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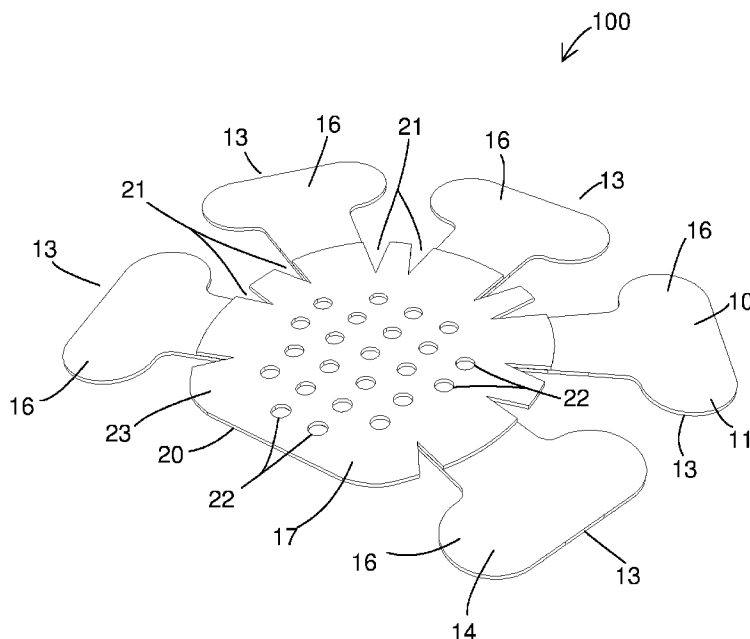


FIG. 1

(57) **Abrégé/Abstract:**

Hoof care kits suitable for treating an animal's hoof are disclosed. Methods of g and using hoof care kits are also disclosed.

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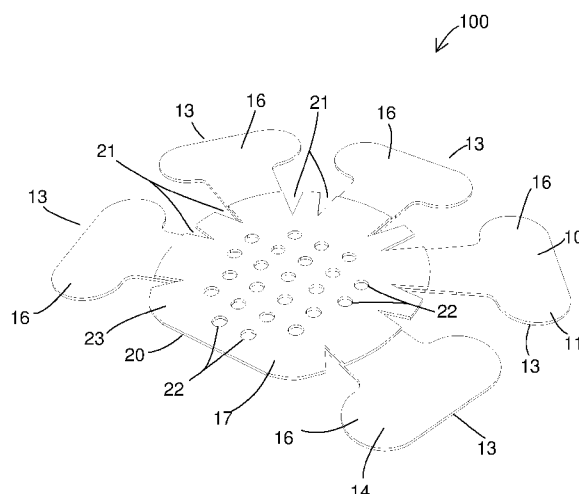
(54) Title: **HOOF CARE KITS AND METHODS OF MAKING AND USING THE SAME**

FIG. 1

(57) Abstract: Hoof care kits suitable for treating an animal's hoof are disclosed. Methods of making and using hoof care kits are also disclosed.

**WO 2019/112936 A1**

## HOOF CARE KITS AND METHODS OF MAKING AND USING THE SAME

This application is being filed as a PCT International Patent Application in the name of Eastern Technologies, Inc., a U.S. company, on 03 December 2018, designating all countries, and claiming priority to U.S. Provisional Patent Application Serial No. 62/594,220, filed on 04 December 2017, and entitled “HOOF CARE KITS AND METHODS OF MAKING AND USING THE SAME.”

### FIELD OF THE INVENTION

The present invention is directed to hoof care kits for treatment of an animal's hoof. The present invention is further directed to methods of making and using hoof care kits to treat an animal's hoof.

### BACKGROUND

Efforts continue to further develop products that provide a better quality of life for animals such as horses and livestock.

### SUMMARY

The present invention addresses some of the difficulties and problems in the art by the discovery of new hoof care kits for treatment of an animal's hoof.

Accordingly, the present invention is directed to hoof care kits for treatment of an animal's hoof. In one exemplary embodiment, the hoof care kit of the present invention comprises: a hoof care pad, said hoof care pad comprising: a backing layer comprising a central backing layer portion, three or more backing layer extension portions extending outward from said central backing layer portion, an upper backing layer surface along said central backing layer portion and said three or more backing layer extension portions, and a lower backing layer surface opposite said upper backing layer surface; an adhesive positioned along at least a portion of said upper backing layer surface; and a void-containing layer positioned on at least a portion of said upper backing layer surface within said central backing layer portion, said void-containing layer being capable of accepting and containing a liquid composition, wherein said hoof care pad is sized so as to cover a bottom surface of a hoof of an animal and extend along at least one side surface of the hoof. The hoof care kit may include other kit components including, but not limited to, one or more release liners to cover any exposable surfaces of adhesive along the backing layer; a length of tubing; a boot; one or more pieces of packaging; or any combination thereof.

The present invention even further relates to methods of making hoof care kits. In one exemplary embodiment, the method of making a hoof care kit comprises: forming a backing layer for a hoof care pad, the backing layer comprising a central backing layer portion, three or more backing layer extension portions extending outward from the central backing layer portion, an upper backing layer surface along the central backing layer portion and the three or more backing layer extension portions, and a lower backing layer surface opposite the upper backing layer surface; forming a void-containing layer for a hoof care pad, the void-containing layer being (i) positionable on at least a portion of the upper backing layer surface within the central backing layer portion, and (ii) capable of accepting and containing a liquid composition; and positioning an adhesive along at least a portion of the upper backing layer surface; wherein the hoof care pad is sized so as to cover a bottom surface of a hoof of an animal and extend along at least one side surface of the hoof.

The present invention even further relates to methods of using hoof care kits. In one exemplary embodiment, the method of using a hoof care kit comprises positioning a hoof care pad along a hoof of an animal with a void-containing layer of the hoof care pad next to the hoof, the hoof care pad comprising: a backing layer comprising a central backing layer portion, three or more backing layer extension portions extending outward from the central backing layer portion, an upper backing layer surface along the central backing layer portion and the three or more backing layer extension portions, and a lower backing layer surface opposite the upper backing layer surface; an adhesive positioned along at least a portion of the upper backing layer surface; and the void-containing layer positioned on at least a portion of the upper backing layer surface within the central backing layer portion, the void-containing layer being capable of accepting and containing a liquid composition, wherein the hoof care pad is sized so as to cover a bottom surface of a hoof of an animal and extend along at least one side surface of the hoof. The method of using the hoof care kit may further comprise one or more additional steps including, but not limited to, attaching distal end extension portions of each of the three or more backing layer extension portions to side surfaces of the hoof; removing one or more pieces of release liner to uncover one or more exposed surfaces of the adhesive prior to said attaching step; fixing a first end of a length of tubing to the hoof care pad proximate or along the void-containing layer of the hoof care pad; positioning a boot over the hoof and lower leg of the animal so as to encapsulate the hoof care pad attached to the hoof of the animal; and introducing a liquid composition into or onto the void-containing layer of the hoof care pad, wherein the liquid composition comprises one or more medications for treating a hoof of an animal of a wound proximate or on the hoof of an animal.

These and other features and advantages of the present invention will become apparent after a review of the following detailed description of the disclosed embodiments and the appended claims.

#### BRIEF DESCRIPTION OF THE FIGURES

The present invention is further described with reference to the appended figures, wherein:

FIG 1 is a perspective view of an exemplary hoof care pad suitable for use in the hoof care kits of the present invention as viewed from a top, front right-hand side of the hoof care pad;

FIG 2 is a perspective view of the exemplary hoof care pad shown in FIG 1 as viewed from a bottom, front, left-hand side of the hoof care pad;

FIG 3 is a top view of the exemplary hoof care pad shown in FIG 1;

FIG 4 is a bottom view of the exemplary hoof care pad shown in FIG 3;

FIG 5 is a left-side view of the exemplary hoof care pad shown in FIG 3;

FIG 6 is a right-side view of the exemplary hoof care pad shown in FIG 3;

FIG 7 is a frontal side view of the exemplary hoof care pad shown in FIG 3;

FIG 8 is a rear side view of the exemplary hoof care pad shown in FIG 3;

FIG 9 is a top view of an exemplary void-containing layer suitable for use in the exemplary hoof care pad shown in FIG 1;

FIG 10 is a top view of an exemplary backing layer suitable for use in the exemplary hoof care pad shown in FIG 1;

FIG 11 is a top view of the exemplary void-containing layer shown in FIG 9 positioned over and on the backing layer shown in FIG 10 so as to form an exemplary hoof care pad of the present invention;

FIG 12 is a top view of the exemplary hoof care pad shown in FIG 11 with an exemplary length of tubing extending from the exemplary hoof care pad;

FIG 13 is a top view of the exemplary hoof care pad assembly shown in FIG 12 with extension portions of the exemplary hoof care pad folded over onto the central backing layer portion of the hoof care pad;

FIG 14 is a perspective view of an exemplary boot suitable for use in the hoof care kits of the present invention; and

FIG 15 is a perspective view of exemplary packaging suitable for packaging hoof care kits of the present invention.

## DETAILED DESCRIPTION

To promote an understanding of the principles of the present invention, descriptions of specific embodiments of the invention follow and specific language is used to describe the specific embodiments. It will nevertheless be understood that no limitation of the scope of the invention is intended by the use of specific language. Alterations, further modifications, and such further applications of the principles of the present invention discussed are contemplated as would normally occur to one ordinarily skilled in the art to which the invention pertains.

The present invention is directed to hoof care kits that are suitable for treating the hoof of an animal. The present invention is further directed to methods of making hoof care kits. The present invention is even further directed to methods of using hoof care kits.

The hoof care kits of the present invention are further described in the following embodiments.

### Other Embodiments:

#### Hoof Care Kits

1. A hoof care kit **100** comprising: a hoof care pad **10**, said hoof care pad **10** comprising: a backing layer **11** comprising a central backing layer portion **12**, three or more backing layer extension portions **13** extending outward from said central backing layer portion **12**, an upper backing layer surface **14** along said central backing layer portion **12** and said three or more backing layer extension portions **13**, and a lower backing layer surface **15** opposite said upper backing layer surface **14**; an adhesive **16** positioned along at least a portion of said upper backing layer surface **14**; and a void-containing layer **17** positioned on at least a portion of said upper backing layer surface **14** within said central backing layer portion **12**, said void-containing layer **17** being capable of accepting and containing a liquid composition (not shown), wherein said hoof care pad **10** is sized so as to cover a bottom surface of a hoof of an animal (not shown) and extend along at least one side surface of the hoof.
2. The hoof care kit **100** of embodiment 1, wherein said void-containing layer **17** has an overall size and shape so as to extend beyond an outer periphery **18** of said central backing layer portion **12**.
3. The hoof care kit **100** of embodiment 1 or 2, wherein said void-containing layer **17** has an overall size and shape so as to extend beyond an outer periphery **18** of said central backing layer portion **12** between at least two of said three or more backing layer extension portions **13**. As shown in FIGS. 1-2, in exemplary hoof care pad **10**, said void-containing layer **17** has an overall size and shape so as to extend beyond an outer periphery **18** of said

central backing layer portion **12** between all of said three or more backing layer extension portions **13**.

