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(54) Device for transportation of a rifle

(57) The invention relates to an arrangement for the transportation of a rifle, wherein the arrangement is intended to be attached to a rucksack. The arrangement comprises an upper part (2) arranged to receive a rifle stock, wherein the upper part (2) is arranged to be attached to a first of the two shoulder straps of the rucksack. The upper part (2) comprises a U-shaped holder (11). The arrangement further comprises a lower part (1) arranged to be attached to a waist belt of the rucksack, said lower part (1) comprises a pocket (13) arranged to receive a rifle butt. The pocket (13) has a base part and a side part along a first side and the pocket (13) is open upwards and along a second side.

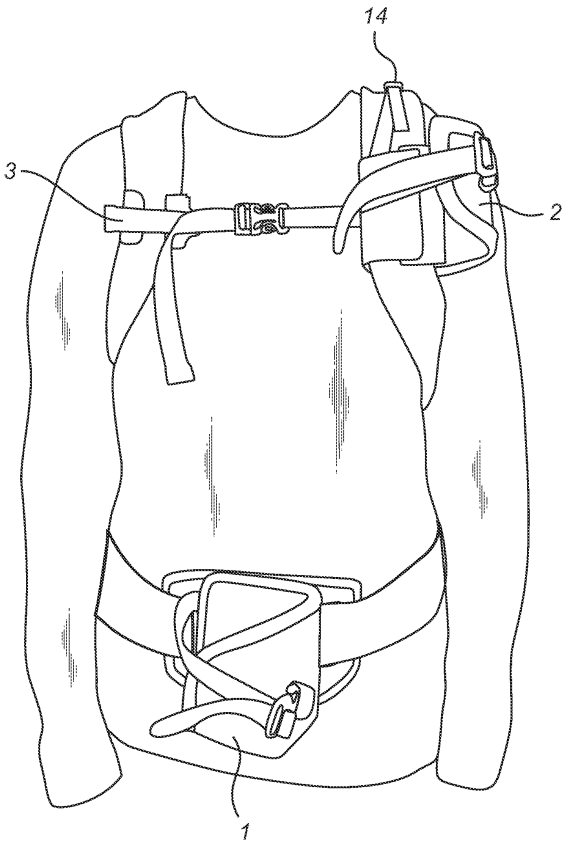


Fig. 2

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to a device that allows a user to carry a rucksack and a rifle in an easily accessible and ergonomic manner that optimizes the mobility of the user. It is a matter of fact that is important for a user to be able to bring with him/her food, spare clothes, ammunition and other equipment during hunting, or otherwise moving off-road, in a rucksack while still being able to carry a weapon without having to sacrifice freedom of movement and without undue extra strain on certain parts of the body. A rifle weighs approximately 3-5 kg and creates a great strain on a user during shorter as well as longer periods of carrying thereof and will affect a user's skills in a situation where the rifle has to be fired.

BACKGROUND OF THE INVENTION

[0002] During hunting, and other occasions during which a rifle is to be carried while moving through more or less rough terrain, a great need of bringing a rucksack exists. A user needs a rucksack to carry clothes, food, ammunition and other equipment. There is, however, no good solution for carrying a weapon while also carrying a rucksack. One known solution comprises a weapon sling which is slipped either over one shoulder or diagonally over the user's body. When a rifle is carried with such a sling on one shoulder or over the head an imbalance is created which causes undue strain on the shoulders, the back and the neck and this quickly becomes very fatiguing.

[0003] There are other solutions for carrying a rifle on a rucksack and the most common principles comprises the rifle being attached to either side of the rucksack or between the rucksack and the back of a user. These solutions do, however, also create an imbalance since the centre of gravity of the rucksack is displaced. Carrying a rifle in a sling or a harness, either on one side or straight over the body, causes an uneven load since the rifle causes an imbalance and is not attached in a noiseless and ergonomic manner.

[0004] Carrying a rifle on the back is applicable during transportation but is a disadvantage in a shooting situation where the weapon has to be immediately available and it also implies a safety risk since the weapon is out of the field of vision. If a user comes to a fall while carrying a rifle in a sling in front on the body he or she may put out the hands to break the fall but a rifle dangling in a weapon sling is uncontrollable and may easily cause damage. If the rifle is carried by hand the muscles in the users arm will be exhausted. A rifle weighs approximately 3-5 kg which creates a great strain on the user when carried during shorter as well as longer periods of time. Improper stress on the back, shoulders and neck together with strained arms affect a user's endurance and capability in a negative manner.

[0005] Traditionally, the typical user when it comes to hunting or military use has been a right-handed male person. There are, however, a large number of female persons as well as left-handed shots, both among civilians and military users.

[0006] None of the existing solutions on the market today creates improved ergonomics providing a balance between the rucksack and the weapon.

