



(22) Date de dépôt/Filing Date: 2005/08/29

(41) Mise à la disp. pub./Open to Public Insp.: 2006/04/29

(30) Priorités/Priorities: 2004/10/29 (US60/622,940);
2005/03/21 (US60/663,256)

(51) Cl.Int./Int.Cl. *A42B 3/20* (2006.01),
A61F 9/04 (2006.01)

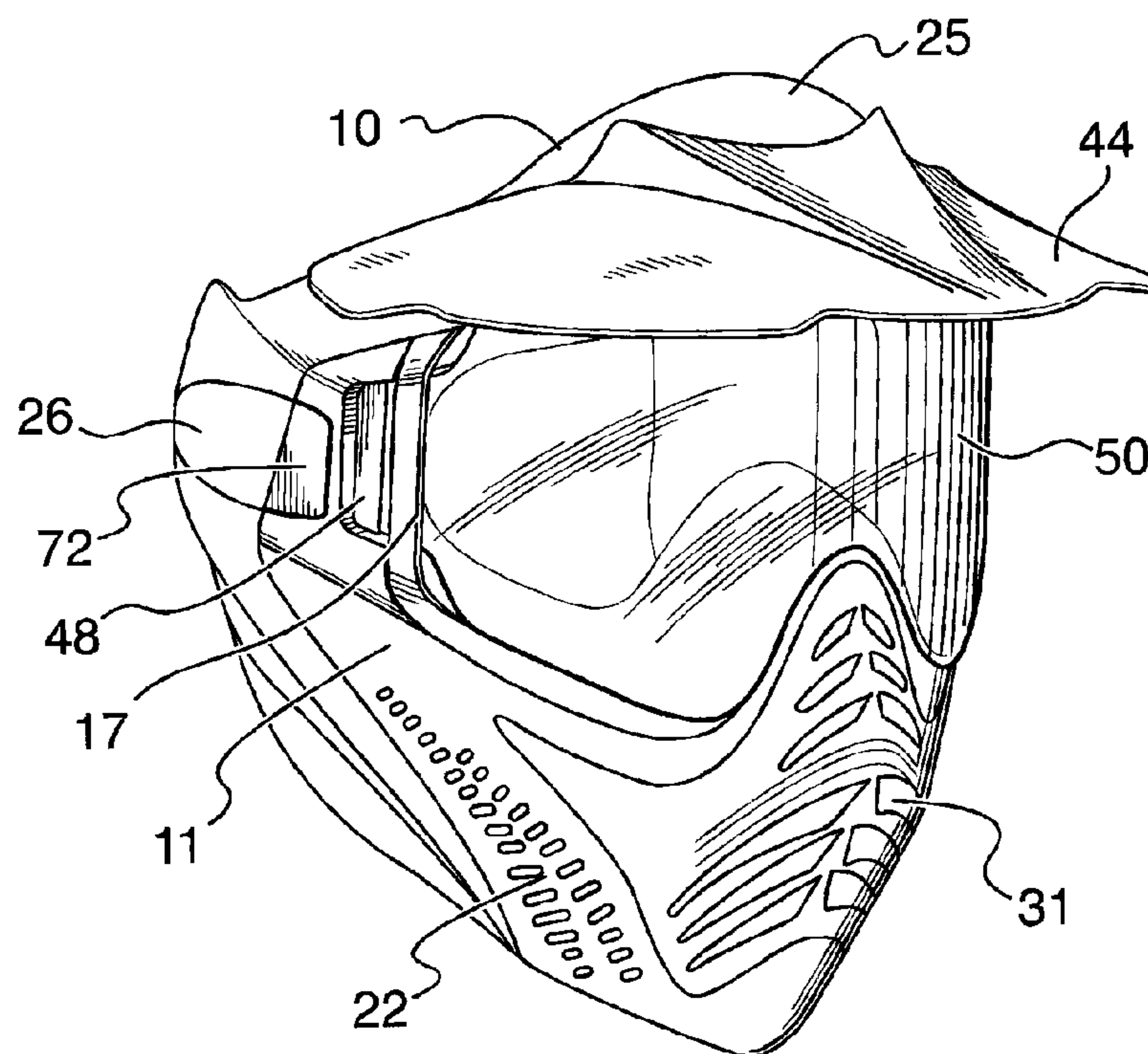
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(54) Titre : MASQUE DE PROTECTION POUR JEU DE GUERRE AUX BALLES DE PEINTURE

(54) Title: PROTECTIVE MASK FOR PAINTBALL



(57) Abrégé/Abstract:

The present invention relates to a protective mask adapted to be worn by persons engaging in the game of paint ball comprising a main body formed of rigid plastic material, and adapted to cover the front, sides, chin and cheek portions. A removable flexible transparent lens is adapted to be locked into a housing formed in the mask. The invention also comprises a strap supporting the mask on a wearer's head and a face engaging portion comprising a gasket-shaped element. The gasket-shaped element is provided to securely support and anchor the mask on the wearer's face in the forehead, temple and nose areas. It is made of a resilient rubber-like material having a sufficient rigidity to withstand a high impact of projectiles. The invention also comprises a lens locking assembly comprising a lens locking means adapted to simultaneously lock the strap to the mask and to lock the lens within the housing in a positive immobilizing manner thus preventing any disengagement of the lens from the housing caused by high impact of projectiles striking the mask.

ABSTRACT

The present invention relates to a protective mask adapted to be worn by persons engaging in the game of paint ball comprising a main body formed of rigid plastic material, and adapted to cover the front, sides, chin and cheek portions. A removable flexible transparent lens is adapted to be locked into a housing formed in the mask. The invention also comprises a strap supporting the mask on a wearer's head and a face engaging portion comprising a gasket-shaped element. The gasket-shaped element is provided to securely support and anchor the mask on the wearer's face in the forehead, temple and nose areas. It is made of a resilient rubber-like material having a sufficient rigidity to withstand a high impact of projectiles. The invention also comprises a lens locking assembly comprising a lens locking means adapted to simultaneously lock the strap to the mask and to lock the lens within the housing in a positive immobilizing manner thus preventing any disengagement of the lens from the housing caused by high impact of projectiles striking the mask.

PROTECTIVE MASK FOR PAINTBALL

The present invention is related to a protective mask for high-impact games such as paint ball, and more particularly to a construction of a new face-engaging portion and
5 new lens locking assembly protecting the user's eyes and face from projectiles.

A removable lens on a facemask is preferred by consumers because one can purchase the style of face mask that appeals or fits most comfortably, and simply change the lens once it wears out, becomes damaged or must have different characteristics (e.g.:
10 tinted for bright sunlight applications). This solution is economical, environmentally-friendly, and practical. Instead of having several masks, the user has one mask and several lenses depending on the desired application.

The lens locking mechanism must be designed so that the lens cannot detach from
15 the facemask by accident. Such accidents may be caused by a projectile striking the lens, improper lens installation by the user, or the facemask hitting an object. These events happen often in the game of paintball. Therefore, there is necessity for means to

positively immobilize a lens in its housing on a facemask, such that if the lens locking procedure is not followed correctly, the facemask is rendered unusable.

BACKGROUND OF THE INVENTION

5 Protective masks are used in high-impact sports games where flying objects or projectiles are used to hit intended targets such as players of an opposing team. Due to the fact that flying objects are capable of causing bodily damage, most sensitive areas of players, such as eyes and face, are covered by a protective mask that is expected to be comfortable and safe.

10 There is known US Patent 6,381,749 for "Protective Mask with Anchor Clamp for Physical Games" to Cyr that embodies a lens, a lens receiving portion, engagement portions that mount the lens to the body, and a pair of anchor clamps to further secure the engagement of the lens to the mask body. This configuration achieved the desired result as described above, but only if the user actually made the effort to engage the anchor
15 clamps. This invention's defect was that the facemask was useable without engagement of the anchor clamps; it is impossible to ensure that every user will engage the anchor clamps before putting on the mask, which constitutes a major disadvantage.

The present invention overcomes this disadvantage by making the facemask
20 unusable until the user properly immobilizes the lens in its housing on the facemask. The strap that holds the facemask on the head has been integrated as the key element in immobilizing the lens. In essence, the user cannot wear the facemask without the strap attached to both sides of the mask, and the strap cannot be properly attached without the lens being correctly immobilized. The user has no choice but to correctly immobilize the
25 lens if he wants to wear the mask.

There is known US 6,560,788 to Beltrani for "Swimming or Diving Goggles" provided with a frame having a surrounding made of flexible material and capable of being applied hermetically to the user's face.

There is also known US 5,617, 588 to Canavan for “Snap together Protective Goggle” comprising a rigid frame provided with a resilient face engaging portion having convex bulges in the temple-engaging areas.

5 There is also known US 6,381,749 to Cyr for “Protective mask” designed to be used for paint ball provided with a face engaging portion made of foam.

The face engaging portion of any paint ball mask serves two main purposes:

10 used as a gasket to prevent paint fragments from coming in contact with
 user’s eyes;
 used as a support to hold or anchor the mask on the face;
 ensures a proper fit on user’s face.

15 All known masks designed for paint ball, including US 6,381,749, use open-cell foams that are die-cut and glued on the inside surface of the frame. However, all these foam designs have the following disadvantages:

 they do not adhere securely to the frame;
 they are not 100% hypoallergenic;
 they are not easy to clean for hygiene needs;
20 they require labor-intensive gluing process.

OBJECT AND STATEMENT OF THE INVENTION

 It is an object of the present invention to overcome the above described problems. It is still another object of the present invention to eliminate the problem of poor adhesion
25 and to improve the durability of the product. It is yet another object of the present invention to facilitate easier cleaning after use.

 It is yet another object of the present invention to make the facemask unusable until the user properly immobilizes the lens in its housing on the facemask. The strap that
30 holds the facemask on the head has been integrated as the key element of the design.

BRIEF DESCRIPTION OF THE DRAWINGS

Referring now to drawings,

Figure 1 shows a perspective view of the face mask according to the present invention.

Figure 2 shows a perspective back view of FIG. 1.

5 Figure 3 shows a perspective back view of FIG. 1 stretched to see face engaging portion.

Figure 4 shows a perspective (fragmental) back view of Fig. 1

Figure 5 shows a perspective side view of FIG. 1.

Figure 6 shows a perspective back view of Fig. 5.

Figure 7 shows a perspective back view of a face-engaging portion according to the
10 present invention.

Figure 8 is another perspective front view of Figure 1.

Figure 9a is a perspective inside view of the present invention.

Figure 9b is an outside view of figure 9a.

Figure 10 is a perspective view of the strap clip element.

15 Figure 10a is a front view of Figure 10.

Figure 10b is a side view of Figure 10.

Figure 10c is another side view of Figure 10.

Figure 11 is a perspective view of the lock immobilizing element.

Figure 11a is a side view of Figure 11.

20 Figure 11b is a front view of Figure 11.

Figure 11c is another side view of Figure 11.

Figure 12 is a perspective view of the lens locking element.

Figure 12a is a front view of Figure 12.

Figure 12b is a side view of Figure 12.

25 Figure 12c is a side view of Figure 12.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT.

Referring to drawings, Figure 1 shows a face mask 10 according to the present invention comprising a main rigid body frame 11 consisting of an upper part comprising
30 brow portion 12, opposite side temple portions 14 and 16 comprising lens receiving portions 17 and 18, a nose bridge portion 19 and upper cheek portions 20 and 21. Those

portions form a housing for the lens 50. The lower portion of the frame 11 comprises cheek portions 22 and 23 and chin portion 24.

5 The first semi-rigid part 13 of face mask 10 according to the present invention comprises a forehead portion 25, two ear portions 26 and 27 depending from the extreme ends of said forehead portion 25, and two jowl portions 28 and 29 depending from said ear portions.

10 The second semi-rigid part 30 of face mask 10 comprises a nose and mouth protection portion 31.

15 A face engaging portion 32 is attached on the inner surface of the mask 10 around the forehead, temples, cheeks and nose areas to facilitate a gasket-like function to prevent paint fragments from coming in contact with the wearer's eyes. The configuration of face engaging portion facilitates a secure support and is provided to hold or anchor the mask onto the user's face. The configuration of said portion 32 also ensures fit on wearer's face.

20 Preferable face engaging portion consists of a continuous wall 34 extending inwardly substantially perpendicular from the inner surface 36 of the rigid frame 11. A peripheral edge 38 of said continuous wall 34 is extending inwardly vertically to form a substantially flat surface adapted to comfortably engage respective forehead, temple and nose portions of the wearer. Two symmetrical nose lips 42 extend outwardly inwardly from nose portion 40 of gasket 32 and provide more comfortable fitting on user's face.

25

Face mask 10 is also provided with a visor 44 attached to the front upper portion of the mask to provide extra protection against flying objects and sunlight. Preferably, visor 44 is made from rigid material similar to rigid frame 11.

30 Preferably, the face engaging portion or gasket 32 is made of a resilient "rubber-like" material, such as plastic or elastomer by means of molding and has configuration of

a molded gasket or polyseal. In one embodiment, said portion 32 is directly molded or overmolded onto the inner surface of frame. Polyseal gasket 32 of the present invention is made of a thermoplastic elastomer (TPE) manufactured by Santoprene Advanced Elastomer Systems, a division of ExxonMobil Chemical.

5

TPE is a diverse family of rubber-like materials that, unlike conventional vulcanized rubber, can be processed and recycled like thermoplastic materials. TPEs provide functional performance and properties similar to conventional thermoset rubber products, but can be processed with the speed, efficiency and economy of thermoplastics. In addition to simpler processing, principal advantages of TPEs compared to thermoset rubber products include easier recycling of scrap and closer, more economical control of dimensions and product quality.

TPEs are used in a variety of applications in the automotive, construction, medical, food and beverage, electrical, appliance and consumer electronic markets. TPE is hypo-allergenic and keeps its original shape once molded.

The rigidity of TPE product is measured with a unit called “duro”, being a number between 30 and 80. The higher the duro number, the more rigid the product. For example, duro number in the face engaging portion of goggle shown in US 5,617,588 to UVEX is measured to be around 35. At the same time, duro number of the face engaging portion 24 of the present invention is 70 with possibility to be decreased to 55. Due to the lower duro of US 5,617,588, it would not be operable for the purpose of the present invention due to the stress and environment (paint ball game) destined for the product. The UVEX product is designed as lab equipment for an environment of dust and chemical splashes. The lens of this product sold to the public has an engraved warning clearly stating “not for paint ball use”.

