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(54) REMOVABLE BUCKLE

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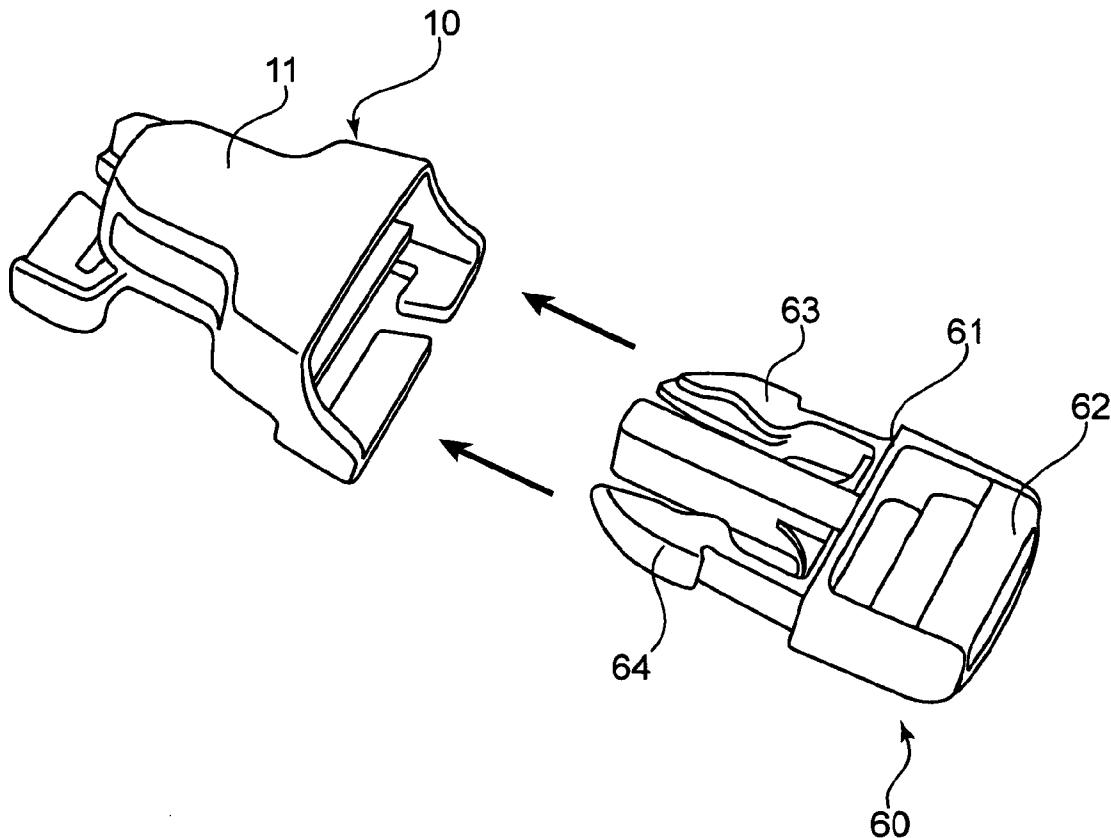
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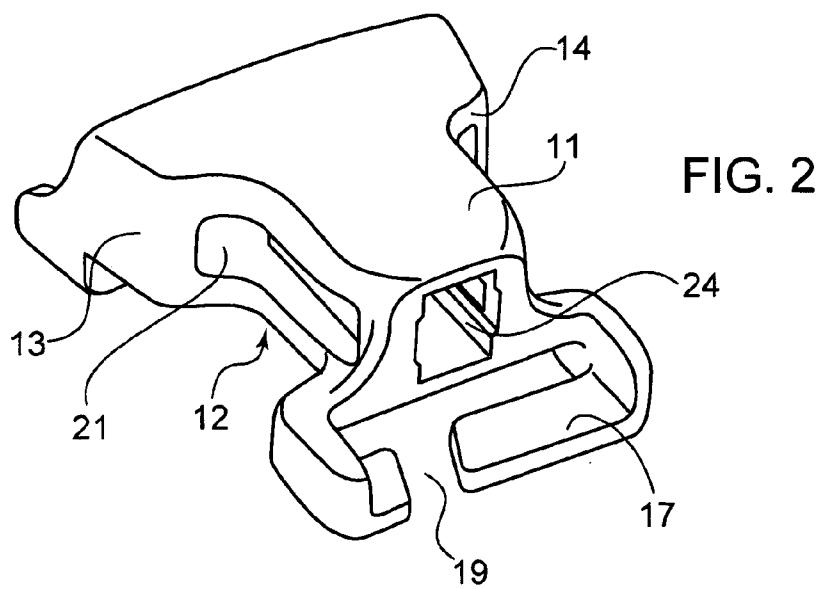
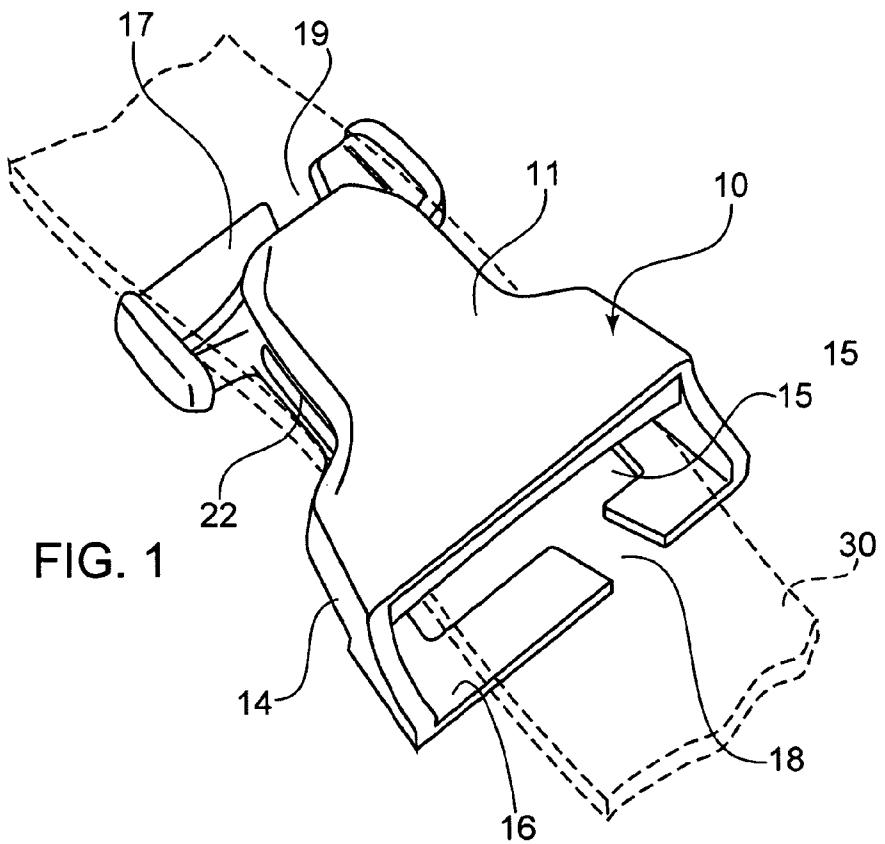
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(57) ABSTRACT

A buckle has a main buckle body with a hollow cavity, means for securing another buckle portion within the main body, and at least two strap securing bars connected to the main body. At least one of the strap securing bars has a free end, such that the buckle portion can be attached to a strap by sliding an edge of the strap through a space created by the free end and positioning the strap so that the strap is disposed between the strap securing bar and the main body.





