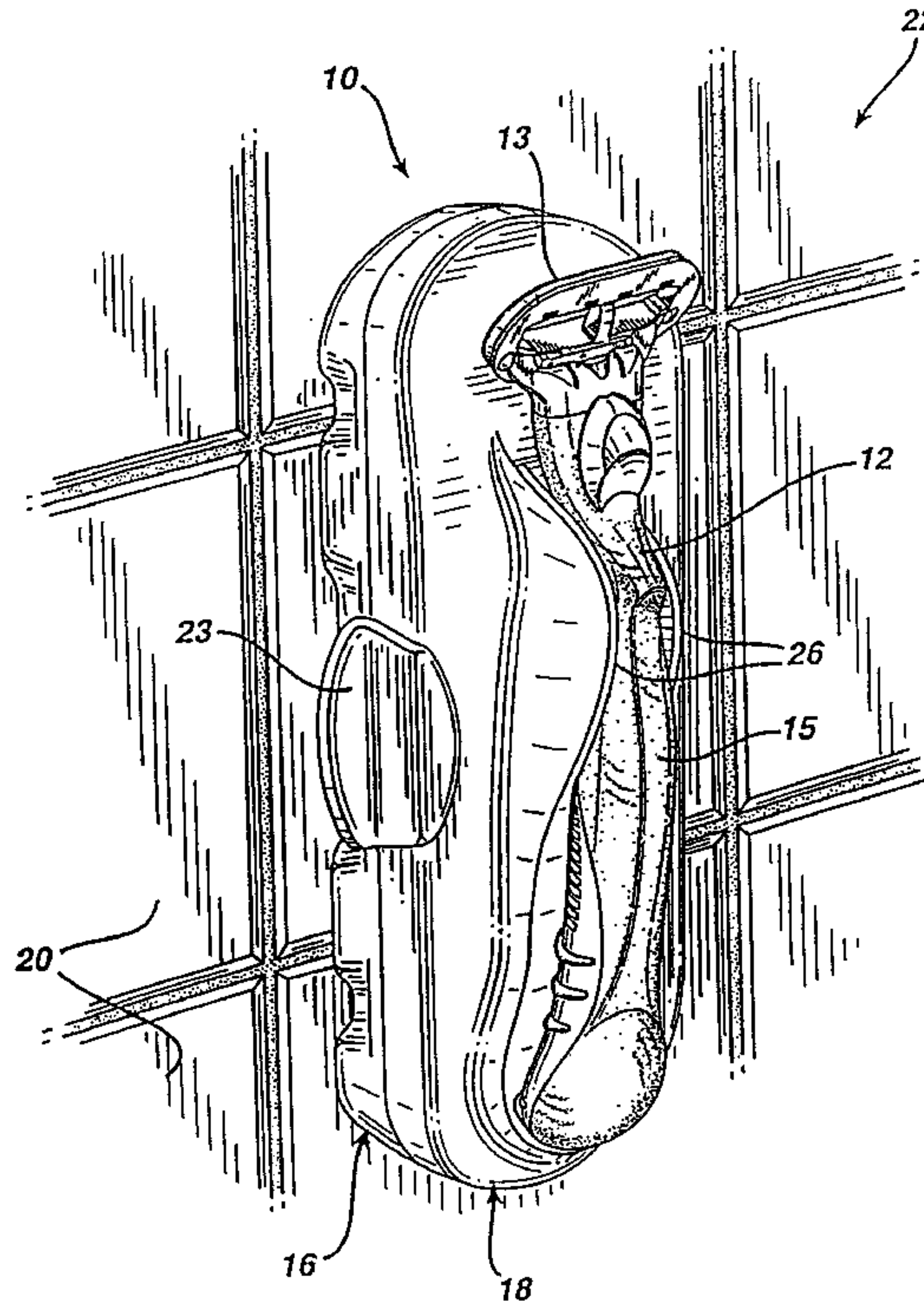




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(54) Titre : DISPOSITIF DE RANGEMENT POUR RASOIR, CARTOUCHES DE RASOIR ET AUTRES ARTICLES  
 DESTINES A ETRE RANGES  
 (54) Title: STORAGE DEVICE FOR SHAVING RAZOR, CARTRIDGES, OR OTHER STORED ITEMS



(57) Abrégé/Abstract:

A storage device for one or more sealed packages includes a base member having at least one divider spaced between respective ends thereof and defining at least one storage compartment, one or more sealed packages that are each located in a respective storage compartment, and a reclosable upper structure that is hingedly connected to the base member. Each package contains a stored solid unit therein which is enclosed by the sealed package and is removable in unitary form from the package. In an open position of the upper structure, being spaced from the base member, each package is selectively removable from its respective storage compartment independently of any other package.

**Abstract**

5           A storage device for one or more sealed packages includes a base member having  
at least one divider spaced between respective ends thereof and defining at least one  
storage compartment, one or more sealed packages that are each located in a respective  
storage compartment, and a reclosable upper structure that is hingedly connected to the  
base member. Each package contains a stored solid unit therein which is enclosed by the  
10           sealed package and is removable in unitary form from the package. In an open position  
of the upper structure, being spaced from the base member, each package is selectively  
removable from its respective storage compartment independently of any other package.

**STORAGE DEVICE FOR SHAVING RAZOR, CARTRIDGES, OR OTHER STORED  
ITEMS**

This application is a division of copending commonly owned Canadian Patent  
5 Application No. 2,378,319 of July 24, 2000.

**BACKGROUND OF THE INVENTION**

The invention relates to storage devices for storing items such as shaving razors  
and cartridges.

10 Shaving cartridges are typically sold in plastic dispensers containing a plurality of  
shaving cartridges in respective sections of the dispenser. Shaving razors are often sold  
supported on a plastic tray that can then be used to support the razor in a bathroom.  
Some plastic trays are designed to carry a dispenser of razor blades on the bottom side of  
the tray. French Patent Document No. 2,491,877 shows a carrier supporting a plurality  
15 of toiletry items, such as pre-packaged soaps and shaving creams, and also supporting  
personal hygiene tools such as a razor, a comb and a toothbrush. U.S. Patent No.  
4,611,716 shows a storage device with a hinged cover that houses bottled items (such as  
shampoo and cream rinse) and a bar of soap in corresponding compartments defined  
therein. U.S. Patent No. 5,782,346 shows a tray for a razor that includes a base member  
20 and a platform member wherein the base member includes platform structure for  
releasably retaining the razor thereon. European Patent Application No. 290965 shows  
a dispenser for replacement shaving cartridges in respective protective casings that are  
retained in the dispenser by forces on both sides of the casing. UK Patent Document No.  
2,107,175 shows a device that can be removably attached to a mating plate that is secured  
25 to a wall, the device having a region that receives a razor blade cartridge and the head of  
a razor.

The invention as defined in the parent application identified above provides a wall-  
mounted device which comprises a base member having a wall-mounting structure. The  
base member has at least one package-receiving storage region, the base member defining  
30 a rear surface and the package-receiving storage region facing away from the rear surface.

One or more packages are each located in a respective storage region, and each is  
removable from the storage region in a direction away from the rear surface. Each  
package contains a stored unit therein that is removable as a single unit and comprises a  
shaving cartridge including a plastic housing and a plurality of blades. Each storage region

has opposed members providing a retention force to opposite sides of the package within the storage region.

