Office de la Propriété Intellectuelle du Canada
Un organisme d'Industrie Canada

Canadian Intellectual Property Office
An agency of Industry Canada

CA 2520308 C 2008/12/23

(11)(21) 2 520 308

(12) BREVET CANADIEN
CANADIAN PATENT

(13) C

(22) Date de dépôt/Filing Date: 2005/09/21

(41) Mise à la disp. pub./Open to Public Insp.: 2006/04/12

(45) Date de délivrance/Issue Date: 2008/12/23

(30) Priorité/Priority: 2004/10/12 (US10/962,724)

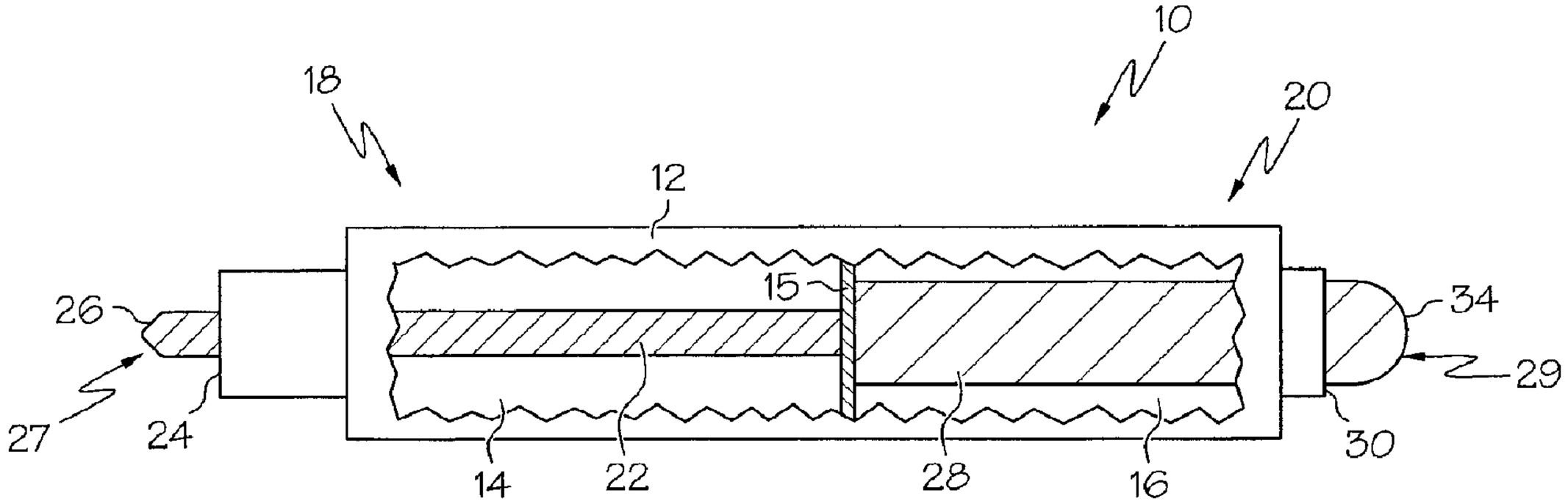
(51) Cl.Int./Int.Cl. *B43K 29/05* (2006.01), *B42D 3/12* (2006.01), *B43L 1/00* (2006.01)

(72) Inventeur/Inventor:
WEHMEYER, STEPHEN D., US

(73) Propriétaire/Owner:
MEADWESTVACO CORPORATION, US

(74) Agent: RIDOUT & MAYBEE LLP

(54) Titre : SYSTEME A ECRITURE EFFACABLE
(54) Title: ERASABLE WRITING SYSTEM



(57) Abrégé/Abstract:
A system including a writing instrument having a body with a marking portion and an eraser portion, wherein the marking portion is configured to dispense a permanent ink and the eraser portion is configured to dispense a solvent which solubilizes the permanent ink and a writing surface upon which the marking portion can dispense the permanent ink, wherein the writing surface is part of a school or office product.

Attorney Docket No. 100041-41201CIP

ABSTRACT

A system including a writing instrument having a body with a marking portion and an eraser portion, wherein the marking portion is configured to dispense a permanent ink and the eraser portion is configured to dispense a solvent which solubilizes the permanent ink and a writing surface upon which the marking portion can dispense the permanent ink, wherein the writing surface is part of a school or office product.

ERASABLE WRITING SYSTEM

[0002] The present invention is directed to an erasable writing system and, more particularly, to an erasable writing system having a marker with a marker portion and an eraser portion for erasing markings made by the marker portion.

BACKGROUND

[0003] Permanent markers are typically used in home, classroom or office environments for various marking purposes. Permanent markers allow a user to mark indicia on various substrates, including polymer and plastic based substrates, without the risk of the markings being smudged or accidentally erased. Permanent markers can also be used to mark on various items that cannot be written upon by other writing instruments. For example, plastic and polymer based substrates typically are not capable of being marked upon with nonpermanent markers.

[0004] Permanent markers may be advantageous in that the risk of smudging the markings is minimized once the ink has dried, thereby minimizing the risk of transference of ink to items and persons that come into contact with the markings. However, a disadvantage of permanent markers is that the markings cannot easily be erased.

[0005] Dry erase markers and the like are often used to provide an erasable marking system. Dry erase markers and the like are not permanent and their markings can easily be removed from a polymeric substrate by the application of frictional forces (i.e. by a hand or by an eraser). However, the easily erasable markings of dry erase markers can accidentally be erased and/or the markings can easily rub off on items or persons coming into contact with the markings.

[0006] Accordingly, there is a need for an erasable writing system for marking on a substrate, such as a polymer or plastic based substrate, without smudging, wherein the marking can be

erased. There is also a need for a writing instrument which can write with permanent ink and which can also erase permanent ink.

SUMMARY

[0007] The present invention is an apparatus and system for marking and erasing permanent ink from a substrate. In one embodiment, the invention is a system including a writing instrument having a body with a marking portion and an eraser portion, wherein the marking portion is configured to dispense a permanent ink and the eraser portion is configured to dispense a solvent which solubilizes the permanent ink, and a writing surface upon which the marking portion can dispense the permanent ink, wherein the writing surface is part of a school or office product.

[0008] In another embodiment, the invention is a system including a writing instrument having a body with a marking portion and an eraser portion, wherein the marking portion is configured to dispense a permanent ink and the eraser portion is configured to dispense a solvent which solubilizes the permanent ink, and a writing surface upon which the marking portion can dispense the permanent ink, wherein the writing surface is part of a school or office product, wherein the school or office product includes at least one flap pivotally attached to the product and movable between a closed position wherein the flap covers at least a portion of the writing surface and an open position wherein the flap does not cover the writing surface.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The invention can be understood with reference to the following drawings. In the drawings, like reference numerals designate corresponding parts throughout the several views. Also, the components in the drawings are not necessarily to scale.

[0010] Fig. 1 is a front elevational view of a marker with a portion of the marker body being cut out;

[0011] Fig. 2 is a front elevational view of the marker of Fig. 1 including a cap mounted thereon;

[0012] Fig. 3 is a front elevational view of a writing surface being marked upon by the marker of Fig. 1;

[0013] Fig. 4 is a front perspective view of a binder including a writing surface and being marked upon by the marker of Fig. 1;

[0014] Fig. 5 is a front perspective view of a binder including a writing surface and a flap in a closed position;

[0015] Fig. 6 is a front perspective view of the binder of Fig. 5 with the flap in an open position;

[0016] Fig. 7 is a front perspective view of a three-ring notebook including a writing surface and a flap in a closed position;

[0017] Fig. 8 is a front perspective view of the three-ring notebook of Fig. 7 with the flap in an open position;

[0018] Fig. 9 is a front perspective view of a coil-bound notebook including a writing surface and a flap in a closed position;

[0019] Fig. 10 is a front perspective view of the coil-bound notebook of Fig. 9 with the flap in an open position;

[0020] Fig. 11 is a front perspective view of a folder including a writing surface;

[0021] Fig. 12 is a front perspective view of a book cover including a closure mechanism in a closed position;

[0022] Fig. 13 is a front perspective view of the book cover of Fig. 12 with the closure mechanism in the open position; and

[0023] Fig. 14 is a front perspective view of the book cover of Fig. 12 positioned over a book.

DETAILED DESCRIPTION

[0024] With reference to Fig. 1, a marker or writing instrument 10 is shown and includes a writing instrument body or marker body 12. The marker body 12 may be generally tubular or cylindrical and may have a first portion 18 and a second portion 20. The marker body 12 may include a first reservoir 14 located generally inside of the first portion 18 and a second reservoir 16 located generally inside of the second portion 20, with the first 14 and second 16 reservoirs separated by a divider 15. The maker body 12 may include a first opening 24 that is located at an end of the marker body 12 adjacent to the first portion 18 and in communication with the first reservoir 14. The marker body 12 may also include a second opening 30 that is located at the other of the marker body 12 adjacent to the second portion 20 and in communication with the second reservoir 16.

[0025] The marker body 12 includes a first wick 22 generally closely received in the first opening 24 and extending into the first reservoir 14. The first wick 22 has an exposed portion 27 extending out of the first reservoir 14, with the exposed portion 27 having a writing tip 26. The marker body 12 includes a second wick 28 generally closely received in the second opening 30 and extending into the second reservoir 16. The second wick 28 has an exposed portion 29 extending out of the second reservoir 16, with the exposed portion 29 including a tip 34. The wicks 22, 28 may be made from a wide variety of materials, such as felt. Although the marker 10 is illustrated as having a tip 26, 34 at each end, the marker 10 may have a wide variety of other configurations for the tips 26, 34 and/or wicks 22, 28, including having the tips 26, 34, being oriented at various angles, being located in a side-by-side configuration, etc.