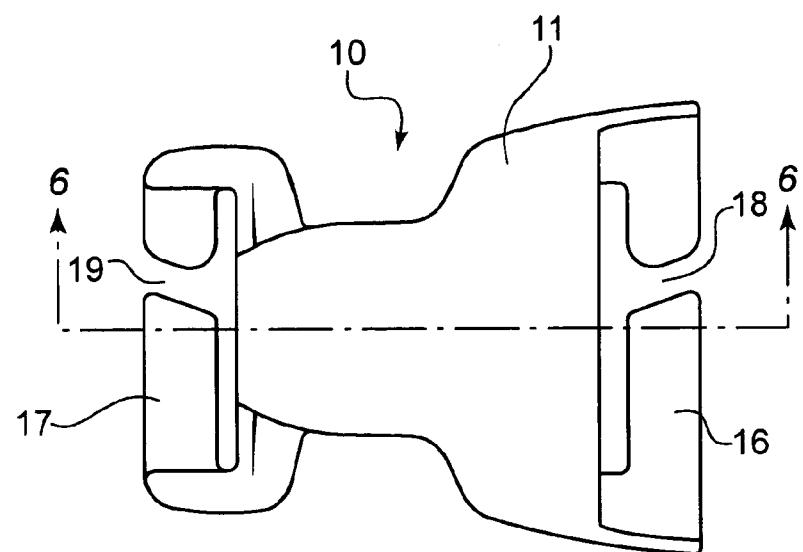


FIG. 3

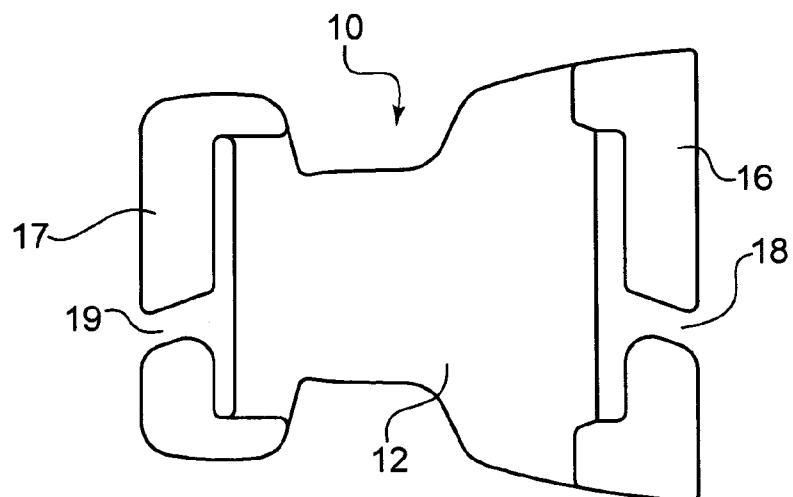


FIG. 4

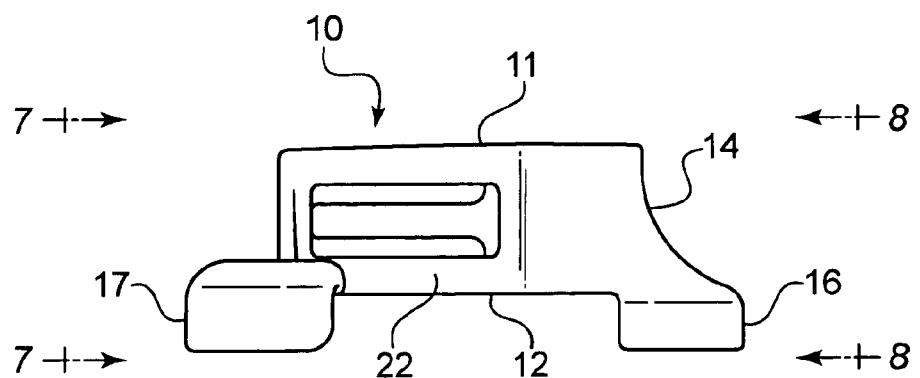
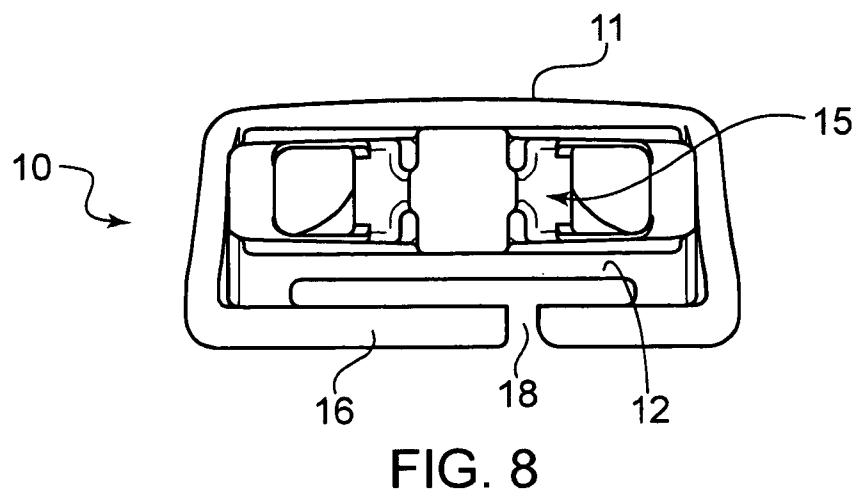
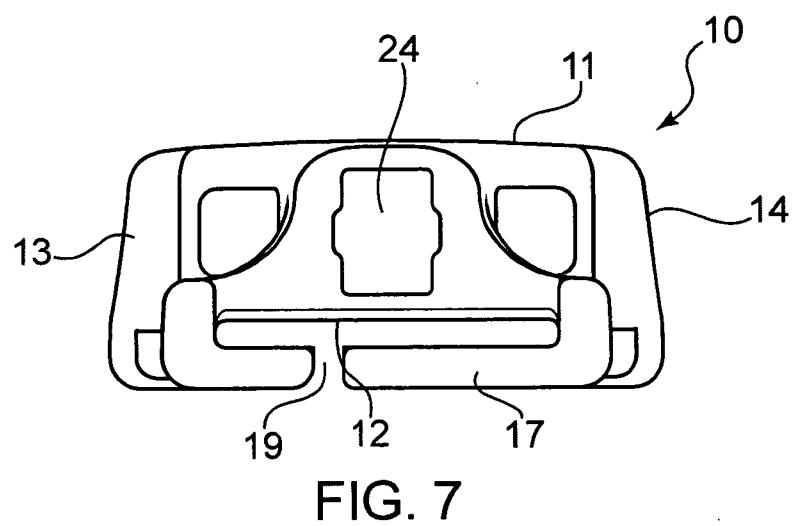
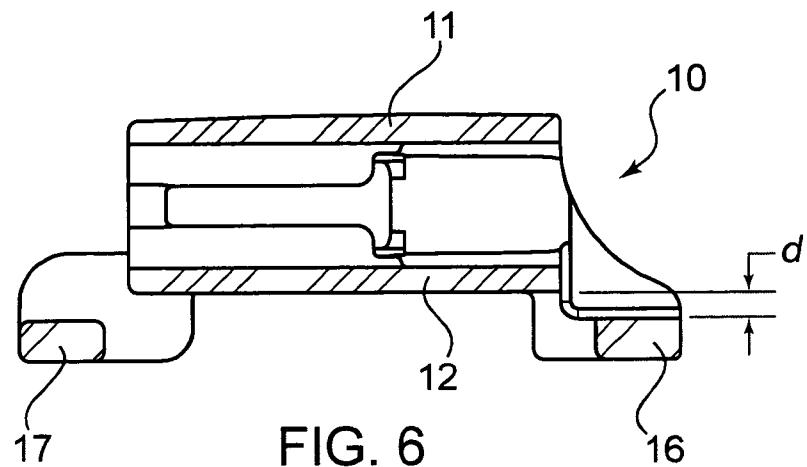