[0007] US3869074 differs essentially from the present construction concerning field of application as well as construction. It is designed with a separate waist belt and transverse straps which make it impossible to combine it with a rucksack. The weapon is hanging below the waist which affects a user when moving since the legs of a user will bump against the rifle butt. The weapon is not held in position in that prior art. The transverse chest strap ends up below the arm pit of a female user, or, alternatively, over the breasts. It puts on load to the carrying shoulder forwards and towards the side which creates an imbalance and it is a problem when carrying a rifle while moving.

[0008] US5927574 differs essentially from the present construction concerning field of application as well as construction. It is designed with a separate waist belt and transverse straps which make it impossible to combine it with a rucksack. It puts on load to the carrying shoulder forwards and towards the side which is a problem when carrying a rifle while moving since the muscular system becomes exhausted and affects the user in a negative manner.

[0009] US6749099 differs essentially from the present construction concerning field of application as well as construction. It discloses the carrying of the weapon at one side which creates an uneven load. The user must hold the weapon with one arm which stresses the musculature of the arm. Female users will have problems since the weapon will rub against the side of the bust.

[0010] US6152338 differs essentially from the present construction concerning field of application as well as construction. It discloses the carrying of the weapon at one side attached to a backpack. The construction creates an uneven load since the weight will be transferred towards the side on which the weapon is carried. US6152338 is not adapted to female users since positioning of larger weapons on one side is on the one hand physically demanding and on the other hand will rub against the bust. Weapons attached to a fixed device with the rifle stock being in the same height as the legs of a user will affect the movability since the construction will rub against the leg while moving. If the weapon is not fixedly secured, movability and balance will be affected when the weapon swings out from the body.

[0011] US6336576 differs essentially from the present construction concerning field of application as well as construction. It discloses a rucksack to be carried on the belly of a user. The construction causes imbalance due to a forward displacement of the weight together with the fact that it is hard to distribute the weight of the weapon

on a horizontal mounting. It is not adapted to be combined with a rucksack due to the fact that, among other things, it would involve two sets of shoulder straps. Due to physical assets, the construction is not suited for female hunters unless the rucksack is carried in a low position which in turn would affect the movability of the user.

[0012] US5810219 differs essentially from the present construction concerning field of application as well as construction. It discloses a harness which is to be carried by means of straps on the back and it is not adapted to be combined with a rucksack. The weapon is carried on the back and causes the point of balance to move backwards which creates an imbalance. In a shooting situation, the user has to take off the harness from the back which is time consuming and generates noise.

[0013] US6763987 differs essentially from the present construction concerning field of application as well as construction. It discloses a solution where the rifle is packed up in the rucksack with the barrel downwards. The weapon hangs below the waist which affects the user when moving as the rifle bumps against the legs. This way of carrying a weapon obstructs moving and creates an imbalance since the centre of gravity is moved backwards. The weapon is packed up in the rucksack which has to be taken off and the weapon has to be unpacked in a shooting situation.

[0014] US6695188 differs essentially from the present construction concerning field of application as well as construction. It discloses a rucksack to be carried on the belly of a user while functioning as a camera stand.

[0015] SE505755 differs essentially from the present construction concerning field of application as well as construction. It discloses a construction where the weapon is carried in a regular weapon sling having a quick-coupling to unbind the weapon. That patent application is designed with a transversal strap which does not allow a combination with a rucksack. It burdens a user laterally and forwardly and it is attached in a loose manner which is a problem when carrying a weapon while moving.

SUMMARY OF THE INVENTION

[0016] In a shooting situation it is important that the rifle can be detached in a fast, efficient and silent manner. This object is achieved by an arrangement according to the present invention as defined in claim 1 of the appended claims. Thus, in accordance with the present invention there is provided an arrangement for the transportation of a rifle, wherein the arrangement is intended to be attached to a rucksack. The arrangement comprises an upper part arranged to receive a rifle stock and the upper part is arranged to be attached to a first of the two shoulder straps of the rucksack. The arrangement further comprises a lower part which is arranged to be attached to a waist belt of the rucksack and the lower part comprises a pocket arranged to receive a rifle butt. The pocket has a base part and a side part along a first side and it is open upwards and along a second side. The upper part comprises a U-shaped holder and a strap arranged to secure a rifle stock within the U-shaped holder. The U-shaped holder further comprises a metal filament arranged to make the U-shaped holder ductile. Instead of a metal filament, other solutions are possible as well, such as moulded plastic elements or similar. Since the pocket is open upwards and along a side, it is very easy to detach the rifle in a silent, fast and efficient manner. The arrangement provides safe handling of the weapon since a user can have it under control at all times.

[0017] The construction can be used for right- or left handed persons and can be used with most types of rifles. The construction is suitable for both male and female users. The construction is suited for both civil and military use.