### **SUMMARY OF THE INVENTION**

5           Generally speaking, the invention of the present application provides a storage device for one or more sealed packages, including a base member having at least one divider spaced between respective ends thereof and defining at least one storage compartment. One or more sealed packages are each located in a respective storage compartment. A reclosable upper structure is hingedly connected to the base member.  
10       Each package contains a stored solid unit therein which is enclosed by the sealed package and is removable in unitary form from the package. In an open position of the upper structure spaced from the base member each package is selectively removable from its respective storage compartment independently of any other said package.

          Embodiments of the invention may include one or more of the following features.  
15       In certain embodiments, the base member of the storage device can carry a surface-mounting structure, for a horizontal surface or a wall, such as double-sided adhesive tape, suction cups, or openings in the base member for receiving transverse mounting members attached to a wall. The base member is formed of plastic and has a side wall that extends around its periphery. The base member has dividers formed therein  
20       to provide a plurality of compartments along with the side wall. The dividers each have a flat portion at a free end of the divider, the flat portion receiving a lip that extends from one side of the package retained in the compartment. The dividers each also have a ridge that is formed between the base and the free end for receiving a narrow edge portion of the package. The dividers extend only part way from the side wall at one side of the base  
25       member to the side wall at the other side to provide a region for gripping an exposed portion of the lip of the package. The dividers have opposed members for retaining the packages. One of the opposed members has a sharp portion that engages the package. One of the opposed members can have spring flexure. The dividers have drainage openings, and the side wall has a drainage opening at the bottom of the base member.  
30       The base member has projections between the dividers to position the packages.

          In other embodiments, the cover of the base member is hingedly connected to the base member by a snap-fit connection. The cover has an opening that engages the bottom of a razor handle and opposed flexible wings that engage the razor head end of the handle. The cover has a raised portion that matches the contour of one side of a razor handle. The

cover has a flat area to provide clearance for the cartridge attached to a handle supported on the cover. The cover is made of softer plastic than the base member. The cover has a snap-fit closure member and a finger engagement lip extending from the cover for opening the cover.

5           Embodiments of the invention may include one or more of the following advantages. Shaving cartridges packaged in sealed containers, to protect them from water and cleaning agents, are stored in a storage device that can be conveniently mounted on a bathroom shower wall. The sealed packages are securely retained prior to removal, and can be easily gripped at exposed corners. The sealed packages are safely removed from the storage  
10 device in normal use without risk of the peelable film being removed prematurely. The shaving razor can be conveniently and securely mounted on the outside of the cover for easy removal and replacement without the need to open the cover. Drainage openings prevent water from collecting in the device.

15           Other advantages and features of the invention will be apparent from the following detailed description of particular embodiments of the invention and from the claims.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

Fig. 1 is a perspective view showing a storage device mounted on a bathroom wall.

20           Fig. 2 is a perspective view showing the Fig. 1 storage device in an open position with a single sealed package therein.

Fig. 3 is a side elevation showing the Fig. 1 device in a closed position.

Fig. 4 is a plan view of a base member of the Fig. 1 storage device shown with a single sealed package therein.

25           Fig. 5 is the vertical sectional view, taken at 5-5 of Fig. 4, of the Fig. 4 base member and sealed package.

Fig. 6 is a vertical sectional view, taken at 6-6 of Fig. 7, showing a cover of the Fig. 1 storage device.

Fig. 7 is a plan view of the Fig. 6 cover.

30           Fig. 8 is a perspective view showing a sealed package of Figs. 2 and 4 in a partially opened condition.

Fig. 9 is a perspective view of a mounting plate for an alternative embodiment of the base member of the storage device.

Fig. 10 is an elevation of the Fig. 9 mounting plate.

Fig. 11 is a plan view of the alternative base member that is mounted on the Fig.

9 mounting plate.

### **DETAILED DESCRIPTION OF THE INVENTION**

5 Referring to Figs. 1, 2 and 3, there is shown wall-mounted storage device 10 for a shaving razor 12 that is supported on the outside of device 10, and replacement cartridges 13 in a sealed package 14 that is stored inside device 10. Cartridges 13 each have a plastic housing and a plurality of blades. Sealed packages 14 have airtight seals to keep moisture and cleaning agents from cartridges inside the packages. Cartridge 13 is not  
10 substantially flat and has a complex, non-planar shape with many different contours. Sealed package 14 sufficiently surrounds those contours and acts as an air and moisture barrier.

Storage device 10 includes base member 16, made of ABS, and cover 18, made of polypropylene. Base member 16 is made of a hard plastic to provide structural integrity  
15 for the mounted member. Polypropylene provides a desired appearance for the cover, and facilitates use of a snap-fitting hinge. Base member 16 is adhered to bathroom tiles 20 on wall 22 via double-sided adhesive pads 24 (Fig. 3) made of foam pads and acrylic adhesive. Cover 18 is hingedly connected to base member 16 via snap-fit hinge members 21. Cover 18 has finger engagement lip 23 to assist in opening cover 18 and to provide sufficient  
20 force to overcome the snap (interference) fit closure mechanism used to keep cover 18 closed. (Alternatively a latch structure could be employed to keep cover 18 closed.). The upper part of handle 15 of shaving razor 12 is engaged by wings 26 formed on the exterior surface of cover 18, and the bottom of handle 15 sits within opening 28 in cover 18. Razor 12 rests on cover 18.

25 Referring to Figs. 4 and 5, it is seen that base member 16 has three dividers 30, which, along with side walls 32 and upper support 36 and lower support 38, define compartments for receiving four sealed packages 14. In Figs. 4 and 5, a single package 14 is shown in the second compartment from the bottom. Each divider 30 has a flat outer surface 40 at an end thereof against which lip 43 (Figs. 5 and 8) of package 14 rests. As  
30 is seen in Figs. 4 and 8, the two sides of the lip 43 extend beyond divider 30 or lower support 38 at adjacent plastic tabs 72, providing access for a user to grip and remove package 14. Prior to opening of the packages, tabs 72 in effect are extensions of lip 43. The upper surface of each divider 30 and of lower support 38 has a retention member 42 that presses against the bottom of package 14 and holds it against the opposing flat

surface 44 of the next higher divider 30. Retention member 42 advantageously has a sharp edge that digs into the softer plastic of package 14. Retention member 42 and the opposed flat surface 44 function as opposed members that provide a retention force to opposite sides of a package 14 within a compartment. While retention members 42 are hard, they alternatively could be spring-biased. Each compartment also has a pair of projections 46 which space the bottom of the package 14 away from the wall in the desired position (Fig. 5). The upper portion of each divider 30 and lower support 38 has an opening 48 for drainage of water. Flat surface 44 has a ridge 52 at its outer end that receives an edge 54 of sealed package 14 (Fig. 5). Base member 16 also has four through-holes 56 to permit mounting on pins extending from a mounted base plate or to permit mounting by screws or other fasteners. Base member 16 has drainage opening 57 at the bottom.

Referring to Figs. 6 and 7, cover 18 has support surfaces 60, 62 that tend to conform to the back surface of razor handle 15, which is designed for use by women in shaving underarms and legs. The handle is shown in U.S. Des. Patent No. 407,851. The bottom of handle 15 is engaged in and supported by opening 28, and the upper portion of handle 15 is located in the space between wings 26 and outward of support surface 62 and is engaged by wings 26. A flat portion 64 is provided at the upper end of cover 18 for providing clearance for the blade unit of the attached shaving cartridge 13. The back surface of handle 15 closely matches and is close to the outer surface of cover 18. The user grips the sides of handle 15, as there is insufficient room for a user's fingers to grip the back surface of handle 15.

