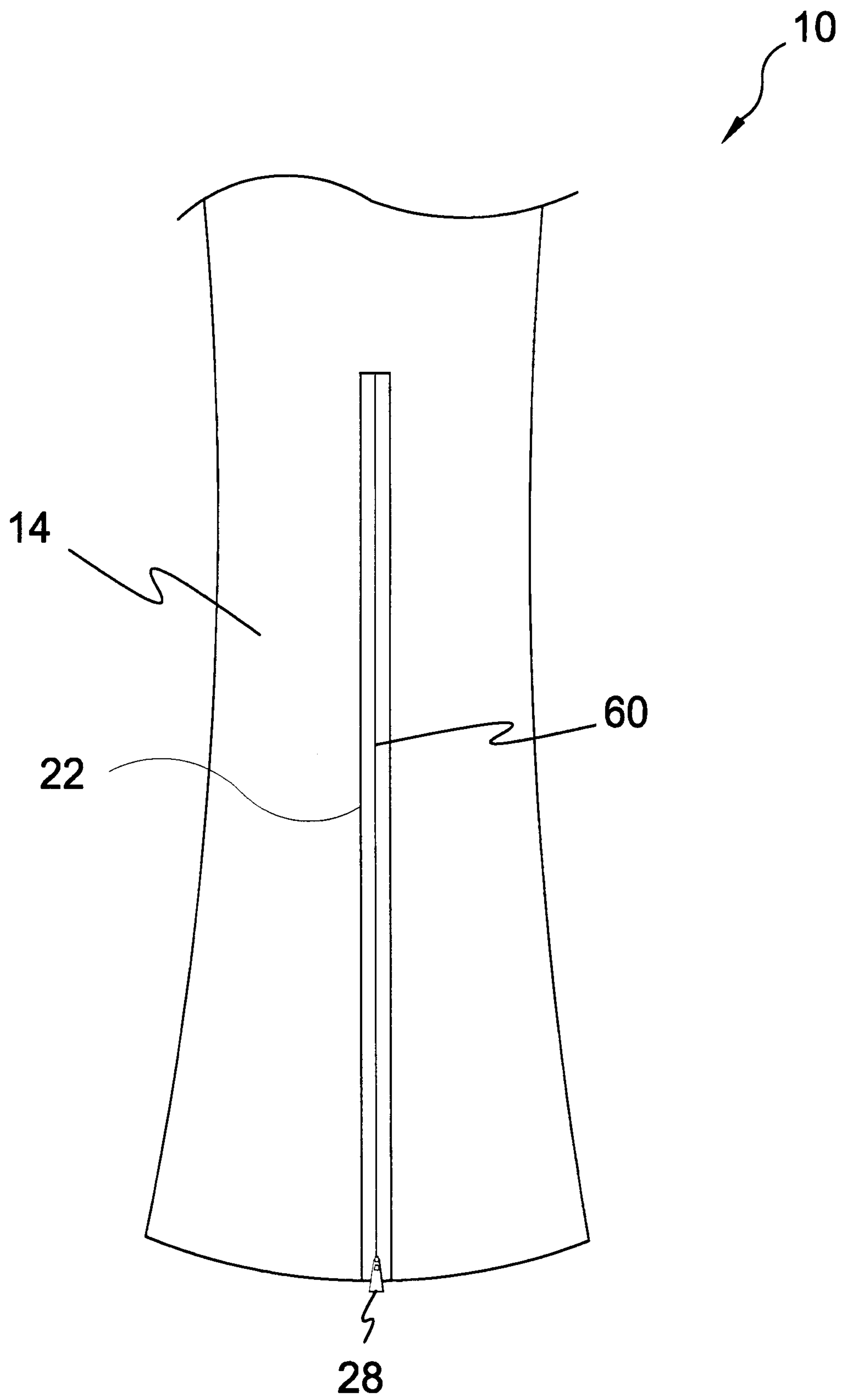


FIG. 10