4. The hoof care kit **10** of any one of embodiments 1 to 3, wherein said void-containing layer **17** has an overall size and shape so as to extend beyond an outer periphery **18** of said central backing layer portion **12** between any two backing layer extension portions **13** of said three or more backing layer extension portions **13**.

5. The hoof care kit **100** of any one of embodiments 1 to 4, wherein said void-containing layer **17** has an overall size and shape so as to extend beyond an outer periphery **18** of said central backing layer portion **12** and along a proximal portion **19** of each of said three or more backing layer extension portions **13**. See, for example, FIG 2.

6. The hoof care kit **100** of any one of embodiments 1 to 5, wherein said void-containing layer **17** has an overall size and shape so as to extend beyond an outer periphery **18** of said central backing layer portion **12** and said void-containing layer **17** has an outer perimeter **20** with slits **21**, cut-outs **21**, or both slits **21** and cut-outs **21** each independently extending from said outer perimeter **20** of said void-containing layer **17** towards said central backing layer portion **12**. See, for example, FIGS. 1-2.

7. The hoof care kit **100** of embodiment 6, wherein one or more of said slits **21**, said cut-outs **21**, or both said slits **21** and said cut-outs **21** extends from said outer perimeter **20** of said void-containing layer **17** to said outer periphery **18** of said central backing layer portion **12**. See, for example, FIG 2.

8. The hoof care kit **100** of embodiment 6 or 7, wherein said void-containing layer **17** comprises two cut-outs **21** positioned between each of said three or more backing layer extension portions **13**.

9. The hoof care kit **100** of any one of embodiments 1 to 8, wherein said void-containing layer **17** comprises two or more holes **22** extending through said void-containing layer **17** from an upper void-containing layer surface **23** of said void-containing layer **17** to a lower void-containing layer surface **24** of said void-containing layer **17**.

10. The hoof care kit **100** of embodiment 9, wherein said two or more holes **22** extend through an outer periphery portion **25** of said void-containing layer **17** that extends beyond said outer periphery **18** of said central backing layer portion **12**. See, for example, FIG 2.

11. The hoof care kit **100** of embodiment 9 or 10, wherein said two or more holes **22** extend through a center portion **26** of said void-containing layer **17** so as to extend from said upper void-containing layer surface **23** of said void-containing layer **17** to said upper backing layer surface **14** within said central backing layer portion **12**.

12. The hoof care kit **100** of any one of embodiments 9 to 11, wherein said two or more holes **22** comprise from about 12 to 24 holes **22**. It should be understood that any number of holes **22** may be used in the present invention.
13. The hoof care kit **100** of any one of embodiments 1 to 12, wherein said void-containing layer **17** comprises a fiber-containing layer **17**. It should be understood that although void-containing layer **17** is shown as being a single layer, void-containing layer **17** could be two or more void-containing layers combined to form void-containing layer **17**.
14. The hoof care kit **100** of any one of embodiments 1 to 13, wherein said void-containing layer **17** comprises a nonwoven fabric layer **17**.
15. The hoof care kit **100** of any one of embodiments 1 to 15, wherein said void-containing layer **17** comprises a felt layer **17**.
16. The hoof care kit **100** of any one of embodiments 13 to 15, wherein said fiber-containing layer **17** has a basis weight of from about 100 grams per square meter (gsm) to about 3000 gsm (or any value between 100 gsm and 3000 gsm, in increments of 0.1 gsm, e.g., 1000.0 gsm, or any range of values between 100 gsm and 3000 gsm, in increments of 0.1 gsm, e.g., from about 750.5 gsm to about 1153.8 gsm).
17. The hoof care kit **100** of any one of embodiments 13 to 16, wherein said fiber-containing layer **17** has a basis weight of from about 800 gsm to about 1200 gsm (or any value between 800 gsm and 1200 gsm, in increments of 0.1 gsm, e.g., 1000.0 gsm, or any range of values between 800 gsm and 1200 gsm, in increments of 0.1 gsm, e.g., from about 950.6 gsm to about 1050.8 gsm).
18. The hoof care kit **100** of any one of embodiments 13 to 17, wherein said fiber-containing layer **17** has a layer thickness of from about 1.0 millimeter (mm) to about 10.0 mm (or any value between 1.0 mm and 10.0 mm, in increments of 0.1 mm, e.g., 5.0 mm, or any range of values between 1.0 mm and 10.0 mm, in increments of 0.1 mm, e.g., from about 4.5 mm to about 5.5 mm).
19. The hoof care kit **100** of any one of embodiments 13 to 18, wherein said fiber-containing layer **17** has a layer thickness of from about 4.5 mm to about 5.5 mm.
20. The hoof care kit **100** of any one of embodiments 13 to 19, wherein said fiber-containing layer **17** comprises polyester, polypropylene, or both polyester and polypropylene.
21. The hoof care kit **100** of any one of embodiments 1 to 20, wherein said void-containing layer **17** is attached to said backing layer **11**.
22. The hoof care kit **100** of any one of embodiments 1 to 21, wherein said void-containing layer **17** is attached to said central backing layer portion **12**.

23. The hoof care kit **100** of any one of embodiments 1 to 22, wherein said void-containing layer **17** is attached to a proximal end extension portion **19** of each of said three or more backing layer extension portions **13**.
24. The hoof care kit **100** of any one of embodiments 1 to 23, wherein said three or more backing layer extension portions **13** comprises from about four backing layer extension portions **13** to about ten backing layer extension portions **13**.
25. The hoof care kit **100** of any one of embodiments 1 to 25, wherein said three or more backing layer extension portions **13** comprises five backing layer extension portions **13**.
26. The hoof care kit **100** of embodiment 25, wherein said five backing layer extension portions **13** are spaced along said central backing layer portion **12** so as to form four substantially equal areas of space **27** between said five backing layer extension portions **13** and one larger area of space **28** between two of said five backing layer extension portions **13**. See, for example, FIG 3.
27. The hoof care kit **100** of any one of embodiments 1 to 26, wherein each of said three or more backing layer extension portions **13** has a proximal end extension portion **19** and a distal end extension portion **29**, said distal end extension portion **29** having a distal end width that is greater than a proximal end width of said proximal end extension portion **19**. See, for example, FIG 4.
28. The hoof care kit **100** of any one of embodiments 1 to 27, wherein each of said three or more backing layer extension portions **13** has a proximal end extension portion **19** and a distal end extension portion **29**, and at least one of said three or more backing layer extension portions **13** has two substantially parallel side lines **30** extending between said proximal end extension portion **19** and said distal end extension portion **29**.
29. The hoof care kit **100** of embodiment 28, wherein each of said at least one of said three or more backing layer extension portions **13** has a distal end edge **31** forming a straight distal end line **31**, said distal end line **31** being substantially normal to said two substantially parallel side lines **30** extending between said proximal end extension portion **19** and said distal end extension portion **29**.
30. The hoof care kit **100** of any one of embodiments 1 to 29, wherein each of said three or more backing layer extension portions **13** has a proximal end extension portion **19** and a distal end extension portion **29**, and at least one of said three or more backing layer extension portions **13** has two opposing straight side lines **32** extending between said proximal end extension portion **19** and said distal end extension portion **29**, said two opposing straight side lines **32** extending between said proximal end extension portion **19** and said distal end extension portion **29** being divergent relative to one another.

31. The hoof care kit **100** of any one of embodiments 1 to 30, wherein said backing layer **11** comprises a permeable layer **11**.
32. The hoof care kit **100** of any one of embodiments 1 to 30, wherein said backing layer **11** comprises an impermeable layer **11**.
33. The hoof care kit **100** of any one of embodiments 1 to 32, wherein said backing layer **11** comprises one or more fiber reinforcements therein (not shown). For example, a scrim, sheet of unidirectional fibers, a nonwoven, a woven fabric, or any combination could be positioned within or along backing layer **11**.
34. The hoof care kit **100** of any one of embodiments 1 to 33, wherein said backing layer **11** comprises a polymeric material.
35. The hoof care kit **100** of any one of embodiments 1 to 34, wherein said backing layer **11** has a basis weight of from about 10 gsm to about 3000 gsm (or any value between 10 gsm and 3000 gsm, in increments of 0.1 gsm, e.g., 100.5 gsm, or any range of values between 10 gsm and 3000 gsm, in increments of 0.1 gsm, e.g., from about 75.5 gsm to about 953.8 gsm).
36. The hoof care kit **100** of any one of embodiments 1 to 35, wherein said backing layer **11** has a layer thickness of from about 1.0 mm to about 10.0 mm (or any value between 1.0 mm and 10.0 mm, in increments of 0.1 mm, e.g., 5.0 mm, or any range of values between 1.0 mm and 10.0 mm, in increments of 0.1 mm, e.g., from about 4.5 mm to about 5.5 mm).
37. The hoof care kit **100** of any one of embodiments 1 to 36, wherein said adhesive **16** is positioned along at least a portion of each of said three or more backing layer extension portions **13**.
38. The hoof care kit **100** of any one of embodiments 1 to 37, wherein said adhesive **16** is positioned along a distal end extension portion **29** of each of said three or more backing layer extension portions **13**.
39. The hoof care kit **100** of any one of embodiments 1 to 38, wherein said adhesive **16** is positioned along said central backing layer portion **12**.
40. The hoof care kit **100** of any one of embodiments 1 to 39, wherein said adhesive **16** is positioned along all of said upper backing layer surface **14**.
41. The hoof care kit **100** of any one of embodiments 1 to 40, wherein said adhesive **16** is a pressure sensitive adhesive **16**.
42. The hoof care kit **100** of any one of embodiments 1 to 41, wherein said void-containing layer **17** has an overall width of from about 50 mm to about 250 mm (or any value between 50 mm and 250 mm, in increments of 0.1 mm, e.g., 140.0 mm, or any range of values between 50 mm and 250 mm, in increments of 0.1 mm, e.g., from about 135.5 mm to about 153.8 mm), and an overall length of from about 50 mm to about 250 mm (or any value

between 50 mm and 250 mm, in increments of 0.1 mm, e.g., 142.0 mm, or any range of values between 50 mm and 250 mm, in increments of 0.1 mm, e.g., from about 137.5 mm to about 155.8 mm).

43. The hoof care kit **100** of any one of embodiments 1 to 42, wherein said backing layer **11** has an overall width of from about 75 mm to about 600 mm (or any value between 75 mm and 600 mm, in increments of 0.1 mm, e.g., 280.5 mm, or any range of values between 75 mm and 600 mm, in increments of 0.1 mm, e.g., from about 260.5 mm to about 320.5 mm), and an overall length of from about 50 mm to about 250 mm (or any value between 50 mm and 250 mm, in increments of 0.1 mm, e.g., 180.5 mm, or any range of values between 50 mm and 250 mm, in increments of 0.1 mm, e.g., from about 60.5 mm to about 220.5 mm).