FIG. 5



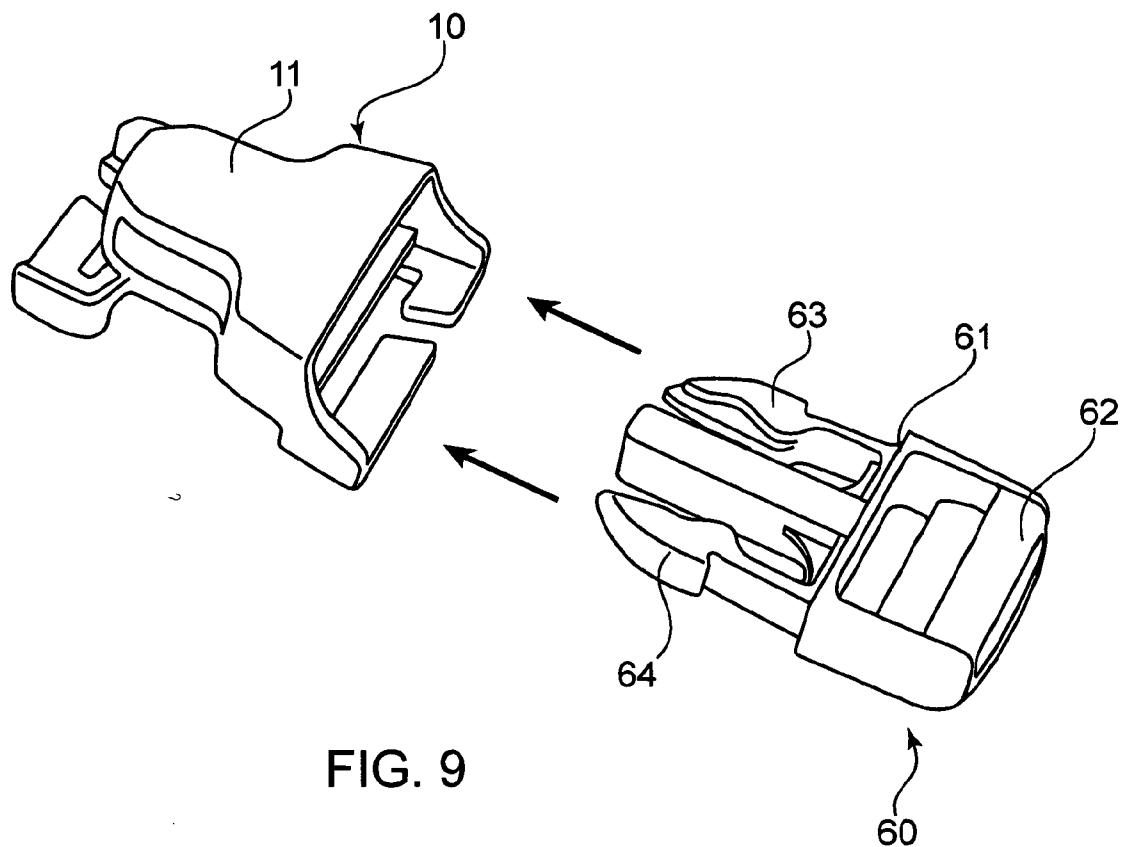


FIG. 9

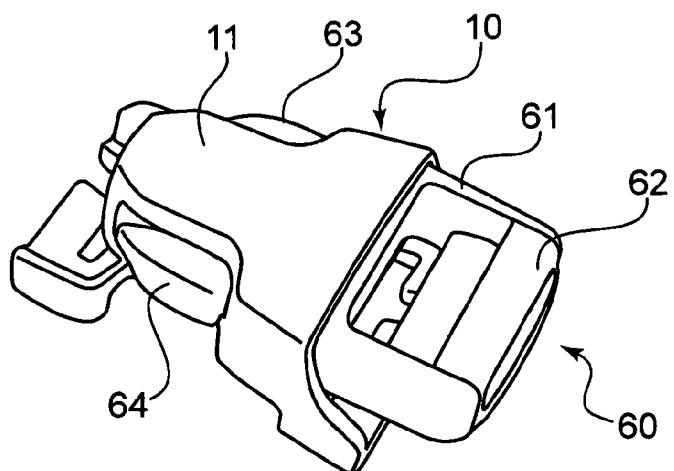
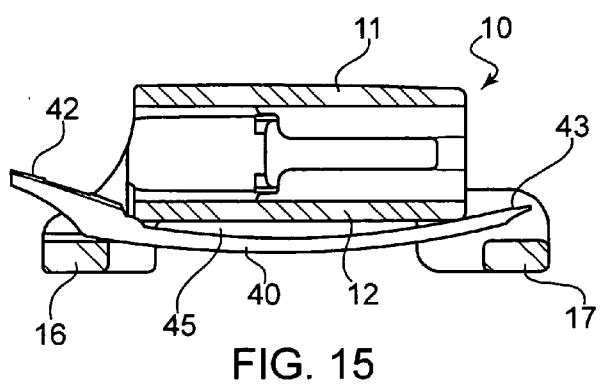
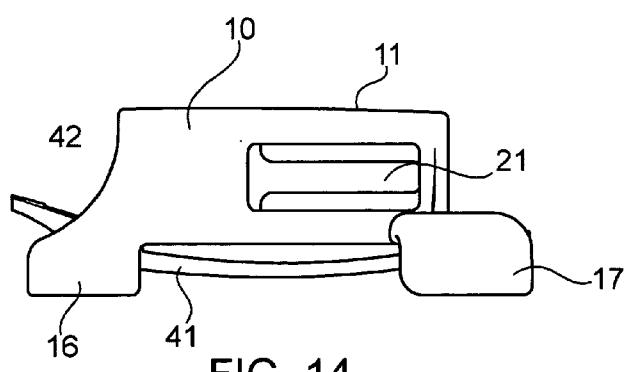
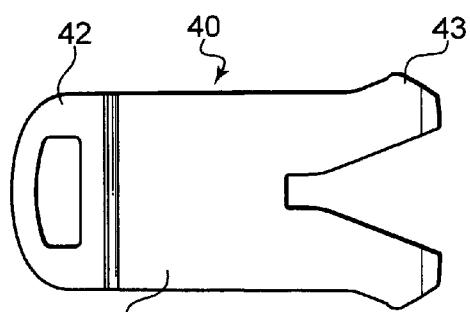
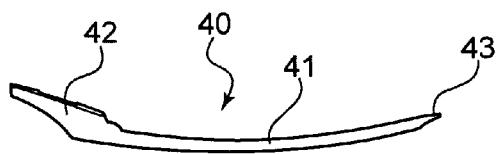
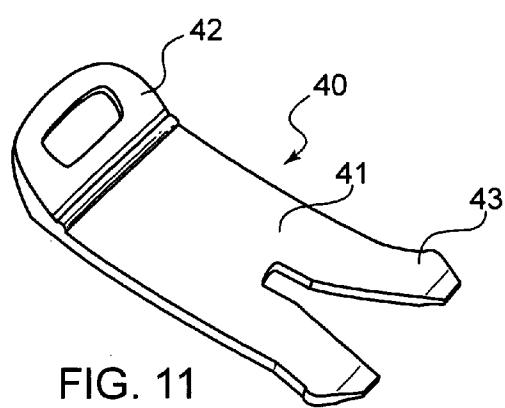


FIG. 10



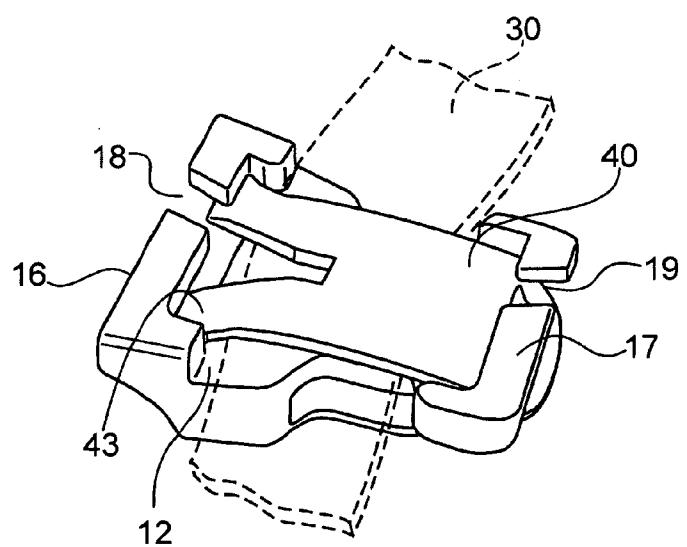
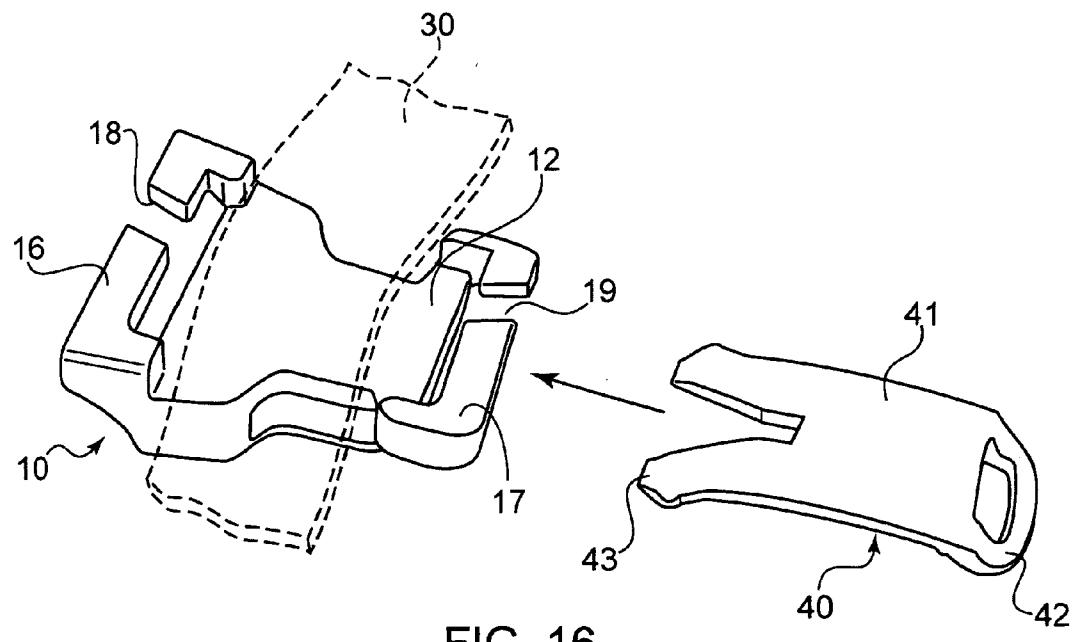