[0026] The first reservoir 14 may be filled with a permanent or indelible ink solution of any of a wide variety of colors. The permanent ink or permanent ink solution in the first reservoir 14 may be nearly any type of permanent ink or ink solution, such as a traditional organic solvent based permanent ink with a wide variety of pigments, dye, colorants or the like, or an aqueous type permanent ink as described in U.S. Pat. No. 5,131,776, the entire contents of which are hereby incorporated by reference. The permanent ink may be an alcohol (i.e. n-propyl alcohol) based or other organic solvent based permanent ink. The permanent ink may be capable of marking on porous surfaces (e.g., paper, wood and the like) and nonporous surfaces (e.g., glass,

metal, plastic and other polymer based surfaces). Further, the permanent ink may be resistent to smearing and re-wetting after application and may resist emulsification, dissolving or removal with soap and water.

[0027] The second reservoir 16 may be filled with a solvent that can dissolve the permanent ink or ink solution in the first reservoir 14. The solvent in the second reservoir 16 may be any solvent that is capable of solubilizing or dissolving permanent ink or a permanent ink solution that has been applied to a surface and allowed to dry. The solvent may be or include an ethyl alcohol, an n-propyl alcohol, or other organic based solvents.

[0028] For example, the solvent may be a dry-erase solution typically used in a dry-erase marker. Thus the solvent may also optionally include a colorant, dye or pigment and a binder resin such that the second portion 20 can operate as a dry-erase marker. In this case, when the dry-erase solution is applied to a polymeric or plastic type surface, the solvent evaporates and the binder resin and colorant remain behind as a friable discontinuous film.

[0029] The permanent ink solution in the first reservoir 14 may be soaked through the first wick 22, or permanent ink dispensing wick 22, and wicked through the permanent ink dispensing wick 22 until the permanent ink solution reaches the writing tip 26. In this manner, when the writing tip 26 contacts a substrate to be written upon, ink from the first reservoir 14 is deposited on the substrate. Similarly, the solvent in the second reservoir 16 soaks the second wick 28, or solvent dispensing wick 28, such that the solvent is wicked through the solvent dispensing wick 28 until it reaches the erasing tip 34. When the erasing tip 34 contacts the substrate, solvent from the second reservoir 16 is deposited onto the substrate and solubilizes (or dissolves) any ink deposited by the permanent ink dispending wick contacted by the solvent. Thus the marker 10 may be a double-ended felt-tip marker, although the marker 10 may include various other manners of dispensing the permanent ink and solvent, such as ball-point dispensers, gel-type dispensers, etc.

[0030] In another embodiment of the present invention, the marker 10 includes a cap 40 for covering either the erasing tip 34 (as shown in Fig. 2) or, alternatively or in addition, the writing tip 26. The cap 40 prevents the ink and solvent from evaporating through the wicks 22, 28 when

the marker 10 is not in use. For example, as shown in Fig. 2, the cap 40 may include a body portion shaped to form a tight interference fit or seal with the marker body 12 to seal off the associated tip 26, 34. The cap 40 may also include an absorbent portion 42 located, for example, on an outer surface, or outer end surface, of the cap 40. The absorbent portion 42 may be made of a felt, cotton, foam, sponge-type material or other absorbent type material. The absorbent portion 42 may be used to wipe away markings that are deposited by the writing tip 26 and erased/dissolved by the erasing tip 34. The marker 10 may include two caps 40, with each cap 40 located on each end of the marker 10, and at least one cap 40 may include an absorbent portion 42, although both caps 40 may include an absorbent portion 42.

[0031] As shown in Fig. 3, a user may mark various markings 52 on a writing surface 50 using the writing tip 26 of the marker 10. The markings 52 may then be allowed to dry. Once dry, the markings 52 cannot be erased by simply rubbing the markings by hand, or with soap and water or the like. The permanent markings 52 may then be allowed to remain in place for as long as desired. Once it is desired to erase the markings 52, the erasing tip 34 is applied to the markings 52 to solubilize/erase/dissolve the markings 52. The erasing tip 34 may be moved over the markings 52 such that the solvent contacts the deposited markings 52 and solubilizes the markings 52, thereby allowing the markings 52 to be erased. A user may then take the cap 40 and apply the absorbent portion 42 to the writing surface 50 to wipe away or absorb the solubilized markings.

[0032] The writing surface 50 may be made of a typical plastic material such as polypropylene, polyethylene or the like that is capable of being marked upon using permanent ink, but not with typical water based inks. The writing surface 50 may have a glossy finish surface and/or a UV aqueous coating and/or other coatings. Further, the writing surface 50 may have a surface roughness sufficient to absorb or receive ink in the creases and recesses, but not exceedingly rough to make it overly difficult to remove the ink. In one embodiment, the writing surface 50 has an average surface roughness of between about 9-100 microns, or between about 50-1000 microns. The writing surface 50, permanent ink and solvent should be selected such that application of the permanent ink or solvent to the writing surface 50 does not significantly alter,

destroy or marr the writing surface 50. Proper selection may allow the writing surface 50 to be used many times over for marking and erasing.

[0033] The writing surface 50 may be, include, or be part of various devices or products. For example, the writing surface 50 may be formed as part of a school or office product such as a binder 60 (Fig. 4), 70 (Figs. 5 and 6), 80 (Figs. 7 and 8), a notebook 90 (Figs. 9 and 10), a folder 100 (Fig. 11), a book cover 110 (Figs. 12 and 13), as well as a divider, a portfolio, a tablet, a note pad, a clipboard, a briefcase, storage case, a compact disk case, a computer case, an electronic device case or the like for home, school, business or office use. Thus, for example, in school use, a user may write certain notes or reminders (i.e. a reminder of a homework assignment) on the outer surface of a binder 60, 70, 80 which includes the writing surface 50. The writing 63 on the binder 60 (see Fig. 4) is written in permanent ink and therefore resists smudging and accidental erasure, even when exposed to water and most common liquids. When the user desires to remove the marking 63 (i.e. when the homework project is complete or when a new homework assignment is received) the user can remove the markings 63 using the erasing tip 34 and absorbent portion 42 of the cap 40.

[0034] As shown in Figs 5 and 6, in one embodiment the binder 70 includes a front cover 71, a back cover 72 and a spine portion 73. The front cover 71 and back cover 72 are pivotally coupled to the spine portion 73. The binder 70 includes a zipper closure mechanism 74 that couples the front cover 71 and back cover 72 together. The binder 70 also includes a flap 75 (having inner surface 77 and outer surface 79) pivotally coupled to the front cover 71 and securing devices 76 located on an inner surface 77 of the flap 75.

[0035] The writing surface 50 is formed on or as part of the front cover 71 (as shown in Figs. 5 and 6) and/or the back cover 72 (not shown). The flap 75 is hingedly connected to an outer edge 78 of the front cover 71 and pivots from an open position, wherein the flap 75 is spaced away from the front cover 71 (see Fig. 6) to a closed position, wherein the flap 75 lies over the front cover 71 (see Fig. 5) to cover all or a portion (anywhere from about 10% to about 100%) of the writing surface 50 on the front cover 71. When the flap 75 is in the closed position the flap 75 protects the writing surface 50. The securing devices 76 may be positioned on the facing surfaces (i.e., inner surface 77 of flap 75 and surface 50 of front cover 71) to secure the flap 75 in

its closed position. The securing devices 76 may be hook-and-loop fasteners, magnets, tacky material or the like. The flap 75 (i.e., including inner surface 77 and outer surface 79) and/or spine portion 73 may also include a writing surface 50 (not shown).

[0036] As shown in Figs. 7 and 8, in a second embodiment a three-ring binder 80 includes a front cover 81, a back cover 82 and a spine 83. The front cover 81 and back cover 82 are pivotally coupled to the spine 83. The binder 80 includes a flap 84 (having inner surface 86 and outer surface 87) pivotally coupled to the front cover 81 along edge 85.

[0037] The writing surface 50 is formed on or as part of the front cover 81 (and/or back cover 82) and the spine 83. The flap 84 is hingedly connected to the outer edge 85 of the front cover 81 and pivots from an open position, wherein the flap 84 is spaced away from the front cover 81 (see Fig. 8) to a closed position, wherein the flap 84 lies over the front cover 81 (see Fig. 7) to cover all or a portion of the writing surface 50 on the front cover 81. The flap 84 may be secured to the front cover 81 (when in the closed position) by various means (not shown), such as hook-and-loop fasteners, magnets, tacky material or the like. In an alternative embodiment, the flap 84 also includes a writing surface 50 (not shown) located on either side thereof.

[0038] As shown in Figs. 9 and 10, in a third embodiment a coil bound notebook 90 includes a front cover 91, a back cover 92, a plurality of sheets of paper 93, a coil binding 94, a flap 95 (having front surface 98 and back surface 99) and securing devices 96. The sheets of paper 93 are positioned between the front and back covers 91, 92 and the flap 95, front and back covers 91, 92 and plurality of sheets of paper 93 are bound together along their binding edges 97 by coil binding 94.

[0039] The writing surface 50 is formed on or as part of the front cover 91 and/or the back cover 92. Also, the front 98 (see Fig. 9) and/or back 99 surface of the flap 95 may include a writing surface 50. The flap 95 pivots about the coil binding 94 from an open position, wherein the flap 95 is spaced away from the front and back covers 91, 92 (see Fig. 10) to a closed position, wherein the flap 95 lies over one of the covers 91, 92 (see Fig. 9) to cover all or a portion of the front or back covers 91, 92. The flap 95 may be secured in the closed position

(i.e., to the front or back covers 91, 92) by the securing devices 96 (e.g., hook-and-loop fasteners, magnets, tacky material or the like).

[0040] As shown in Fig. 11, in a fourth embodiment a folder 100 includes a front cover 101, a back cover 102 and a pen/pencil holder 103. The front cover 101 is pivotally connected to the back cover 102 along a pivot edge 105. The back cover 102 has a surface area larger than that of the front cover 101 and has a first edge 104 that extends upwardly beyond the front cover to provide an area for attaching the pen/pencil holder 103. The entire folder 100 may be constructed from an appropriate material such that the entire folder 100 is a writing surface 50. Alternatively, only a portion of the front or back covers 101, 102 may include the writing surface 50.