The reason the present invention’s duro cannot be below 55 is as follows: the mask of the present invention is destined to be used on a paint ball field. In typical use, the mask will be exposed to temperatures between 20 and 120 degrees Fahrenheit.

Typically, the user will repeatedly bump the mask on hard surfaces, paint balls will hit the mask at speeds of approximately 260 feet per second, and the mask will be cleaned after every day of use. Throughout its life of heat waves, being soaked with perspiration, abrupt impacts and mistreatment, the gasket must remain in its original shape. If duro is as low as it is in the UVEX patent, the gasket will eventually lose its intended form and the mask will become useless. Thus, the gasket must be made with a duro of a minimum of 55.

The present invention is manufactured in two steps:

Firstly, main rigid body frame 11 is molded from hard plastic;
Secondly, both semi-rigid portions and face engaging portion are overmolded onto rigid body frame 11. This is the least expensive manufacturing method, although present invention is not restricted to such method and it is possible to glue or mechanically attach the face engaging portion 24 to the rigid frame 11 by means of rivets, screws or the like.

The mask according to the present invention is made in one size which fits at least 50% of users. The face engaging portion or gasket does not include any size-adjusting lips on the temples such as those on US 5,617,588 since the TPE's high duro of the present invention would firstly cause abrasion on the wearer's face, and secondly pose a safety risk due to exposed openings on the temples.

The shape of such gasket-like polyseal provides the comfort and stability of foam without any known disadvantages of said foam.

It must be emphasized that the face engaging portion or gasket of the present invention is not restricted to the face mask shown on accompanying drawings and can be used in any other face mask provided for paint ball game.

Referring to Figures 10 to 10c, there is shown strap clip element 56 in substantially a "T" configuration. Strap clip element 56 comprises a strap eye 58 located

at one extremity forming the upper part of said "T", and guide tracks 60 and resilient retaining clip 62 form the leg part of said "T". Said strap eye 58 comprises a rectangle with an elongated opening that holds a strap (not shown). Said guide tracks 60 comprise two elongated protrusions located length-wise along the outside face of element 56.

5 Resilient retaining clip 62 is located substantially between said guide tracks 60. Said retaining clip 62 extends beyond said guide tracks 60, said extension being in cross-section of an "L" configuration, and resembling a rounded tongue.

10 Figures 11 to 11c show the lock immobilizing element 72. It comprises a front face 74 of a substantially trapezoid configuration and shackle 76. Said shackle 76 protrudes outwardly from the rear face of lock immobilizing element 72.

15 Figures 12 to 12c show the lens locking element 64, which is substantially in an "H" configuration. Lens locking element 64 comprises rear portion 66, retaining wedge 68 and tabs 70. Rear portion 66, comprising the upper portion of said "H", is an opening substantially in the same shape as the trapezoid shape of lock immobilizing element 72's front face 74. Retaining wedge 68 is located between the bottom legs of said "H", and comprises a gradual incline (see Fig. 12). Tabs 70, located on the back of lens locking element 64, comprise two lateral protrusions with retaining notches on their tips.

20

Referring to Figures 9a and 9b, strap clip element 56, lock immobilizing element 72 and lens locking element 64 cooperate thus: front face 74 of immobilizing element 72's edges mate with edges of rear portion 66 of locking element 64. Shackle 76, coplanar to lens locking element 64, protrudes substantially behind lens locking element 64. Strap clip element 56's guide tracks 60 abut the inside portion of shackle 76, and resilient retaining clip 62 protrudes from shackle 76 on the side opposite to strap eye 58. Strap clip element 56, lens locking element 64 and lens immobilizing element 72 comprise a lens locking means of lens locking assembly of the present invention. They are adapted to cooperate together to facilitate simultaneous locking of the support strap to the mask and to lock lens within its housing, which is unique feature of the present invention.

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Referring now to the drawings, Figure 1 represents the lens locking apparatus in its operational state. Lens extremity 48 is identical to the lens extremity in US Patent 6,381,749 (identified as element 44), and will not be discussed here. Said extremity 48 is retained in facemask 10 by bridge 17 and is immobilized by an outwardly pushing force of lens locking element 64's retaining wedge 68 (see Fig. 6). Element 64 would slide back and forth along slots 52 (as can be seen on Figure 8) if it were not for lock immobilizing element 72 (see Fig. 1). As can be seen on Figure 6, lock immobilizing element 72 is retained by strap clip element 56, and strap 78 is attached to strap eye 58 of strap clip element 56.

Referring to Figures 6 and 8, the user first threads lens extremity 48 under bridge 17 and lens 50's resiliency snaps said lens into place. User then holds lens locking element 64 so that its retaining wedge 68 faces lens extremity 48, and inserts element 64's tabs 70 into the rear portion of slots 52a. Lens locking element 64 slides forward toward lens extremity 48 so that retaining wedge 68 abuts the inside portion of lens extremity 48, thus making it impossible to apply any inward pressure onto said extremity 48. Element 64's tabs 70 are held in place by slots 52.

To prevent lens locking element 64 from sliding rearwardly, lock immobilizing element 72 is inserted in such a way that its shackle 76 fits through slot 51 of mask (see Fig. 8) and its front face 74 mates with the rear portion 66 of locking element 64 (see Fig. 9b). As seen on Figure 6, shackle 76 protrudes inwardly through slot 51. Strap clip element 56 is inserted through shackle 76 in such a way that guide tracks 60 abut the inner walls of shackle 76 (see Fig. 9a), and the resilient retaining clip 62 snaps into place thus immobilizing guide tracks 60 and retaining clip 62 inside shackle 76. Strap 78 is attached to strap eye 58, and the entire assembly is ready for use.

To remove the lens, the procedure is reversed: user puts pressure on retaining clip 62 towards inner portion of temple 14 as he pulls back on strap clip element 56. This will disengage retaining clip 62 and guide tracks 60 from inside shackle 76, and strap clip element 56 is removed. Lock immobilizing element 72 is removed from slot 51, thus

freeing locking element 64 to slide backwardly along slots 52 to 52a. User can then put inward pressure on lens extremity 48, thus causing it to slide out from under bridge 17.

Thus, it can be seen that the objects of the present invention have been satisfied
5 by the structure presented hereinabove. While in accordance with the Patent Statutes, only the best mode and preferred embodiments of the present invention have been presented and described in detail, it is to be understood that the invention is not limited thereto or thereby. Accordingly, for an appreciation of the true scope and breadth of the invention, references should be made to the following claims.

CLAIMS:

1. A protective mask adapted to be worn by persons engaging in paint ball game comprising:

a main body formed of rigid plastic material and adapted to cover a front, sides, a chin and cheek portions;

a removable flexible transparent lens adapted to be locked into a housing formed in said mask;

a strap supporting said mask on a wearer's head;

a face engaging portion comprising a gasket-shaped element, said gasket-shaped element provided to securely support and anchor said mask on the wearer's face in a forehead, temple and nose areas;

said gasket-shaped element is made of a resilient rubber-like material having a sufficient rigidity to withstand a high impact of projectiles;

a lens locking assembly comprising a lens locking means, said lens locking means adapted to simultaneously lock said strap to said mask and to lock said lens within said housing in a positive immobilizing manner, thus preventing any disengagement of said lens from said housing caused by high impact of projectiles striking said mask.

2. Protective mask according to claim 1, wherein said lens locking means adapted to be engaged to said strap by means of a strap clip element.

3. Protective mask according to claim 2, wherein said lens adapted to be locked in said housing by means of a lens locking element.

4. Protective mask according to claim 3, wherein said lens locking element is adapted to be immobilized from sliding rearwardly from said lens by means of a locking immobilizing element.

5. Protective mask according to claim 4 wherein said strap clip element, said lens locking element and said locking immobilizing element are adapted to interlock and cooperate

between each other to facilitate immobilizing said lens within said housing and to keep said mask on the wearer's head.

6. A protective mask adapted to be worn by persons engaging in paint ball game comprising:

- a main body formed of rigid plastic material and adapted to cover a front, sides, a chin and cheek portions;

- a strap adapted to support said mask on a wearer's head;

- a removable flexible transparent lens adapted to be locked into a housing formed in said mask;

- a face engaging portion comprising a gasket-shaped element, said gasket-shaped element provided to securely support and anchor said mask on a wearer's face in a forehead, temple and nose areas,

- said gasket-shaped element is made of a resilient rubber-like material having a sufficient rigidity to withstand a high impact of projectiles;

- a lens locking assembly comprising a lens locking means, said lens locking means adapted to simultaneously lock said support strap to said mask and to lock said lens within said housing in a positive immobilizing manner, thus preventing any disengagement of said lens from said housing caused by high impact of projectiles striking said mask.

7. Protective mask according to claim 6, wherein said face engaging portion comprises a continuous wall extending inwardly substantially perpendicular around areas corresponding to forehead, temple and nose areas of said mask and a peripheral edge extending inwardly vertically around an outer perimeter of said continuous wall, wherein said peripheral edge forms a flat surface adapted to comfortably engage said forehead, temple and nose areas of the wearer's face.

8. Protective mask according to claim 7, wherein said face engaging portion further comprises two symmetrical nose lips extending inwardly from said nose portion.

9. Protective mask according to claim 6, wherein said face engaging portion is made from a material having rigidity not less than 55 duro.

10. Protective mask according to claim 9, wherein said face engaging portion is made of material having rigidity between 55 and 70 duro, said material provides an increased wear resistance in use.

11. A protective mask adapted to be worn by persons engaging in paint ball game comprising:

- a main body formed of rigid plastic material and adapted to cover a front, sides , a chin and cheek portions;

- a removable flexible transparent lens adapted to be locked into a housing formed in said mask;

- a strap adapted to support said mask on a wearer's head;

- a face engaging portion comprising a gasket-shaped element, said gasket-shaped element provided to securely support and anchor said mask on the wearer's face in a forehead, temple and nose areas,

- said gasket-shaped element is made of a resilient rubber-like material having a sufficient rigidity to withstand a high impact of projectiles;

- a lens locking assembly comprising a lens locking means, said lens locking means adapted to simultaneously lock said support strap to said mask and to lock said lens within said housing in a positive immobilizing manner, thus preventing any disengagement of said lens from said housing caused by high impact of projectiles striking said mask.

- wherein said lens locking means adapted to be engaged to said strap by means of a strap clip element.

12. Protective mask according to claim 11, wherein said lens adapted to be locked in said housing by means of a lens locking element.

13. Protective mask according to claim 12, wherein said lens locking element is adapted to be immobilized from sliding rearwardly from said lens by means of a locking immobilizing element.

14. Protective mask according to claim 13 wherein said strap clip element, said lens locking element and said locking immobilizing element are adapted to interlock and cooperate between each other to facilitate immobilizing said lens within said housing and to keep said mask on wearer's face.

15. A protective mask adapted to be worn by persons engaging in paint ball game comprising:

- a main body formed of rigid plastic material and adapted to cover a front, sides, a chin and cheek portions;

- a strap provided to support said mask on a wearer's head;

- a removable flexible transparent lens adapted to be locked into a housing formed in said mask;

- a face engaging portion comprising a gasket-shaped element, said gasket-shaped element provided to securely support and anchor said mask on the wearer's face in a forehead, temple and nose areas,

- said gasket-shaped element is made of a resilient rubber-like material having a sufficient rigidity to withstand a high impact of projectiles;

- a lens locking assembly comprising a lens locking means, said lens locking means adapted to simultaneously lock a support strap to said mask and to lock said lens within said housing in a positive immobilizing manner, thus preventing any disengagement of said lens from said housing caused by high impact of projectiles striking said mask.

- wherein said face engaging portion comprises a continuous wall extending inwardly substantially perpendicular around areas corresponding to forehead, temple and nose areas of said mask and a peripheral edge extending inwardly vertically around an outer perimeter of said continuous wall, wherein said peripheral edge forms a flat surface adapted to comfortable engage said forehead, temple and nose areas of the wearer's face.

16. Protective mask according to claim 15, wherein said face engaging portion further comprises two symmetrical nose lips extending inwardly from said nose portion.

17. Protective mask according to claim 15, wherein said face engaging portion is made from a material having rigidity not less than 55 duro.

18. Protective mask according to claim 17, wherein said face engaging portion is made of material having rigidity between 55 and 70 duro, said material provides an increased wear resistance in use.

19. A protective mask adapted to be worn by persons engaging in paint ball game comprising:

- a main body formed of rigid plastic material and adapted to cover a front, sides, a chin and cheek portions;

- a strap provided to support said mask on a wearer's face;

- a removable flexible transparent lens adapted to be locked into a housing formed in said mask;

- a face engaging portion comprising a gasket-shaped element, said gasket-shaped element provided to securely support and anchor said mask on a wearer's face in a forehead, temple and nose areas,

- said gasket-shaped element is made of a resilient rubber-like material having a sufficient rigidity to withstand a high impact of projectiles;

- a lens locking assembly adapted to lock said lens within said housing in a positive immobilizing manner, thus preventing any disengagement of said lens from said housing caused by high impact of projectiles striking said mask.

20. Protective mask according to claim 19, wherein said lens locking means adapted to be engaged to said strap by means of a strap clip element.

21. Protective mask according to claim 20, wherein said lens is adapted to be locked in said housing by means of a lens locking element.

22. Protective mask according to claim 21, wherein said lens locking element is adapted to be immobilized from sliding rearwardly from said lens by means of a locking immobilizing element.

23. Protective mask according to claim 22 wherein said strap clip element, said lens locking element and said locking immobilizing element are adapted to interlock and cooperate between each other to facilitate immobilizing said lens within said housing and to keep said mask on wearer's face.

24. A protective mask adapted to be worn by persons engaging in paint ball game comprising:

- a main body formed of rigid plastic material and adapted to cover a front, sides, a chin and cheek portions;

- a strap adapted to support said mask on a wearer's head;

- a removable flexible transparent lens adapted to be locked into a housing formed in said mask;

- a face engaging portion provided to securely support and anchor said mask on a wearer's face in a forehead, temple and nose areas,

- a lens locking assembly comprising a lens locking means, said lens locking means adapted to simultaneously lock a support strap to said mask and to lock said lens within said housing in a positive immobilizing manner, thus preventing any disengagement of said lens from said housing caused by high impact of projectiles striking said mask.