FIG. 17

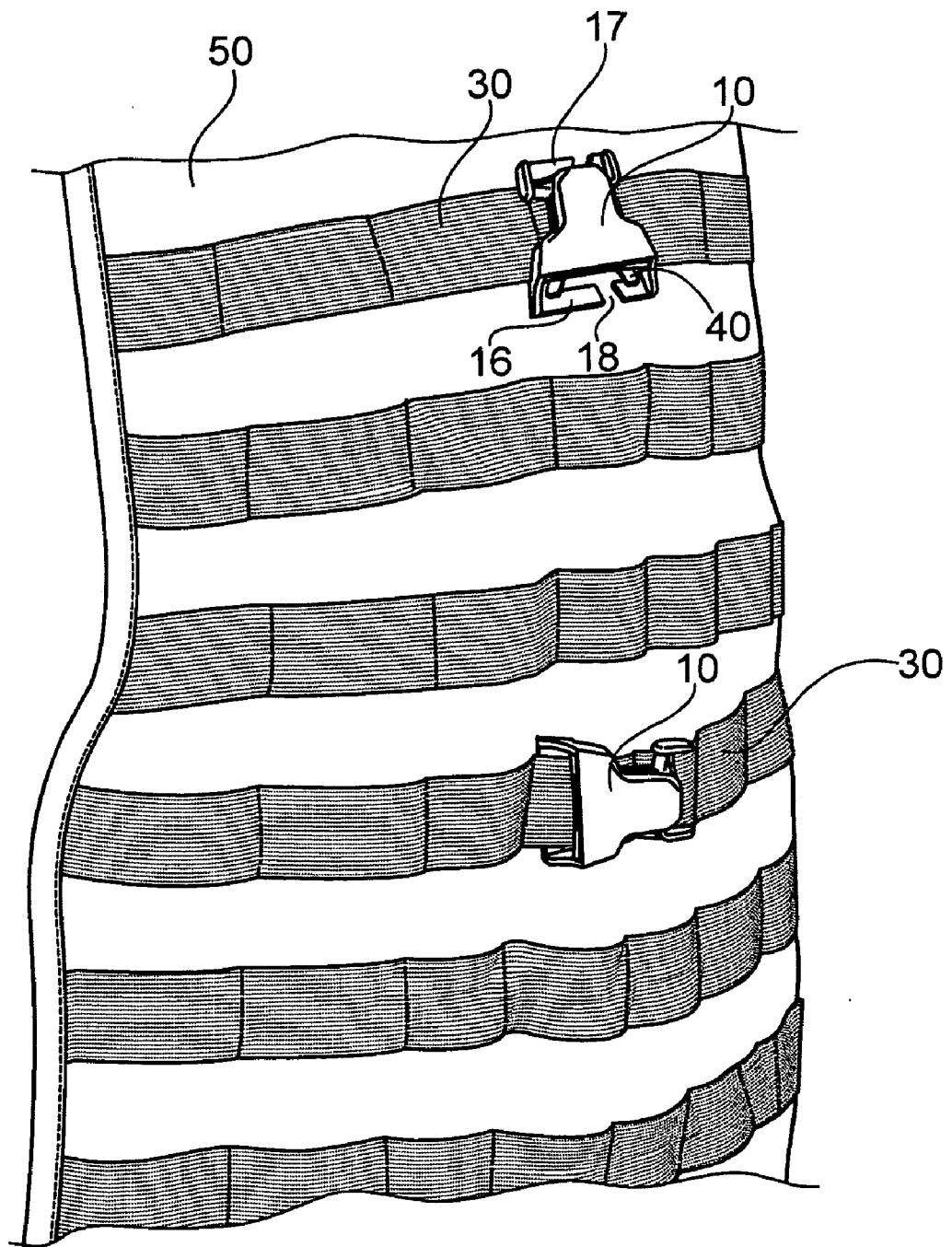


FIG. 18

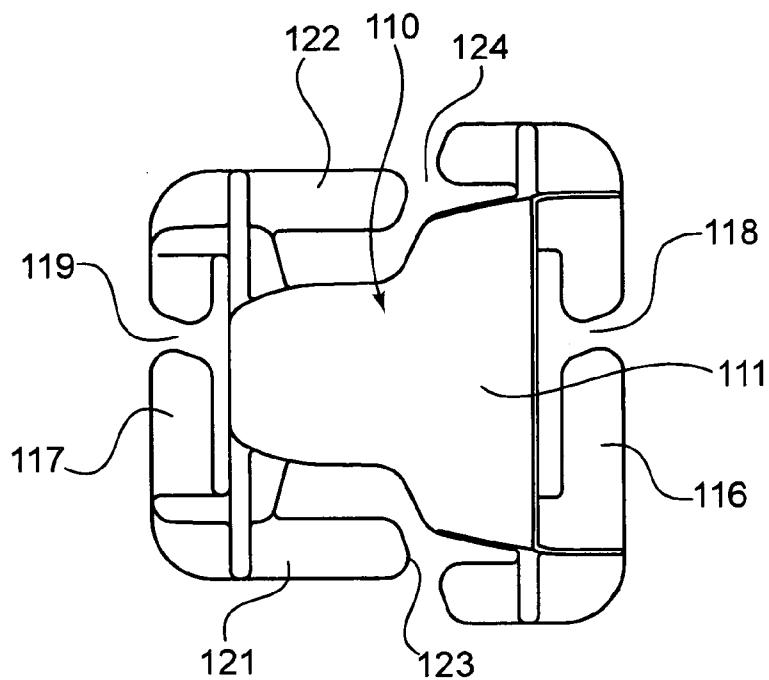


FIG. 19

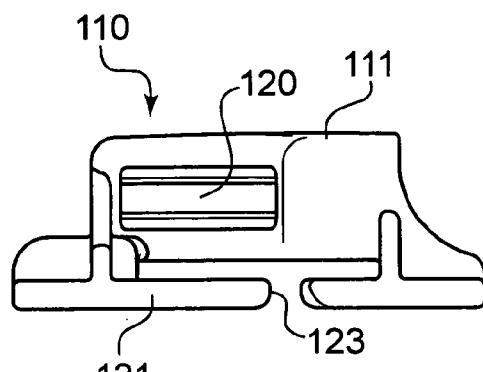


FIG. 20

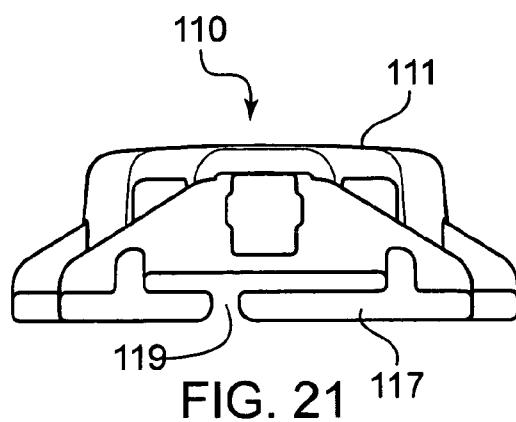


FIG. 21

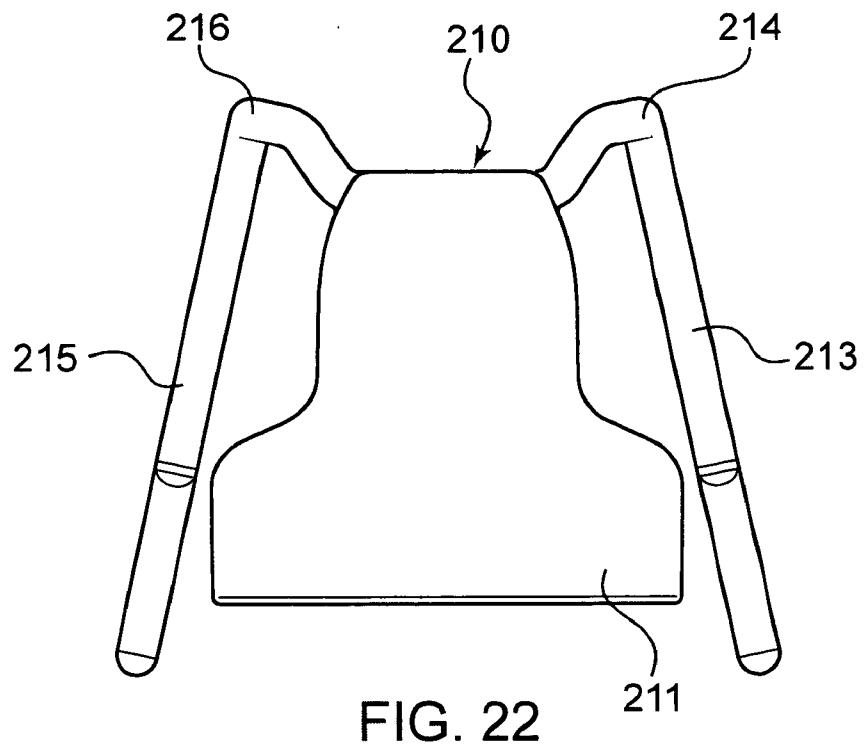


FIG. 22

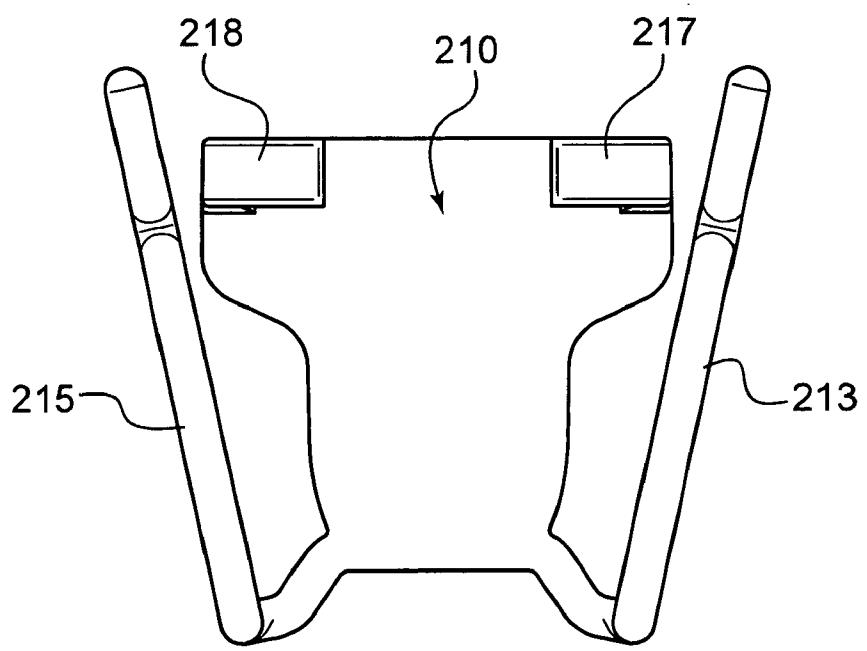


FIG. 23

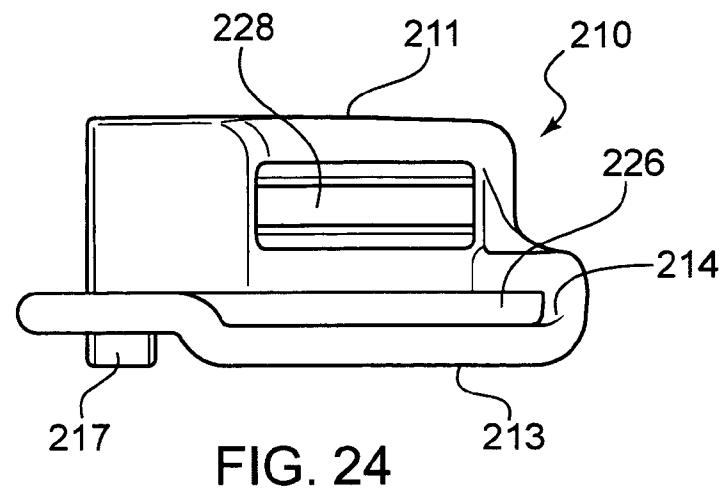


FIG. 24

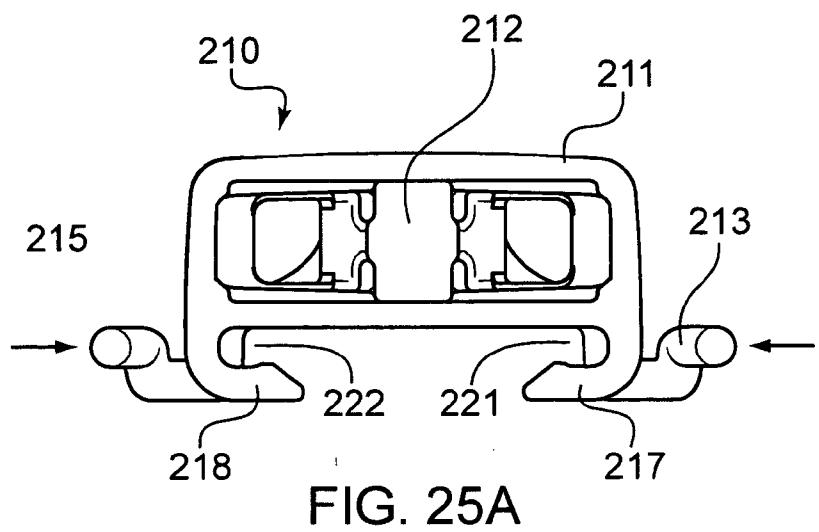


FIG. 25A

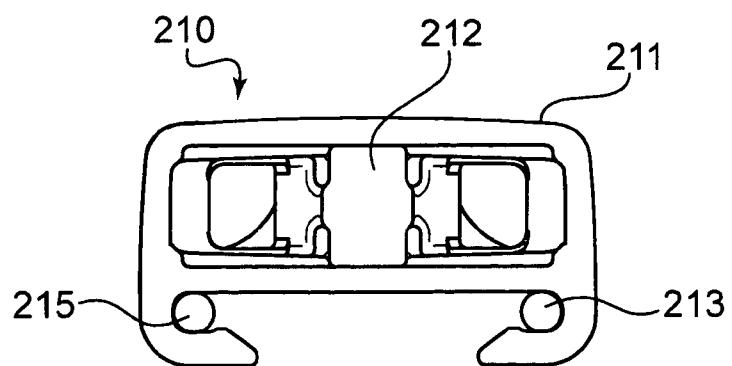


FIG. 25B

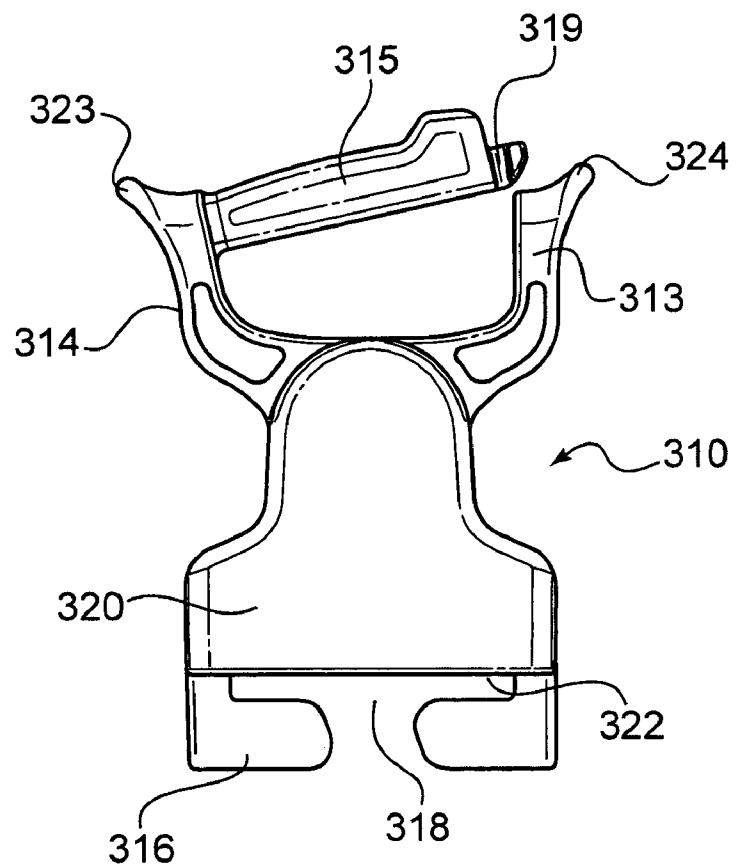


FIG. 26

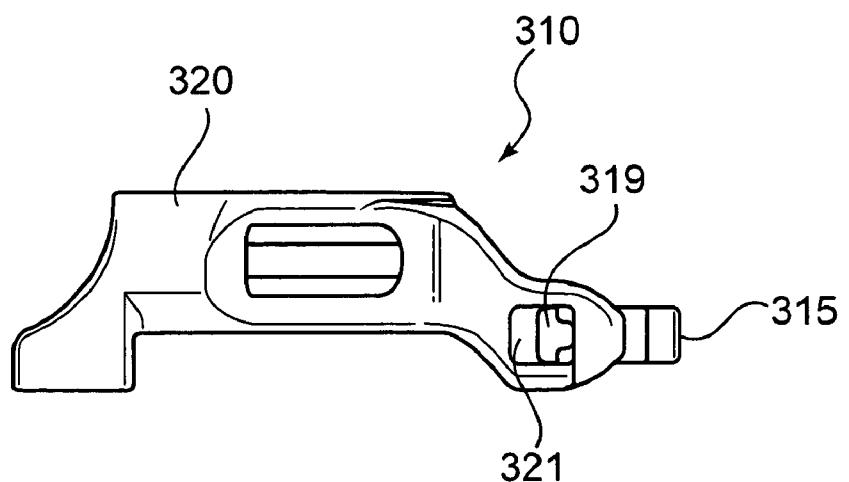


FIG. 27

REMOVABLE BUCKLE

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] This invention relates to a female buckle part that can be easily removed from a strap on which it is mounted. In particular, the invention relates to a female buckle part that can be mounted in different orientations on a strap, and which can be easily removed without damage to the buckle or strap.

[0003] 2. The Prior Art

[0004] Plastic two-piece buckle assemblies are commonly used to releasably connect two objects together, such as ends of a belt or a strap on a piece of luggage. These assemblies generally consist of a male part that is releasably snapped into a female part. Both the male and female parts can have strap retaining bars around which a strap is threaded or sewn to secure the buckle to the respective strap. An example of such a buckle is shown in U.S. Pat. No. 5,546,842 to Anscher, which shows a typical side-release type buckle, and U.S. Pat. No. 5,855,057, which shows an example of a center-push-button type buckle.

[0005] One disadvantage of these types of buckle is that the buckle cannot be easily removed from the strap, especially when the strap is sewn around the buckle. Removal of the buckle in this way requires either severing the strap or breaking the buckle.

[0006] There are many applications where a device must be securely attached to another object, but must be also easily removable. One situation is with protective vests, which are commonly worn by the military and law enforcement officers. It is often necessary to attach additional packs or other objects to the vests, so that they can be accessible by the user. However, these other objects must also be easily removable when they are not needed. It is also necessary that the objects be able to be placed on different areas of the vest, depending on the needs of the wearer. The vests are often equipped with many straps in all areas of the vest, which can then be used for attaching the additional packs, such as a tool kit, medicine pouch, flashlight holder, etc. The standard two-piece buckle assembly cannot be used for this application, as the buckle is too difficult to remove and place in a different location.

SUMMARY OF THE INVENTION

[0007] It is therefore an object of the invention to provide a buckle assembly in which at least one part of the two-piece buckle can be easily removed from the strap to which it is connected.