Referring to Fig. 8, sealed package 14 includes a plastic container 68 and peelable cover sheet 70 that is sealed to container 68 to cover and closes the entrance to the storage region for cartridge 13. Gripping tab 72 is attached to a corner of cover sheet 70 at an end of lip 43 for use in initiating peeling of cover sheet 70.

In use, storage device 10 is secured to bathroom tiles 20 of wall 22 (e.g., in a shower) by removing a cover layer on double sided-adhesive pads 24 and applying pressure to device 10 to cause a good bond between the adhesive and the tile surface. The user removes razor 12 when shaving and can store it on cover 18 between uses. When removing razor 12, handle 15 is grasped on the lateral sides of the razor, is slipped outward through support wings 26, and is raised upward from its rest position in opening 28. When placing shaving razor 12 back on cover 18, the bottom of handle 15 is placed in opening 28, and the upper portion of handle 15 is guided between wings 26 and held in

place. When it is time to replace the shaving cartridge 13 on handle 15 with a new cartridge 13, cover 18 is opened by engaging finger grips 23, and a sealed package 14 is removed by engaging the tab 72 adjacent to lip 43. Cover 18 is then closed. The user then peels open cover sheet 70 (see Fig. 8) and attaches the new cartridge 13 to handle  
5 15. Cover sheet 70 is attached to container 68 by a seal that has a predetermined initial peel force value needed to open the package. That value is five times higher (preferably ten times higher) than the retaining force provided by retention members 42 to retain packages 14 in their respective compartments in base member 16. E.g., the initial peel force could be 3-5 pounds, and the retaining force on packages 14 could be as little as one  
10 ounce. Thus, packages 14 will not accidentally open upon (or prior to) removal from base member 16.

Other embodiments of the invention are within the scope of the claims. For example, device 10 could be connected to wall 22 via suction cups instead of adhesive pads 24. Also, storage device 10 could be mounted (or simply supported) in a horizontal  
15 position on a horizontal surface, and could also be used as a carrying case.

Also, instead of directly mounting storage device 10 to the wall, it could be removably mounted on a wall-mounted plate, as is shown in Figs. 9-11. Referring to Figs. 9-11, plate 100 has posts 102 with enlarged heads 104 that are received in the circular, lower portions of slotted openings 106 on base member 108, the narrow shafts 109 of posts 102 are locked in place in the tapered, upper portions of slotted openings 106.  
20 Tapered blade projections 110 on plate 100 fit within recesses on the back sides of the upper two dividers 30 of base member 108 in order to guide openings 106 to the locations of posts 102. Blade projections 110 also prevent base member 108 from being forced downward too far to avoid jamming or breaking of posts 102 during attachment. Plate 100  
25 also has a rectangular opening 112 and is sized so that the plate can be contained within storage device 10 prior to mounting on a wall. When plate 100 is contained in device 10, a divider 30 projects through opening 112.

**CLAIMS**

1. A storage device for one or more sealed packages, including a base member having at least one divider spaced between respective ends thereof and defining at least one storage compartment, one or more sealed packages that are each located in a respective storage compartment, and a reclosable upper structure that is hingedly connected to said base member, characterized in that each said package contains a stored solid unit therein which is enclosed by said sealed package and is removable in unitary form from said package, and in that in an open position of said upper structure being spaced from said base member, each said package is selectively removable from its respective storage compartment independently of any other said package.
2. A storage device according to claim 1, characterized in that said upper structure has a razor engagement structure on an external surface thereof.
3. A storage device according to claim 2, characterized in that the upper structure is hingedly connected to said base member in overlying relation to the base member, and the shaving razor engagement structure is on an upwardly facing external surface thereof, and in that the base member has a bottom wall and an upwardly extending side wall which define at least one storage compartment having an entrance that is upwardly facing.
4. A storage device according to any one of claims 1 to 3, characterized in that said upper structure has a lid portion overlying at least one storage compartment.
5. A storage device according to any one of claims 1 to 4, characterized in that said upper structure overlies substantially the major longitudinal length of the base member.
6. A storage device according to claim 4 or claim 5, characterized in that said shaving razor engagement structure and said lid portion are integrally part of said upper structure.
7. A storage device according to any one of claims 1 to 6, characterized in that

said base member has a surface-mounting structure.

5 8. A storage device according to any one of claims 1 to 6, characterized in that said base member has a wall mounting structure.

10 9. A storage device according any one of claims 1 to 8, characterized in that said base member is formed of plastic, and characterized in that said base member has a plurality of said compartments and has dividers formed therein to provide said compartments.

15 10. A storage device according to any one of claims 1 to 9 characterized in that said base member is formed of plastic and has a side wall that extends around its periphery.

20 11. A storage device according to claim 10, characterized in that said base member has a plurality of said storage compartments and said base member has dividers formed therein to provide said storage compartments along with said side wall.

25 12. A storage device according to any one of claims 1 to 11, characterized in that said upper structure is hingedly connected to said base member by a snap-fit connection.

30 13. A storage device according to any one of claims 1 to 12, characterized in that said upper structure has a raised portion matching the contour of one side of a razor handle.

14. A storage device according to any one of claims 1 to 13, characterized in that said upper structure has opposed wings to engage a razor handle near the razor head end of the handle.

15. A storage device according to claim 14, characterized in that the opposed wings are flexible and a support portion is provided between the wings.

16. A storage device according to any one of claims 1 to 15, characterized in that

said upper structure is made of softer plastic than said base member.

17. A storage device according to any one of claims 1 to 16, characterized in that said upper structure has a snap-fit closure member and a finger engagement lip extending from said upper structure for opening said upper structure.

5

18. A storage device according to any one of claims 2 to 17, characterized in that said razor engagement structure includes a portion of said upper structure defining an opening to engage the bottom of a handle of a razor.

10

19. A storage device according to any one of claims 2 to 18, characterized in that said upper structure as a flat area to provide clearance for the cartridge attached to a handle supported on said engagement structure.