25. Protective mask according to claim 24, wherein said face engaging portion comprises a continuous wall extending inwardly substantially perpendicular around areas corresponding to forehead, temple and nose areas of said mask and a peripheral edge extending inwardly vertically around an outer perimeter of said continuous wall, wherein

said peripheral edge forms a flat surface adapted to comfortable engage said forehead, temple and nose areas of the wearer's face.

26. Protective mask according to claim 25, wherein said face engaging portion further comprises two symmetrical nose lips extending inwardly from said nose portion.

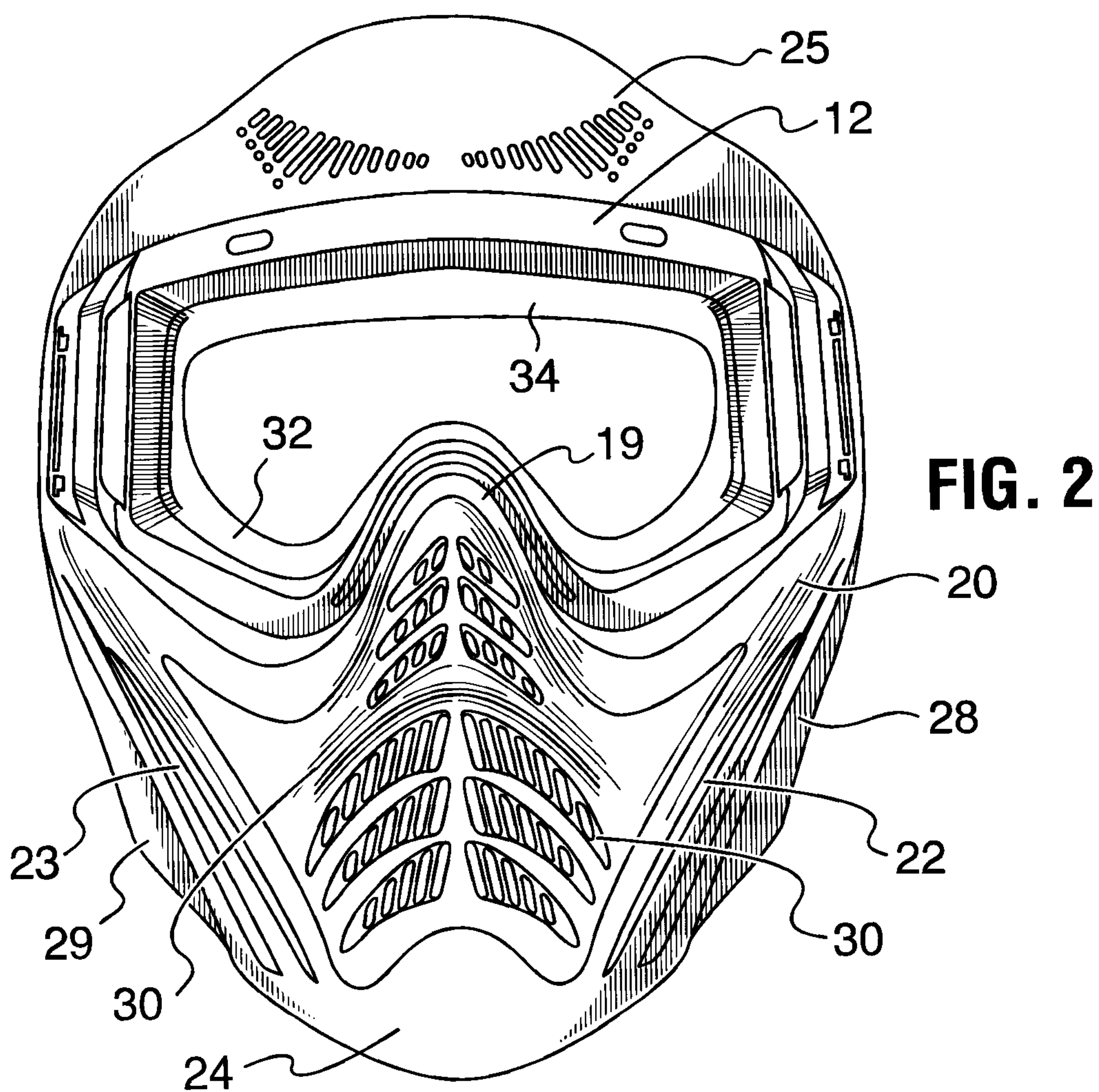
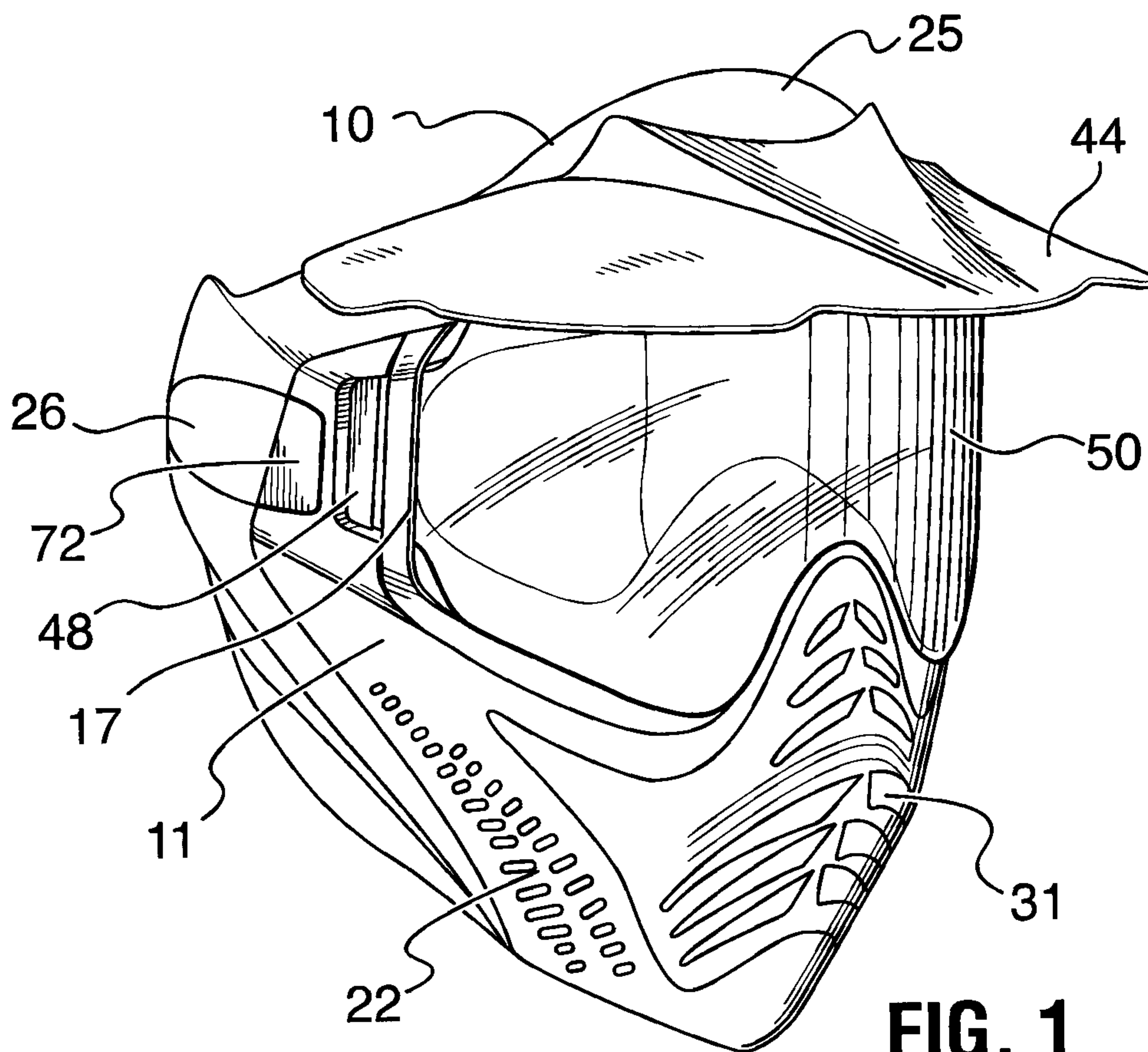
27. Protective mask according to claim 24, wherein said face engaging portion is made from a material having rigidity not less than 55 duro.

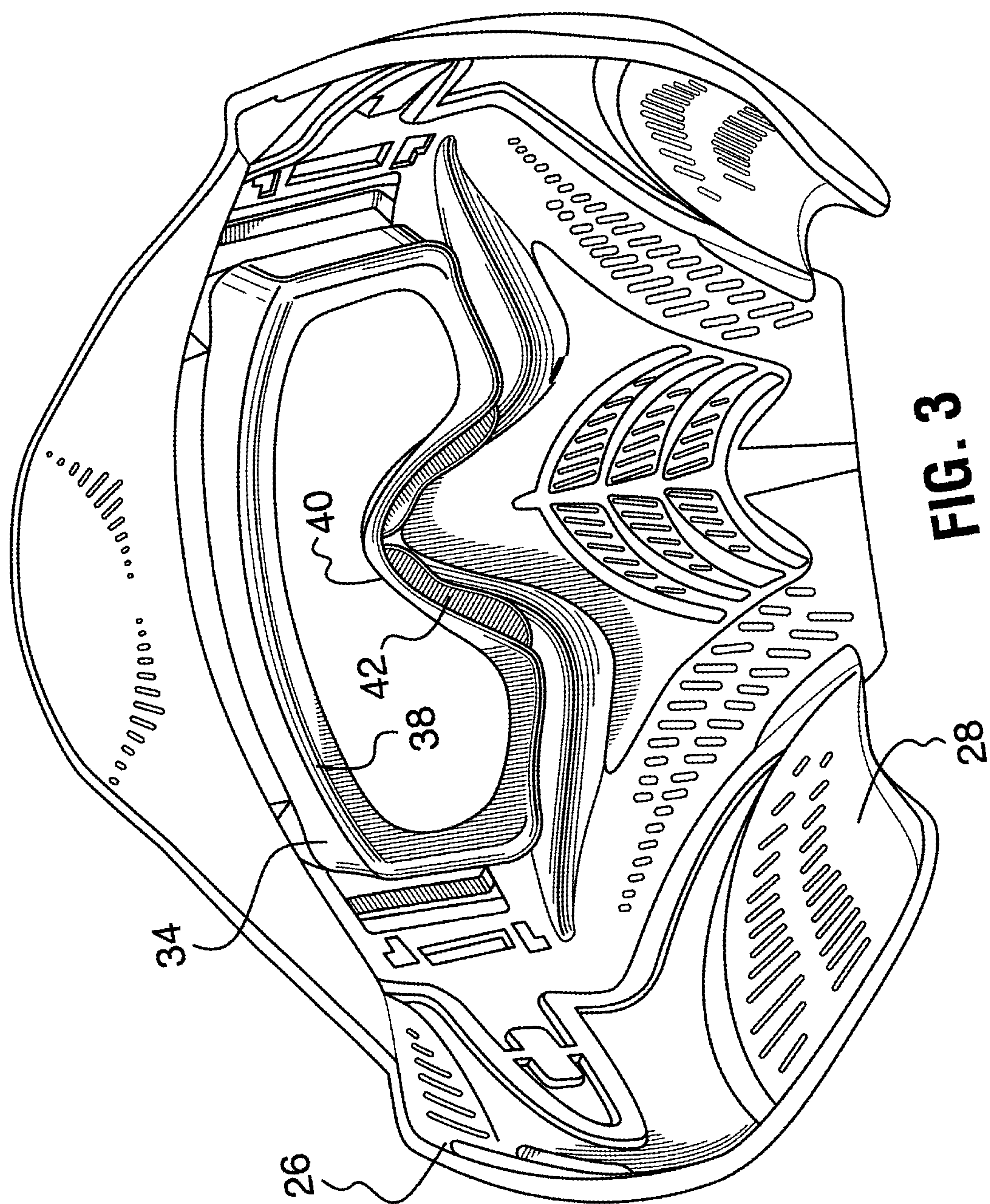
28. Protective mask according to claim 27, wherein said face engaging portion is made of material having rigidity between 55 and 70 duro, said material provides an increased wear resistance in use.