[0008] This object is accomplished by a buckle portion comprising a main buckle body with a hollow cavity, means for securing another buckle portion within the main body, and at least two strap securing bars connected to the main body. At least one of the securing bars has at least one free end that is not connected to the main body, to allow a strap to be releasably attached to the buckle portion by sliding an edge of the strap through a space adjacent the free end of the strap securing bar, and positioning the strap so that the strap is securely fixed between the strap securing bar and main body. In one embodiment, the strap securing bar can be configured so that there is a slot cut through the strap securing bar, thus creating two free ends, so that the strap is threaded through the slot and positioned so that it spans the slot. In an alternative embodiment, the strap securing bar is connected at only one end to the main body. The free end of the strap securing bar can be

snapped into a clamp on the main body after a strap has been threaded between the strap securing bar and the main body, thus securing the strap to the buckle portion. In another embodiment, one strap securing bar can have a slot, and the other can have a clamp.

[0009] The buckle portion can be configured to have two locking slots in the hollow body, to accommodate a typical side-release male buckle portion having two locking legs. Alternatively, the buckle portion can have a center push button mechanism to accommodate a male buckle portion having a single central locking leg. Any suitable locking mechanism can be employed with the buckle portion according to the invention.

[0010] Preferably, the strap securing bars are disposed opposite one another, with the main body being disposed between the strap securing bars. Each of the strap securing bars can have a slot cut therein or having a clamping arrangement to allow threading of a strap. This way, a strap that is secured to an object on both ends of the strap can still be easily attached to the buckle portion, as the strap is threaded in through the strap securing bars. In the embodiment containing the slots, the slots are preferably disposed in a central area of each strap securing bar, and are disposed at an angle that is not perpendicular to the longitudinal axis of the strap securing bar. This allows the strap to be threaded in more easily to the strap securing bars.

[0011] The main body has a front face, a rear face, two side walls a top opening and a bottom. In one embodiment, the strap securing bars are located adjacent to and run parallel with the top opening and bottom, respectively. The strap securing bars can be disposed so that a distance between the two strap securing bars is greater than a distance between the top opening and the bottom. The strap securing bars can also be configured to be wider than the width of the buckle. Since the buckle body can be somewhat narrow, the spaced-apart configuration of the strap securing bars allows the buckle portion to be attached to two straps that are spaced farther apart than the length of the main body and be attached to straps that are wider than the width of the main body.