[0041] As shown in Figs. 12-14, in a fifth embodiment a book cover 110 includes a front cover portion 111, a back cover portion 112 and a closure mechanism 113. The front and back cover portions 111, 112 are adapted to be received over or around the front and back covers of a book 122 (Fig. 14), respectively, and may be constructed from various materials such as cloth, polymeric-type material, cellulose-based materials or the like. The closure mechanism 113 includes an elastic portion 114, a writing surface portion 115 having a writing surface 50 and securing device 116. A first end 118 of the elastic portion 114 is attached to the back cover portion 112 and a second end 119 is connected to the writing surface portion 115. The securing device 116 includes hook-and-loop fastening material 120 and is connected to the writing surface portion 115. The hook-and-loop fastening material 120 engages corresponding hook-and-loop material 117 affixed to the front cover portion 111 to secure the book cover 110 in the closed position (see Fig. 12).

[0042] Rather than being part of a school or office product, the writing surface 50 may simply be a "stand-alone" board such that the writing surface 50 can operate as a bulletin board, and, for example, be coupled to a locker, wall, refrigerator or the like, or be loosely carrier. Thus the writing surface 50 may include magnets, patches of hook-and-loop fastening material (i.e. VELCRO®), hook or other fasteners located on a rear side thereof to aid in attaching the writing surface 50 to various other components. Further, the marker 10 (which may include the cap 40)

may be packaged together with the writing surface 50 for sale such that the marker 10 and writing surface 50 are marketed and sold together.

[0043] Although the invention is shown and described with respect to certain embodiments, it is obvious that equivalents and modifications will occur to those skilled in the art upon reading and understanding the specification. The present invention includes all such equivalents and modifications and is limited only by the scope of the claims.

CLAIMS:

1. A system comprising:

a writing instrument including a body having a marking portion and an eraser portion, wherein the marking portion is configured to dispense a permanent ink and said eraser portion is configured to dispense a dry-erase solution, wherein said dry-erase solution is capable of solubilizing said permanent ink; and

a writing surface upon which said marking portion can dispense said permanent ink, wherein said writing surface includes a polymeric material that is chemically resistant to said dry-erase solution, and is part of a school or office product.

2. The system of claim 1 wherein said school or office product is selected from the group consisting of a binder, a notebook, a folder, a divider, a portfolio, a book cover, a compact disk case, a computer case and an electronic equipment case.

3. The system of claim 1 wherein said writing surface is made of polypropylene or polyethylene.

4. The system of claim 1 wherein said writing surface is located on a front cover of said school or office product.

5. The system of claim 1 wherein said writing surface is located on a spine of said school or office product.

6. The system of claim 1 wherein said school or office product includes at least one flap pivotally attached to said product, said flap being movable between a closed position wherein said flap covers at least a portion of said writing surface and an open position wherein said flap does not cover said writing surface.

7. The system of claim 6 wherein said at least one flap includes a flap writing surface capable of being marked upon by permanent ink, wherein said flap writing surface is chemically resistant to said dry-erase solution.

8. The system of claim 7 wherein said flap writing surface is part of a binder, a notebook, a folder, a divider, a portfolio, a book cover, a compact disk case, a computer case or an electronic equipment case.

9. The system of claim 7 wherein said flap writing surface includes a polymeric material selected from the group consisting of polyethylene and polypropylene.

10. The system of claim 6 further comprising at least one securing device for securing said flap to said writing surface.

11. The system of claim 6 wherein, when said flap is in said closed position, said flap covers about 10% to about 50% of said writing surface.

12. The system of claim 6 wherein, when said flap is in said closed position, said flap covers about 50% to about 75% of said writing surface.

13. The system of claim 6 wherein, when said flap is in said closed position, said flap covers about 75% to about 100% of said writing surface.

14. The system of claim 7 wherein said flap has a supplemental flap writing surface on an opposite side of said flap writing surface.

15. The system of claim 6 wherein said school and office product is a binder having a spine, a front cover and a back cover, wherein said front and back covers are pivotally attached to said spine and wherein said flap is pivotally coupled to a free edge of said front or back cover.

16. The system of claim 1 wherein said school and office product is a folder having a front cover pivotally coupled to a back cover, wherein said back cover has a top edge that extends beyond a top edge of said front cover and includes a pen/pencil holder fixedly attached to said top edge of said back cover.

17. The system of claim 1 wherein said school and office product is a book cover having a front cover portion, a back cover portion and a closure mechanism, wherein said front cover portion is adapted to be received over the front cover of a book and said back cover portion is adapted to be received over the back cover of a book.

Title: ERASABLE WRITING SYSTEM
Applicant: Stephen D. Wehmeyer
Docket No.: 100041-41201CIP