Mila Shvartsman

Patent Agent

36,417





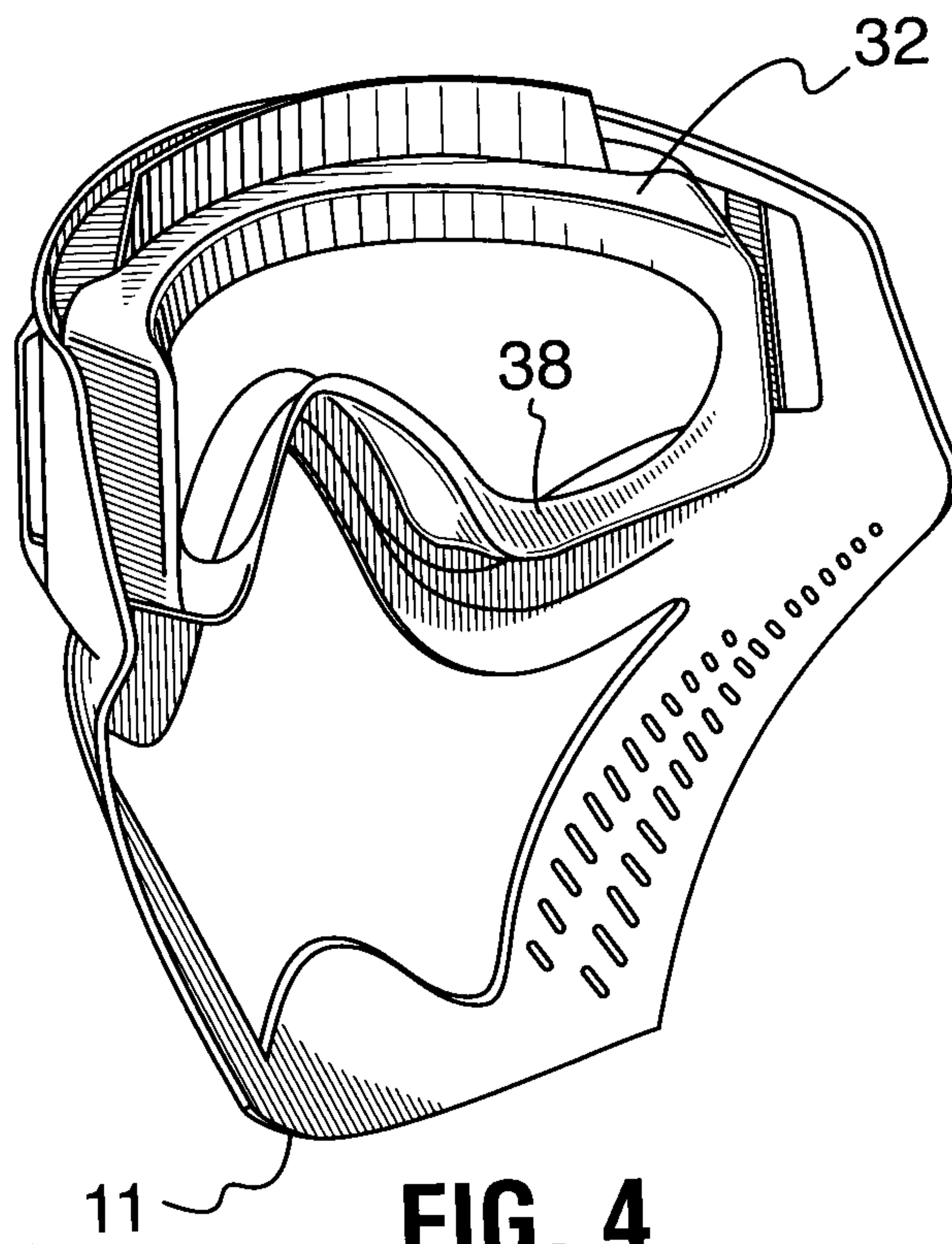


FIG. 4

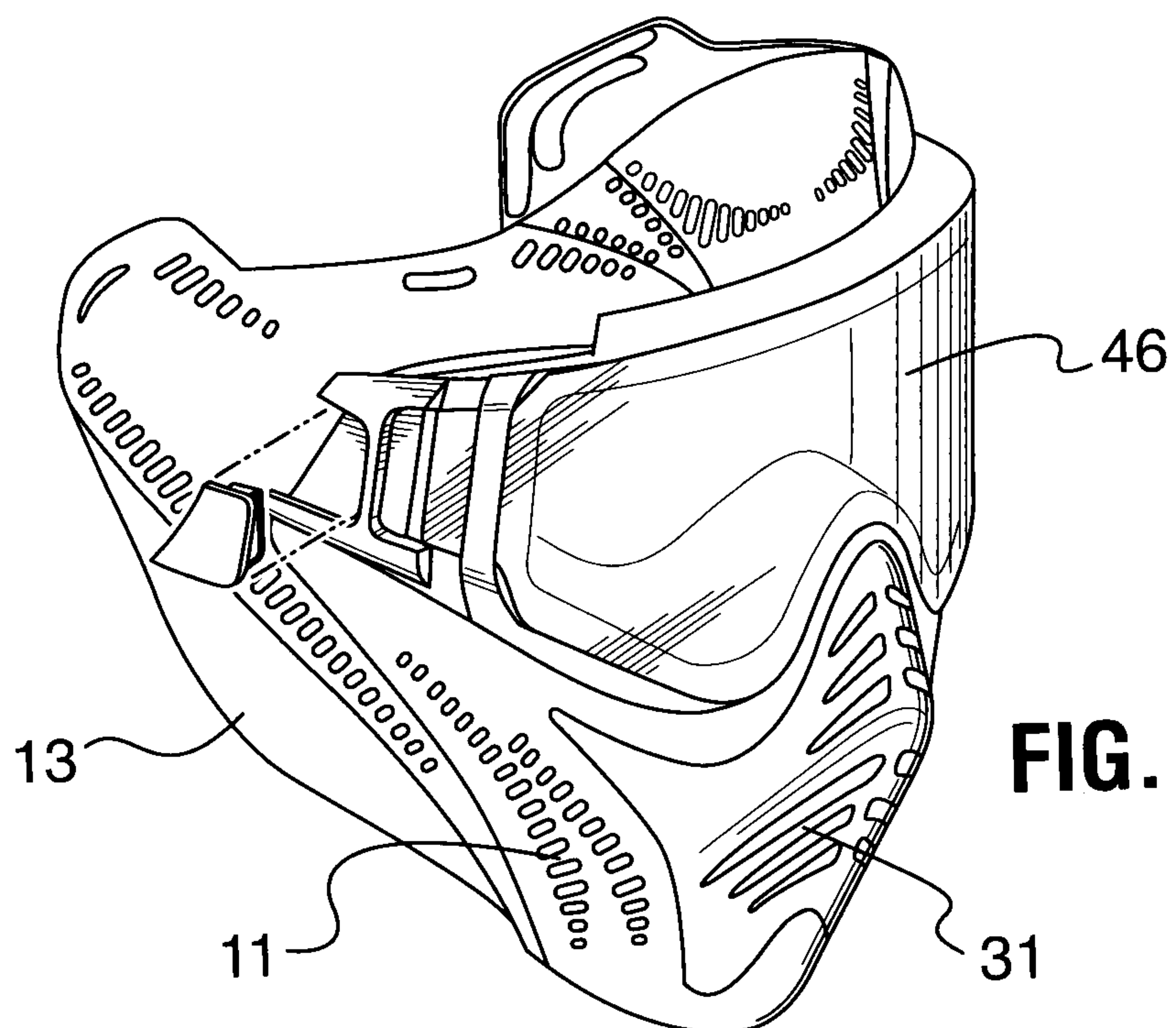
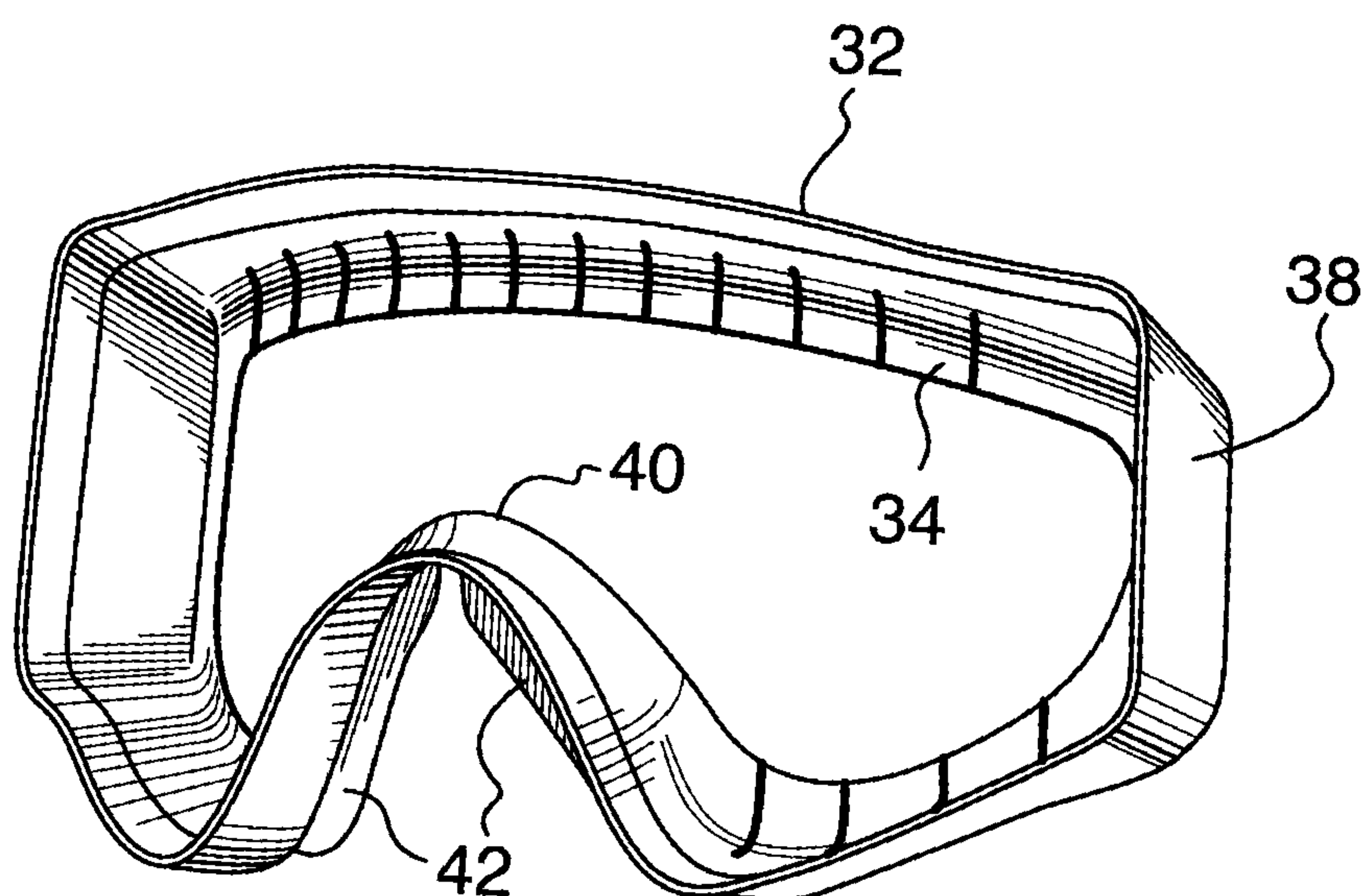