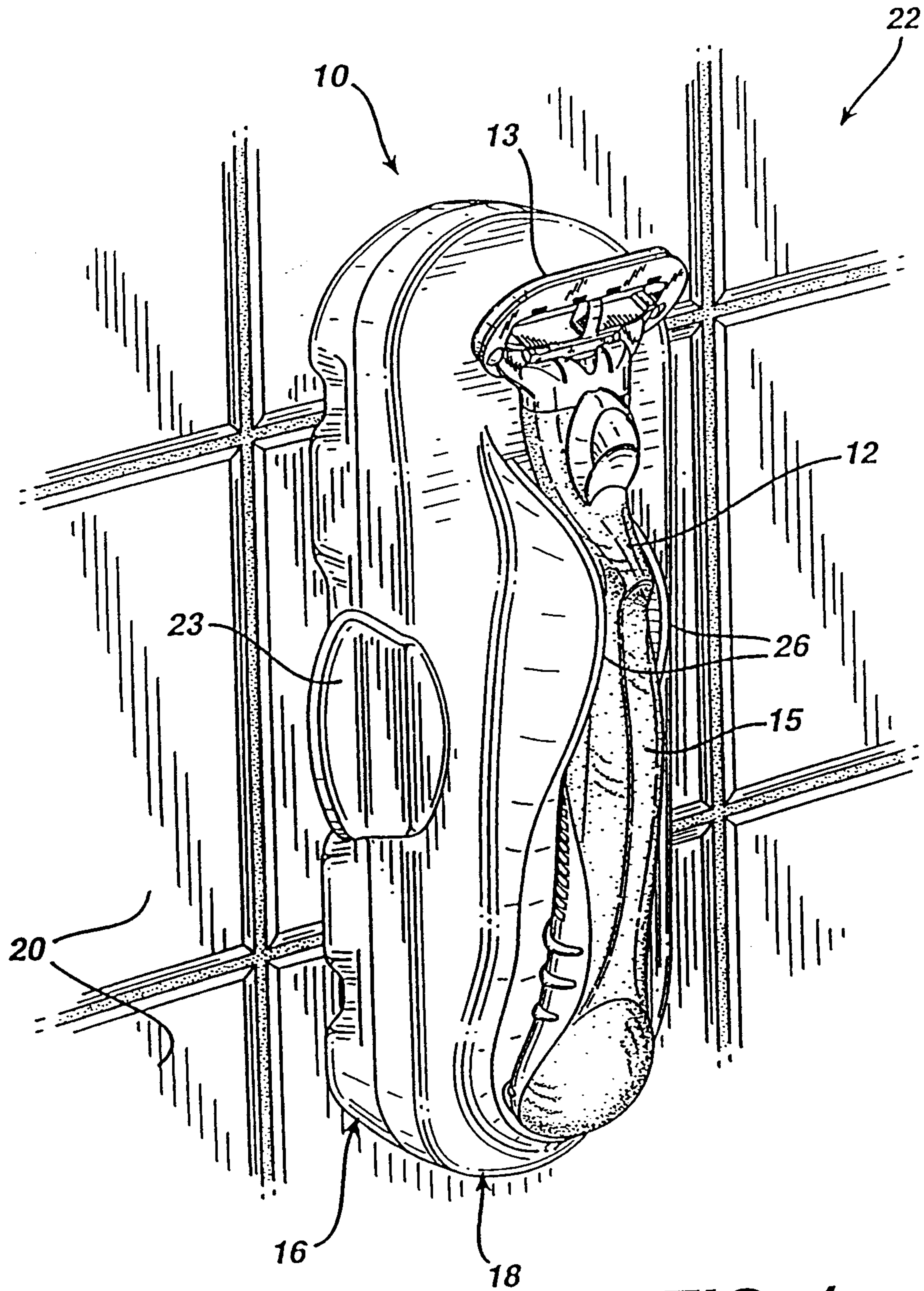
15

20. A storage device according to any one of claims 1 to 19, characterized in that each said storage compartment has an opening directed towards an underside of the hinged upper structure in a closed condition thereof, whereby in a closed condition the upper structure substantially overlies the opening of the storage compartment.

20

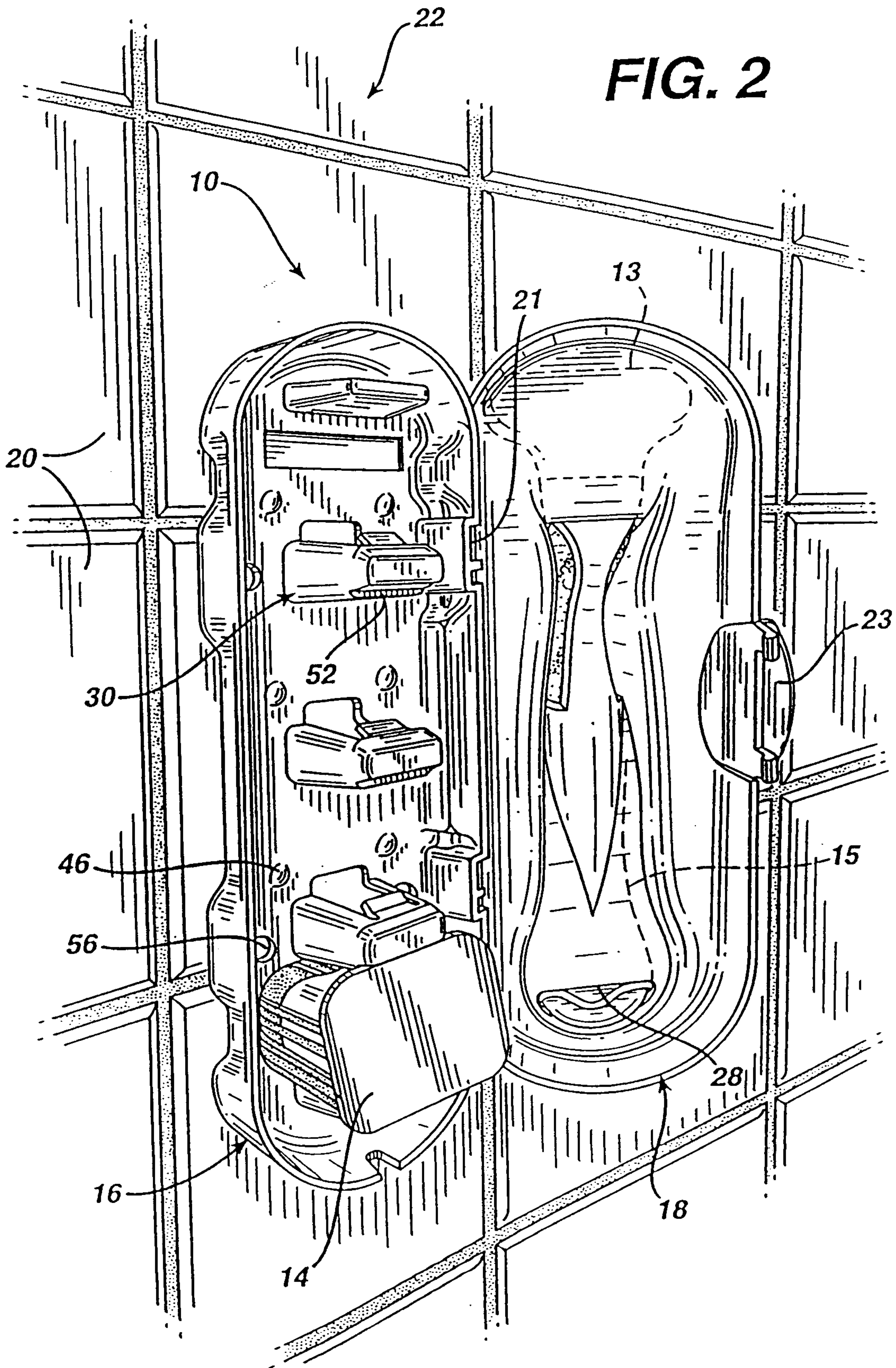
21. A storage device according to any one of claims 1 to 20, characterized in that said stored unit is a shaving cartridge including a plastic housing and a plurality of blades.

22. A storage device according to any one of claims 1 to 21, characterized in that each said compartment is recessed below an upper surface of said base member.