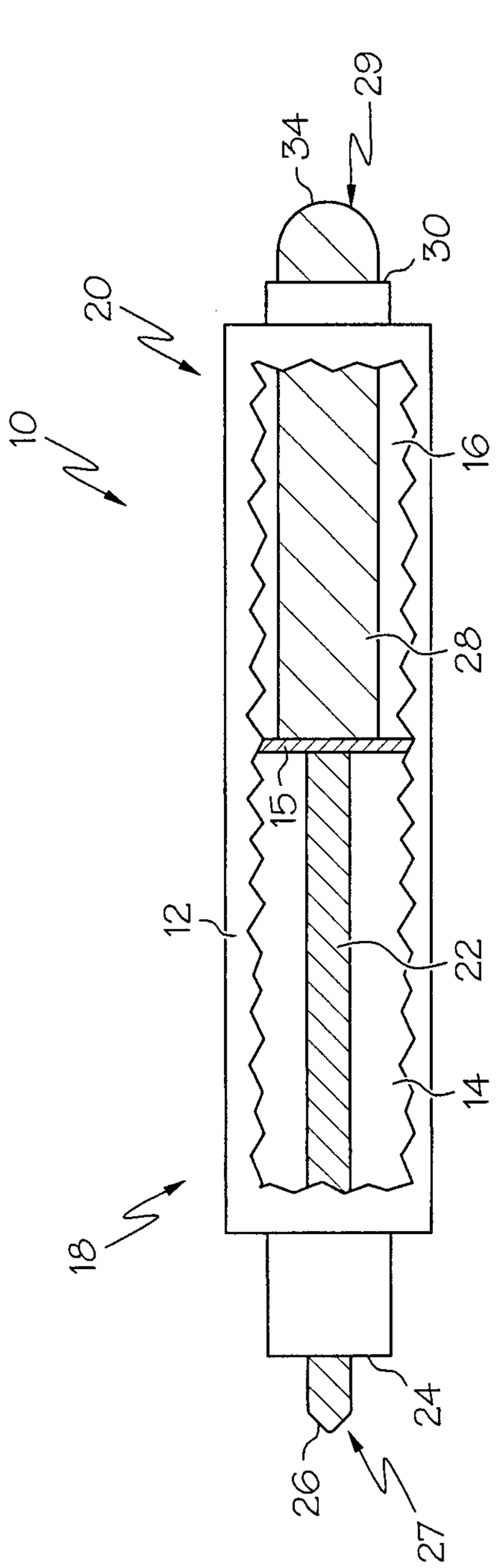


FIG. 1

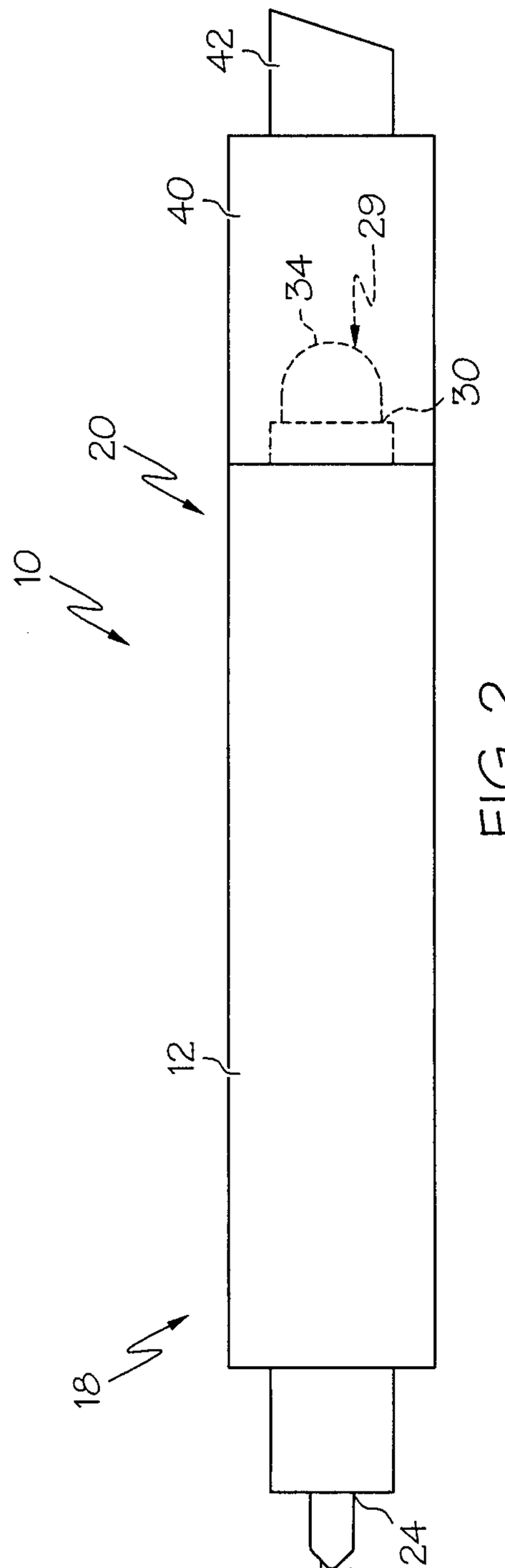


FIG. 2

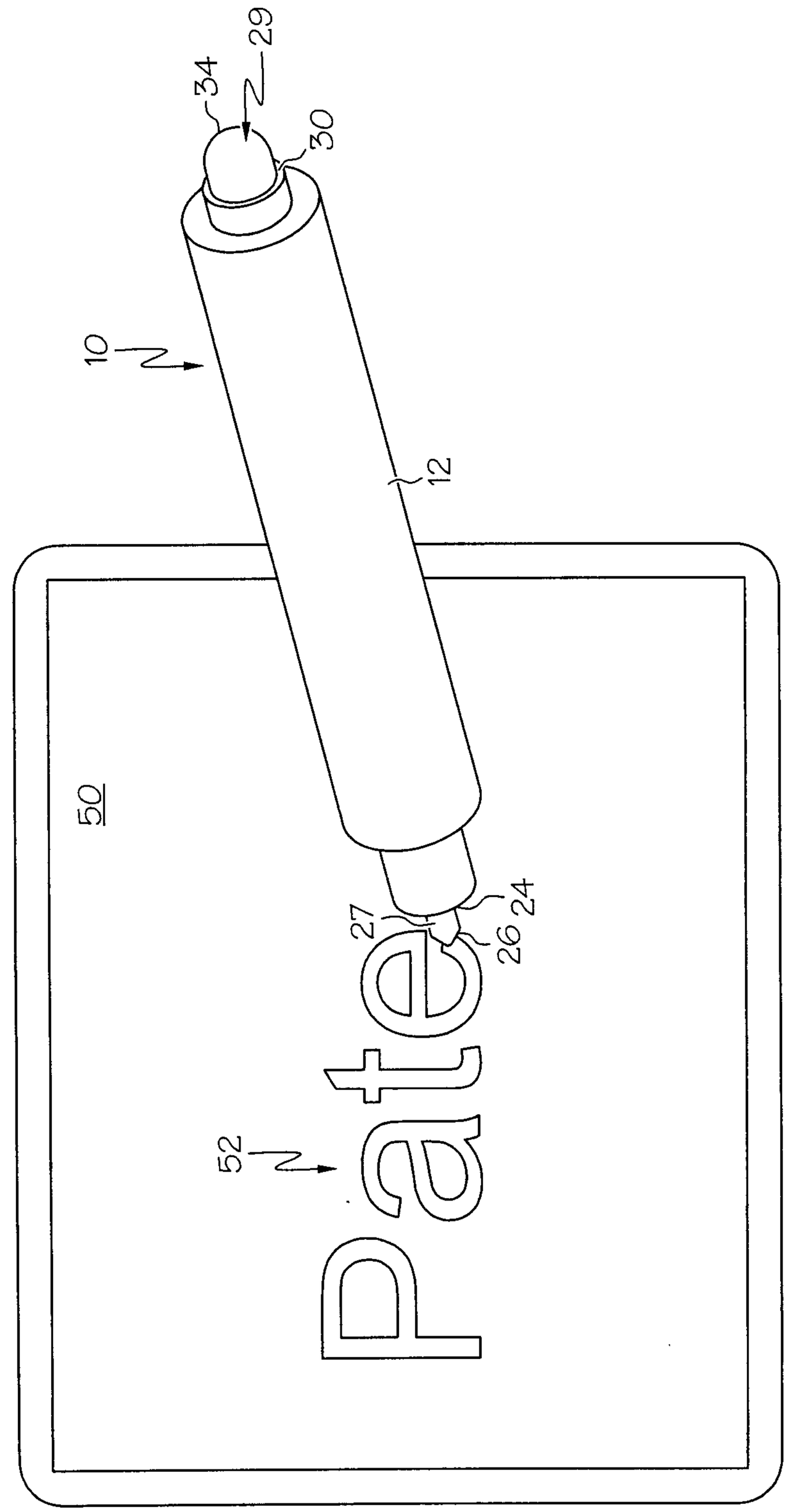


FIG. 3