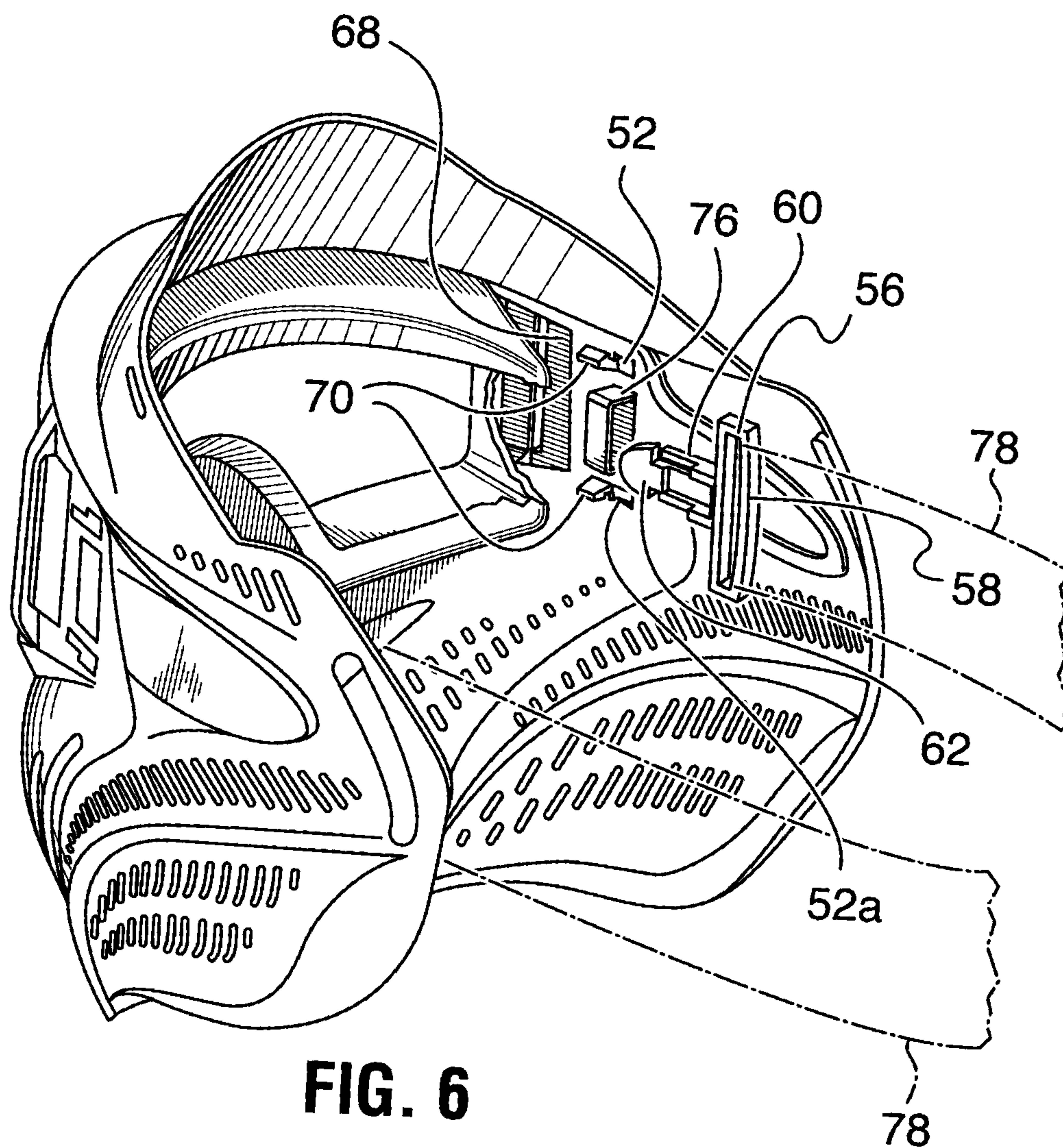
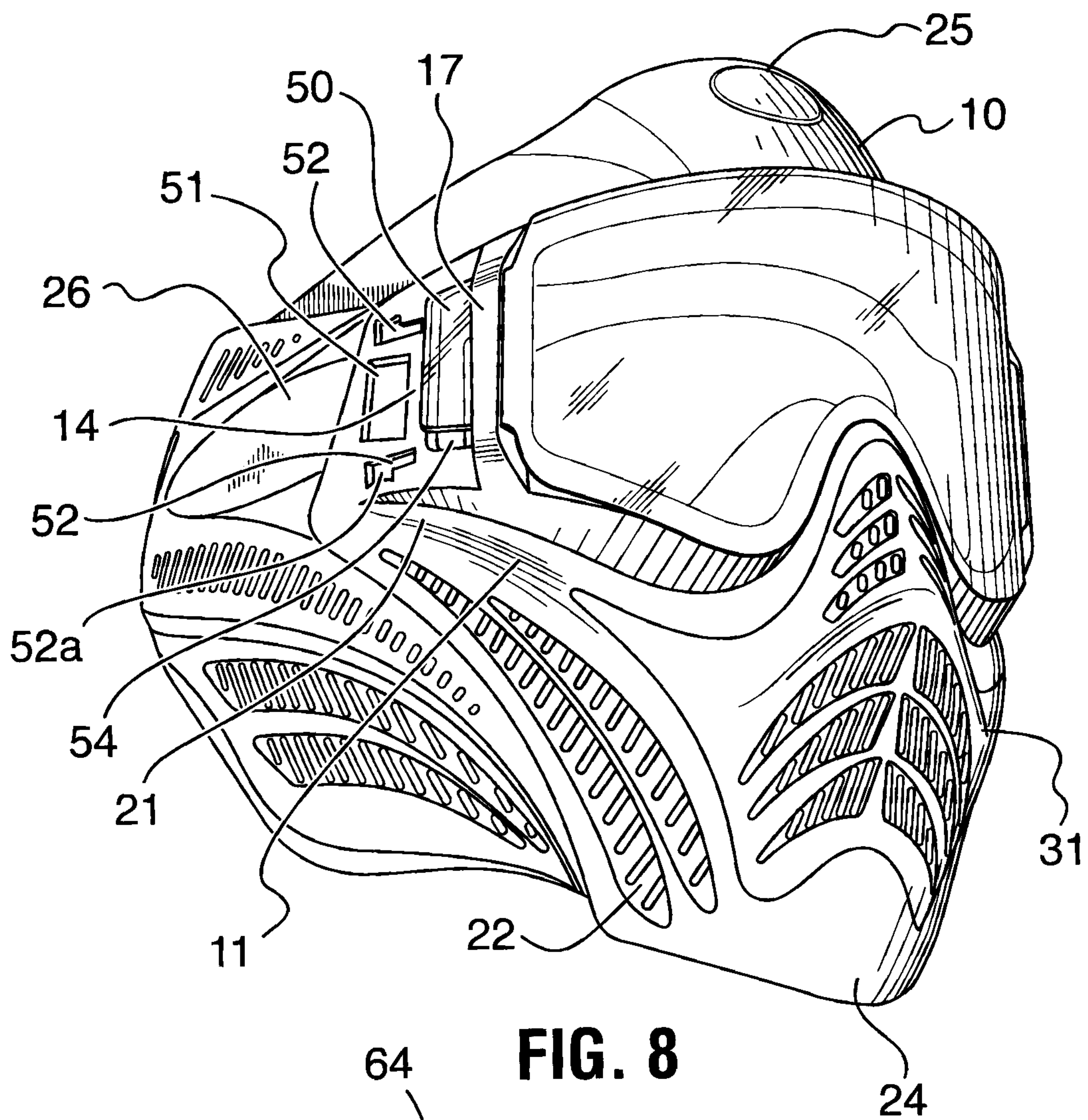
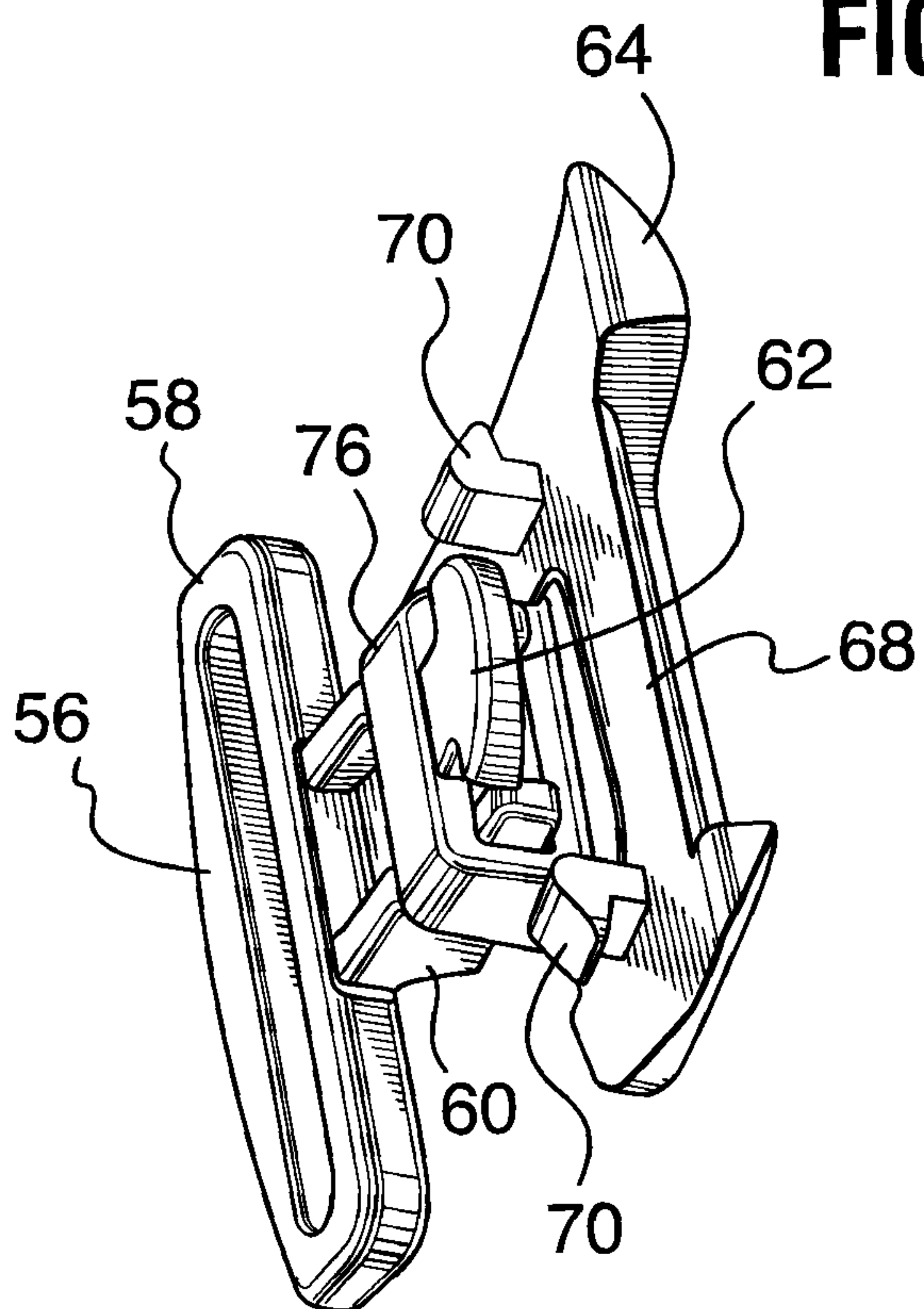
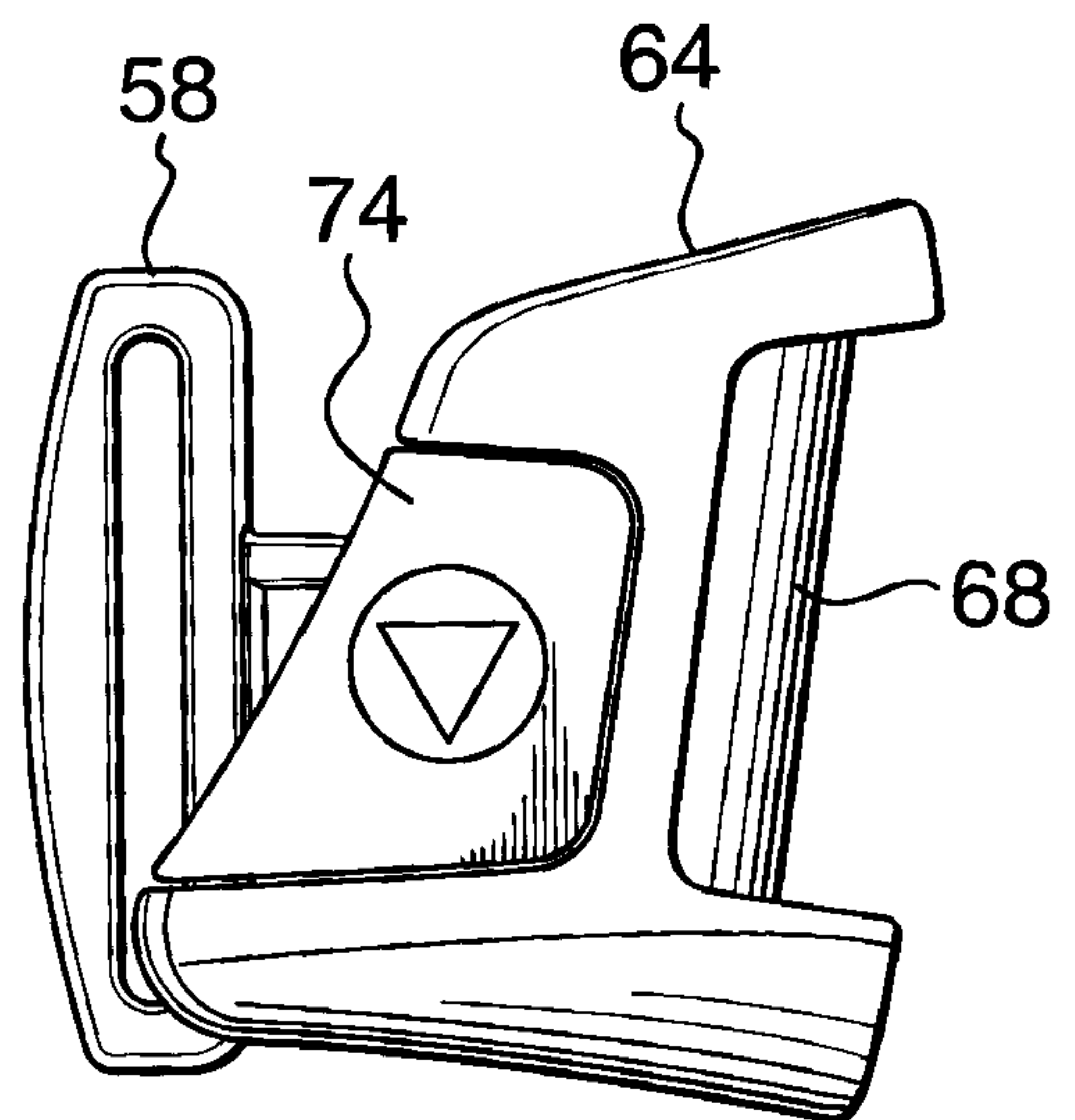