44. The hoof care kit **100** of any one of embodiments 1 to 43, further comprising at least one release liner **33** sized to cover any exposable portions of said adhesive **16**. As shown in FIG **10**, in some embodiments, five or more release liners **33** may be used to cover exposable portions of adhesive **16**. In other embodiments, not shown, a single release liner **33** may be used instead of two or more release liners **33**. For example, a single release liner **33** having dimensions 25.4 centimeters (cm) x 30.0 cm may be used.

45. The hoof care kit **100** of any one of embodiments 1 to 44, further comprising at least one release liner **33** for each of said three or more backing layer extension portions **13**.

46. The hoof care kit **100** of any one of embodiments 1 to 45, further comprising at least one release liner **33** for each of said three or more backing layer extension portions **13**, each release liner **33** being sized to cover a distal end extending portion **29** of a given backing layer extension portion **13**.

47. The hoof care kit **100** of any one of embodiments 1 to 46, further comprising a length of tubing **35**, said length of tubing **35** being sized so as to (i) extend from said void-containing layer **17** of said hoof care pad **10** to a point beyond an outer periphery **18** of said backing layer **11**, and (ii) have an inner diameter that enables a fluid to travel through said length of tubing **35** from a first tube opening **36** to a second tube opening **37** at opposite ends of said length of tubing **35**.

48. The hoof care kit **100** of embodiment 47, wherein said length of tubing **35** has an overall length of from about 75 mm to about 600 mm (or any value between 75 mm and 600 mm, in increments of 0.1 mm, e.g., 280.5 mm, or any range of values between 75 mm and 600 mm, in increments of 0.1 mm, e.g., from about 260.5 mm to about 320.5 mm), an inner diameter of from about 3.0 mm to about 12.0 mm (or any value between 3.0 mm and 12.0 mm, in increments of 0.01 mm, e.g., 6.30 mm, or any range of values between 3.0 mm and 12.0 mm, in increments of 0.01 mm, e.g., from about 6.00 mm to about 6.60 mm), and an

outer diameter of from about 4.0 mm to about 15.0 mm (or any value between 4.0 mm and 15.0 mm, in increments of 0.01 mm, e.g., 9.30 mm, or any range of values between 4.0 mm and 15.0 mm, in increments of 0.01 mm, e.g., from about 9.00 mm to about 9.60 mm).

49. The hoof care kit **100** of embodiment 47 or 48, wherein said length of tubing **35** is transparent.

50. The hoof care kit **100** of any one of embodiments 47 to 49, wherein said length of tubing **35** comprises polyvinyl chloride (PVC) tubing **35**.

51. The hoof care kit **100** of any one of embodiments 47 to 50, further comprising a tube fastener **38** sized to attach said length of tubing **35** to said hoof care pad **10**.

52. The hoof care kit **100** of embodiment 51, wherein said tube fastener **38** comprises a length of tie fastener **38**.

53. The hoof care kit **100** of any one of embodiments 1 to 52, further comprising a boot **40** sized to accept and store a hoof and lower leg portion of an animal (not shown).

54. The hoof care kit **100** of embodiment 53, wherein said boot **40** comprises a rubber boot **40**.

55. The hoof care kit **100** of embodiment 53 or 54, wherein said boot **40** further comprises a boot fastener (not shown) designed to secure said boot **40** onto a leg of an animal (not shown).

56. The hoof care kit **100** of embodiment 55, wherein said boot fastener (not shown) is separate from and attachable to said boot **40**. For example, the boot fastener may be a strap, piece of rope, hook and loop material, etc.

57. The hoof care kit **100** of embodiment 55, wherein said boot fastener (not shown) is integrally attached to said boot **40** proximate an open end **41** of said boot **40**. For example, the boot fastener may be a strap with hook and loop material thereon that is integrally attached to boot **40** along open end **41** of boot **40**.

58. The hoof care kit **100** of any one of embodiments 53 to 57, wherein said length of tubing **35** extends from said void-containing layer **17** of said hoof care pad **10** to a point beyond an open end **41** of said boot **40**.

59. The hoof care kit **100** of any one of embodiments 1 to 58, further comprising a liquid composition (not shown) within said void-containing layer **17**, said liquid composition comprising one or more medications for treating an animal hoof or a wound on an animal hoof (not shown). It should be understood that any liquid composition that provides a benefit to an animal's hoof may be used in the present hoof care kit. The liquid composition may be sold separately or as a kit component (e.g., a container or jar or bottle with the liquid composition therein). In some embodiments, the liquid composition comprises a liquid

composition as described in International Patent Application Serial No. PCT/US17/54238, filed on September 29, 2017, and entitled “Compositions and Methods of Making and Using the Same,” the subject matter of which is incorporated herein in its entirety.

60. The hoof care kit **100** of any one of embodiments 1 to 59, wherein said hoof care pad **10** is attached to a hoof of an animal (not shown).
61. The hoof care kit **100** of embodiment 60, wherein said boot **40** is positioned over said hoof care pad **10**, and said length of tubing **35** extends from said hoof care pad **10** to a position outside said boot **40**.
62. The hoof care kit **100** of any one of embodiments 1 to 61, wherein the animal comprises a horse, a cow, or any other livestock animal.
63. The hoof care kit **100** of any one of embodiments 1 to 62, further comprising one or more pieces of packaging **50** sized to package one or more units of said hoof care kit **100**.
64. The hoof care kit **100** of embodiment 63, wherein said one or more pieces of packaging **50** are sized to package from two to 100 units of said hoof care kit **100** (or any number of units between 2 and 100, in increments of 1, e.g., 50 units, or any range of number of units between 2 and 100, in increments of 1, e.g., from 50 to 75 units).
65. The hoof care kit **100** of embodiment 63 or 64, wherein said one or more pieces of packaging **50** comprise (i) one or more plastic bags **50'**, (ii) one or more paper or cardboard boxes **50''**, (iii) one or more pieces of tape **50'''**, and (iv) one or more labels **50''''**.

#### Methods of Making Hoof Care Kits

66. A method of making the hoof care kit **100** of any one of embodiments 1 to 65, said method comprising: forming the void-containing layer **17**; forming the base layer **11**; and positioning the adhesive **16** along the upper backing layer surface **14** of the backing layer **11**.
67. The method of embodiment 66, wherein said forming the void-containing layer **17** step comprises one or more of the following steps: forming a nonwoven fabric layer (not shown); and cutting the void-containing layer **17** from the nonwoven fabric layer.
68. The method of embodiment 67, wherein said forming the void-containing layer **17** step further comprises forming one or more holes **22** that extend through the void-containing layer **17**.
69. The method of any one of embodiments 66 to 68, wherein said forming the base layer **11** step comprises one or more of the following steps: forming a sheet of base layer material; and cutting the base layer **11** from the sheet of base layer material.
70. The method of any one of embodiments 66 to 69, further comprising: attaching the void-containing layer **17** to the base layer **11**.

71. The method of any one of embodiments 66 to 70, further comprising: attaching one or more pieces of release liner **33** so as to cover any exposed surfaces of the adhesive **16**.
72. The method of any one of embodiments 66 to 71, further comprising: assembling the length of tubing **35** with the hoof care pad **10**.
73. The method of any one of embodiments 66 to 72, further comprising: assembling the tube fastener **38** with the hoof care pad **10**.
74. The method of any one of embodiments 66 to 73, further comprising: assembling the boot **40** with the hoof care pad **10**.
75. The method of any one of embodiments 66 to 74, further comprising: positioning each of the hoof care kit components **10/35/40** within the one or more pieces of packaging **50**.

#### Methods of Using Hoof Care Kits

76. A method of using the hoof care kit **100** of any one of embodiments 1 to 65, said method comprising: positioning the hoof care pad **10** along a hoof of an animal (not shown) with the void-containing layer **17** next to the hoof.
77. The method of embodiment 76, further comprising: attaching distal end extension portions **29** of each of the three or more backing layer extension portions **13** to side surfaces of the hoof (not shown).
78. The method of embodiment 77, further comprising: removing one or more pieces of release liner **33** to uncover one or more exposed surfaces of the adhesive **16** prior to said attaching step.
79. The method of any one of embodiments 76 to 78, further comprising: fixing a first end **42** of a length of tubing **35** to the hoof care pad **10** proximate or along the void-containing layer **17** of the hoof care pad **10**.
80. The method of any one of embodiments 76 to 79, further comprising: positioning a boot **40** over the hoof and lower leg of the animal (not shown) so as to encapsulate the hoof care pad **10** attached to the hoof of the animal.
81. The method of any one of embodiments 76 to 80, further comprising: introducing a liquid composition (not shown) into or onto the void-containing layer **17** of the hoof care pad **10**.
82. The method of embodiment 81, wherein the liquid composition comprises one or more medications for treating a hoof of an animal or a wound proximate or on the hoof of an animal.
83. The method of embodiment 81 or 82, wherein said introducing step comprises feeding the liquid composition through a second end **43** of the length of tubing **35**, the second end **43**

being opposite the first end **42**, the second end **43** of the length of tubing **35** being outside an open end **41** of the boot **40**.

84. The method of any one of embodiments 80 to 83, further comprising: removing the boot **40** so as to expose the hoof care pad **10** attached to the hoof and lower leg of the animal (not shown).

85. The method of any one of embodiments 76 to 84, further comprising: removing the hoof care pad **10** from the hoof and lower leg of the animal (not shown).

86. The method of any one of embodiments 76 to 85, wherein the animal comprises a horse, a cow, or any other livestock animal.

It should be understood that although the above-described hoof care kits, kit components and methods are described as “comprising” one or more features, components or steps, the above-described hoof care kits, kit components and methods may “comprise,” “consists of,” or “consist essentially of” any of the above-described features, components or steps of the hoof care kits, kit components and methods. Consequently, where the present invention, or a portion thereof, has been described with an open-ended term such as “comprising,” it should be readily understood that (unless otherwise stated) the description of the present invention, or the portion thereof, should also be interpreted to describe the present invention, or a portion thereof, using the terms “consisting essentially of” or “consisting of” or variations thereof as discussed below.

As used herein, the terms “comprises,” “comprising,” “includes,” “including,” “has,” “having,” “contains,” “containing,” “characterized by” or any other variation thereof, are intended to encompass a non-exclusive inclusion, subject to any limitation explicitly indicated otherwise, of the recited components. For example, a hoof care kit, kit component and/or method that “comprises” a list of elements (e.g., components or steps) is not necessarily limited to only those elements (or components or steps), but may include other elements (or components or steps) not expressly listed or inherent to the hoof care kit, kit component and/or method.

As used herein, the transitional phrases “consists of” and “consisting of” exclude any element, step, or component not specified. For example, “consists of” or “consisting of” used in a claim would limit the claim to the components, materials or steps specifically recited in the claim except for impurities ordinarily associated therewith (i.e., impurities within a given component). When the phrase “consists of” or “consisting of” appears in a clause of the body of a claim, rather than immediately following the preamble, the phrase “consists of” or “consisting of” limits only the elements (or components or steps) set forth in that clause;

other elements (or components) are not excluded from the claim as a whole.

