Feb. 27, 1945. H. W. KJELLSON 2,370,357

PARACHUTE HARNESS

Filed April 7, 1944

Fig. 1

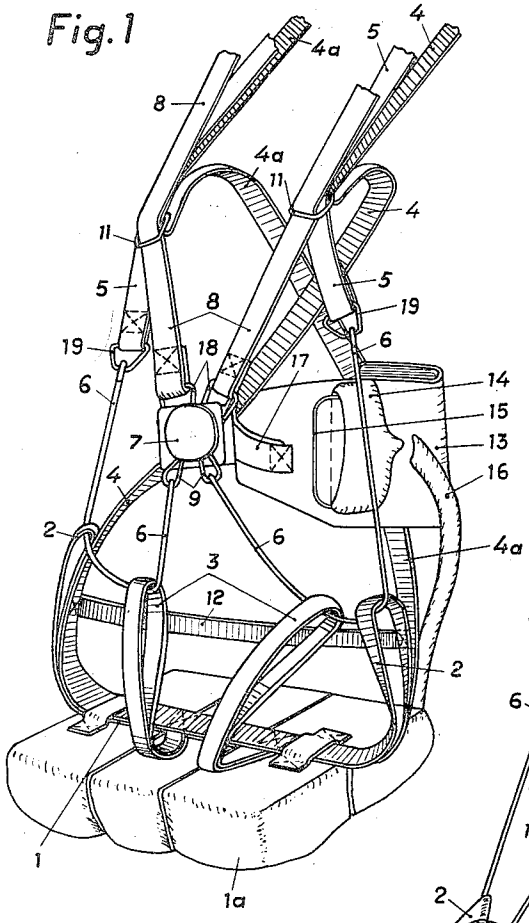


Fig. 4

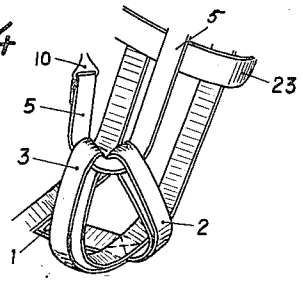


Fig. 2

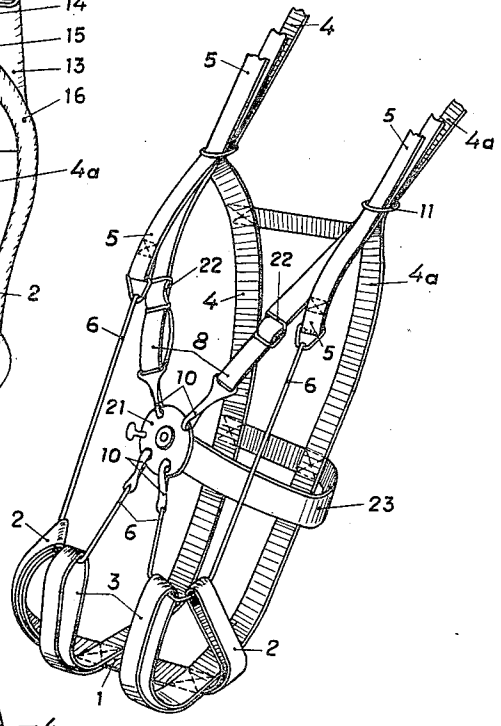
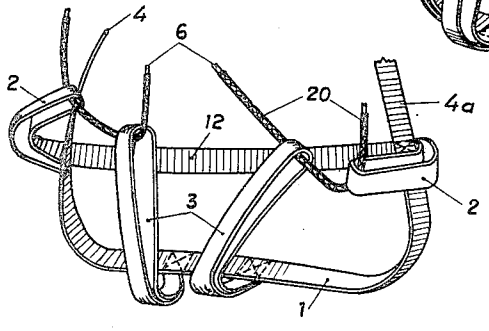


Fig. 3



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Patented Feb. 27, 1945 2,370,357