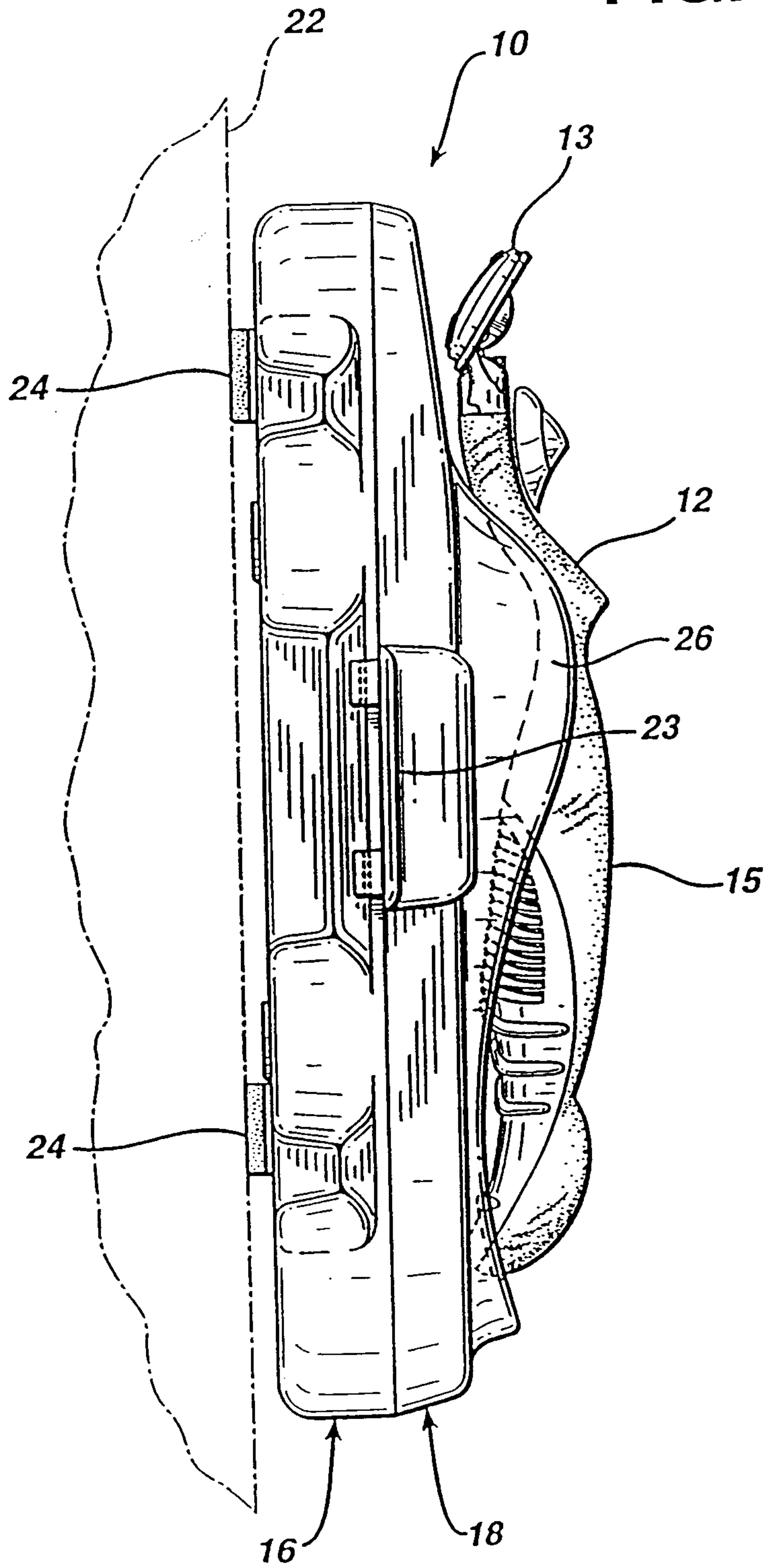


**FIG. 1**

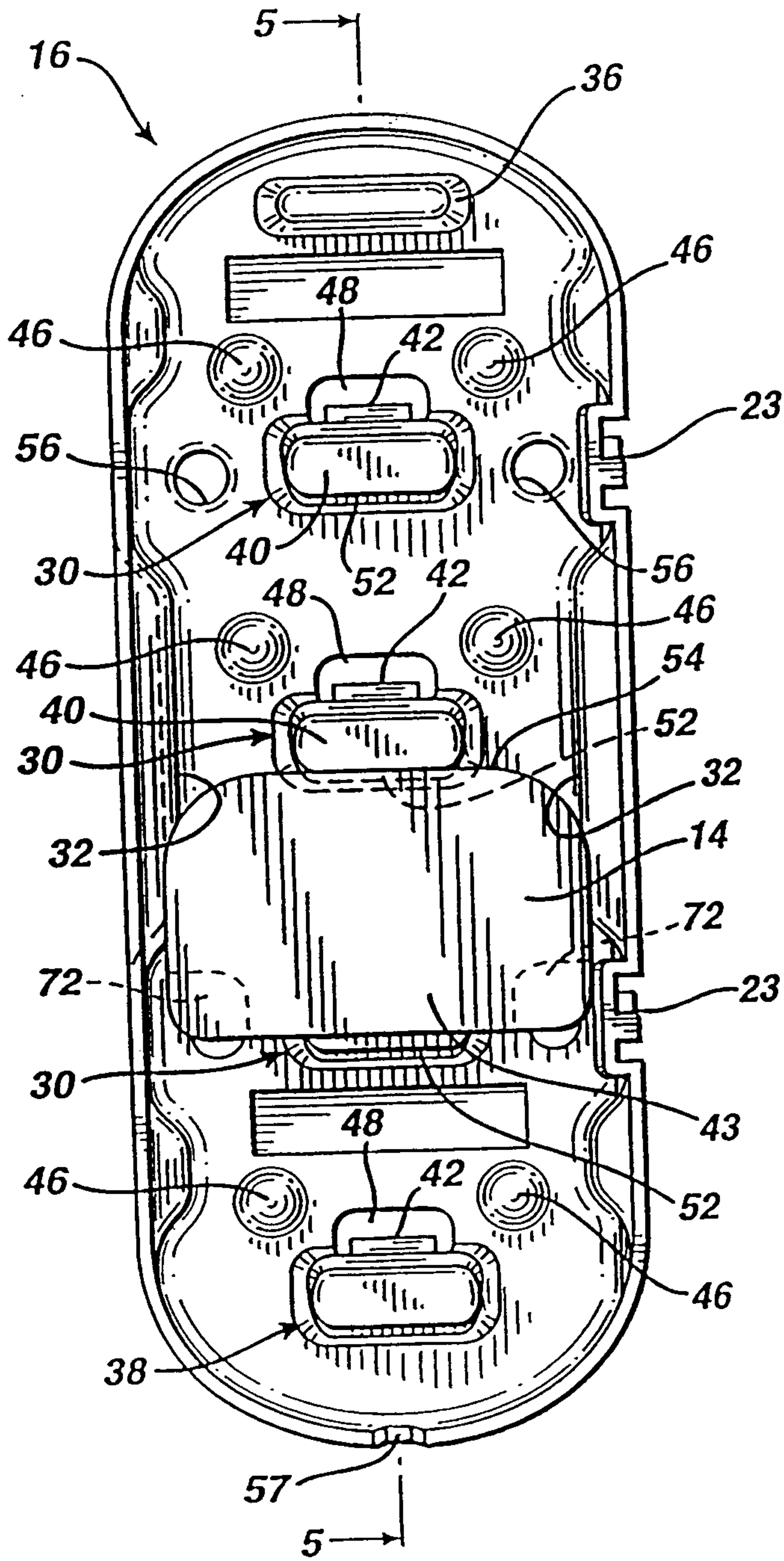
**FIG. 2**