[0018] For optimized freedom of movement it is necessary that the rifle is secured against the body and that it is attached in a way and height such that it does not affect leg or arm movements. In a suddenly arisen shooting situation it is decisive that a user can make the rifle accessible without any unnecessary movements or noises that may disturb the game/target. All sorts of hunters/users experience the above mentioned problems to different extents and shall be able to make use of an arrangement according to the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] The invention will now be described in more detail and with reference to the appended drawings in which:

Fig.1 is a schematic front view of an embodiment of an arrangement of the invention with a rifle.

Fig. 2 is a schematic front view of an embodiment of an arrangement of the invention without a rifle.

Fig. 3 shows schematic back- and front views of a lower part of the arrangement of an embodiment of the invention.

Fig. 4 is a schematic top view of a lower part of the arrangement of an embodiment of the invention.

Fig. 5 is a schematic front view of an upper part of the arrangement of an embodiment of the invention.

Fig. 6 is a schematic top view of an upper part of the arrangement of an embodiment of the invention.

DESCRIPTION OF PREFERRED EMBODIMENT

[0020] In figure 1 the arrangement according to the invention is shown from the front (right handed shot) attached to a rucksack and with a rifle secured thereto. The lower part 1 comprises a pocket 13 having a strap 6 and a quick coupling mounted to a plate having two carriers 4, through which carriers 4 the waist belt of the rucksack is threaded. The rifle butt is secured in pocket 13. The size of the pocket 13 can be adjusted at the upper edge by means of a strap 6 with a quick coupling for tightening around the rifle butt. The pocket 13 is angled in order to

fit around the rifle butt and also comprises an aperture 7 to avoid that water cumulates within the pocket. Due to the shape of the lower part 1, the rifle butt remains in position when standing in an upright position even if the strap 6 is unlocked. The upper part 2 is attached by means of a hook-and-loop fastener and comprises a U-shaped holder 11, a vertical strap with a buckle and a horizontal chest strap with a hook-and-loop fastener. The upper part 2 is attached around either shoulder strap of the rucksack with a hook-and-loop fastener which can be adjusted to fit shoulder straps of various sizes. The chest strap is attached to the opposite shoulder strap by means of a hook-and-loop fastener and is connected to the upper part 2 with a strap and a quick coupling that can be adjusted. If the rucksack has a chest strap, the chest strap of the present invention may be used anyway in order to further stabilize the rifle. The upper part 2 can be vertically adjusted by means of a vertical strap with a coupler which is attached to the upper part of the shoulder strap towards the rucksack. The vertical strap allows the positioning of the upper part 2 depending on the height of the back of the user for optimal comfort. The rifle is secured to the upper part 1 in a holder 11 which is shaped around the rifle stock in the shape of a U and is closed by means of a strap and a quick coupling. The holder comprises a metal filament such that the form can be maintained. Instead of a metal filament, other solutions are possible as well, such as moulded plastic elements or similar. Due to the shape of the upper part 2, the rifle stock remains in position when standing in an upright position even if the strap is unlocked. In order to detach the rifle, in this case a right handed shot, the user detaches the rifle from the upper part 1 with his/her left hand and at the same time he/she uses the right hand to detach the rifle from the lower part 2. The quick couplings are designed such that they can be released using one hand only. The shape of the upper part 2 and the lower part 1 is such that the rifle remains in position when standing in an upright position until the user lifts the rifle.

[0021] The diagonal position of the rifle at the front of a user's body creates a balance against the weight of the rucksack and acts relieving on the back, shoulders and the neck. The rifle butt is centrally positioned in the lower part 1 in waist height which is decisive for a moving user. Neither arm-, nor leg movement is affected. When the rifle is positioned in waist height diagonally over the users torso no additional stress is put on neck or arms, in contrast to carrying a rifle along the side of the body, on the back or by hand.

[0022] The rifle stock is positioned in the upper part 2 against either shoulder strap of the rucksack, depending on whether the user is a right or left handed shot. Arm or head movements are not affected. The stock is stabilized through the fixing by the chest strap to the opposite shoulder strap, thereby a further balancing and stabilising of the upper part 2 is obtained and a rebalancing of the side forces is achieved. By way of the upper part 2 and the vertical strap, the arrangement is adaptive independent of the length of the back of a user. To achieve optimal movability, the weapon has to be correctly positioned for the individual user. The arrangement is very adaptive and can be adjusted for minimal stress on the back, shoulders and neck.

[0023] Through the two-handed grip of the arrangement, the rifle can be detached immediately when required. Through its positioning on the front of the user, the arrangement is also easy to access and provides high safety since a user has immediate control over the rifle. The rifle is protected since the user has both hands to put out to break a fall.