As used herein, the transitional phrases “consists essentially of” and “consisting essentially of” are used to define a hoof care kit, kit component and/or method that includes materials, steps, features, components, or elements, in addition to those literally disclosed, provided that these additional materials, steps, features, components, or elements do not materially affect the basic and novel characteristic(s) of the claimed invention. The term “consisting essentially of” occupies a middle ground between “comprising” and “consisting of”.

Further, it should be understood that the herein-described hoof care kits, kit components and/or methods may comprise, consist essentially of, or consist of any of the herein-described components, features and steps, as shown in the figures with or without any feature(s) not shown in the figures. In other words, in some embodiments, the hoof care kits, kit components and/or methods of the present invention do not have any additional features other than those shown in the figures, and such additional features, not shown in the figures, are specifically excluded from the hoof care kits, kit components and/or methods. In other embodiments, the hoof care kits, kit components and/or methods of the present invention do have one or more additional features that are not shown in the figures.

The present invention is further illustrated by the following examples, which are not to be construed in any way as imposing limitations upon the scope thereof. On the contrary, it is to be clearly understood that resort may be had to various other embodiments, modifications, and equivalents thereof which, after reading the description herein, may suggest themselves to those skilled in the art without departing from the spirit of the present invention and/or the scope of the appended claims.

#### EXAMPLE 1

Hoof care kits and kit components as described in embodiments 1 to 86 were prepared. The hoof care kits and kit components were used to treat wounds on animal hoofs for a variety of animals including horses, cattle, and other livestock.

While the specification has been described in detail with respect to specific embodiments thereof, it will be appreciated that those skilled in the art, upon attaining an understanding of the foregoing, may readily conceive of alterations to, variations of, and equivalents to these embodiments. Accordingly, the scope of the present invention should be assessed as that of the appended claims and any equivalents thereto.

## AMENDED CLAIMS

received by the International Bureau on 13 May 2019 (13.05.2019)

1. A hoof care kit comprising:
  - a hoof care pad, said hoof care pad comprising:
    - a backing layer comprising a central backing layer portion, three or more backing layer extension portions extending outward from said central backing layer portion, an upper backing layer surface along said central backing layer portion and said three or more backing layer extension portions, and a lower backing layer surface opposite said upper backing layer surface;
    - an adhesive positioned along at least a portion of said upper backing layer surface, said adhesive being positioned along at least a distal end extension portion of each of said three or more backing layer extension portions; and
    - a void-containing layer positioned on at least a portion of said upper backing layer surface within said central backing layer portion, said void-containing layer being (i) capable of accepting and containing a liquid composition and (ii) attached to said central backing layer portion,
  - wherein said hoof care pad is sized so as to cover a bottom surface of a hoof of an animal and extend along at least one side surface of the hoof.
2. The hoof care kit of claim 1, wherein said void-containing layer has an overall size and shape so as to extend beyond an outer periphery of said central backing layer portion.
3. The hoof care kit of claim 1 or 2, wherein said void-containing layer has an overall size and shape so as to extend beyond an outer periphery of said central backing layer portion between at least two of said three or more backing layer extension portions.
4. The hoof care kit of any one of claims 1 to 3, wherein said void-containing layer has an overall size and shape so as to extend beyond an outer periphery of said central backing layer portion between any two backing layer extension portions of said three or more backing layer extension portions.

5. The hoof care kit of any one of claims 1 to 4, wherein said void-containing layer has an overall size and shape so as to extend beyond an outer periphery of said central backing layer portion and along a proximal portion of each of said three or more backing layer extension portions.
6. The hoof care kit of any one of claims 1 to 5, wherein said void-containing layer has an overall size and shape so as to extend beyond an outer periphery of said central backing layer portion and said void-containing layer has an outer perimeter with slits, cut-outs, or both slits and cut-outs each independently extending from said outer perimeter of said void-containing layer towards said central backing layer portion.
7. The hoof care kit of claim 6, wherein one or more of said slits, said cut-outs, or both said slits and said cut-outs extends from said outer perimeter of said void-containing layer to said outer periphery of said central backing layer portion.
8. The hoof care kit of claim 6 or 7, wherein said void-containing layer comprises two cut-outs positioned between each of said three or more backing layer extension portions.
9. The hoof care kit of any one of claims 1 to 8, wherein said void-containing layer comprises two or more holes extending through said void-containing layer from an upper void-containing layer surface of said void-containing layer to a lower void-containing layer surface of said void-containing layer.
10. The hoof care kit of claim 9, wherein said two or more holes extend through an outer periphery portion of said void-containing layer that extends beyond said outer periphery of said central backing layer portion.
11. The hoof care kit of claim 9 or 10, wherein said two or more holes extend through a center portion of said void-containing layer so as to extend from said upper void-containing layer surface of said void-containing layer to said upper backing layer surface within said central backing layer portion.

12. The hoof care kit of any one of claims 9 to 11, wherein said two or more holes comprise from about 12 to 24 holes.
13. The hoof care kit of any one of claims 1 to 12, wherein said void-containing layer comprises a fiber-containing layer.
14. The hoof care kit of any one of claims 1 to 13, wherein said void-containing layer comprises a nonwoven fabric layer.
15. The hoof care kit of any one of claims 1 to 15, wherein said void-containing layer comprises a felt layer.
16. The hoof care kit of any one of claims 13 to 15, wherein said fiber-containing layer has a basis weight of from about 100 grams per square meter (gsm) to about 3000 gsm.
17. The hoof care kit of any one of claims 13 to 16, wherein said fiber-containing layer has a basis weight of from about 800 gsm to about 1200 gsm.
18. The hoof care kit of any one of claims 13 to 17, wherein said fiber-containing layer has a layer thickness of from about 1.0 millimeter (mm) to about 10.0 mm.
19. The hoof care kit of any one of claims 13 to 18, wherein said fiber-containing layer has a layer thickness of from about 4.5 mm to about 5.5 mm.
20. The hoof care kit of any one of claims 13 to 19, wherein said fiber-containing layer comprises polyester, polypropylene, or both polyester and polypropylene.
21. The hoof care kit of any one of claims 1 to 20, wherein said void-containing layer is attached to a proximal end extension portion of each of said three or more backing layer extension portions.

22. The hoof care kit of any one of claims 1 to 21, wherein said three or more backing layer extension portions comprises from about four backing layer extension portions to about ten backing layer extension portions.

23. The hoof care kit of any one of claims 1 to 22, wherein said three or more backing layer extension portions comprises five backing layer extension portions.

24. The hoof care kit claim 23, wherein said five backing layer extension portions are spaced along said central backing layer portion so as to form four substantially equal areas of space between said five backing layer extension portions and one larger area of space between two of said five backing layer extension portions.

25. The hoof care kit of any one of claims 1 to 24, wherein each of said three or more backing layer extension portions has a proximal end extension portion and said distal end extension portion, said distal end extension portion having a distal end width that is greater than a proximal end width of said proximal end extension portion.

26. The hoof care kit of any one of claims 1 to 25, wherein each of said three or more backing layer extension portions has a proximal end extension portion and said distal end extension portion, and at least one of said three or more backing layer extension portions has two substantially parallel side lines extending between said proximal end extension portion and said distal end extension portion.

27. The hoof care kit of claim 26, wherein each of said at least one of said three or more backing layer extension portions has a distal end edge forming a straight distal end line, said distal end line being substantially normal to said two substantially parallel side lines extending between said proximal end extension portion and said distal end extension portion.

28. The hoof care kit of any one of claims 1 to 27, wherein each of said three or more backing layer extension portions has a proximal end extension portion and said distal end extension portion, and at least one of said three or more backing layer extension portions has two opposing straight side lines extending between said proximal end extension portion and said distal end extension portion, said two opposing straight side lines extending between said

proximal end extension portion and said distal end extension portion being divergent relative to one another.

29. The hoof care kit of any one of claims 1 to 28, wherein said backing layer comprises a permeable layer.

30. The hoof care kit of any one of claims 1 to 28, wherein said backing layer comprises an impermeable layer.

31. The hoof care kit of any one of claims 1 to 30, wherein said backing layer comprises one or more fiber reinforcements therein.

32. The hoof care kit of any one of claims 1 to 31, wherein said backing layer comprises a polymeric material.

33. The hoof care kit of any one of claims 1 to 32, wherein said backing layer has a basis weight of from about 10 gsm to about 3000 gsm.

34. The hoof care kit of any one of claims 1 to 33, wherein said backing layer has a layer thickness of from about 1.0 mm to about 10.0 mm.

35. The hoof care kit of any one of claims 1 to 34, wherein said adhesive is positioned along said central backing layer portion.

36. The hoof care kit of any one of claims 1 to 35, wherein said adhesive is positioned along all of said upper backing layer surface.

37. The hoof care kit of any one of claims 1 to 36, wherein said adhesive is a pressure sensitive adhesive.

38. The hoof care kit of any one of claims 1 to 37, wherein said void-containing layer has an overall width of from about 50 mm to about 250 mm, and an overall length of from about 50 mm to about 250 mm.

39. The hoof care kit of any one of claims 1 to 38, wherein said backing layer has an overall width of from about 75 mm to about 600 mm, and an overall length of from about 50 mm to about 250 mm.
40. The hoof care kit of any one of claims 1 to 39, further comprising at least one release liner sized to cover any exposable portions of said adhesive.
41. The hoof care kit of any one of claims 1 to 40, further comprising at least one release liner for each of said three or more backing layer extension portions.
42. The hoof care kit of any one of claims 1 to 41, further comprising at least one release liner for each of said three or more backing layer extension portions, each release liner being sized to cover said distal end extending portion of a given backing layer extension portion.
43. The hoof care kit of any one of claims 1 to 42, further comprising a length of tubing, said length of tubing being sized so as to (i) extend from said void-containing layer of said hoof care pad to a point beyond an outer periphery of said backing layer, and (ii) have an inner diameter that enables a fluid to travel through said length of tubing from a first tube opening to a second tube opening at opposite ends of said length of tubing.
44. The hoof care kit of claim 43, wherein said length of tubing has an overall length of from about 75 mm to about 600 mm, an inner diameter of from about 3.0 mm to about 12.0 mm, and an outer diameter of from about 4.0 mm to about 15.0 mm.
45. The hoof care kit of claim 43 or 44, wherein said length of tubing is transparent.
46. The hoof care kit of any one of claims 43 to 45, wherein said length of tubing comprises polyvinyl chloride (PVC) tubing.
47. The hoof care kit of any one of claims 43 to 46, further comprising a tube fastener sized to attach said length of tubing to said hoof care pad.