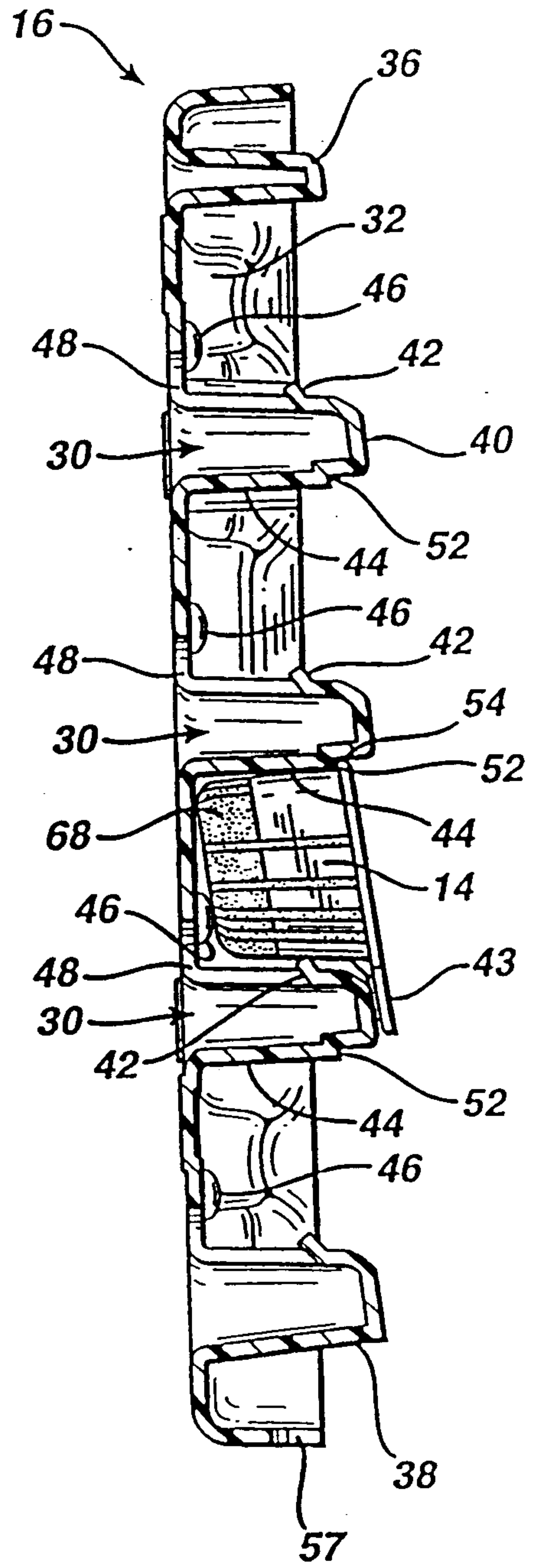
**FIG. 3**



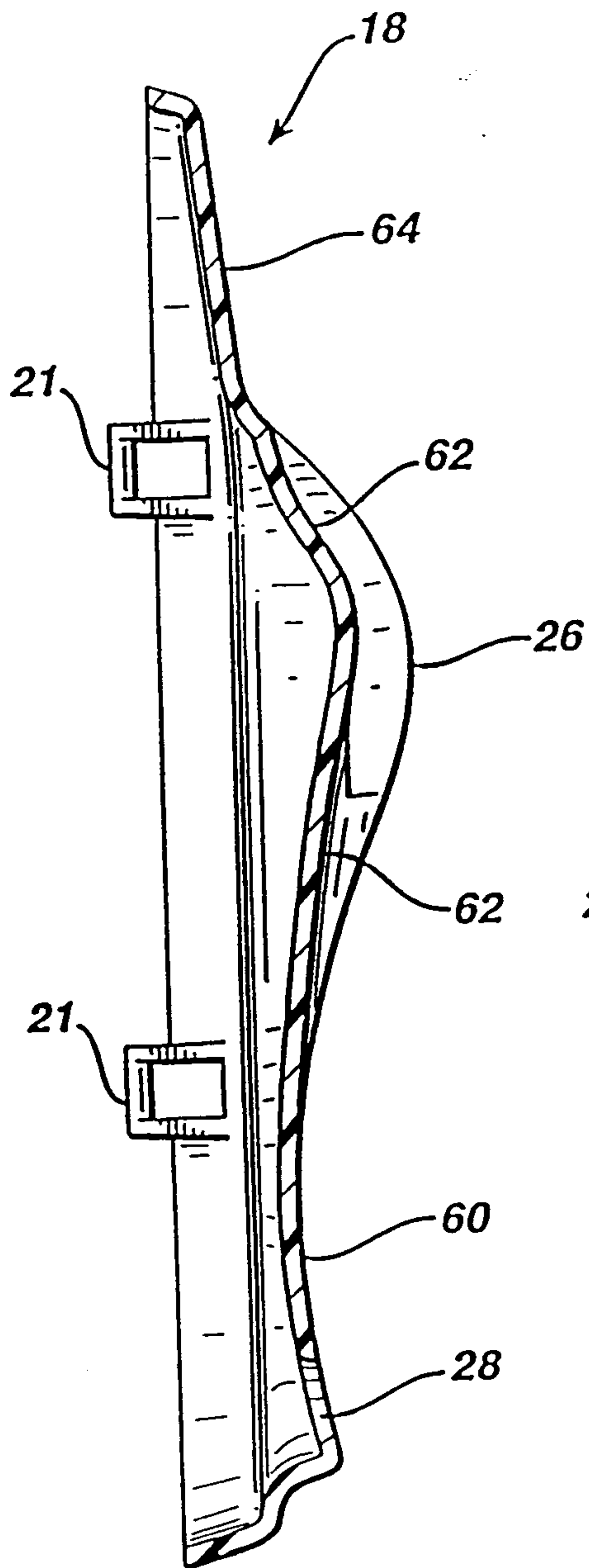
**FIG. 4**



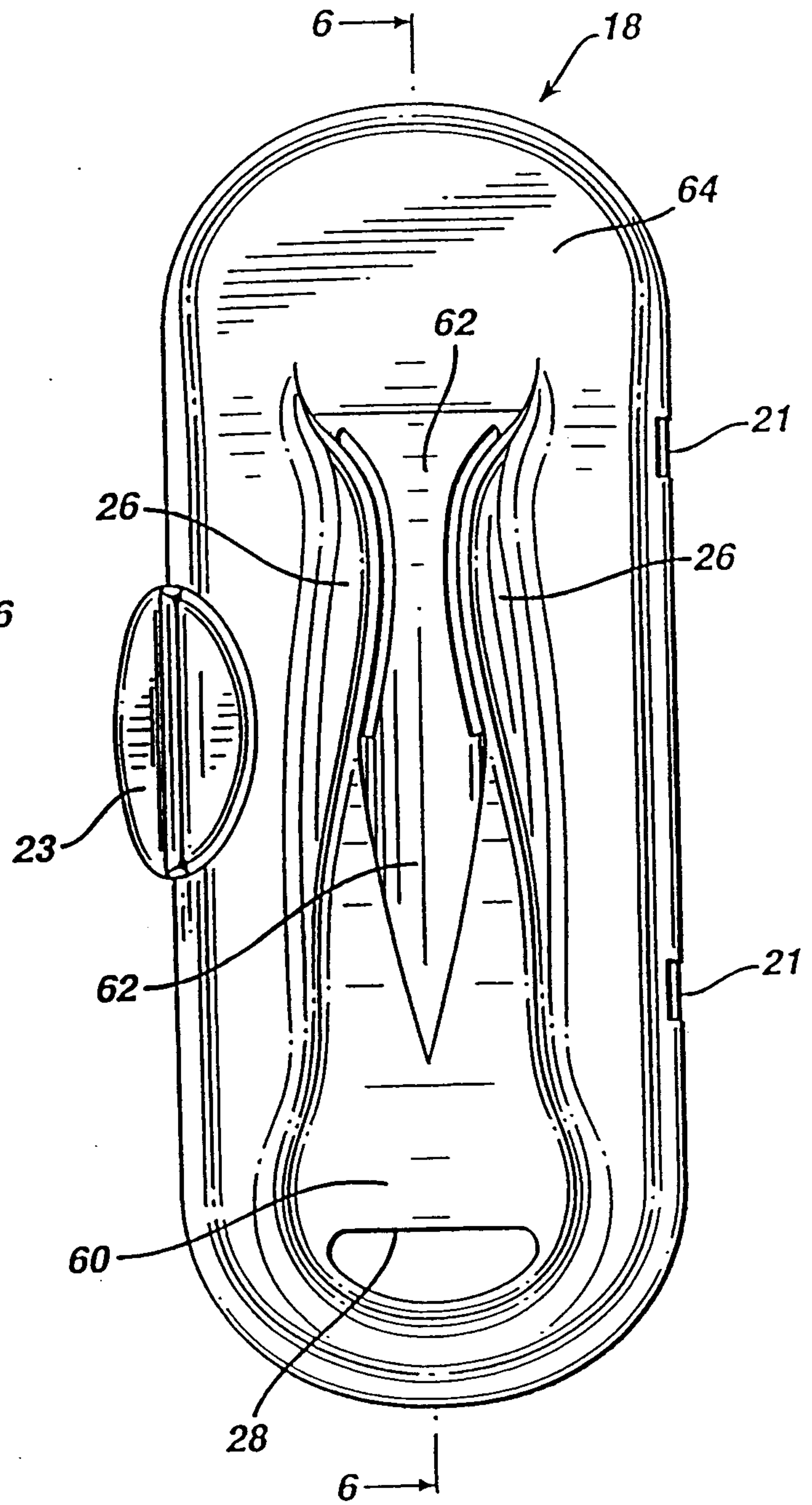