[0024] The choice of materials and the design is chosen for hunting and other occasions where a rifle should be carried together with a rucksack in rough terrain and in fair weather or foul. The material is hardwearing; silent when in use and the design does not cause noise during movement.

[0025] Figure 2 shows the arrangement from the front, in this case a right handed shot, attached to a rucksack without a rifle. The lower part 1 of the arrangement with pocket 13 where the rifle butt is placed and upper part 2 where the rifle stock is placed. The lower part 1 is provided with a strap having a buckle at its upper edge to secure the butt in position and can be opened with a one-handed grip. The upper part 2 is attached with a hook-and-loop fastener around the shoulder strap of the rucksack, left side. The chest strap is positioned on the opposite shoulder strap with a hook-and-loop fastener and is attached to the upper part 2 with a strap and a quick coupling is provided centrally on the chest strap to facilitate removal of the rucksack. If the rucksack has a chest strap, the chest strap of the present invention may be used anyway in order to further stabilize the rifle. The upper part 2 is provided with a U-shaped holder 11 where the rifle stock is positioned. The U-shaped holder 11 comprises a metal filament such that it can preserve its shape. Instead of a metal filament, other solutions are possible as well, such as moulded plastic elements or similar. The holder 11 can be closed by means of a strap and a quick coupling. The vertical strap of the upper part 2 is intended to allow the upper part 2 to be positioned in accordance with a height of the back of a user and the vertical strap is secured to the upper stretch strap of the shoulder strap.

[0026] Figure 3 shows the lower part 1, not mounted. The carriers 4 in the back plate can be used to position the lower part 1 either to the right, or to the left or centrally above the lock device of the waist belt of the rucksack. Since it is sewn up from a hard wearing material and provided with different sorts of padding, the pocket 13 is stabilized and will retain its shape. The angled pocket 13 and the locking strap secure the rifle in the correct position and the strap can be detached with simple one-handed grip.

[0027] Figure 4 shows the lower part 1 seen from above and from the right, not mounted. It shows the interior with reinforcements and friction enhancing materials as well as opening 7. A hard wearing lining protects

the rifle and the arrangement from wear. The aperture 7 is to divert water and to achieve optimal fit against the rifle butt.

[0028] Figure 5 shows the upper part 2 from the front, right handed shot. The upper part 2 is attached with a hook-and-loop fastener around the shoulder strap of the rucksack, left side. The chest strap is positioned on the opposite shoulder strap with a hook-and-loop fastener and is attached to the upper part 2 with a strap and a quick coupling is provided centrally on the chest strap to facilitate removal of the rucksack. If the rucksack has a chest strap, the chest strap of the present invention may be used anyway in order to further stabilize the rifle. The upper part 2 is provided with a U-shaped holder 11 where the rifle stock is positioned. The U-shaped holder 11 comprises a metal filament such that it can preserve its shape. Instead of a metal filament, other solutions are possible as well, such as moulded plastic elements or similar. The holder 11 can be closed by means of a strap and a quick coupling which can be opened with a one-handed grip. The vertical strap of the upper part 2 is intended to allow the upper part 2 to be positioned in accordance with a height of the back of a user and the vertical strap is secured to the upper stretch strap of the shoulder strap. The hook-and-loop fastener can be adjusted according to the width of the shoulder strap of the rucksack. The interior is lined with a hard wearing and silent material that will not wear against the weapon.

[0029] Figure 6 shows the upper part 2 seen from above, right handed shot. The upper part 2 is attached with a hook-and-loop fastener around the shoulder strap of the rucksack, left side. The chest strap is positioned on the opposite shoulder strap with a hook-and-loop fastener and is attached to the upper part 2 with a strap. A quick coupling is provided centrally on the chest strap to facilitate removal of the rucksack. If the rucksack has a chest strap, the chest strap of the present invention may be used anyway in order to further stabilize the rifle. The upper part 2 is provided with a U-shaped holder 11 where the rifle stock is positioned. The U-shaped holder 11 comprises a metal filament such that it can preserve its shape. Instead of a metal filament, other solutions are possible as well, such as moulded plastic elements or similar. The holder 11 can be closed by means of a strap and a quick coupling which can be opened with a one-handed grip. The vertical strap of the upper part 2 is intended to allow the upper part 2 to be positioned in accordance with a height of the back of a user and the vertical strap is secured to the upper stretch strap of the shoulder strap.

Claims

1. Arrangement for the transportation of a rifle, wherein the arrangement is intended to be attached to a rucksack and wherein said arrangement comprises

- an upper part (2) arranged to receive a rifle stock, wherein the upper part (2) is arranged to be attached to a first of the two shoulder straps of the rucksack, and wherein the upper part (2) comprises a U-shaped holder (11);
- a lower part (1) arranged to be attached to a waist belt of the rucksack, wherein the lower part (1) comprises a pocket (13) arranged to receive a rifle butt, wherein the pocket (13) has a base part and a side part along a first side and wherein the pocket (13) is open upwards and along a second side.