FIG. 5



**FIG. 8****FIG. 9a****FIG. 9b**

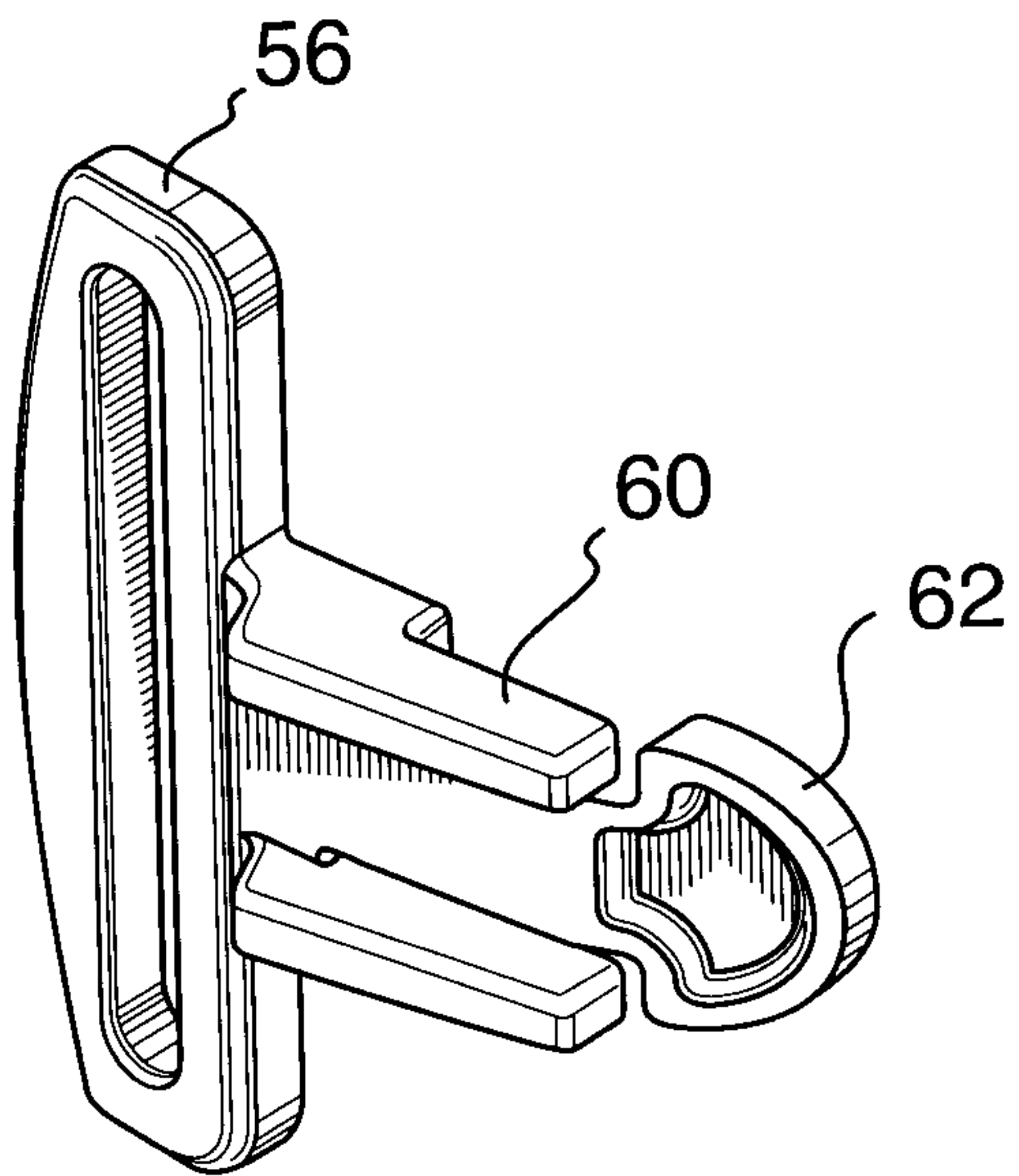


FIG. 10

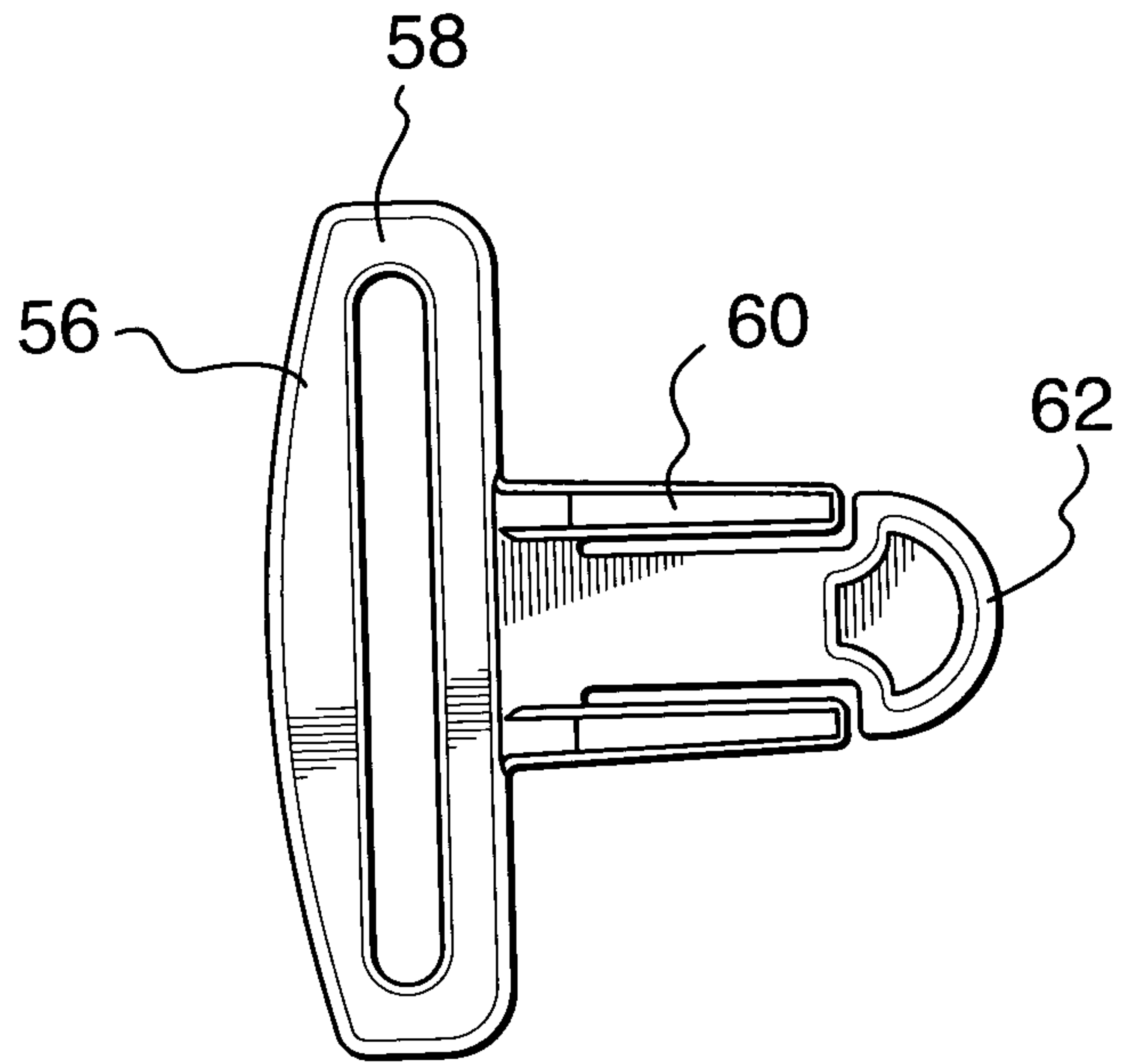


FIG. 10a

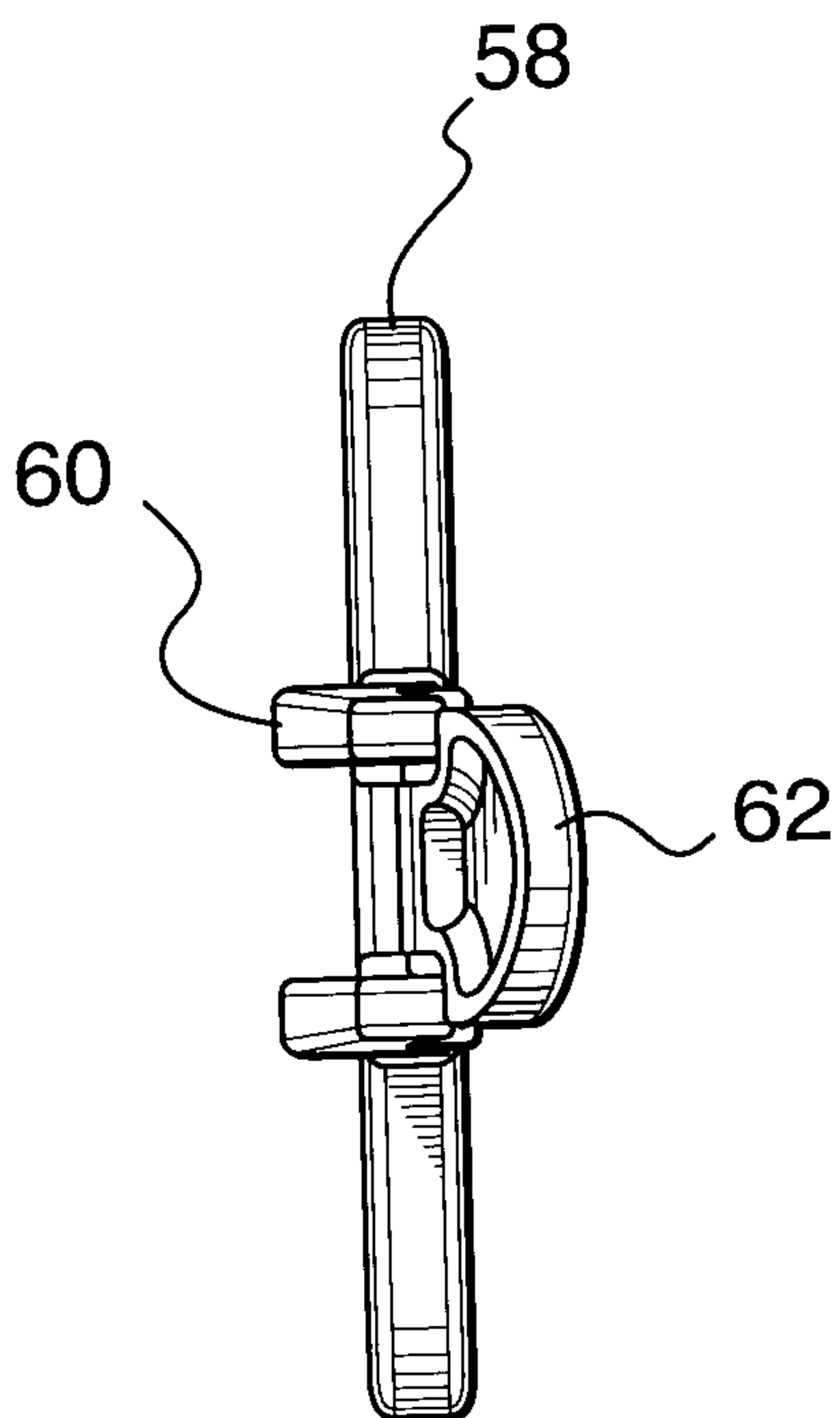


FIG. 10b

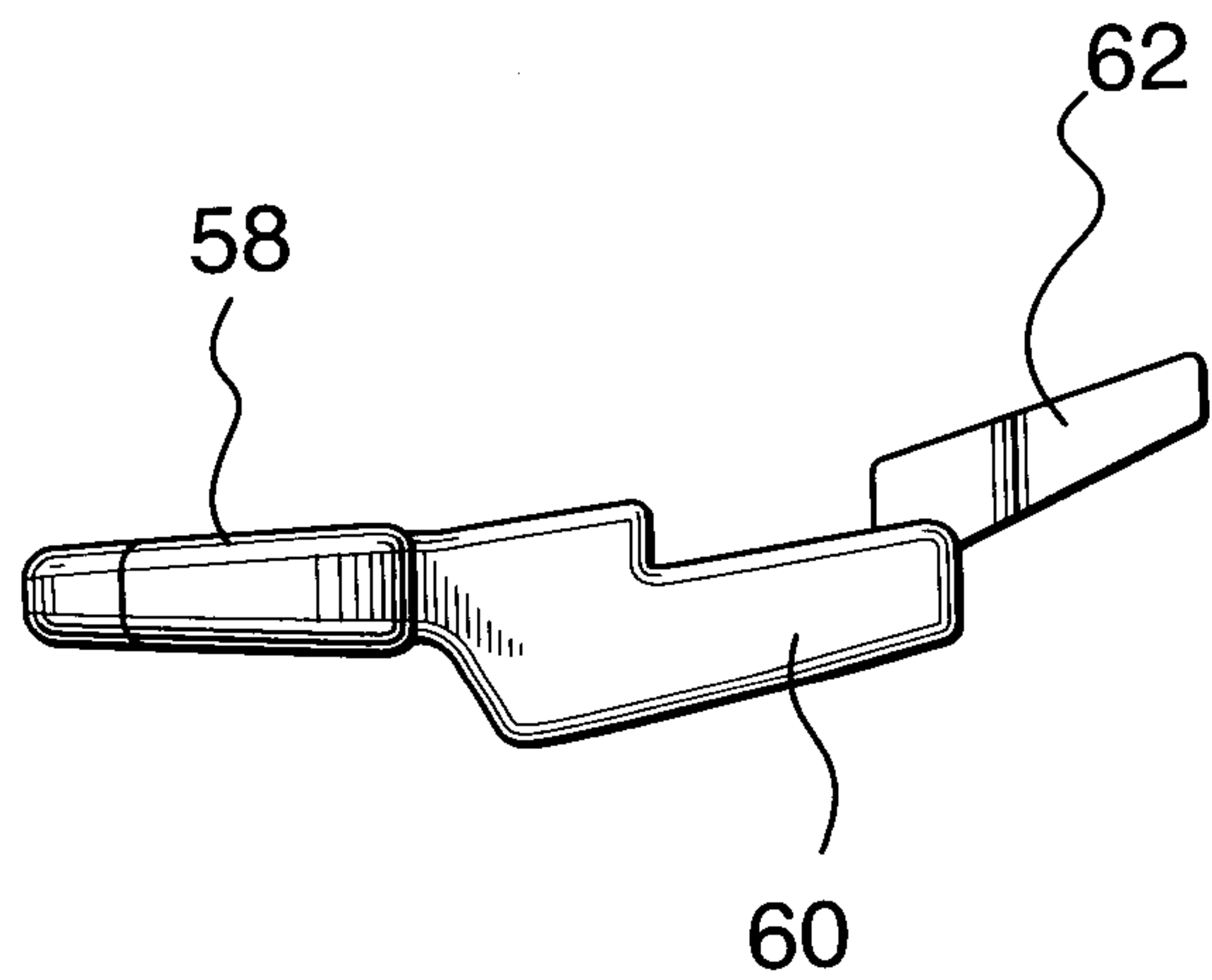