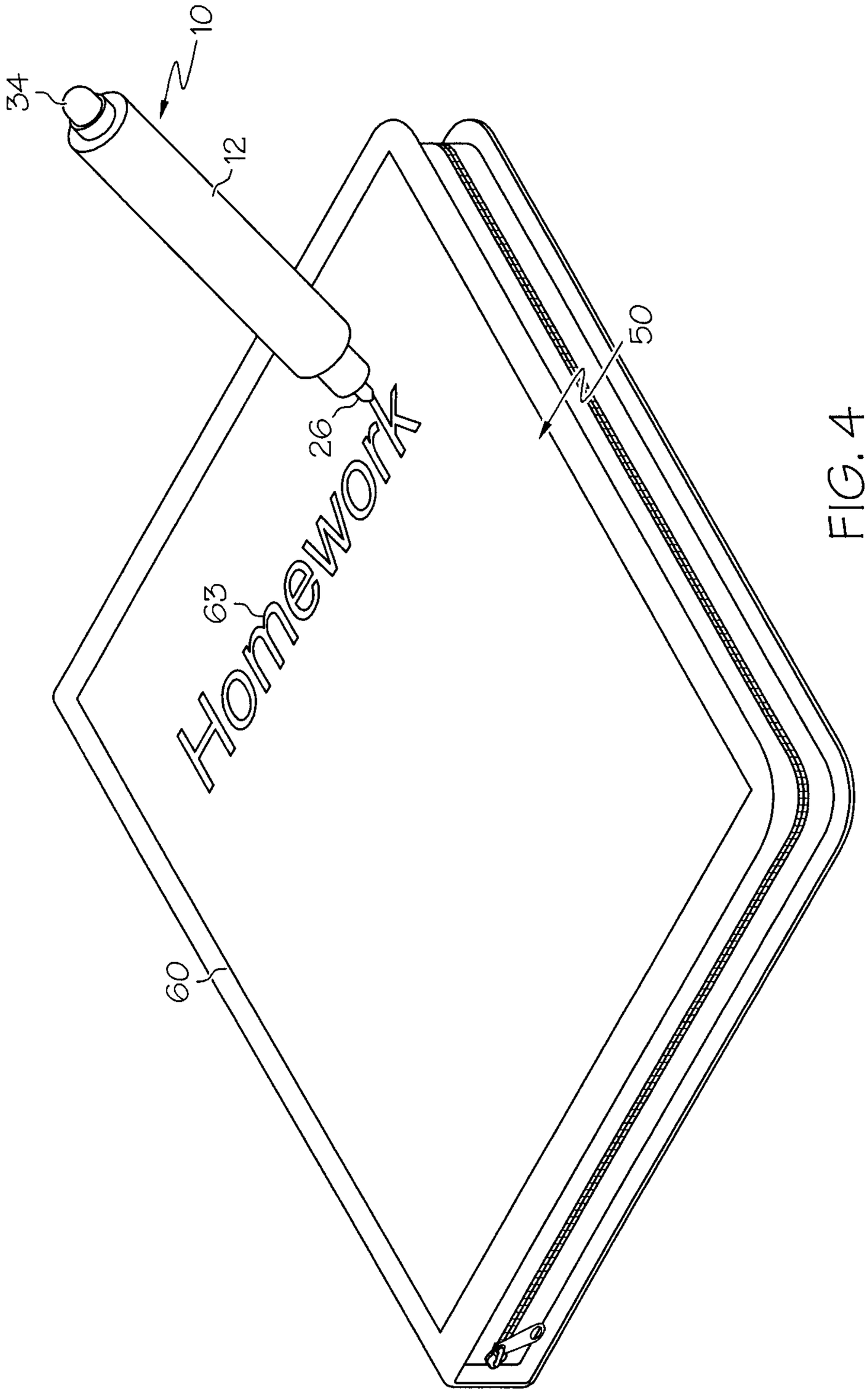


FIG. 4

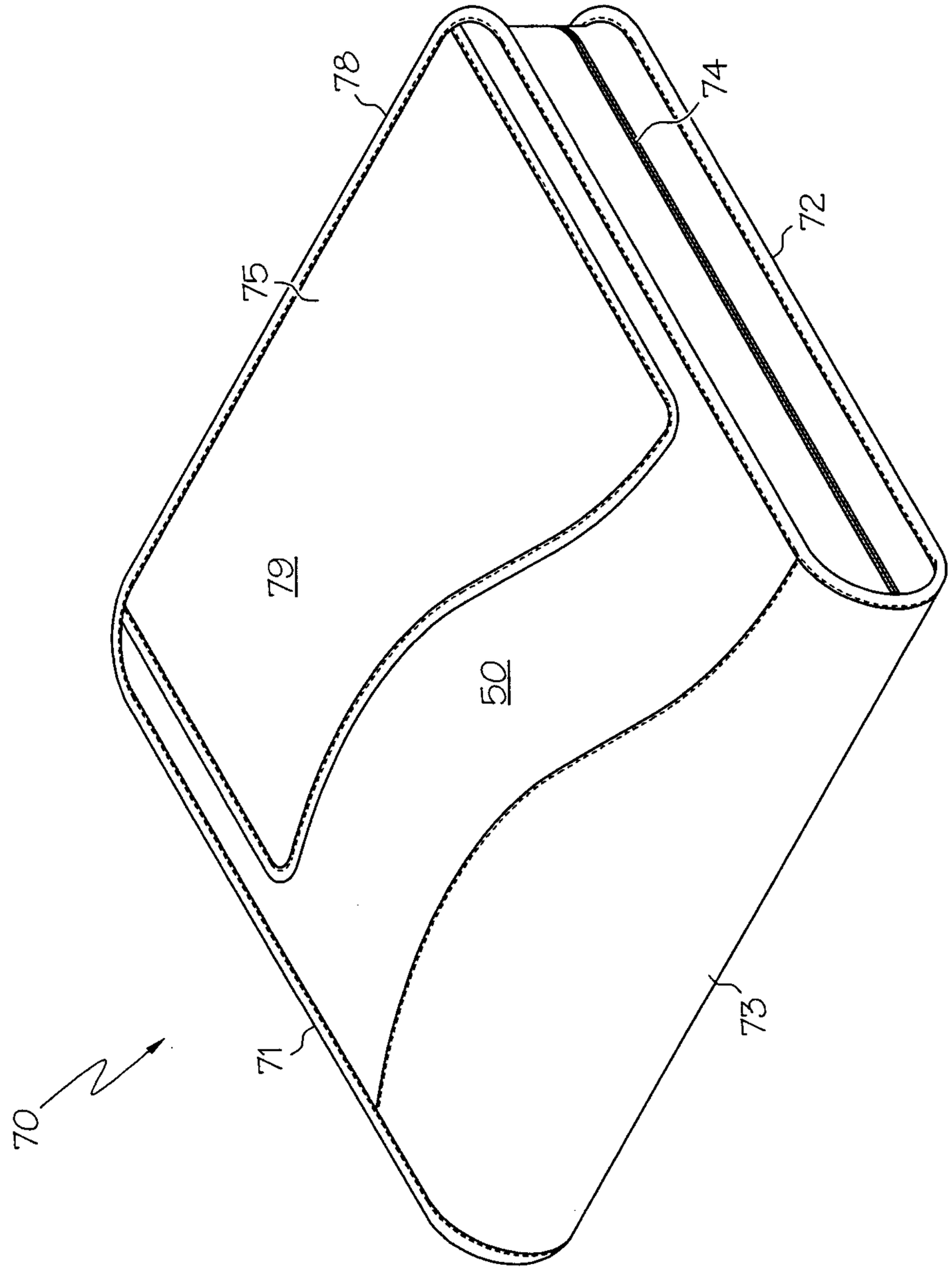


FIG. 5

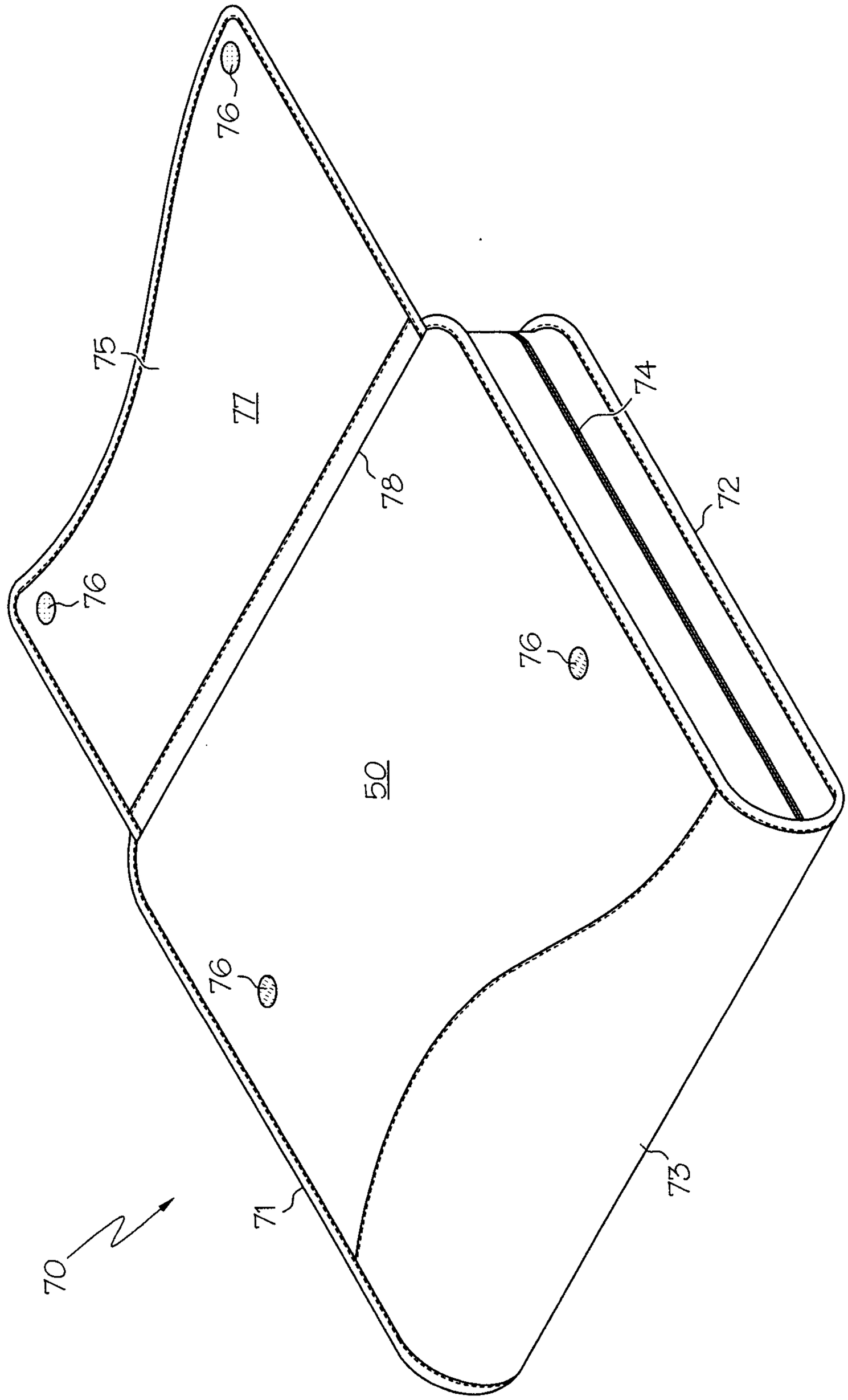


FIG. 6