2. Arrangement according to claim 1, wherein an aperture (7) is provided in the base part of the pocket (13).

3. Arrangement according to claim 1 or 2, wherein the lower part (1) comprises a strap (6) arranged to secure a rifle butt within pocket (13).

4. Arrangement according to any of the preceding claims, wherein the lower part (1) comprises two carriers (4) through which a waist belt of a rucksack can pass.

5. Arrangement according to any of the preceding claims, wherein the upper part (2) comprises a strap arranged to secure a rifle stock within the U-shaped holder.

6. Arrangement according to any of the preceding claims, comprising a chest strap (9) arranged to be attached to a second of the two shoulder straps of the rucksack, wherein the chest strap (9) and the upper part (2) comprises corresponding quick couplings.

7. Arrangement according to any of the preceding claims, wherein the upper part (2) comprises a fastener (12) arranged to encircle a first of the two shoulder straps of the rucksack.

8. Arrangement according to any of the preceding claims, wherein the U-shaped holder (11) comprises a metal filament arranged to make the U-shaped holder (11) ductile.

9. Arrangement according to any of the preceding claims, wherein the upper part (2) comprises a strap reaching upwardly and arranged to allow an adjustment of the upper part (2) along the first of the two shoulder straps of the rucksack.

10. Arrangement according to any of the preceding claims, wherein the U-shaped holder (11) and the pocket (13) are positioned in such a way that a rifle can be transported diagonally.