[0012] In another embodiment, the strap securing bars are located adjacent to and run parallel with the side walls. Again, the strap securing bars can be disposed such that a distance between the two strap securing bars is greater than a distance between the side walls, to allow the buckle portion to be attached to straps that are spaced wider than a width of the main body.

[0013] In another embodiment, there is a securing plate removably inserted between the rear face of the main body and the strap securing bars. This allows the buckle portion to be convertible between orientations. Instead of threading the straps through the strap securing bars, the main body can be placed over a strap and the securing plate is then threaded between the strap securing bars and the rear face of the main body. The buckle portion can then be removed from the strap by sliding the securing plate out from beneath the strap. This securing plate can be used whether the strap securing bars are disposed parallel to the top opening and bottom of the main body, or parallel to the side walls of the main body. The securing plate has a forked end that is wider than the space within the strap securing bars, so that the forked end can be pressed inward to slide the securing plate into position, and then released, so that the forked end is biased outward and holds the securing plate in place on the buckle.

[0014] In a further embodiment, there are four strap securing bars, one disposed parallel and adjacent to the top opening, two disposed parallel to the side walls, and one disposed parallel to and adjacent the bottom. This way, the buckle can be positioned in any orientation on a set of straps, without needing the additional securing plate.

[0015] Preferably, the strap securing bars are offset from the main body in a plane located behind the rear wall of the main body. This allows the main body to be positioned above the straps, to allow easier manipulation of the entire buckle assembly. The strap securing bars can be placed either directly under the main body or spaced outwardly from the main body.

[0016] The buckle portion according to the invention is particularly useful on protective vests that are utilized by the military and law enforcement personnel. These vests can be equipped with a pattern of straps throughout the torso area, such as in an interlocking criss-cross manner. The buckle portions according to the invention can then be placed in any location and any orientation, depending on the needs of the individual user. The buckle portion, in combination with a corresponding male portion that is locked into it, can be used to secure a variety of objects to the vest, such as medical equipment, communications equipment, additional bags for storage, etc. The buckle portion according to the invention creates a very flexible modular arrangement that allows the wearer of the vest to customize the vest to suit his/her needs, in a simple and economical manner.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] Other objects and features of the present invention will become apparent from the following detailed description considered in connection with the accompanying drawings. It is to be understood, however, that the drawings are designed as an illustration only and not as a definition of the limits of the invention.