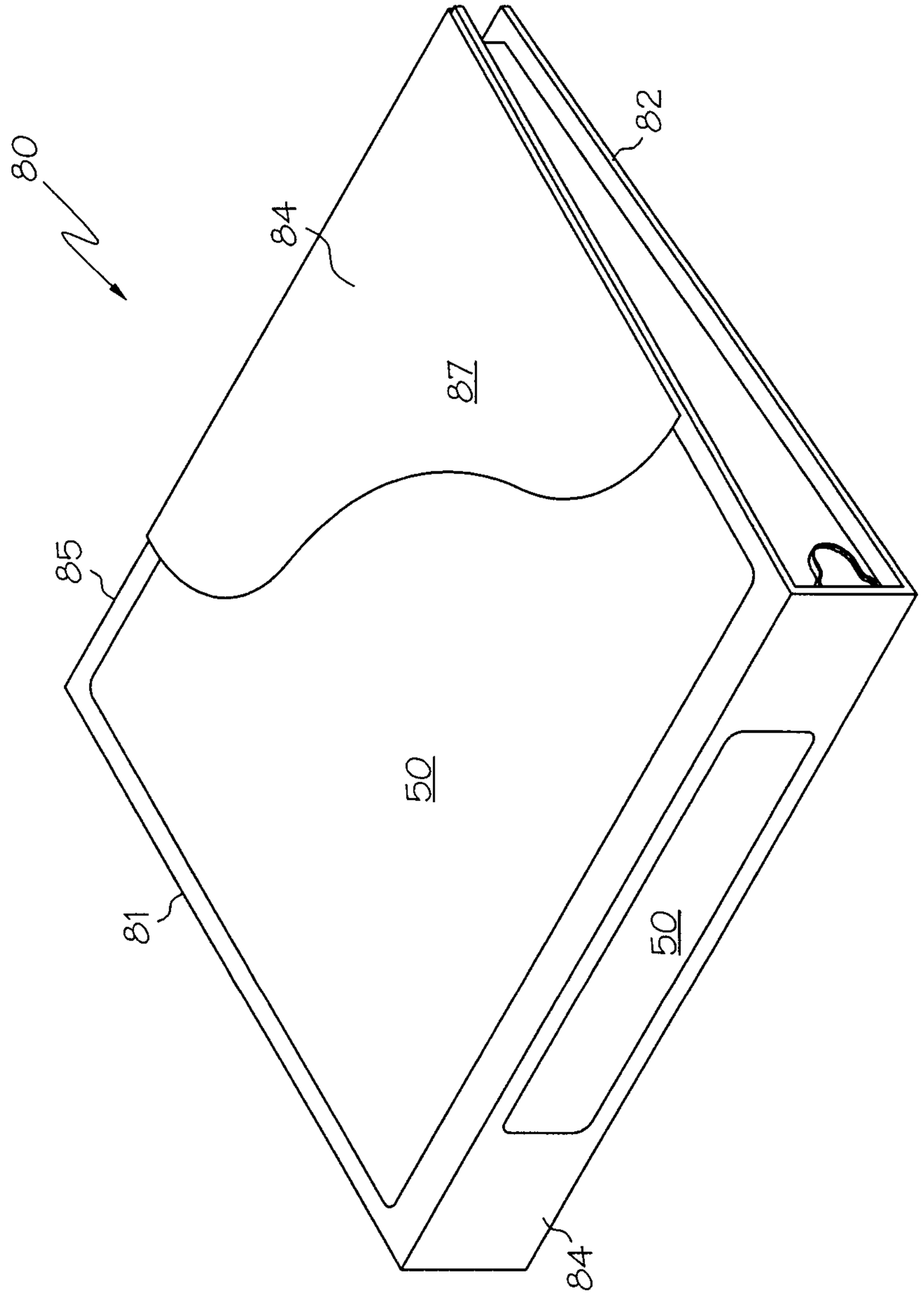


FIG. 7

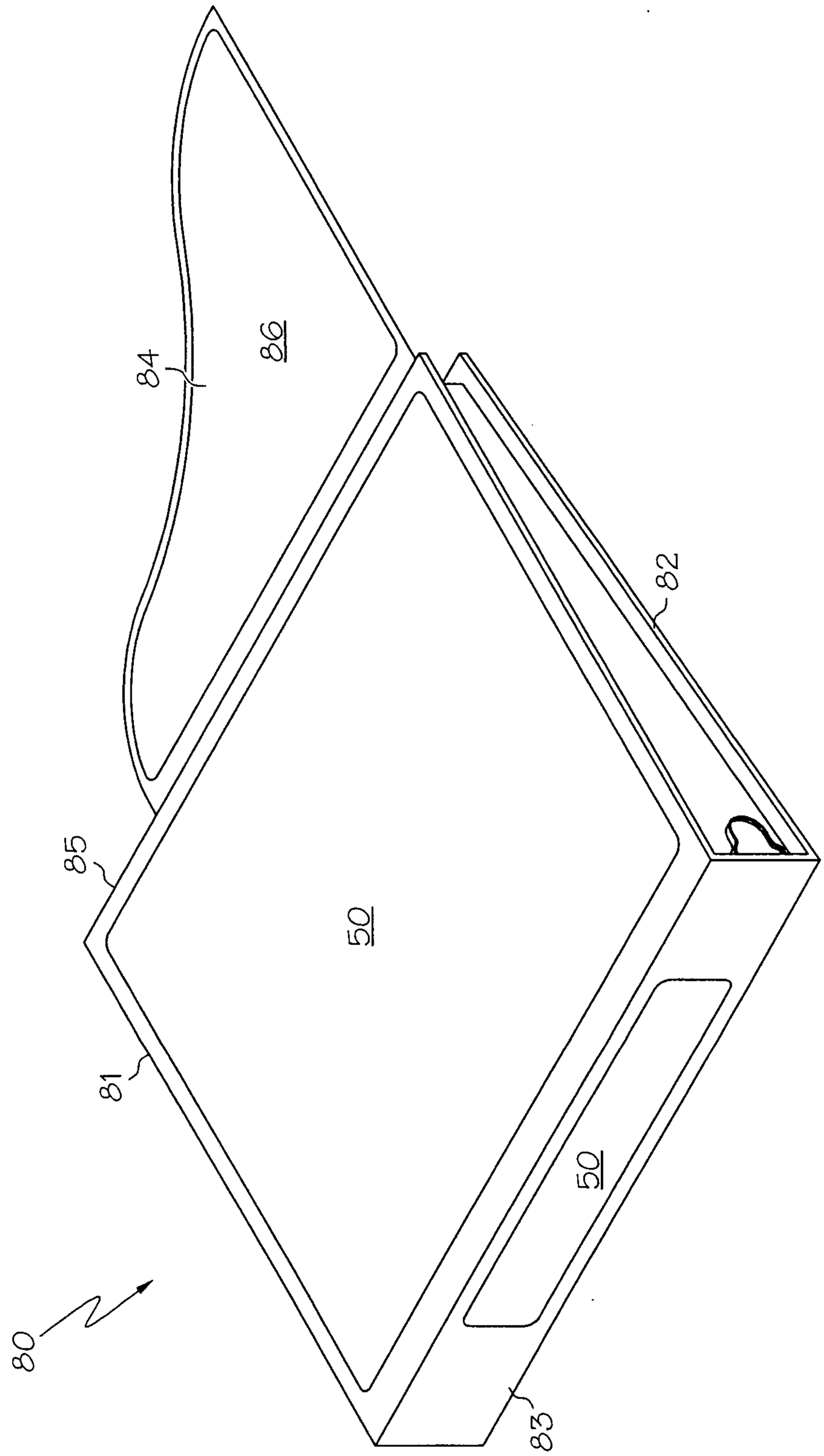


FIG. 8

8 / 13

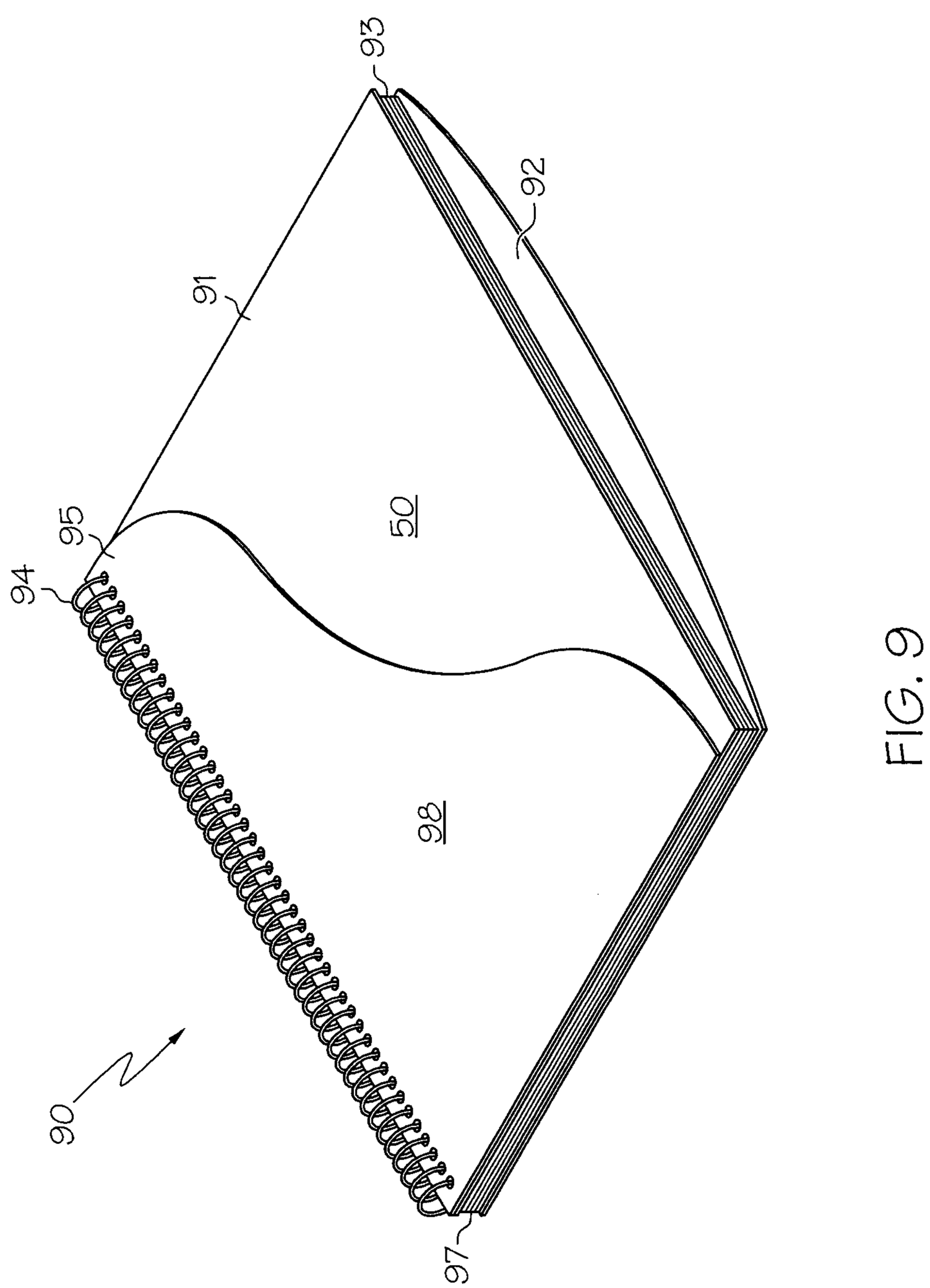


FIG. 9