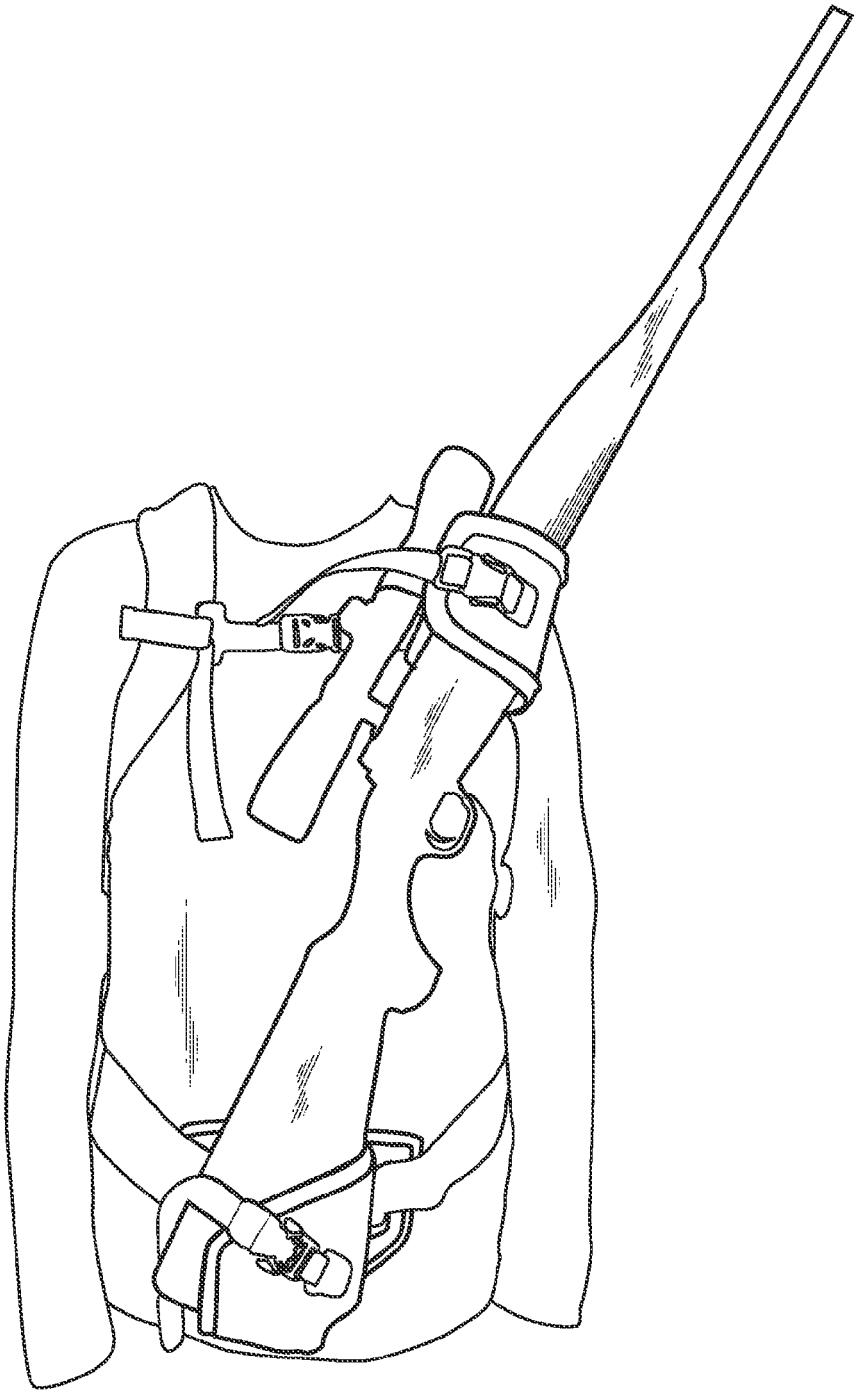


Fig. 1

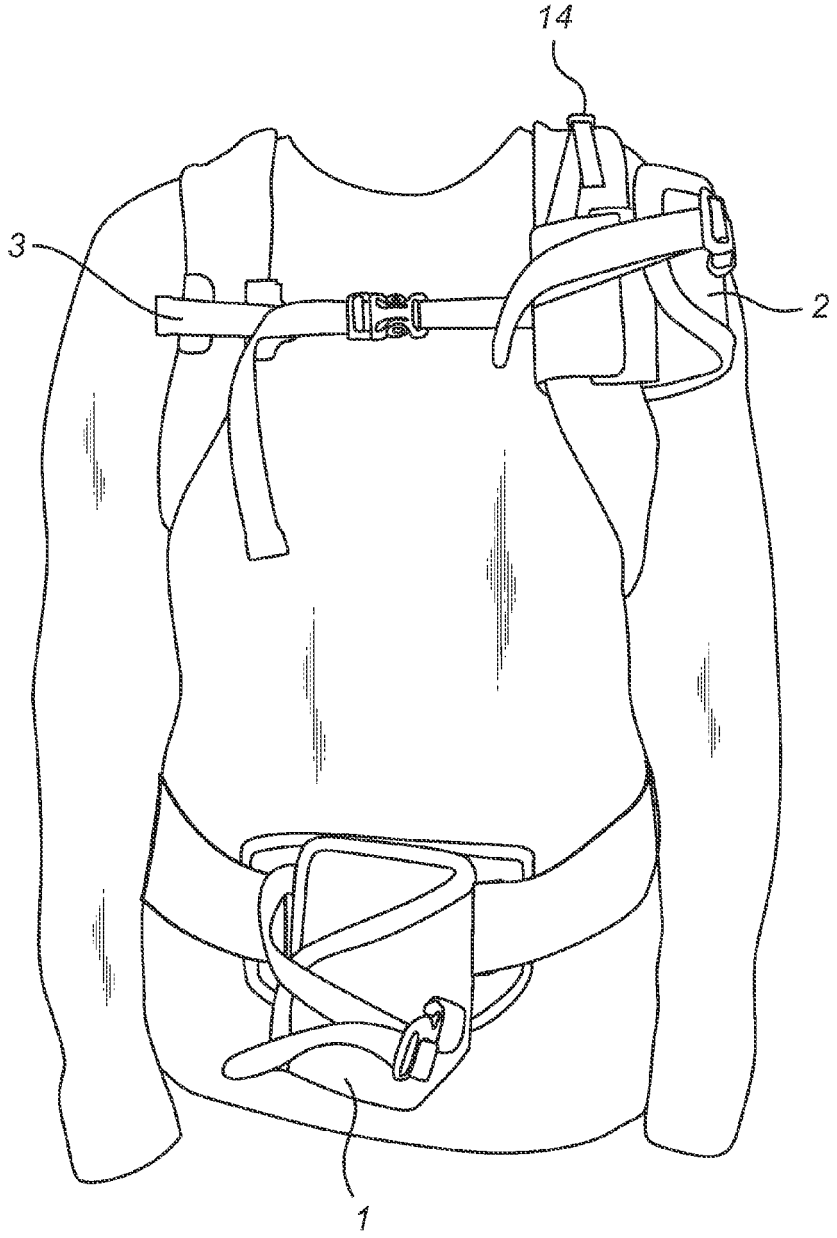


Fig. 2

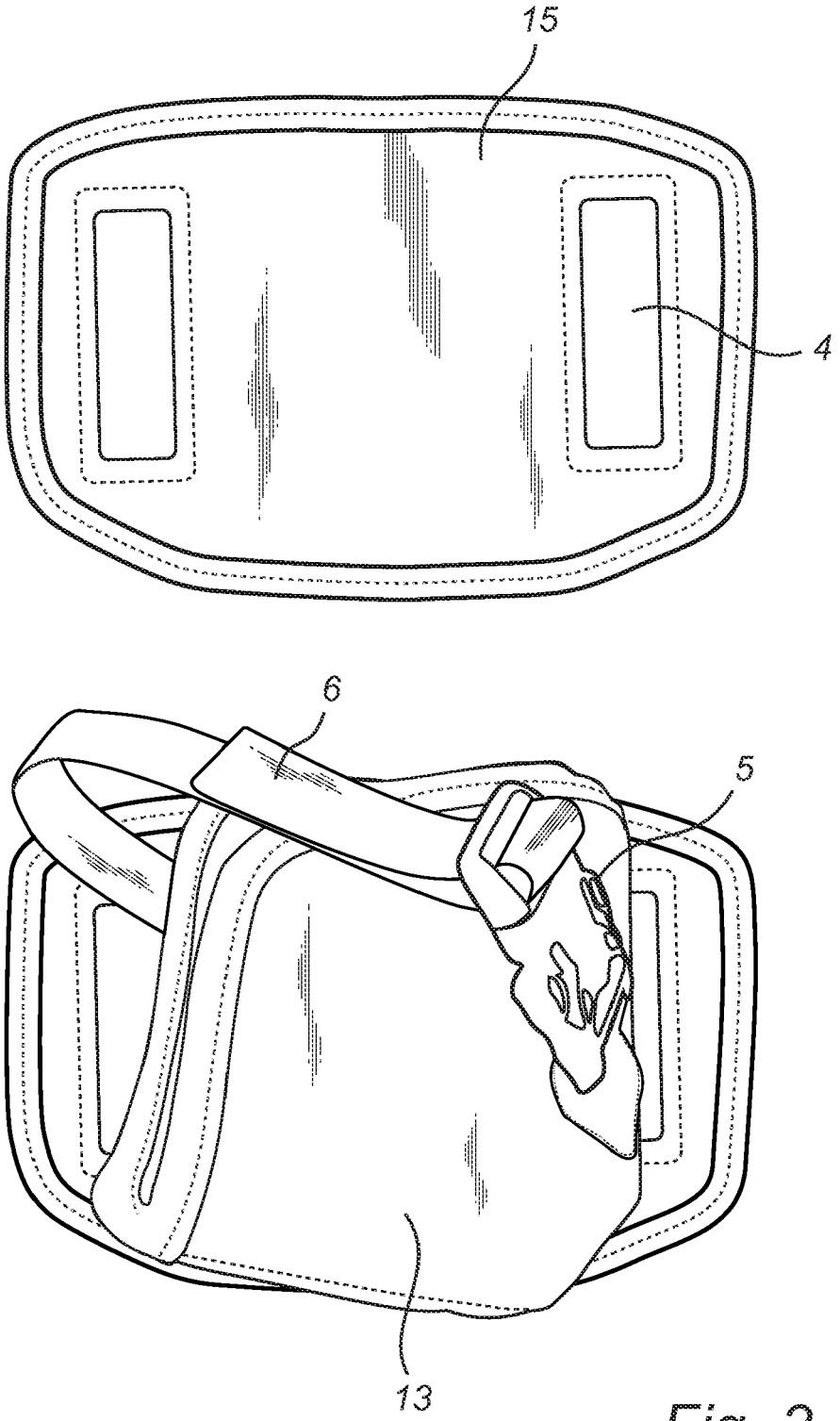