FIG. 10c

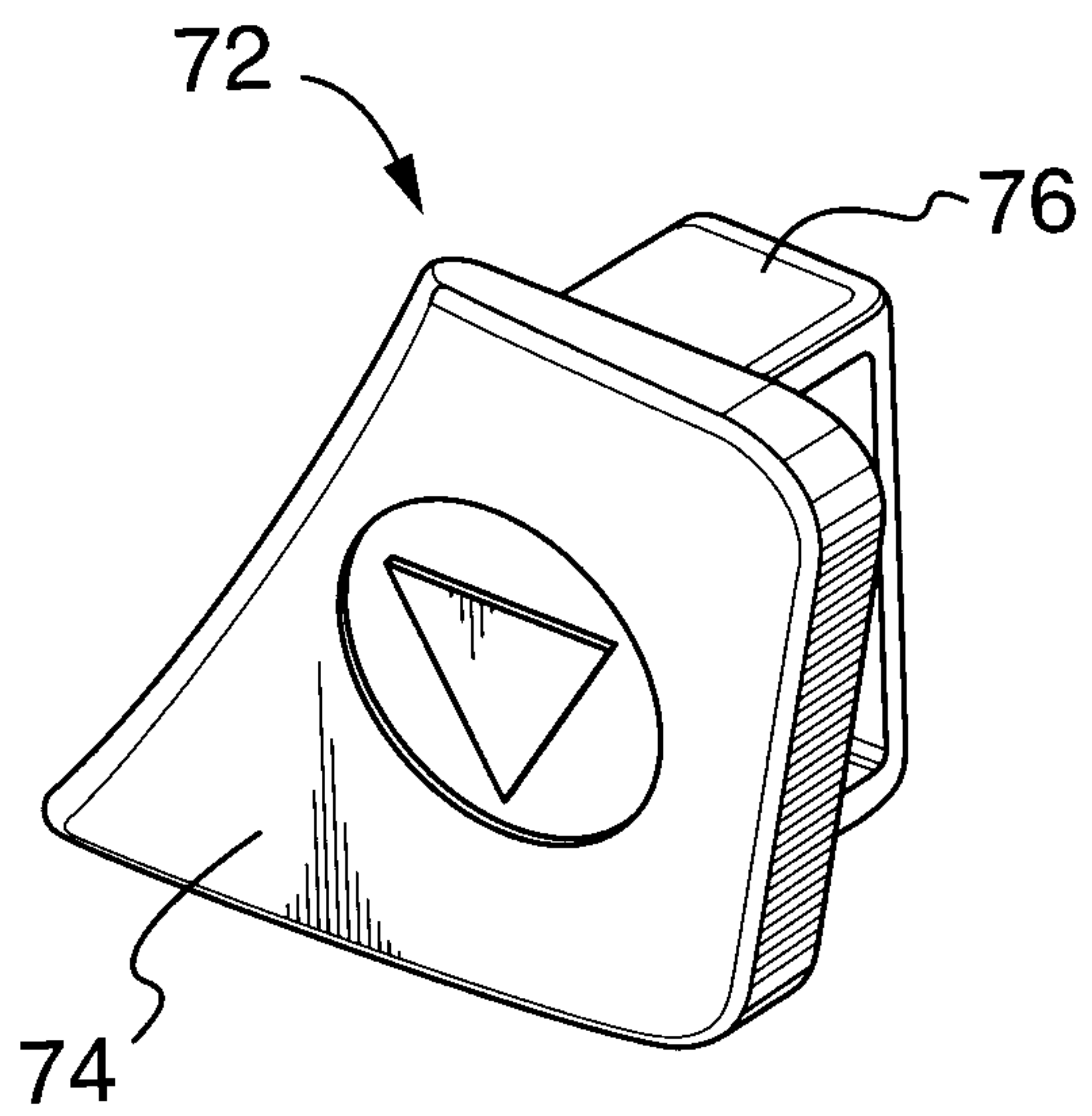


FIG. 11

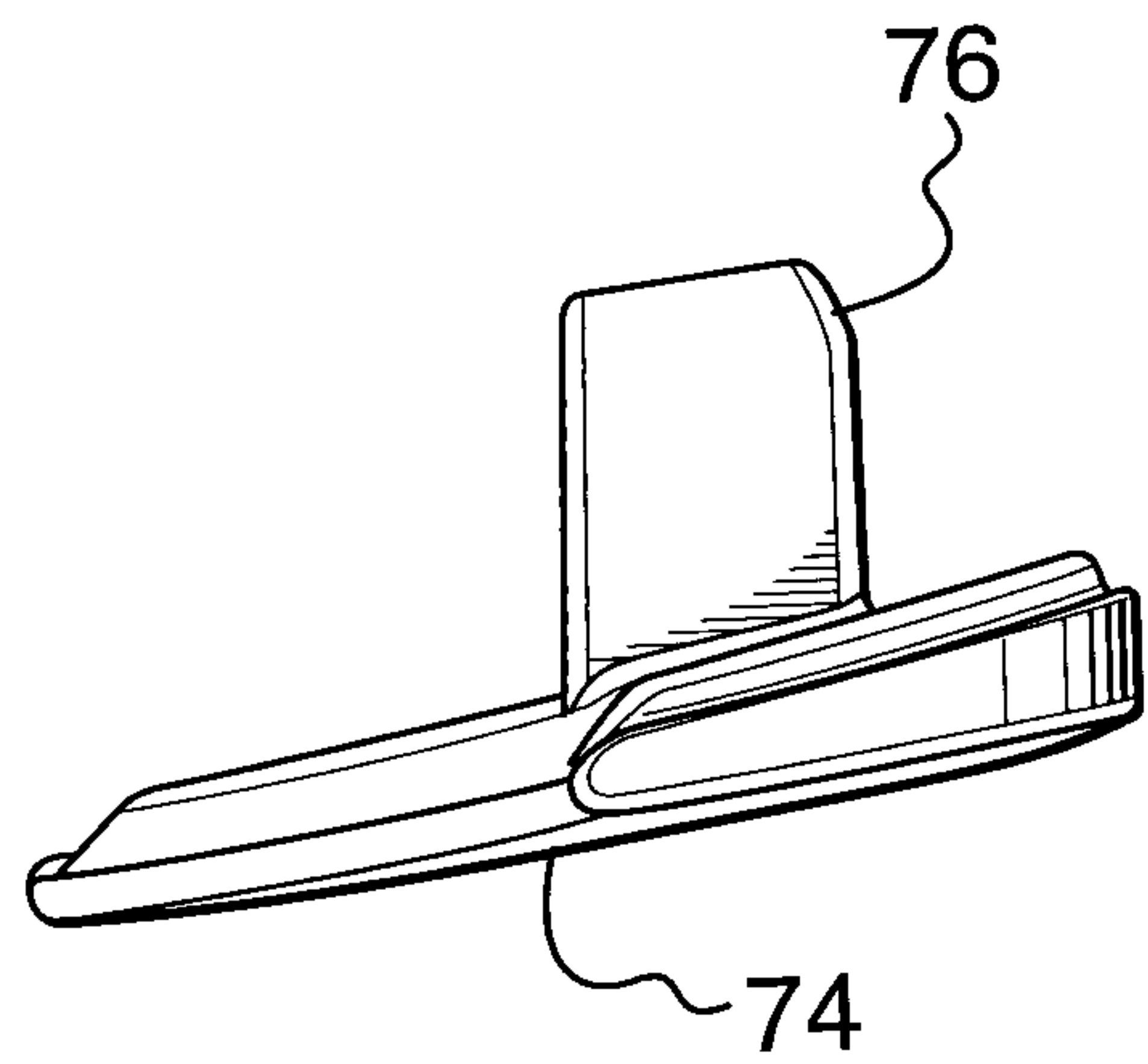


FIG. 11a

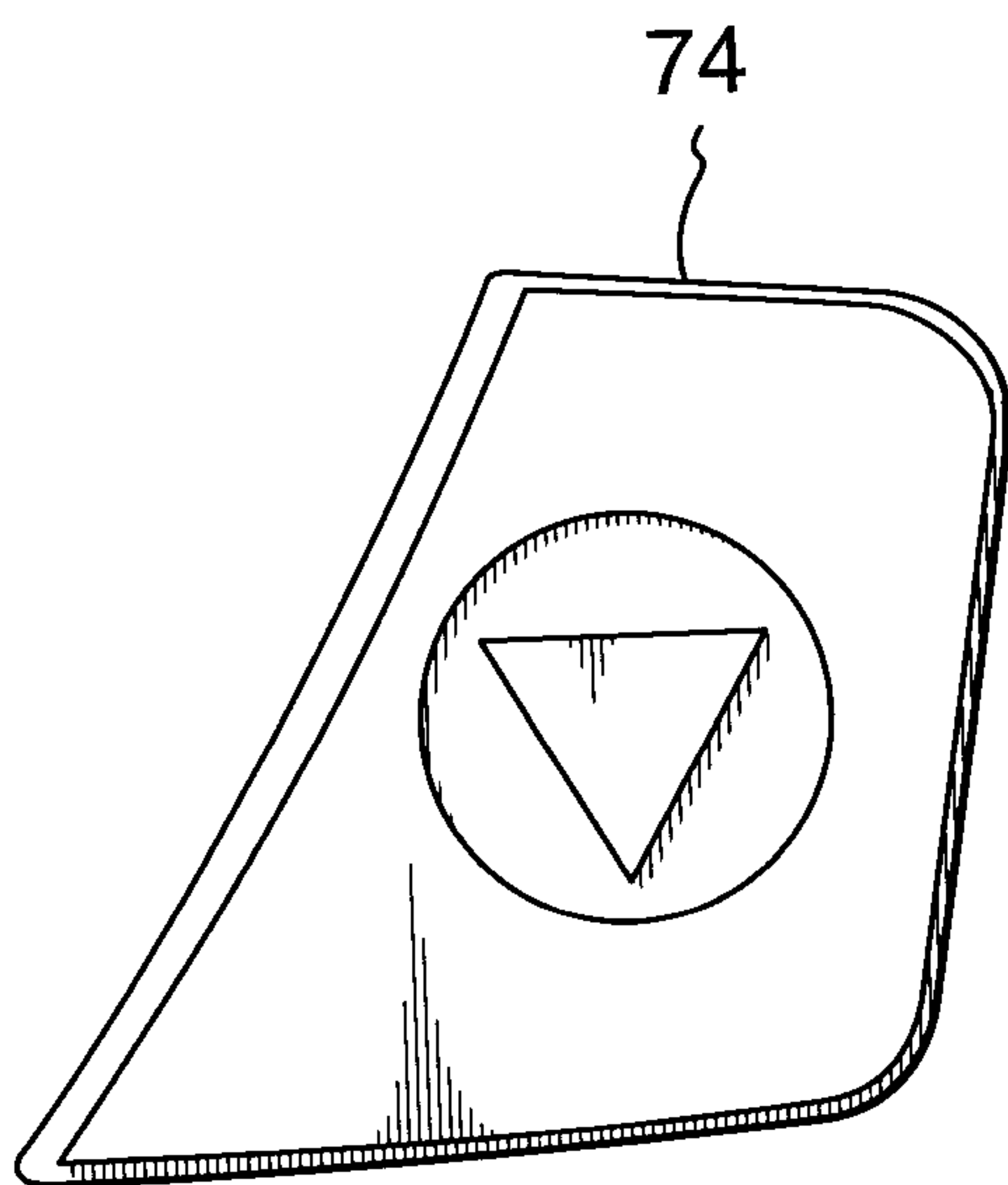


FIG. 11b

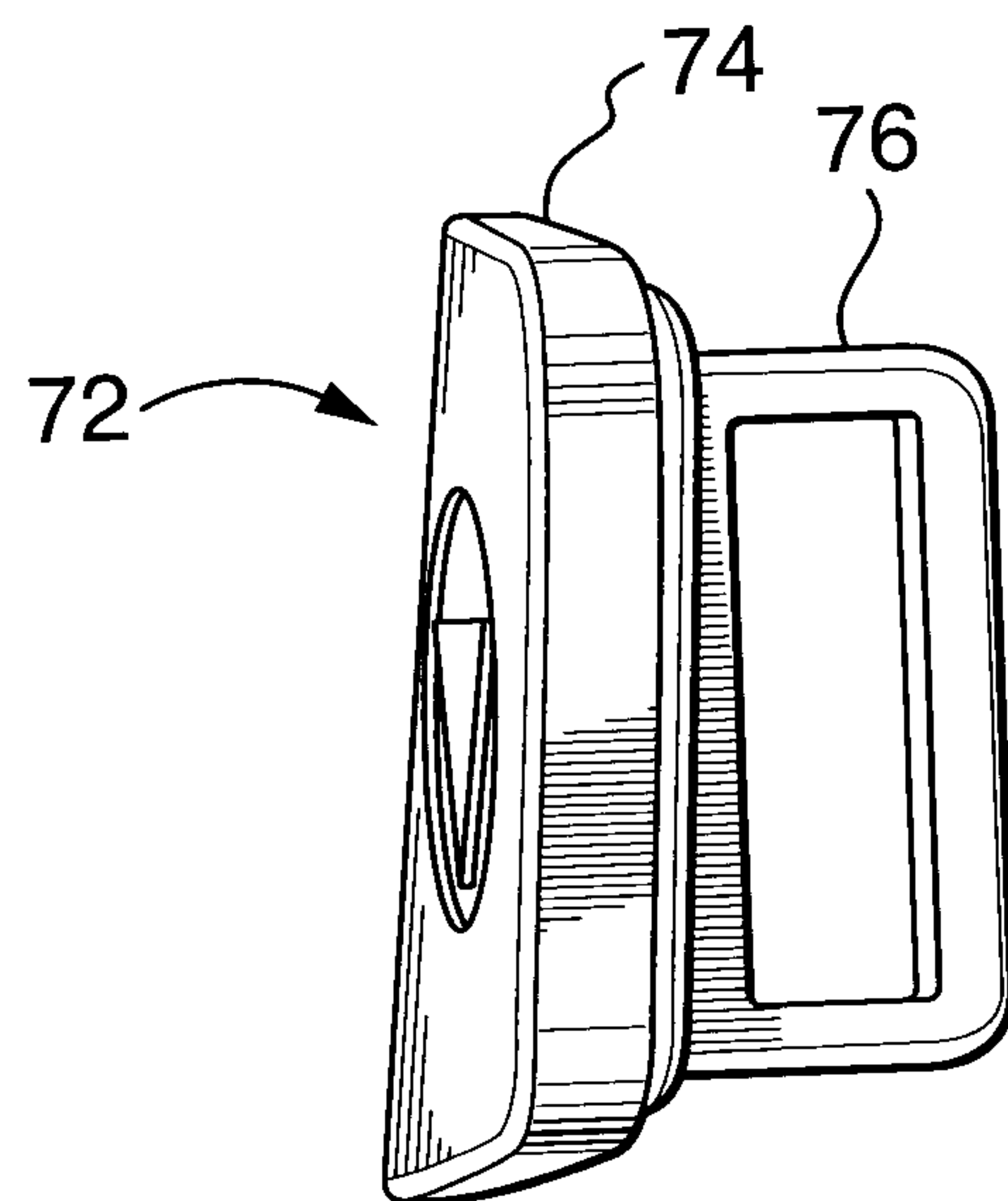