48. The hoof care kit of claim 47, wherein said tube fastener comprises a length of tie fastener.
49. The hoof care kit of any one of claims 1 to 48, further comprising a boot sized to accept and store a hoof and lower leg portion of an animal.
50. The hoof care kit of claim 49, wherein said boot comprises a rubber boot.
51. The hoof care kit of claim 49 or 50, wherein said boot further comprises a boot fastener designed to secure said boot onto a leg of an animal.
52. The hoof care kit of claim 51, wherein said boot fastener is separate from and attachable to said boot.
53. The hoof care kit of claim 51, wherein said boot fastener is integrally attached to said boot proximate an open end of said boot.
54. The hoof care kit of any one of claims 49 to 53, wherein said length of tubing extends from said void-containing layer of said hoof care pad to a point beyond an open end of said boot.
55. The hoof care kit of any one of claims 1 to 54, further comprising a liquid composition within said void-containing layer, said liquid composition comprising one or more medications for treating an animal hoof or a wound on an animal hoof.
56. The hoof care kit of any one of claims 1 to 55, wherein said hoof care pad is attached to a hoof of an animal.
57. The hoof care kit of claim 56, wherein said boot is positioned over said hoof care pad, and said length of tubing extends from said hoof care pad to a position outside said boot.
58. The hoof care kit of any one of claims 1 to 57, wherein the animal comprises a horse, a cow, or any other livestock animal.

59. The hoof care kit of any one of claims 1 to 58, further comprising one or more pieces of packaging sized to package one or more units of said hoof care kit.

60. The hoof care kit of claim 59, wherein said one or more pieces of packaging are sized to package from two to 100 units of said hoof care kit.

61. The hoof care kit of claim 59 or 60, wherein said one or more pieces of packaging comprise (i) one or more plastic bags, (ii) one or more paper or cardboard boxes, (iii) one or more pieces of tape, and (iv) one or more labels.

62. A method of making the hoof care kit of any one of claims 1 to 61, said method comprising:

forming the void-containing layer;

forming the base layer;

attaching the void-containing layer to the central backing layer portion of the base layer; and

positioning the adhesive along the upper backing layer surface of the backing layer, the adhesive being positioned along at least a distal end extension portion of each of the three or more backing layer extension portions.

63. The method of claim 62, wherein said forming the void-containing layer step comprises one or more of the following steps: forming a nonwoven fabric layer; and cutting the void-containing layer from the nonwoven fabric layer.

64. The method of claim 63, wherein said forming the void-containing layer step further comprises forming one or more holes that extend through the void-containing layer.

65. The method of any one of claims 62 to 64, wherein said forming the base layer step comprises one or more of the following steps: forming a sheet of base layer material; and cutting the base layer from the sheet of base layer material.

66. The method of any one of claims 62 to 65, further comprising:  
attaching one or more pieces of release liner so as to cover any exposed surfaces of the adhesive.
67. The method of any one of claims 62 to 66, further comprising:  
assembling the length of tubing with the hoof care pad.
68. The method of any one of claims 62 to 67, further comprising:  
assembling the tube fastener with the hoof care pad.
69. The method of any one of claims 62 to 68, further comprising:  
assembling the boot with the hoof care pad.
70. The method of any one of claims 62 to 69, further comprising:  
positioning each of the hoof care kit components within the one or more pieces of packaging.
71. A method of using the hoof care kit of any one of claims 1 to 61, said method comprising:  
positioning the hoof care pad along a hoof of an animal with the void-containing layer next to the hoof.
72. The method of claim 71, further comprising:  
attaching the distal end extension portions of each of the three or more backing layer extension portions to side surfaces of the hoof.
73. The method of claim 72, further comprising:  
removing one or more pieces of release liner to uncover one or more exposed surfaces of the adhesive prior to said attaching step.
74. The method of any one of claims 71 to 73, further comprising:  
fixing a first end of a length of tubing to the hoof care pad proximate or along the void-containing layer of the hoof care pad.

75. The method of any one of claims 71 to 74, further comprising:  
positioning a boot over the hoof and lower leg of the animal so as to encapsulate the hoof care pad attached to the hoof of the animal.
76. The method of any one of claims 71 to 75, further comprising:  
introducing a liquid composition into or onto the void-containing layer of the hoof care pad.
77. The method of claim 76, wherein the liquid composition comprises one or more medications for treating a hoof of an animal or a wound proximate or on the hoof of an animal.
78. The method of claim 76 or 77, wherein said introducing step comprises feeding the liquid composition through a second end of the length of tubing, the second end being opposite the first end, the second end of the length of tubing being outside an open end of the boot.
79. The method of any one of claims 75 to 78, further comprising:  
removing the boot so as to expose the hoof care pad attached to the hoof and lower leg of the animal.
80. The method of any one of claims 71 to 79, further comprising:  
removing the hoof care pad from the hoof and lower leg of the animal.
81. The method of any one of claims 71 to 80, wherein the animal comprises a horse, a cow, or any other livestock animal.

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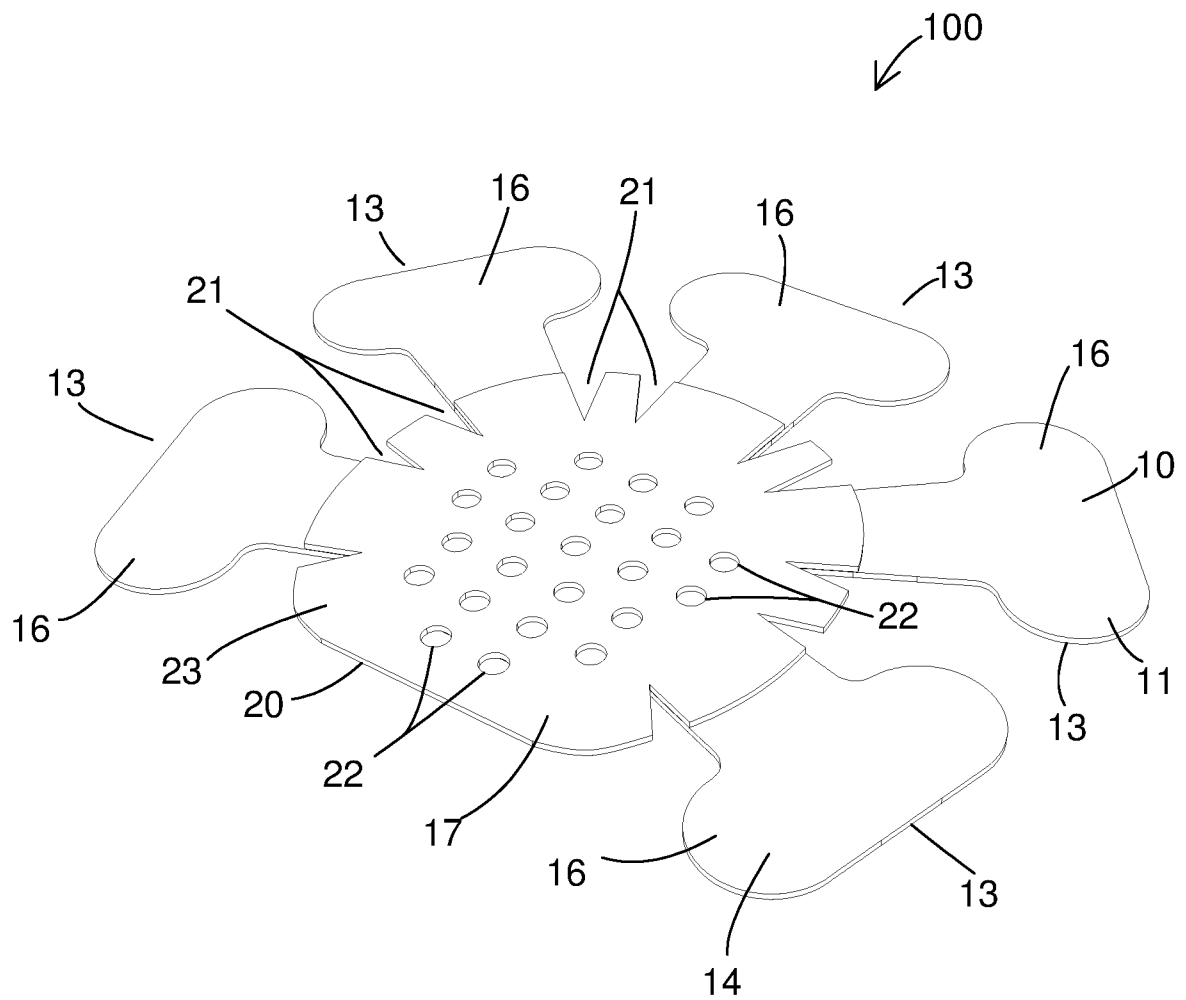


FIG. 1

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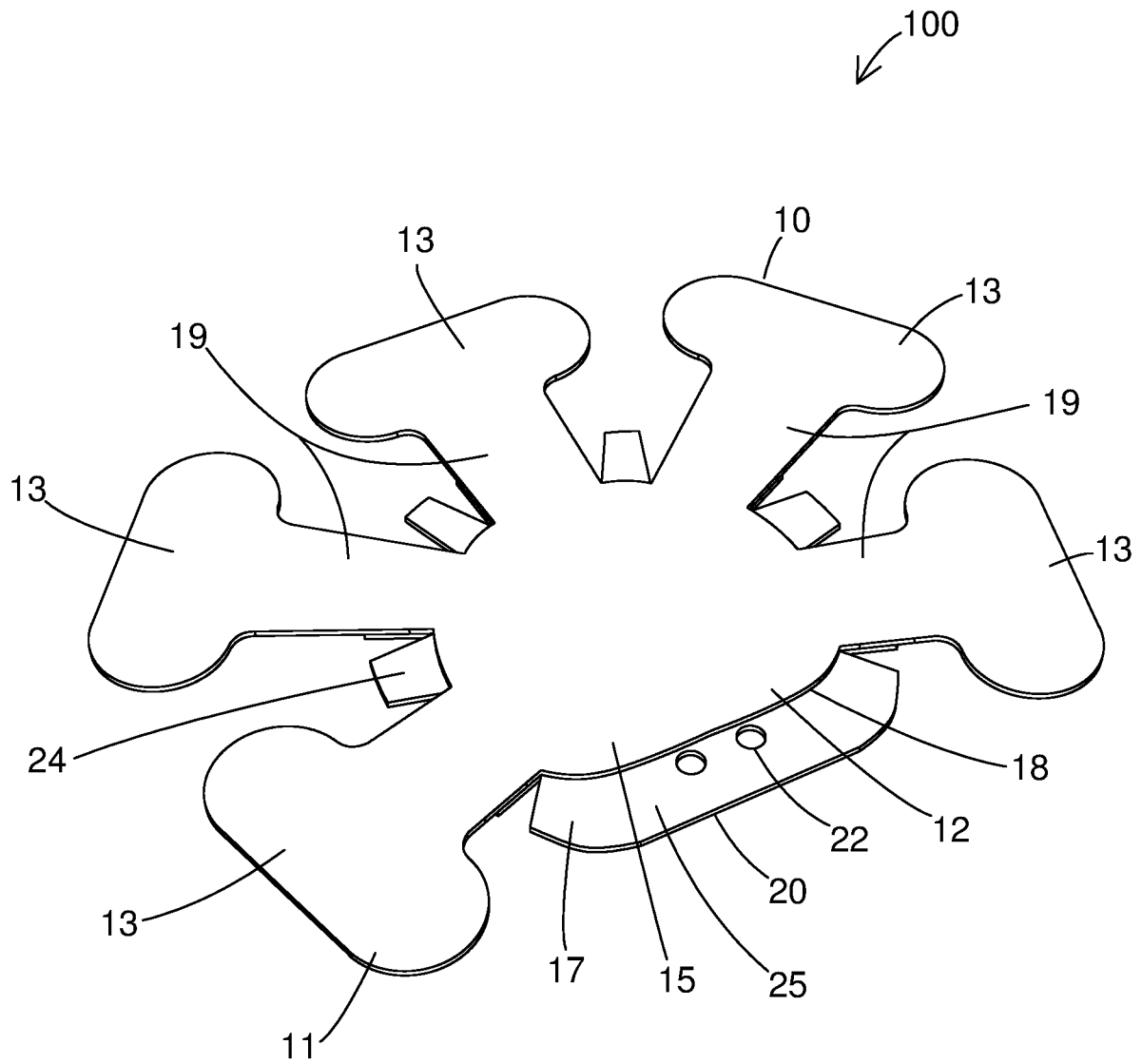