Fig. 3

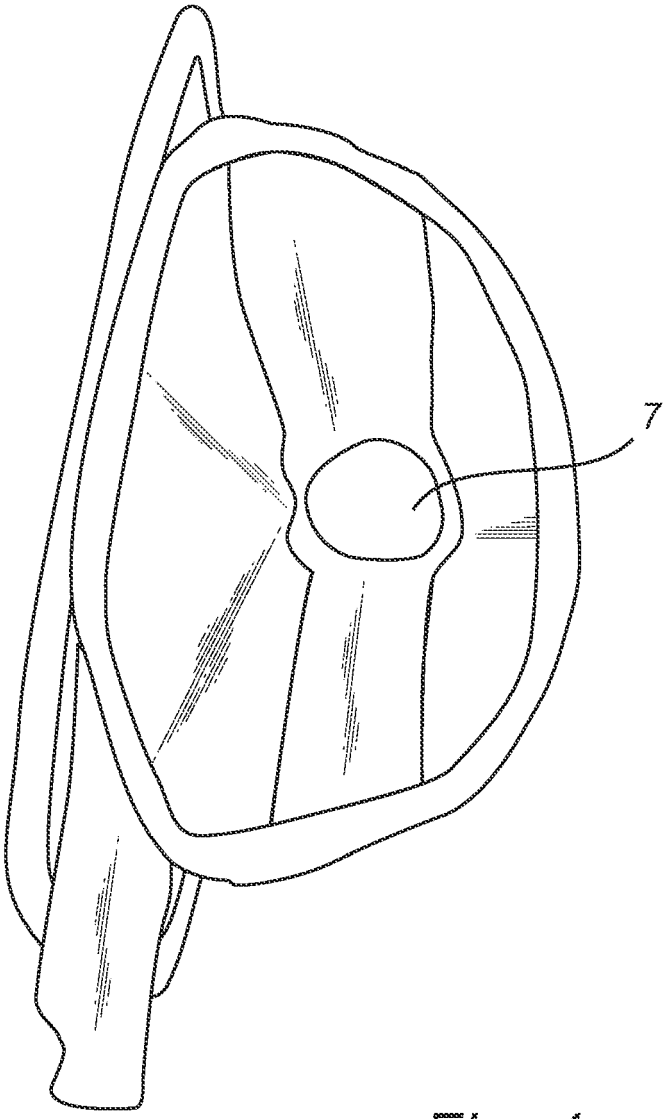


Fig. 4

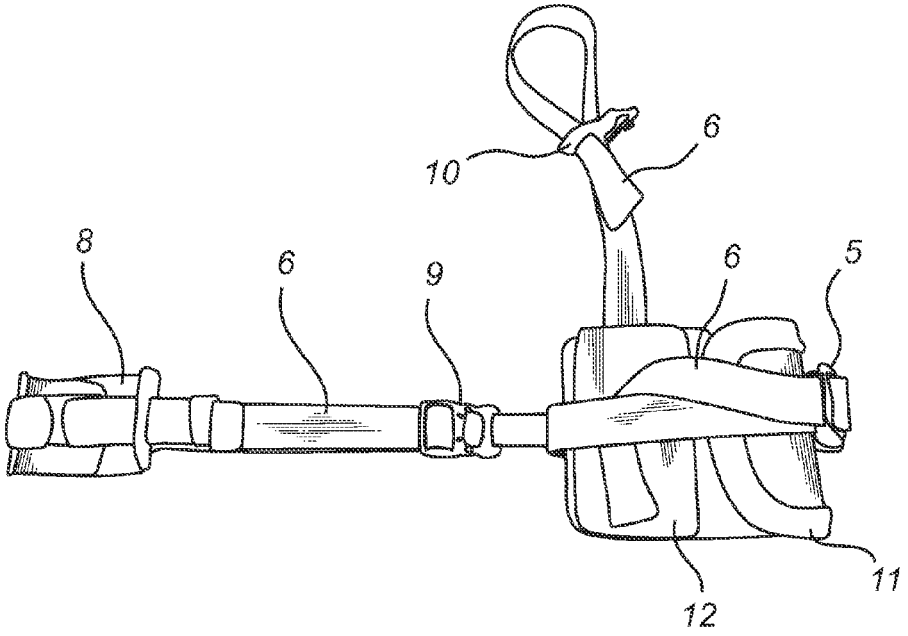


Fig. 5