FIG. 11c

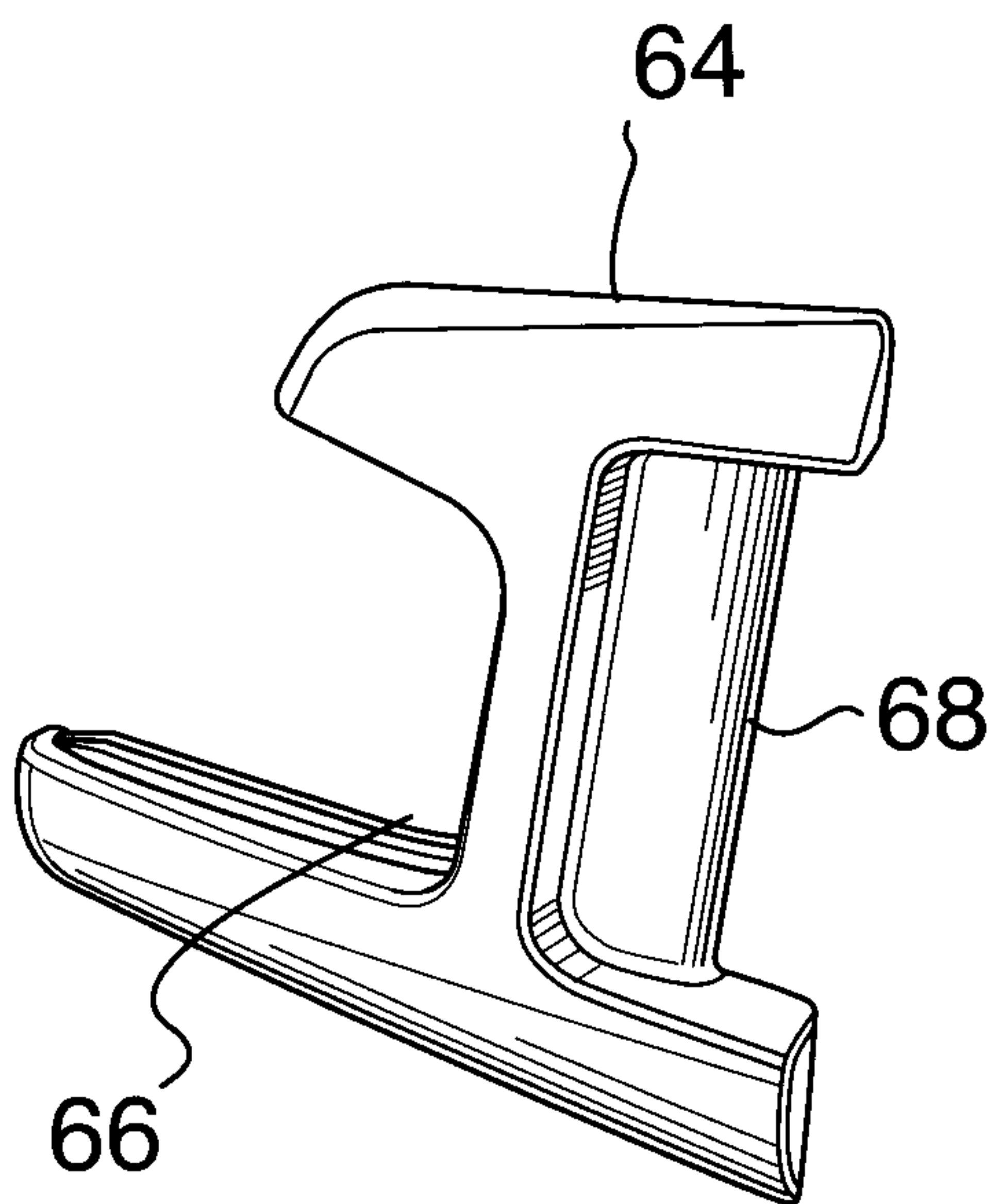


FIG. 12

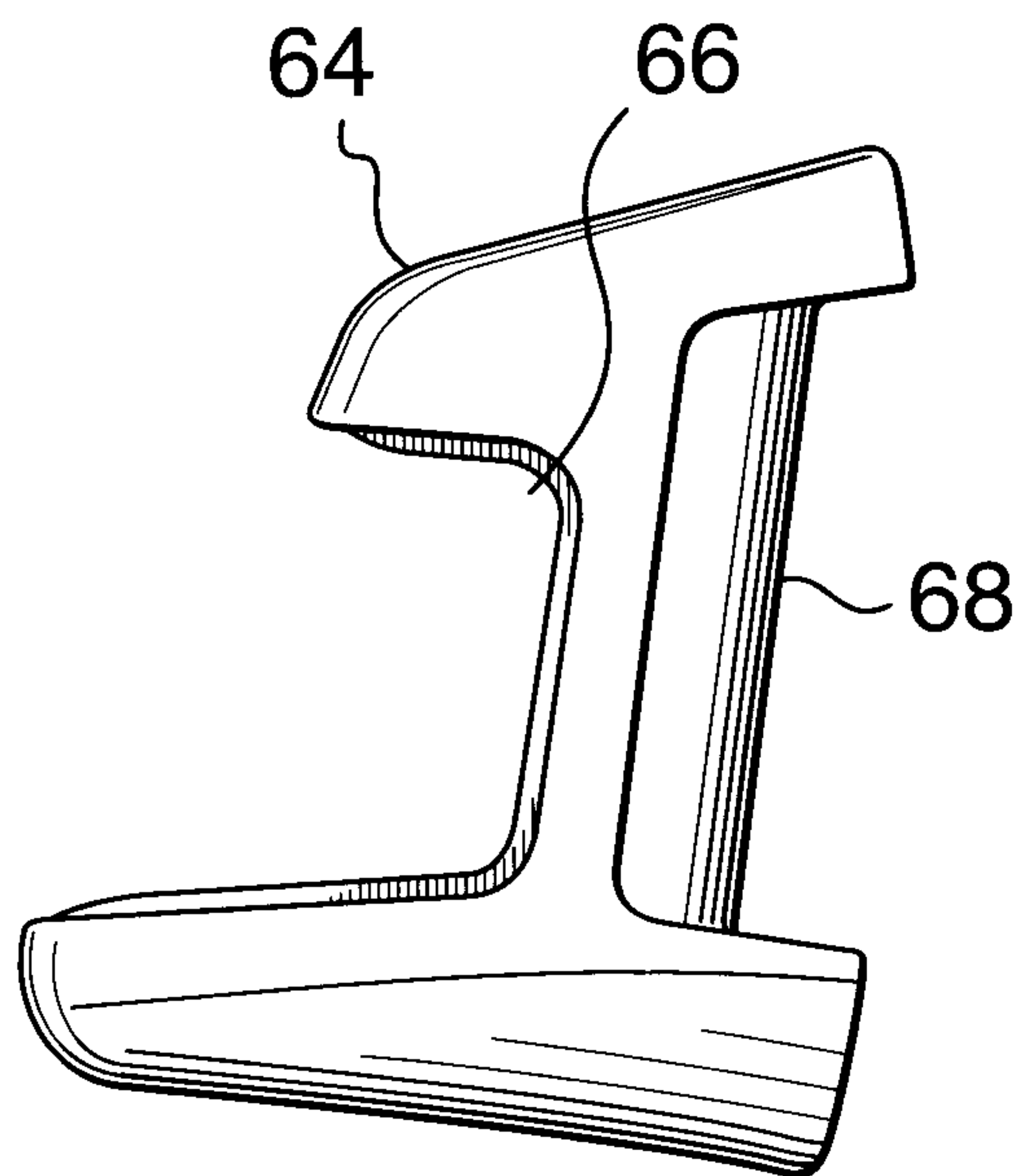


FIG. 12a

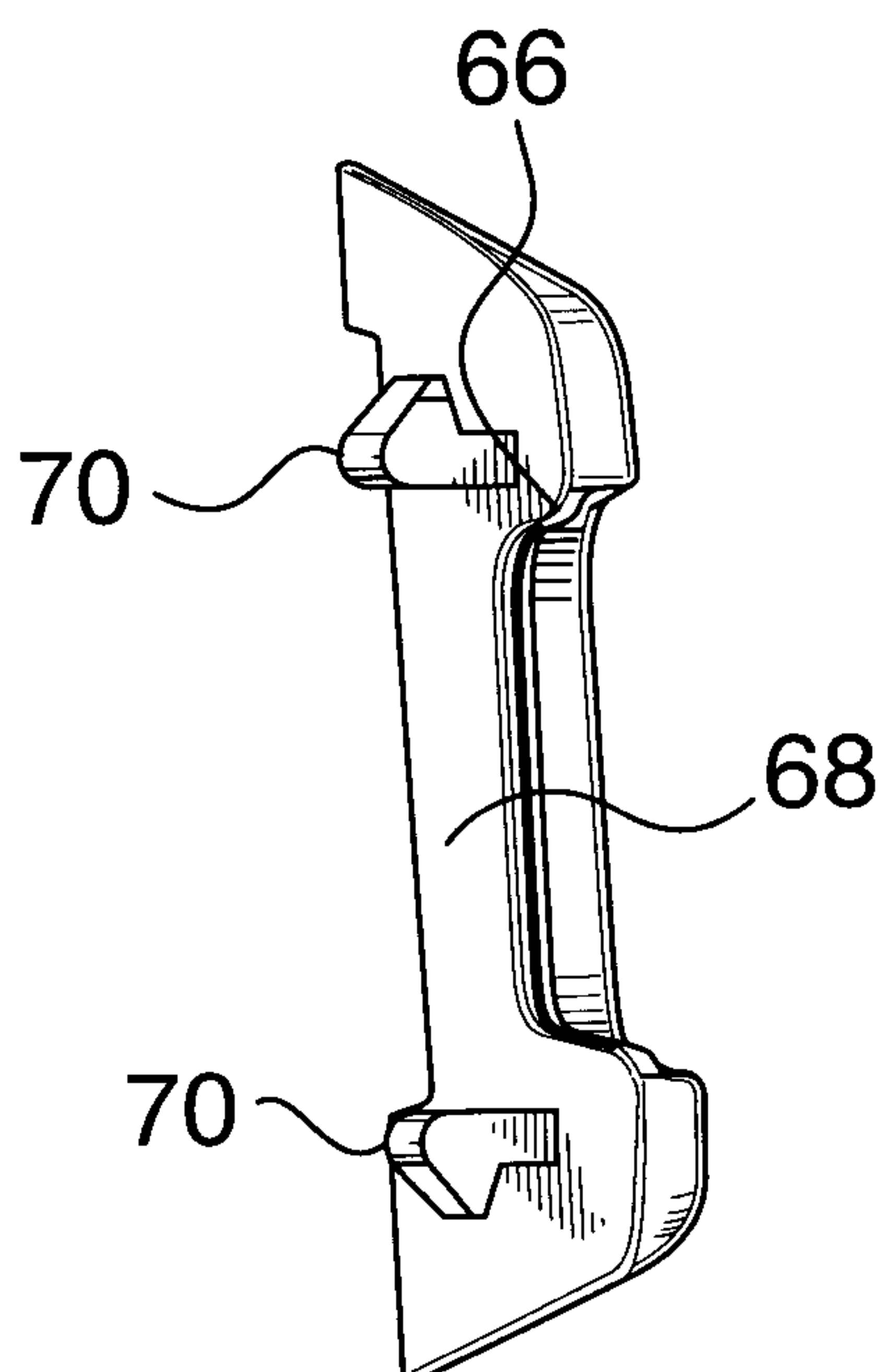


FIG. 12b

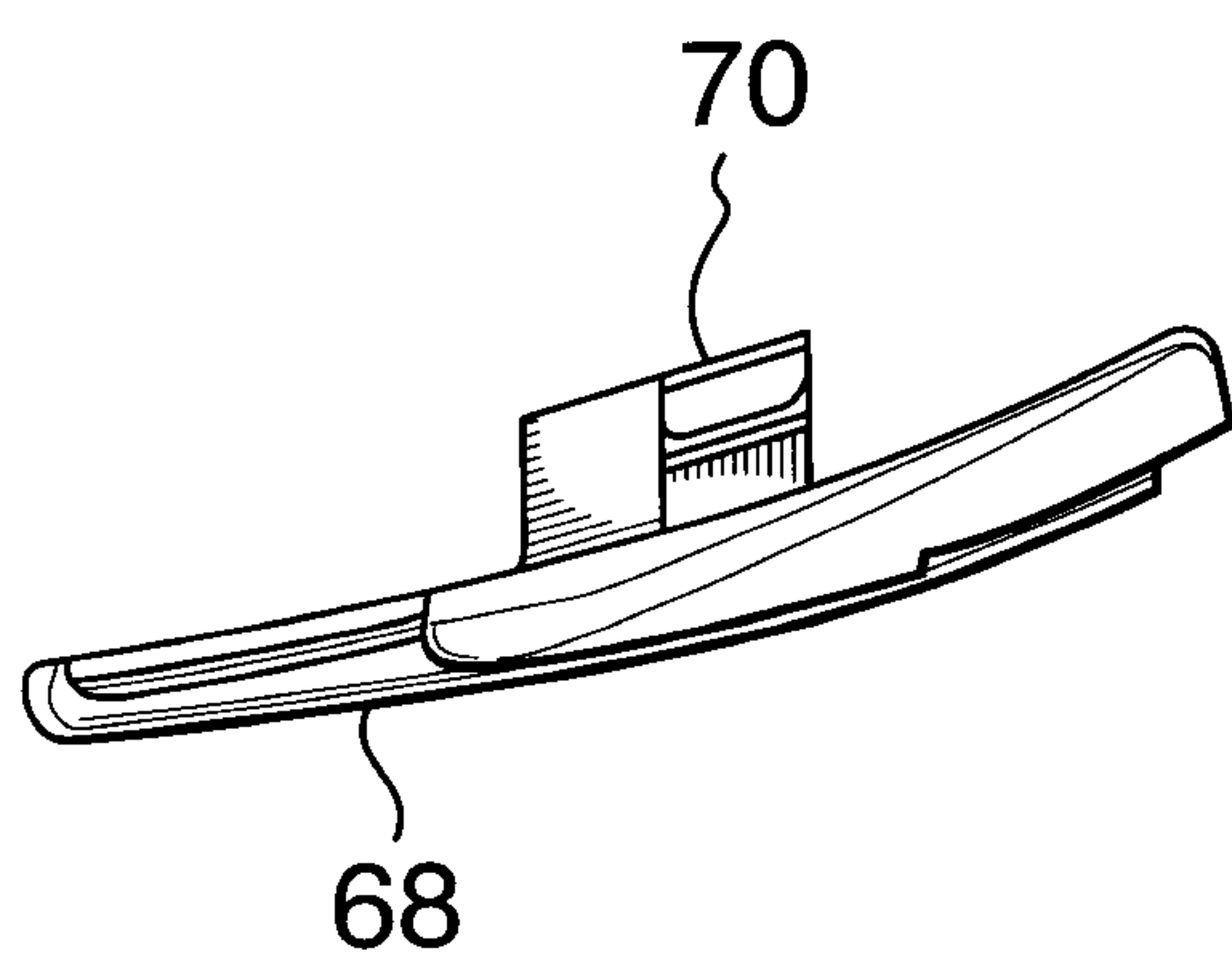


FIG. 12c