**FIG. 5**



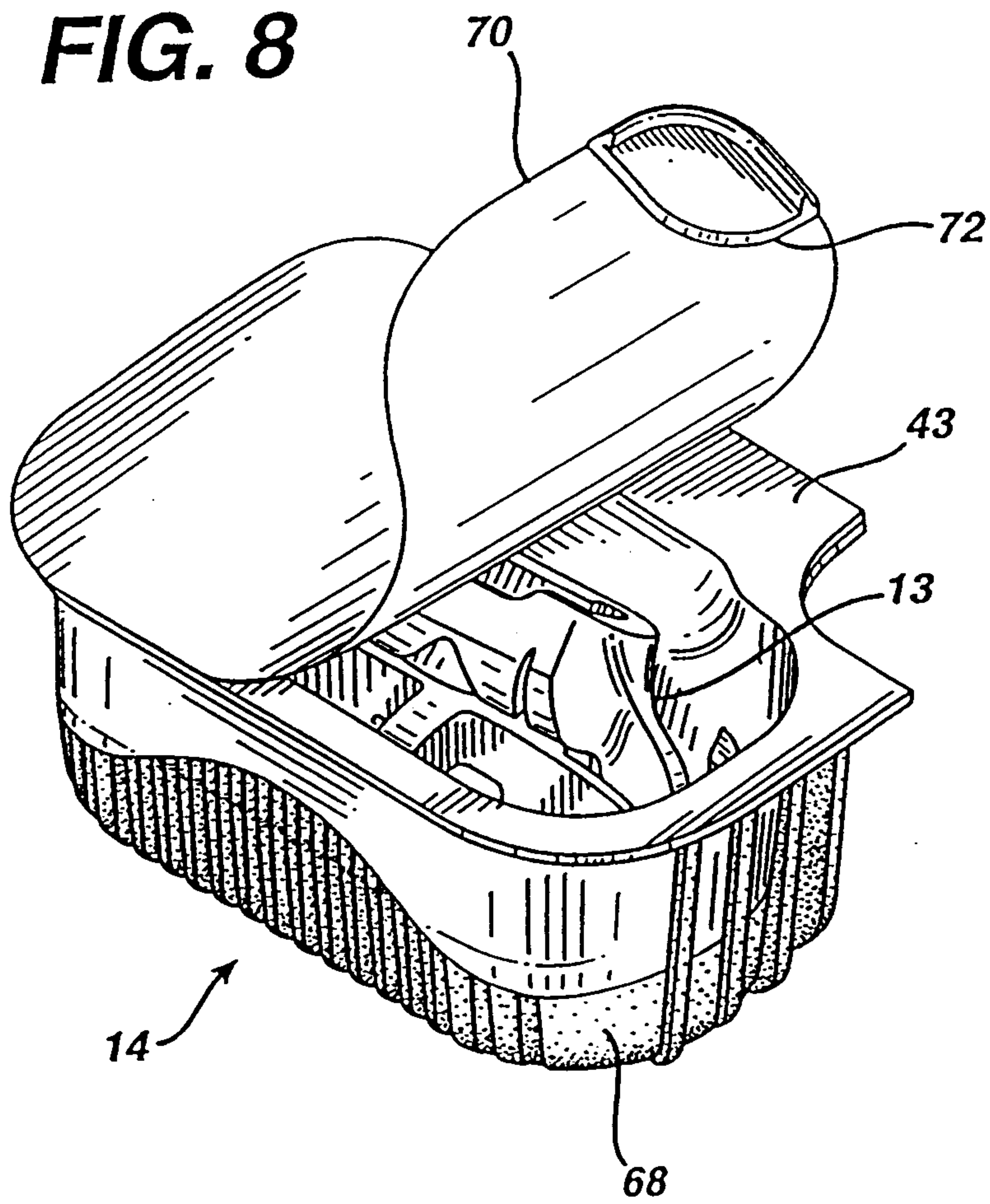
**FIG. 6**



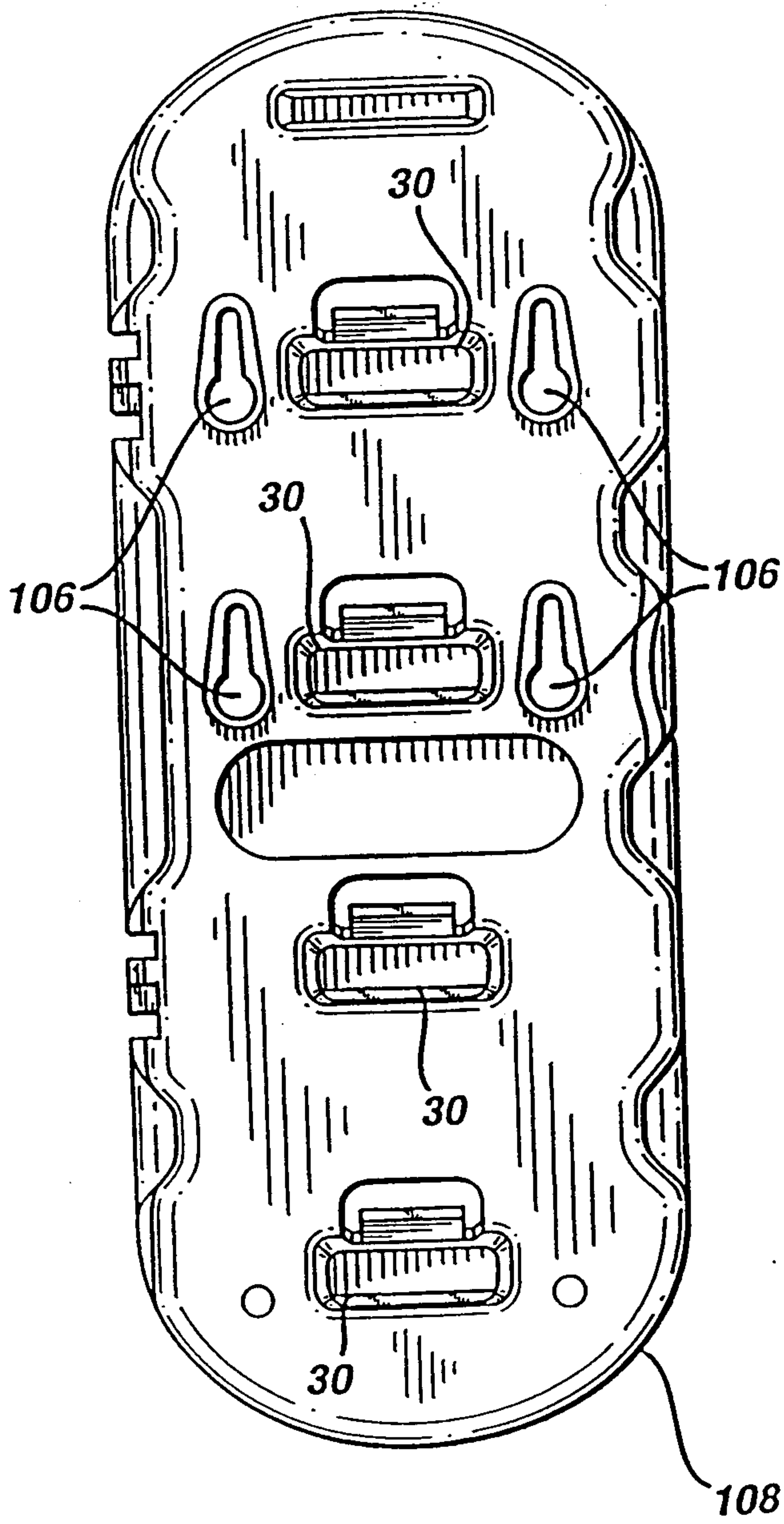