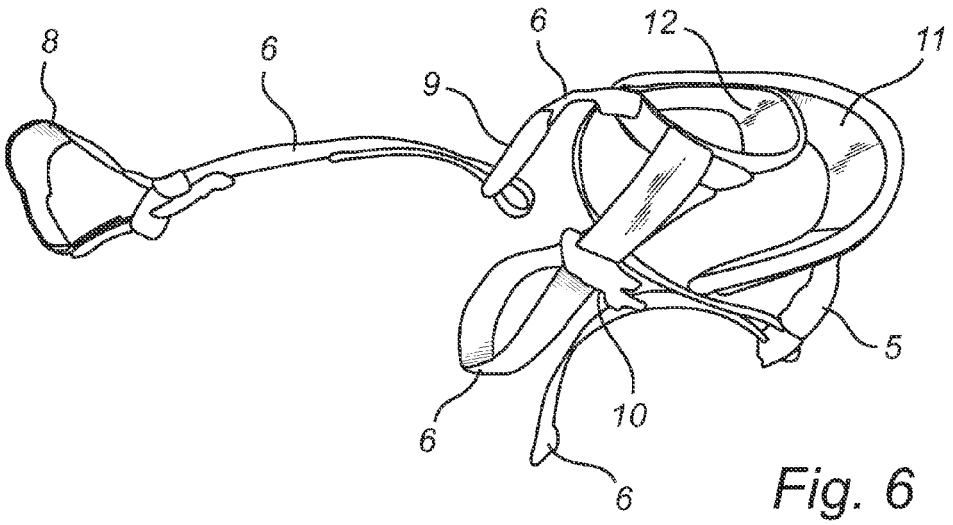


Fig. 6

REFERENCES CITED IN THE DESCRIPTION

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