[0018] In the drawings, wherein similar reference characters denote similar elements throughout the several views:

[0019] FIG. 1 shows a front view of one embodiment of the female buckle portion according to the invention, with a strap threaded therethrough;

[0020] FIG. 2 shows a rear view of the buckle;

[0021] FIG. 3 shows a front view of the buckle;

[0022] FIG. 4 shows a rear view of the buckle;

[0023] FIG. 5 shows a side view of the buckle;

[0024] FIG. 6 shows a cross-sectional view along lines 6-6 of FIG. 3;

[0025] FIG. 7 shows a bottom view as seen from arrows 7 in FIG. 5;

[0026] FIG. 8 shows a top view as seen from arrows 8 in FIG. 5;

[0027] FIG. 9 shows a perspective view of a male portion being inserted into the female buckle portion;

[0028] FIG. 10 shows a perspective view of the male fully inserted into the female buckle portion;

[0029] FIG. 11 shows a perspective view of an securing plate for use with the buckle of FIG. 1;

[0030] FIG. 12 shows a side view of the securing plate;

[0031] FIG. 13 shows a top view of the securing plate;

[0032] FIG. 14 shows a side view of the buckle with the securing plate inserted therein;

[0033] FIG. 15 shows a cross-sectional view of the buckle arrangement of FIG. 14;

[0034] FIG. 16 shows an exploded view of how the securing plates is inserted into the buckle to secure a strap;

[0035] FIG. 17 shows a strap secured to the buckle by the securing plate;

[0036] FIG. 18 shows two buckles mounted on straps on an article of use;

[0037] FIG. 19 shows a top view of an alternative embodiment of the buckle according to the invention;

[0038] FIG. 20 shows a side view of the buckle of FIG. 19;

[0039] FIG. 21 shows a rear view of the buckle of FIG. 19;

[0040] FIG. 22 shows a top view of another embodiment of the buckle portion according to the invention;

[0041] FIG. 23 shows a bottom view of the embodiment of FIG. 22;

[0042] FIG. 24 shows a side view of the embodiment of FIG. 22;

[0043] FIG. 25A shows a front end view of the embodiment of FIG. 22 in an open position;

[0044] FIG. 25B shows the front end view of FIG. 25A in a locked position;

[0045] FIG. 26 shows a top view of another embodiment of the buckle portion according to the invention; and

[0046] FIG. 27 shows a side view of the embodiment of FIG. 26.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0047] Referring now in detail to the drawings, FIGS. 1-8 show a female buckle portion 10 according to one embodiment of the invention. Buckle portion 10 has a front face 11, a rear face 12, two side walls 13, 14, a hollow cavity and a top opening 15. Two locking slots 21, 22 are disposed in sidewalls 13, 14. Buckle portion 10 is configured to accept a standard male buckle portion, having two locking legs that snap into locking slots 21, 22. Alternatively, in an another embodiment (not shown), buckle portion 10 can be configured as a center-push button buckle, and can be configured to accept a male portion having a central leg that is released by depressing the push button. The mechanical aspects of the release system in buckle portion 10 and its interaction with a corresponding male buckle portion can be configured in any desired way, based on the needs of the manufacturer.

[0048] Buckle portion 10 can be secured to a strap 30 by two strap securing bars 16, 17. Each of strap securing bars 16, 17 has a slit 18, 19 therein to facilitate insertion of strap 30. The width of slits 18, 19 can be determined based on the needs of the manufacturer and the type of strap used. Preferably, slits 18, 19, are configured so that they do not run exactly perpendicular to the longitudinal expanse of strap retaining bars 16, 17. This allows straps 30 to be inserted around strap retaining bars 16, 17 with less effort. Slits 18, 19 are also disposed offset from the center of strap retaining bars 16, 17.

[0049] To secure buckle portion 10 to a strap 30, strap 30 is threaded through slits 18, 19 until it runs between strap retaining bars 16, 17 and rear face 12 of buckle portion 10. The position of buckle portion 10 can be adjusted by sliding it along strap 30 until a desired position is reached. Preferably, there is very little extra clearance once strap 30 is installed, so that buckle portion 10 remains in its position until moved by the user.

[0050] Strap securing bars 16, 17 are located offset from rear face 12 by a space d, shown in FIG. 6, so that strap 20 can fit between strap securing bars 16, 17 and the rear face 12 of buckle 10. Strap securing bars 16, 17 are also positioned

beyond the ends of buckle portion 10 so that a distance between strap securing bars 16, 17 is greater than an overall length of buckle portion 10. This allows small buckles to be used on articles having more widely spaced strap configurations. The positioning of strap securing bars with respect to buckle portion 10 can be adjusted by the manufacturer based on the intended use.

[0051] As shown in FIG. 7, the bottom of buckle portion 10 can have an aperture 24 therethrough to prevent dust and debris from collecting in the cavity formed in buckle portion 10.

[0052] As shown in FIGS. 9 and 10, buckle portion 10 is configured for use with a male portion 60, which has a base 61, a strap securing bar 62 and two locking legs 63, 64. Male portion 60 is snapped into female buckle portion 10 so that locking legs 63, 64 snap into locking slots 21, 22 of female buckle portion 10. Pressing locking legs 63, 64 inward allows locking legs 63, 64 to clear the locking slots and release male portion 60 from female buckle portion 10. Male portion 60 can be connected via strap securing bar 62 to any useful item, such as a carrying pouch, medical kit, hydration kit, weapon holder, etc. It forms a convenient modular assembly along with buckle portion 10, as the buckle assembly can be placed in a variety of locations and orientations on an article having several straps.

[0053] In the embodiment of FIGS. 1-10, strap 30 is threaded through buckle 10 so that strap 30 runs parallel to a longitudinal expanse of buckle 10, i.e., in a direction from the top to the bottom of the buckle or vice versa. Strap retaining bars could also be devised so that instead of being positioned adjacent the top and bottom of the buckle, they are positioned adjacent the side walls. This way, strap 30 would run perpendicular to the longitudinal expanse of buckle 10. Alternatively, the securing plate 40 shown in FIGS. 11-17 could be used along with buckle 10 to allow for different positioning of buckle 10 on strap 30.

[0054] Securing plate 40 comprises a body 41 having a handle portion 42 and a forked end portion 43. Body 41 is slightly curved, so that the ends are higher than the middle. Securing plate 40 is inserted between rear wall 12 of buckle 10 and strap retaining bars 16, 17, to create a space 45 for strap 30 to run perpendicular to the longitudinal expanse of buckle 10.

[0055] Strap 30 is attached to buckle 10 using securing plate 40 by placing buckle 10 on strap 30 (or vice versa) so that rear face 12 of buckle 10 faces strap 30, as shown in FIG. 16. Then, securing plate 40 is placed over strap 30, and forked end 43 is slid between rear face 12 and strap retaining bars 17 and then 16 until it is fully inserted, as shown in FIG. 17. The end of securing plate 40 is forked so that it can be pressed inward to fit though strap retaining bars 16, 17 until coming to a final position shown in FIG. 17. Here, end 43 is pressed against the sides of strap retaining bar 16 and held in place by the biasing force of forked end 43. This way, strap 30 is held securely between buckle 10 and securing plate 40. By having securing plate 40, buckle 10 can be placed on strap 30 in any orientation, depending on the needs of the user, without having to configure different buckles.

[0056] FIG. 18 shows buckle 10 installed on an item of use 50, such as a combat vest, which has a multitude of straps 30. Straps 30 are permanently sewn into position, so that they do not come loose. Standard buckles having closed strap retaining bars cannot be placed on straps 30 without freeing straps 30. Buckle 10 can be easily installed on straps 30 by sliding

straps 30 through slits 18, 19 on strap retaining bars 16, 17. As shown in FIG. 18, buckle 10 can be placed on strap 30 so that strap 30 runs perpendicular to a longitudinal expanse of buckle 10, by using securing plate 40 (as shown by the buckle on the top), or can be placed on strap 30 so that strap 30 runs parallel to a longitudinal expanse of buckle 10, by threading strap 30 directly through strap retaining bars 16, 17.

[0057] FIGS. 19-21 show an alternative embodiment of the buckle portion, in which there are four strap securing bars. In this embodiment, buckle portion 110 has strap securing bar 116 with slot 118 opposite the front opening of main body 111, strap securing bar 117 with slot 119 opposite the rear of the buckle, strap securing bar 122 with slot 124 opposite one of the side walls, and strap securing bar 121 with slot 123 opposite the other side wall. As shown in FIGS. 20 and 21, all of the strap securing bars are disposed offset from the rear wall of the buckle, to allow easier threading of straps. With this embodiment, buckle portion 110 can be placed on a strap in multiple orientations, without requiring a separate adjustment piece.