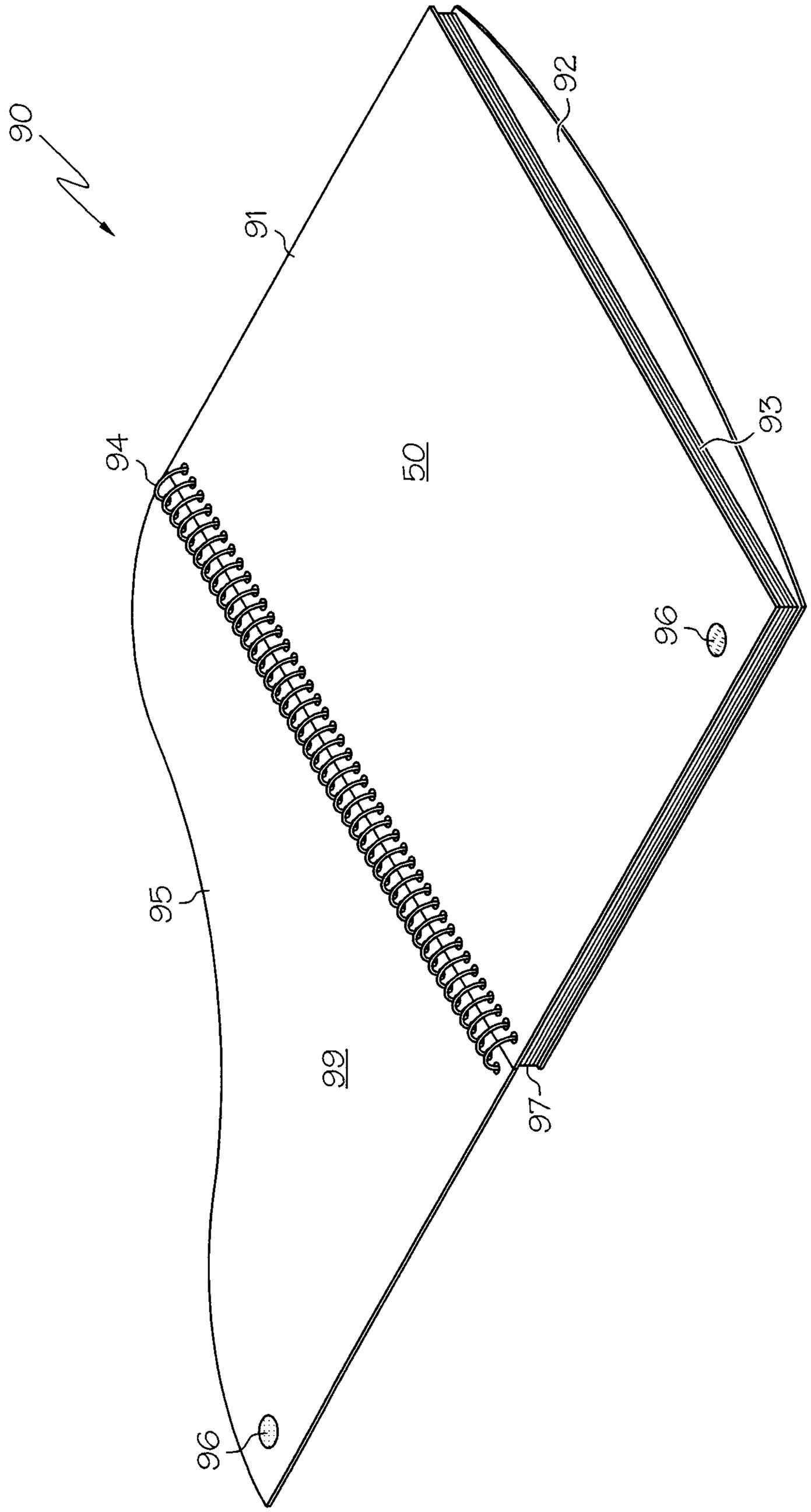


FIG. 10

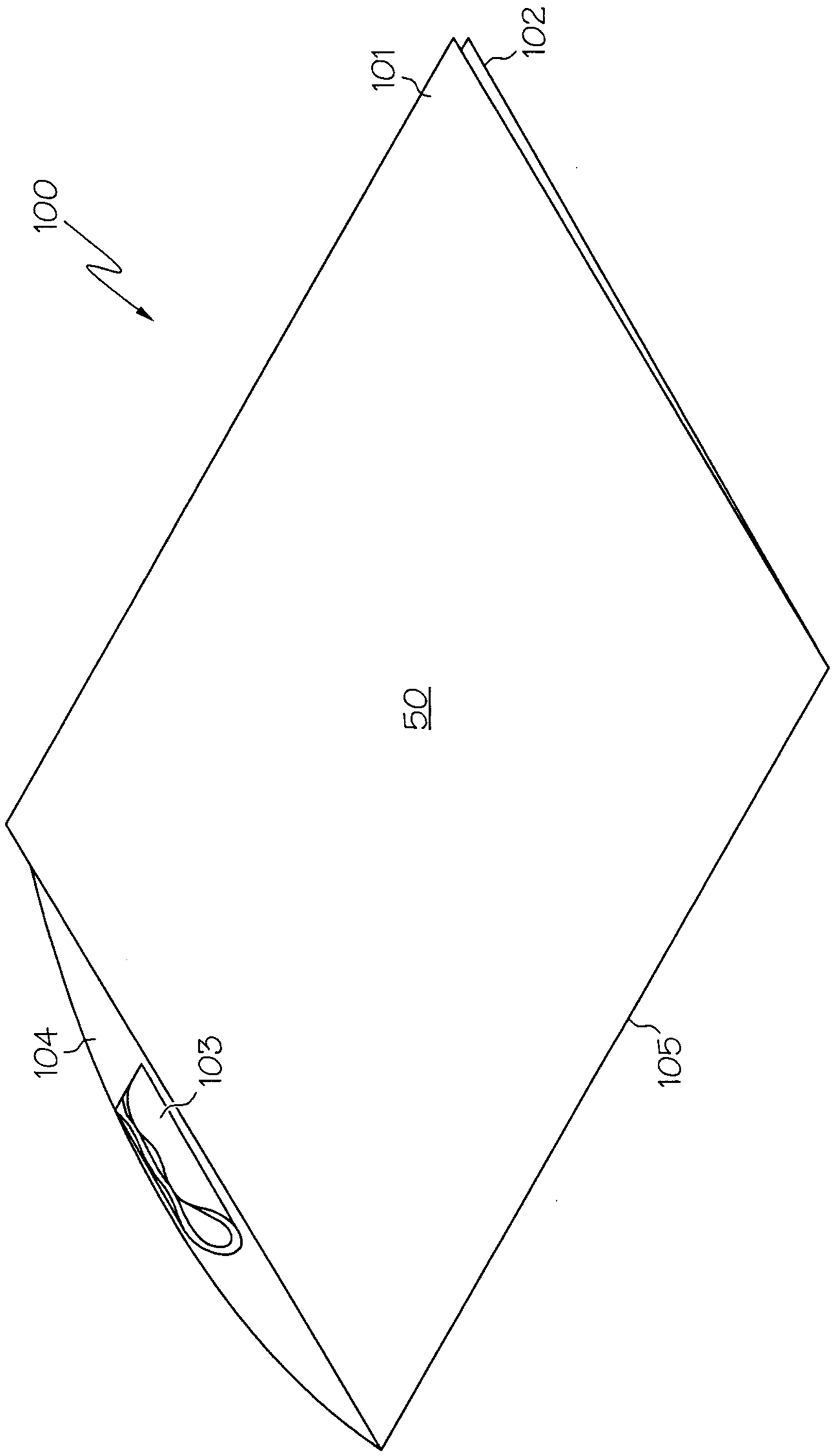


FIG. 11

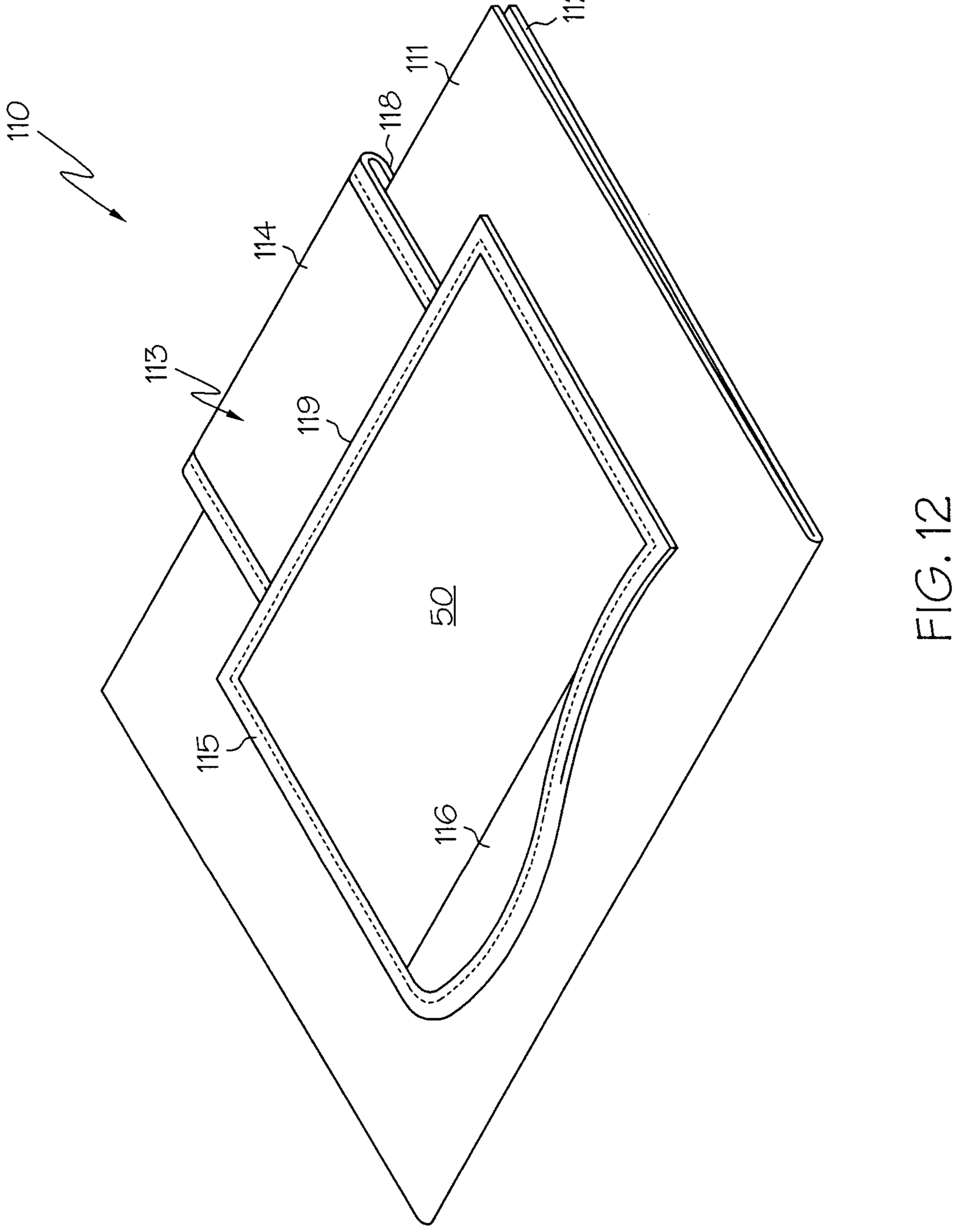


FIG. 12

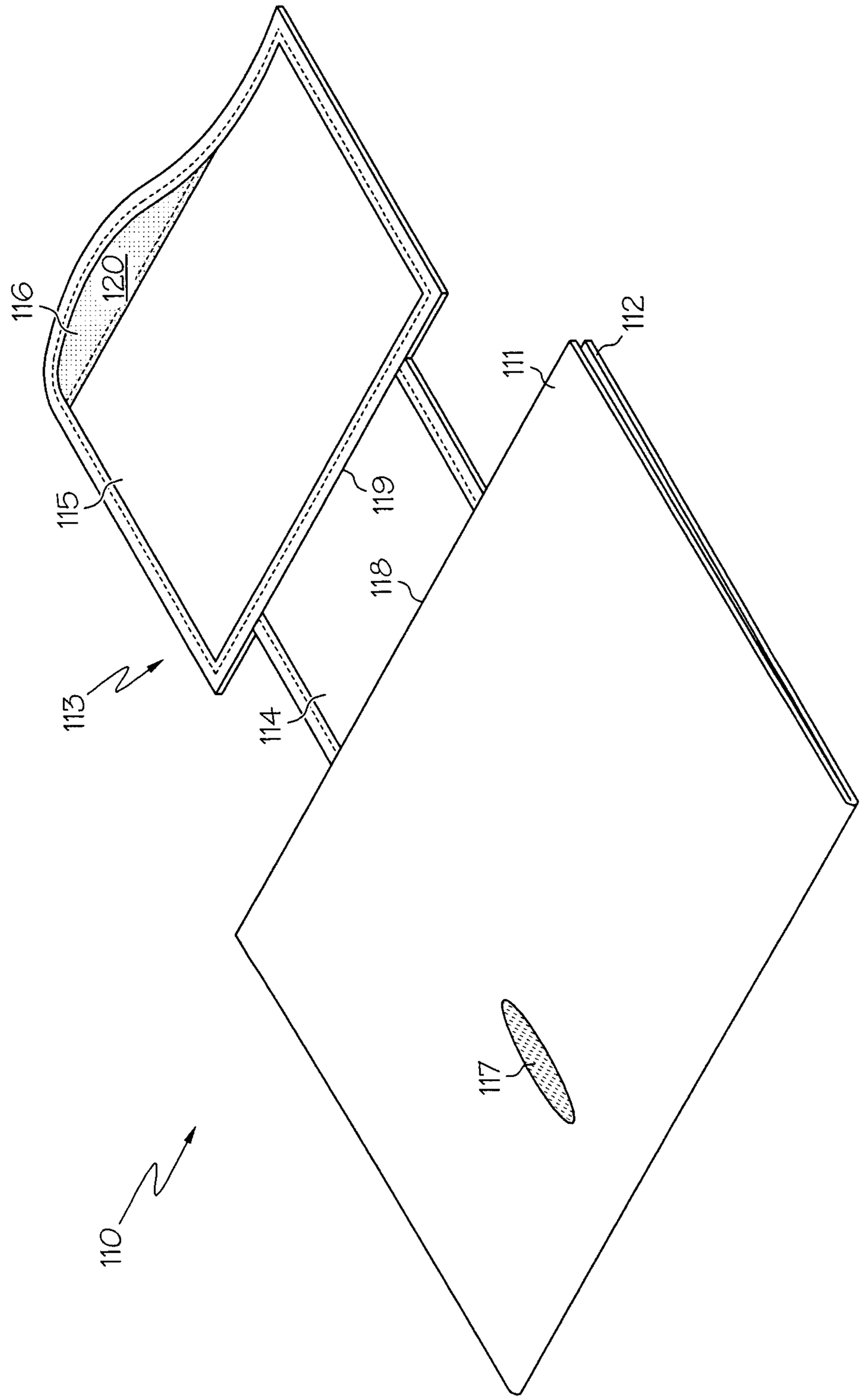