FIG. 2

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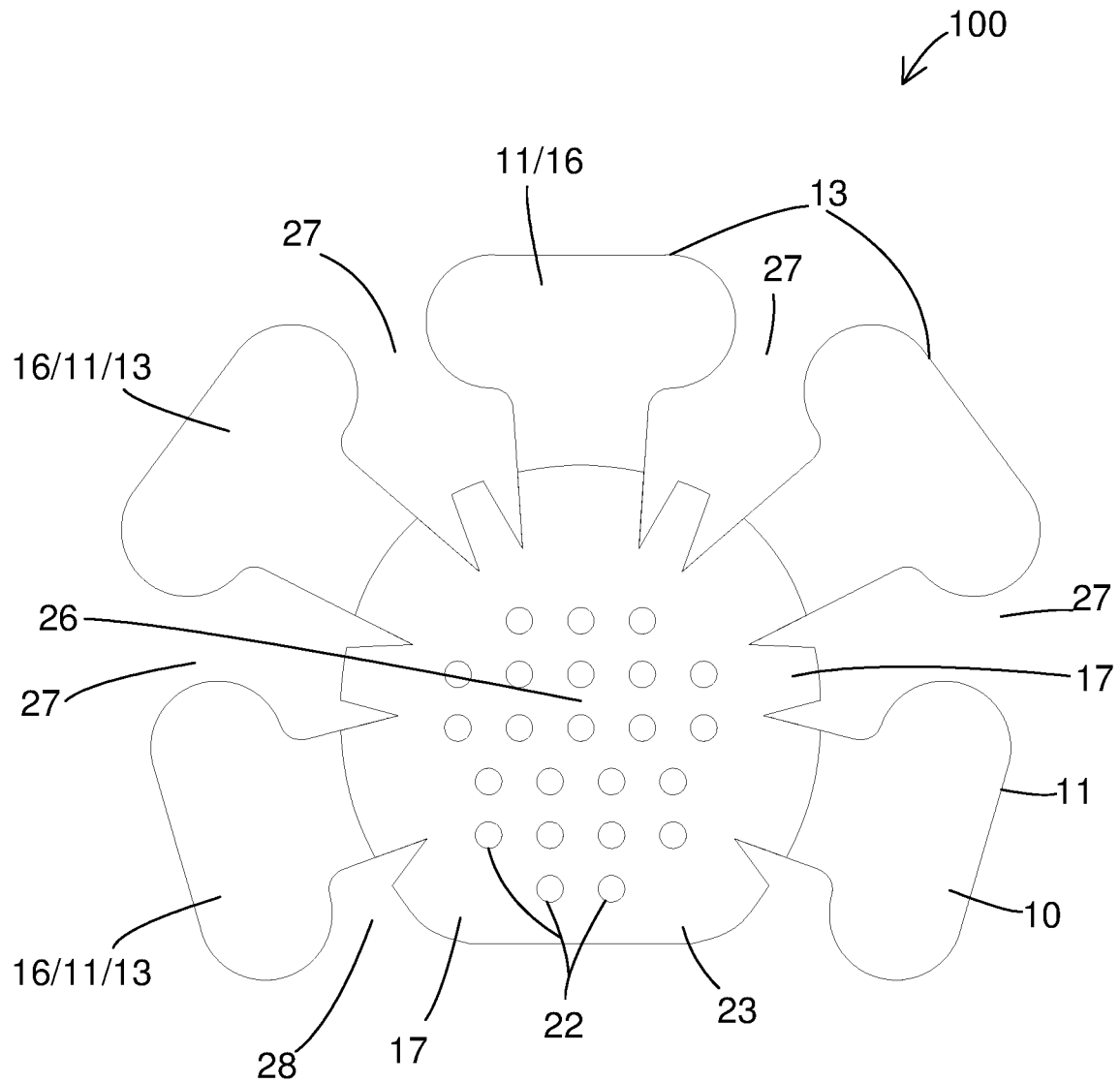


FIG. 3

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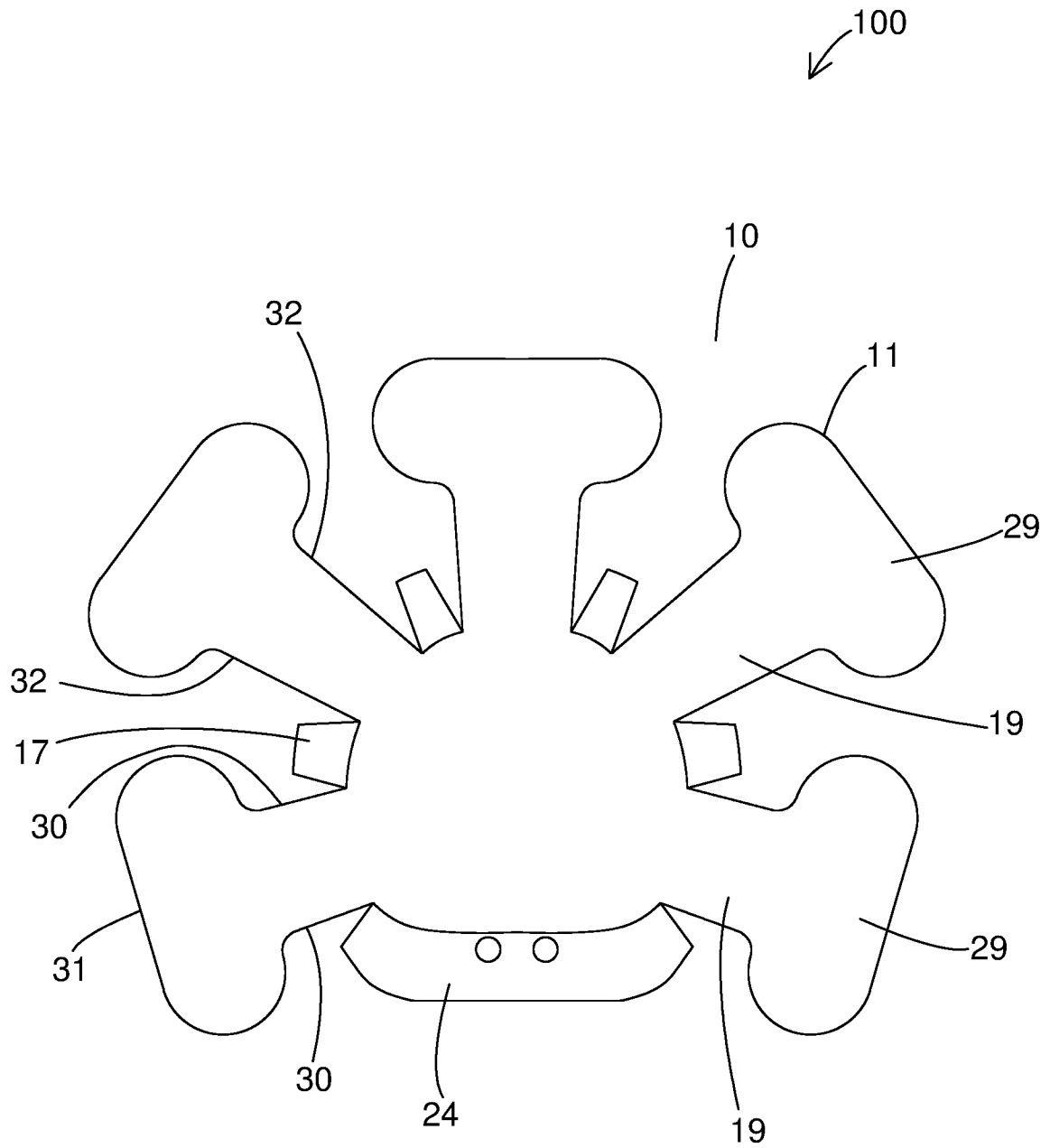


FIG. 4

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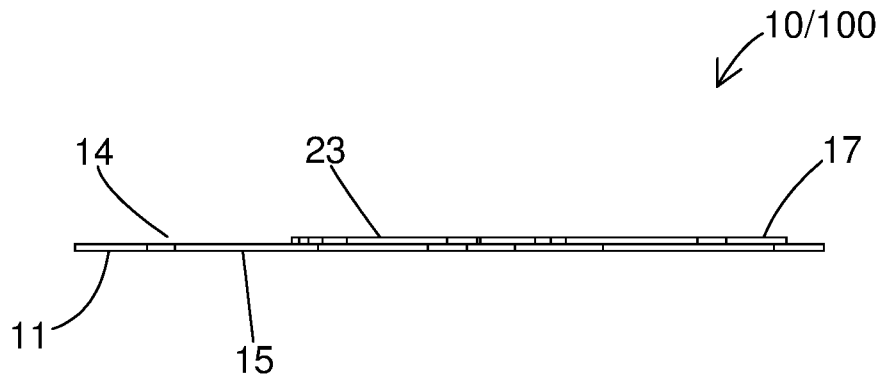