[0058] Another embodiment of the buckle portion of the invention is shown in FIGS. 22-25B. Here, buckle portion 210 comprises a main body 211 with a central opening 212. Strap securing bars 213, 215 are connected at one end 214, 216, respectively to main body 211. Strap securing bars 213, 215 are arranged parallel to the side walls having locking slots 228 (see FIG. 24) but can also be arranged parallel to central opening 212 and the rear of the buckle portion.

[0059] Strap securing bars 213, 215 are mounted underneath main body 211 so that a space 226 exists between strap securing bars 213, 215 and the underside of main body 211 (see FIG. 24). Space 226 is dimensioned sufficiently large so as to accommodate a strap threaded between strap securing bars 213, 215 and main body 211.

[0060] Strap securing bars 215, 216 are flexibly mounted to main body 211 so that they can be snapped into spaces 221, 222 of clamps 217, 218 positioned on the underside of main body 211 (see FIGS. 25A, 25B) to secure the other end of strap securing bars 213, 215 to main body 211. This way, a strap threaded between strap securing bars 215, 216 and main body 211 can be securely retained by buckle portion 210, with no risk of the strap slipping out of buckle portion 210. Strap securing bars 213, 215 can be released from clamps 217, 218 by pressing the ends of strap securing bars 213, 215 together until they clear clamps 217, 218.

[0061] Yet another embodiment of the buckle portion is shown in FIGS. 26-27. In this embodiment, buckle portion 310 has a strap securing bar 316 with a slot 318 located adjacent the open end 322 of main buckle body 320. At the other end strap securing bar 315 is connected at one end to arm 314. Strap securing bar 315 can be snapped into engagement with other arm 313 by pressing downward on bar 315 until plug 319 snaps into a clamp formed by socket 312 (shown in FIG. 27). Bar 315 can be released by pressing outwardly on shoulders 323 and 324 until plug 319 is released from socket 312. This type of arrangement could also be used in place of strap securing bar 316 with slot 318, so that two snap-release type securing bars are used on the same buckle.

[0062] Accordingly, while only a few embodiments of the present invention have been shown and described, it is obvious that many changes and modifications may be made thereunto without departing from the spirit and scope of the invention.

What is claimed is:

1. A buckle portion, comprising:

a main body having a hollow cavity;

means for securing another buckle portion within the hollow cavity; and

at least two strap securing bars connected to the main body, at least one of said at least two strap securing bars having a free end, such that said buckle portion can be attached to a strap by sliding an edge of the strap through a space created by the free end and positioning the strap so that the strap is disposed between the strap securing bar and the main body.

2. The buckle portion according to claim 1, wherein the at least one strap securing bar has a slot cut therethrough, such that the strap securing bar has two free ends formed by the slot.

3. The buckle portion according to claim 1, wherein the main body has a front face, a rear face, two side walls, a top opening and a bottom, and wherein the strap securing bars are located adjacent to and run parallel with the top opening and bottom, respectively.

4. The buckle portion according to claim 3, wherein a distance between the two strap securing bars is greater than a distance between the top opening and the bottom.

5. The buckle portion according to claim 1, wherein the main body has a front face, a rear face, two side walls, a top opening and a bottom, and wherein the strap securing bars are located adjacent to and run parallel with the side walls.

6. The buckle portion according to claim 5, wherein a distance between the two strap securing bars is greater than a distance between the side walls.

7. The buckle portion according to claim 1, wherein the main body has a top opening and two locking slots disposed on opposite side walls, for receiving a buckle portion having two locking legs.

8. The buckle portion according to claim 3, further comprising a securing plate removably inserted between the rear face and the strap securing bars, such that the buckle portion can be attached to a strap by threading the strap between the securing plate and rear face of the main body.

9. The buckle portion according to claim 1, wherein the strap securing bars are offset from the main body in a plane located behind the rear face of the main body.

10. The buckle portion according to claim 2, wherein the slot is disposed at an angle that is not perpendicular to a longitudinal expanse of the strap securing bar.

10. The buckle portion according to claim 1, wherein there are four strap securing bars.

12. The buckle portion according to claim 2, wherein each of the strap securing bars has a slot cut therein.

13. The buckle portion according to claim 1, wherein at least one of the strap securing bars is movably connected to the main body at one end of the strap securing bar, and further comprising a securing device connected to the main body, such that the free end of the strap securing bar is adapted to be snapped into the securing device to secure the free end to the main body.

14. The buckle portion according to claim 13, wherein there are two strap securing bars having free ends, and two securing devices, and wherein said two strap securing bars having free ends are disposed adjacent side walls of the buckle portion.

15. The buckle portion according to claim 14, wherein the securing devices in the form of a clamp and are disposed on a

rear face of the main body, and wherein the strap securing bars are positioned below a rear face of the main body.

16. The buckle portion according to claim 13, wherein one of the strap securing bars is secured with the securing device, and the other one of the strap securing bars is rigidly connected to the main body and has a slot cut therethrough for passage of a strap.

17. A buckle assembly comprising:

a female buckle portion comprising:

a main body having a hollow cavity; two locking slots in side walls of the main body; and at least two strap securing bars connected to the main body, said at least one of said strap securing bars having a free end, such that said buckle portion can be attached to a strap by sliding an edge of the strap through a space created by the free end and positioning the strap so that the strap is disposed between the strap securing bar and the main body; and

a male buckle portion comprising a base and two locking legs, such that inserting the male buckle portion into the female buckle portion causes the locking legs to snap into the locking slots and lock the male buckle portion to the female buckle portion.

18. The buckle assembly according to claim 17, wherein the at least one strap securing bar has a slot cut therethrough, such that the strap securing bar has two free ends formed by the slot.

19. The buckle portion according to claim 17, wherein the main body has a front face, a rear face, two side walls, a top opening and a bottom, and wherein the strap securing bars are located adjacent to and run parallel with the top opening and bottom, respectively.

20. The buckle portion according to claim 19, wherein a distance between the two strap securing bars is greater than a distance between the top opening and the bottom.

21. The buckle portion according to claim 17, wherein the main body has a front face, a rear face, two side walls, a top opening and a bottom, and wherein the strap securing bars are located adjacent to and run parallel with the side walls.

22. The buckle portion according to claim 21, wherein a distance between the two strap securing bars is greater than a distance between the side walls.

23. The buckle portion according to claim 17, wherein the main body has a top opening and two locking slots disposed on opposite side walls, for receiving a buckle portion having two locking legs.

24. The buckle portion according to claim 19, further comprising a securing plate removably inserted between the rear face and the strap securing bars, such that the buckle portion can be attached to a strap by threading the strap between the securing plate and rear face of the main body.

25. The buckle portion according to claim 17, wherein the strap securing bars are offset from the main body in a plane located behind the rear face of the main body.

26. The buckle portion according to claim 18, wherein the slot is disposed at an angle that is not perpendicular to a longitudinal expanse of the strap securing bar.

27. The buckle portion according to claim 17, wherein there are four strap securing bars.

28. The buckle portion according to claim 18, wherein each of the strap securing bars has a slot cut therein.

29. The buckle portion according to claim 17, wherein said at least one strap securing bar is movably connected to the main body at one end of the strap securing bar, and further

comprising at least securing device connected to the main body, such that the free end of the strap securing bar is adapted to be snapped into the securing device to secure the free end to the main body.

30. The buckle portion according to claim **29**, wherein there are two strap securing bars having free ends, and two securing devices, and wherein said two strap securing bars having free ends are disposed adjacent side walls of the buckle portion.

31. The buckle portion according to claim **30**, wherein the securing devices are in the form of clamps and are disposed on a rear face of the main body, and wherein the strap securing bars are positioned below a rear face of the main body.

32. The buckle portion according to claim **29**, wherein one of the strap securing bars is secured with the securing device, and the other one of the strap securing bars is rigidly connected to the main body and has a slot cut therethrough for passage of a strap.

33. An article, comprising:

a surface with a plurality of straps sewn thereon; and at least one buckle portion attached to at least one of the plurality of straps, the buckle portion comprising:

a main body having a hollow cavity; means for securing another buckle portion within the hollow cavity; and

at least two strap securing bars connected to the main body, at least one of said strap securing bars having a free end, such that said buckle portion can be attached to a strap by sliding an edge of the strap through a space created by the free end and positioning the strap so that the strap is disposed between the strap securing bar and the main body.

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