FIG. 13

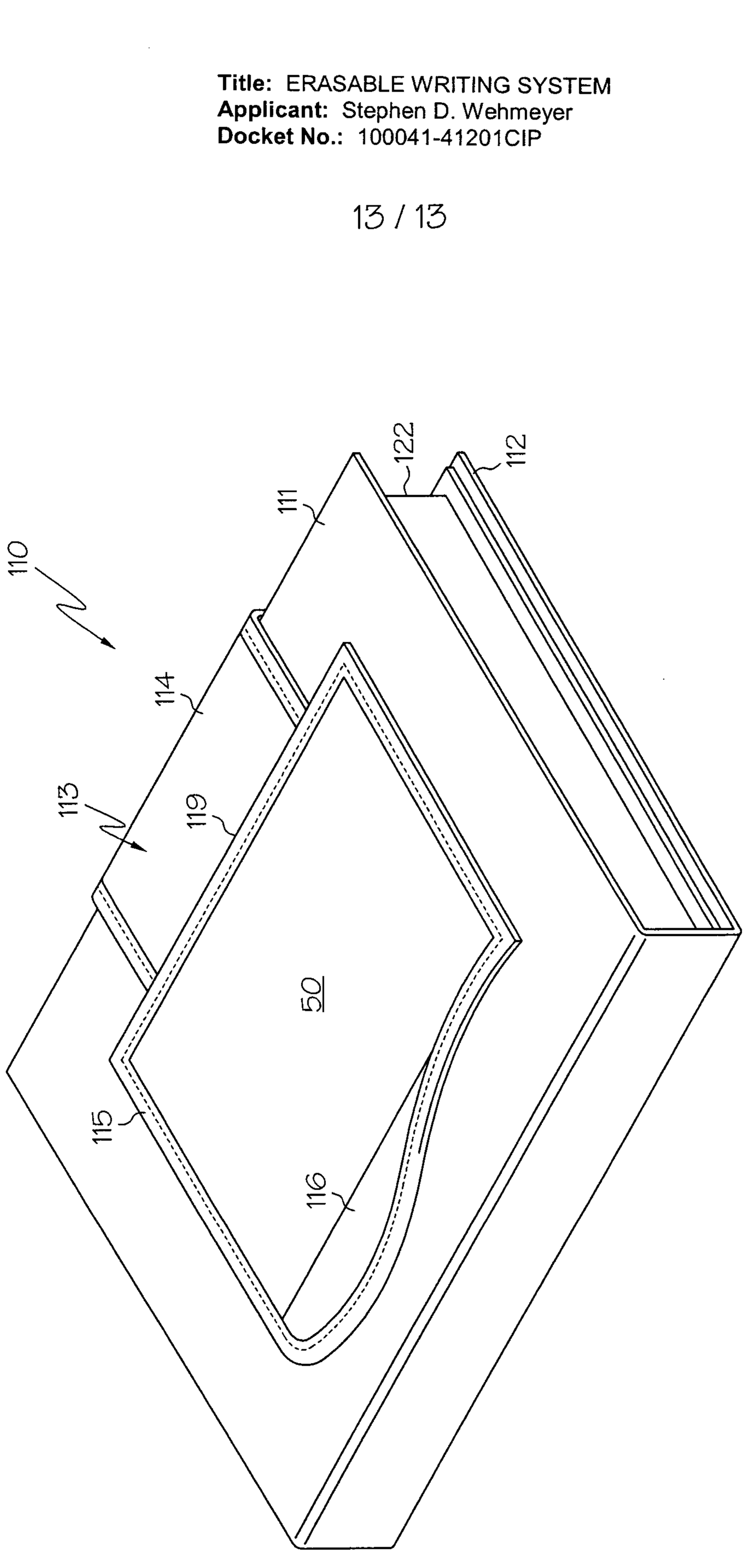
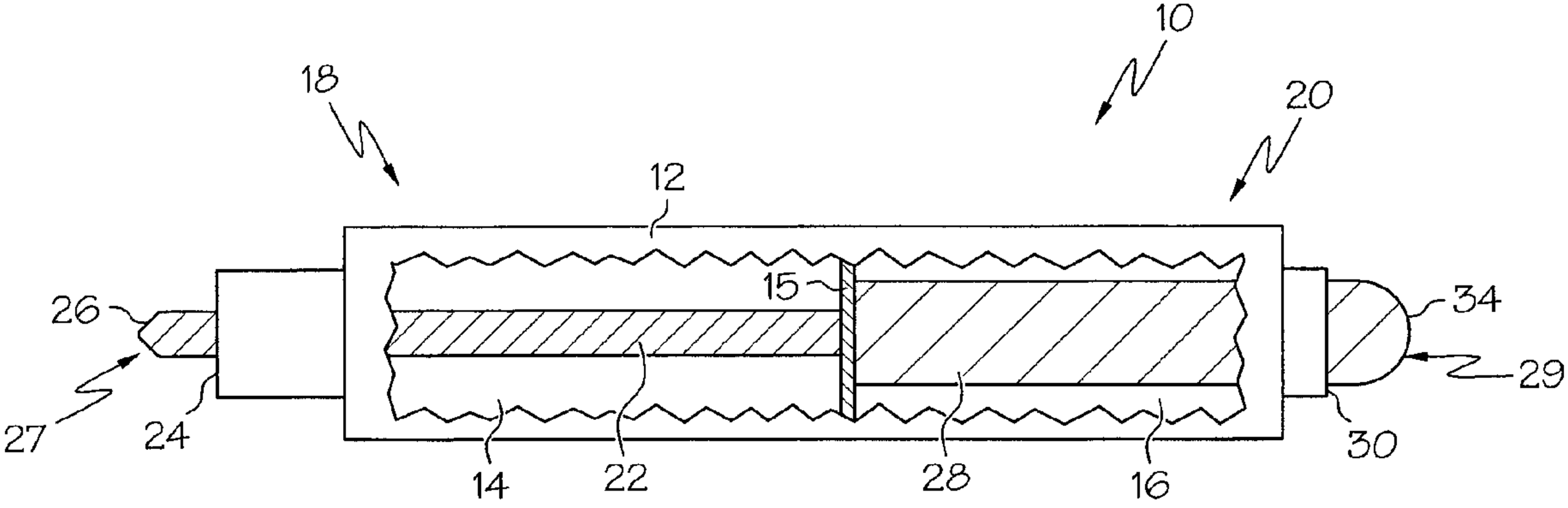


FIG. 14


10
18
20
12
15
26
34
29
27
24
30
14
22
28
16