FIG. 5

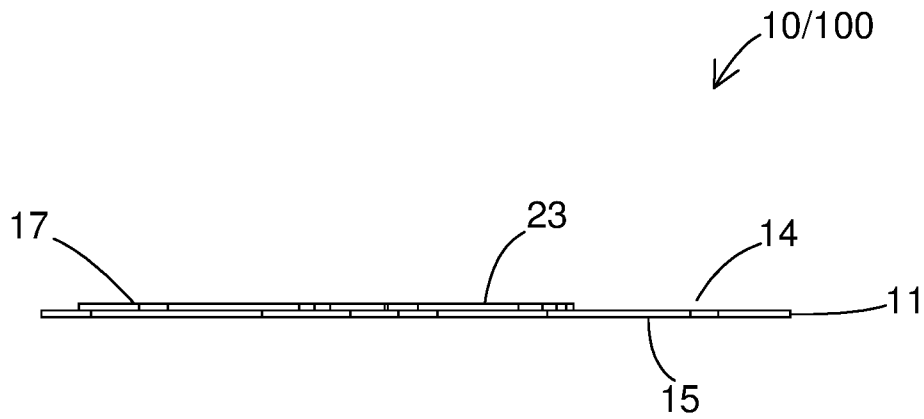


FIG. 6

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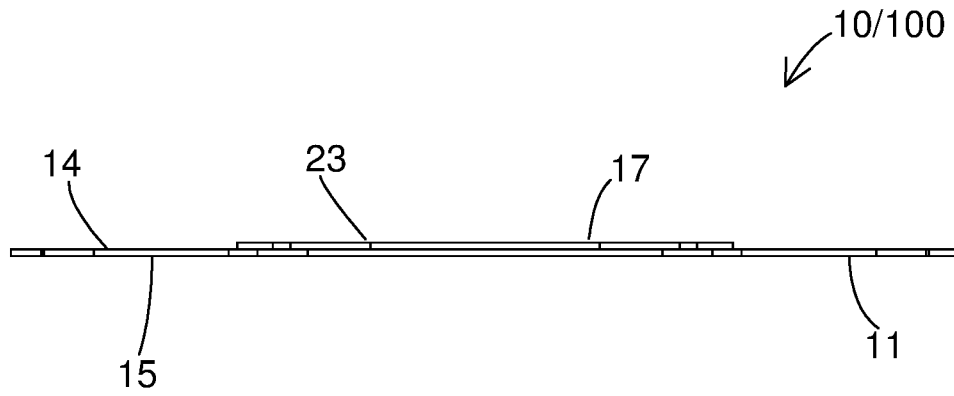


FIG. 7

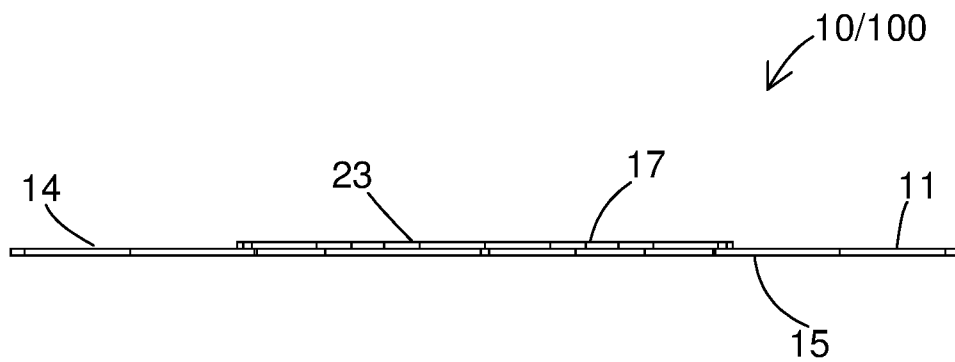


FIG. 8

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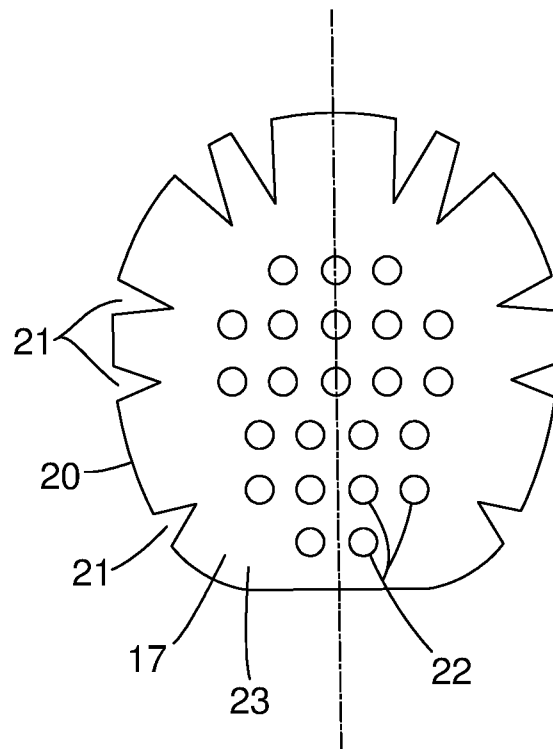


FIG. 9

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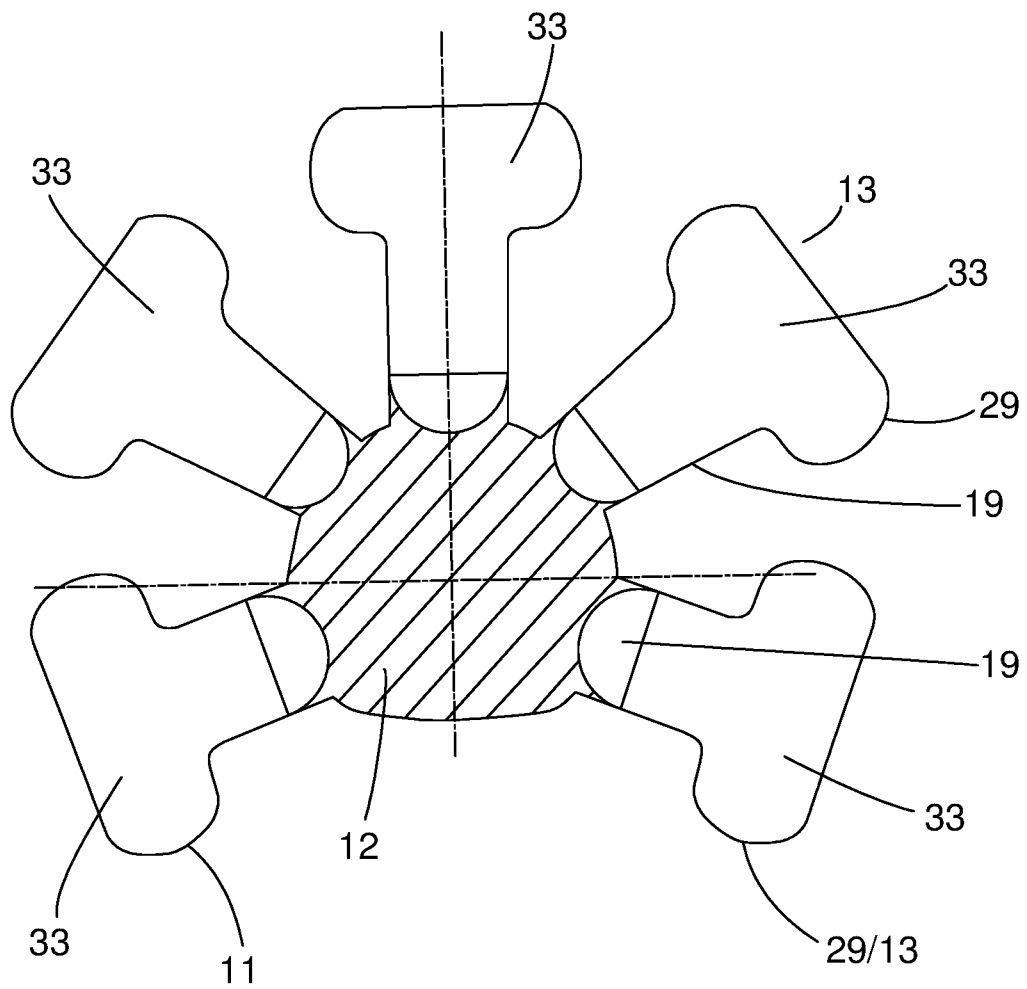


FIG. 10

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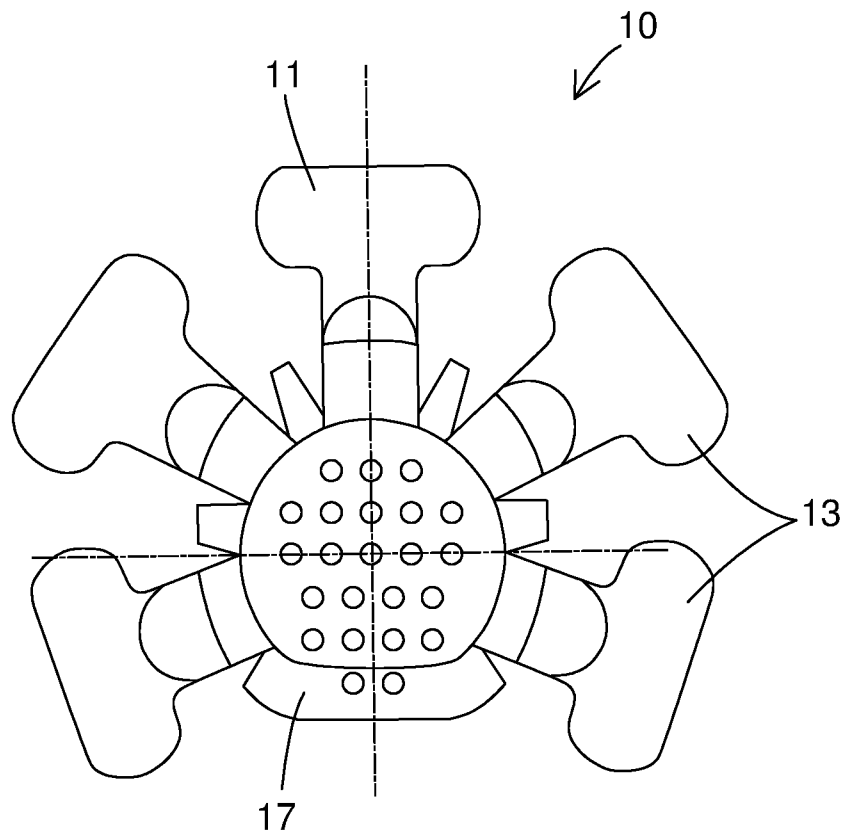