**FIG. 7**



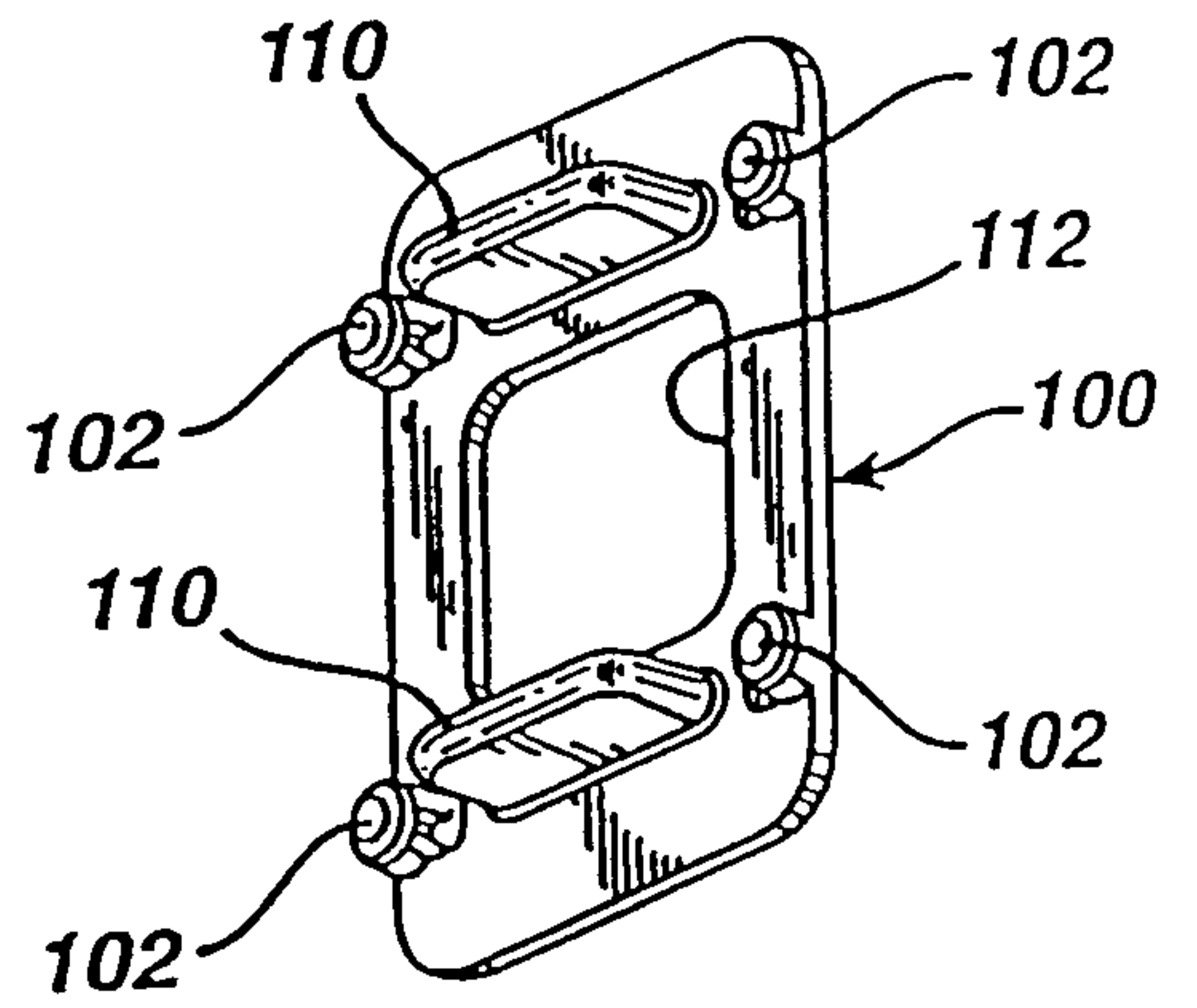
**FIG. 8**



**FIG. 11**



**FIG. 9**



**FIG. 10**