FIG. 11

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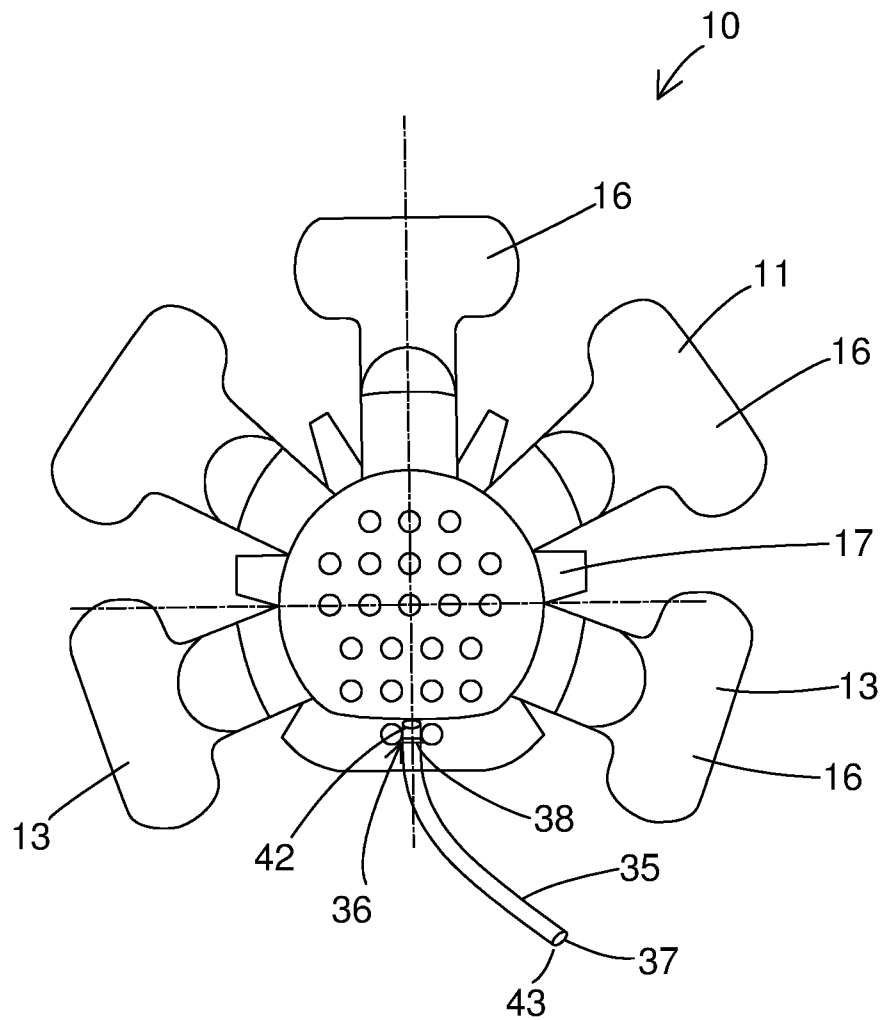


FIG. 12

11/12

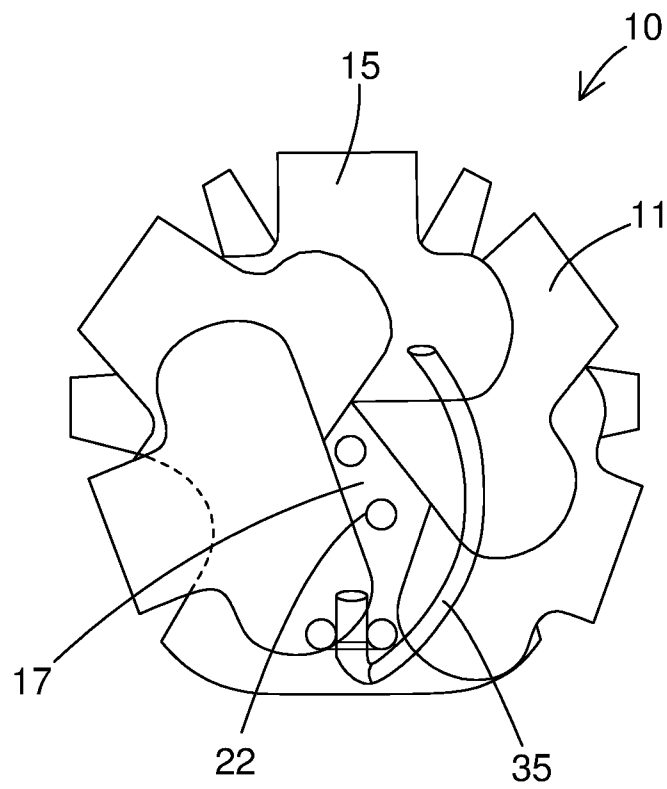


FIG. 13

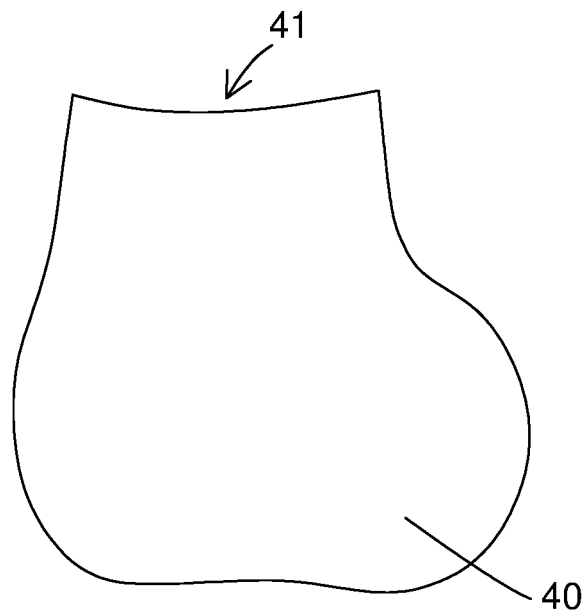


FIG. 14

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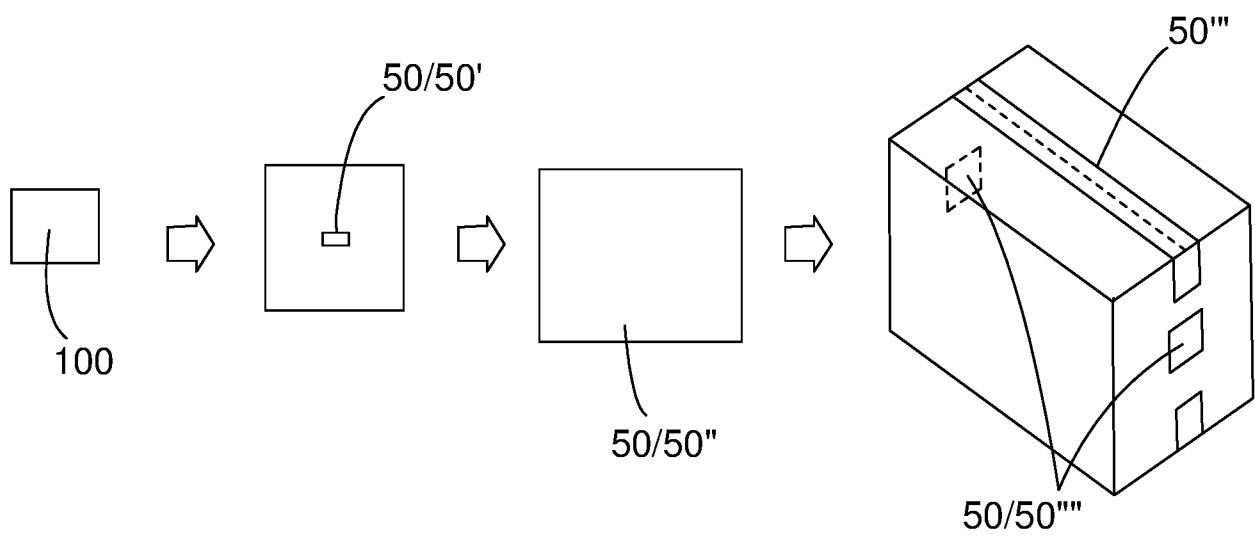


FIG. 15

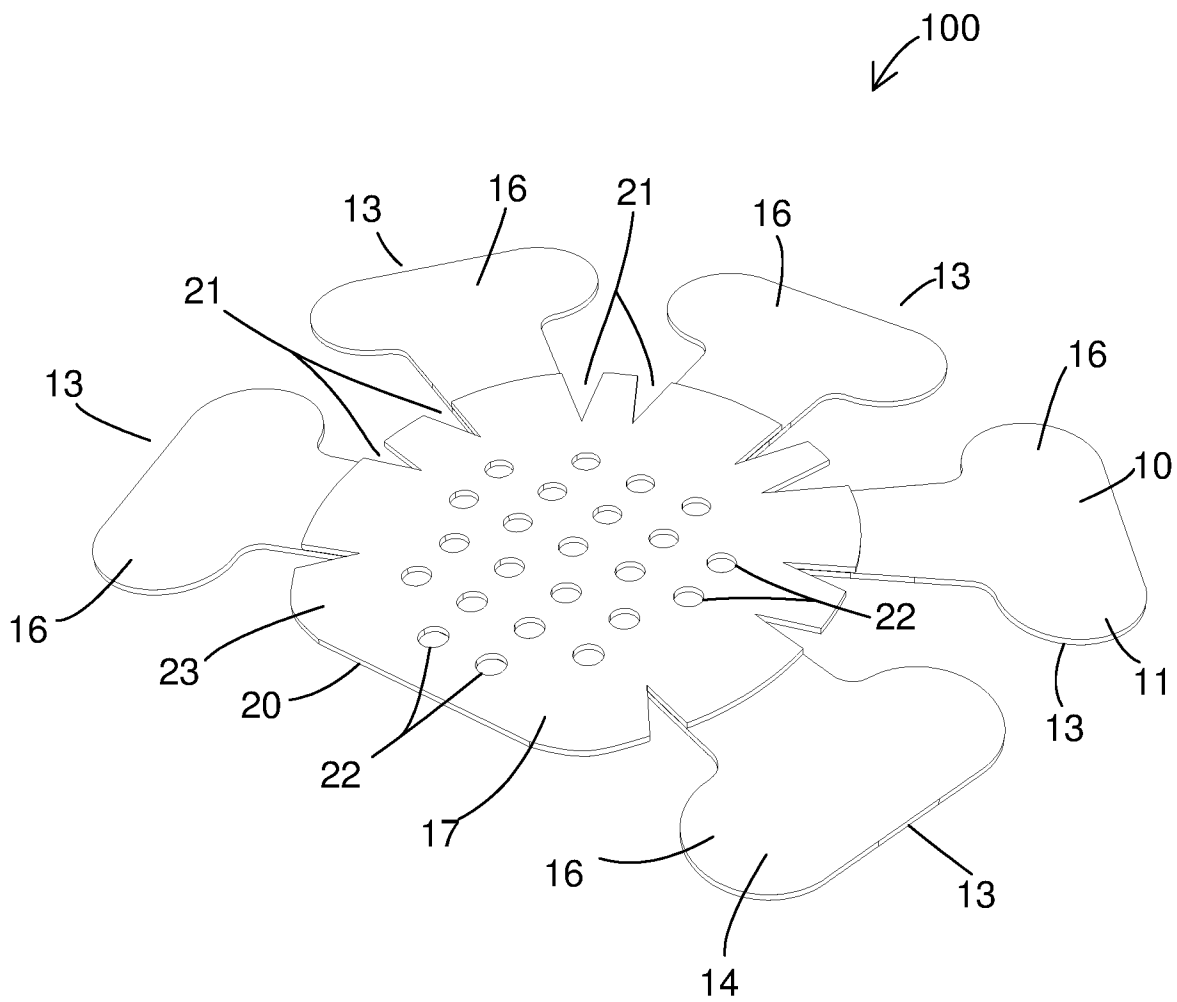


FIG. 1