UNITED STATES PATENT OFFICE

2,370,357

PARACHUTE HARNESS

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Application April 7, 1944, Serial No. 529,979
In Sweden April 21, 1943

6 Claims. (Cl. 244—151)

It is known to provide parachute harnesses in which the free ends of the straps may be connected by means of a quick-release locking device or connector arranged on the parachutist's chest, and in which the wearer sits as in a swing. As a rule, in addition to two front chest straps and two leg straps, the latter extending from the seat portion, there are two braces or webs, which, extending from a point on the front side of each shoulder, where the carrying ropes or shroud lines of the parachute are attached, run along the wearer's sides and carry the seat portion of the harness. Such a harness has the advantage that the parachutist sits comfortably in it, but at the same time the drawback that the said braces together with the back straps form closed loops, which are not unloosed when the remainder of the harness is opened by means of the quick-release locking device. The harness therefore still acts like a waistcoat which the parachutist has to struggle out of.

In accordance with the present invention, this drawback is eliminated by the arrangement that each of the braces or webs extending from the front side of each shoulder in a direction towards the seat portion is adapted to be connected with the quick-release device and forms a sling or loop which supports the leg straps extending from the seat portion of the harness. The leg straps consist of inner loops extending between the legs, and of outer loops, which may extend either from a strap passing under the seat or from a transversely running back seat strap. When the quick-release device is released, the said braces or webs are likewise disengaged and released from the leg straps, so that the wearer is at once completely freed from the harness.

Parachute harnesses are known, which can at once be completely freed from the body on the release of the quick-release device. This type of harness, however, has the drawback that the parachutist does not sit comfortably in it, as it is devoid of the braces running along his sides and carrying the seat portion. Instead, the entire tensile force is sustained by the leg straps via the quick-release device, with the result that the wearer sits more or less as in a noose. Moreover, at any rate in certain designs of this type of harness, the leg straps, after being released from the quick-release device, in certain circumstances fall down over and lock one another, thus impeding the removal of the harness. These disadvantages are likewise eliminated by my invention.

The accompanying drawing, forming part of this specification, shows for the purpose of illustration, three forms of a harness in accordance with the invention.

Figures 1 and 2 are perspective views of two embodiments and Figure 3 shows the lower part of a modified form. Figure 4 shows particulars of a further modification.

As shown in Figure 1, the seat strap 1 of the harness is attached to the pack 1*a* of the parachute, but it is quite clear that the harness also may be of some other type, such as "lap" type, "chest" type or "back" type. Extending from or attached to the seat strap 1 are leg straps 2 and 3 of which the straps 2 are adapted to encircle along the outer sides of the legs of the wearer while the straps 3 are adapted to encircle along the inner sides of the legs. As shown, each of the straps 2 and 3 form a closed loop. Extending from or attached to the seat strap 1 are also riser webs or back straps 4, 4*a* extending on the back of the wearer. One of these straps 4*a* carries a flap 13 or the like having a pocket 14 containing a handle 15 which is associated with the parachute by means of a cable 16. This handle is actuated by the parachutist in order to release the parachute.

The harness is provided with a quick-release locking device or connector 7, preferably attached to the flap 13, say by means of a short strap 17 stitched to the flap 13. The connector 7 may be of a known type. Extending on the chest of the wearer are chest straps 8, each having at one end a fastener part, say an eyelet 18 adapted to be connected releasably to the connector. In a similar manner further straps or braces 5, 6 are connected with the connector 7 at one end 9 of the portion 6 of said braces of straps extending along the sides of the wearer. The fastener parts 9 and 18 may also be made in the form of pins or in other known manner. The upper part 5 of the braces 5, 6 is formed as webs adapted to engage the shoulder of the wearer, while the lower part 6 may be formed as a line or cord associated with the web 5 at 19 in a suitable manner. The cords 6 are led through the loops formed by the leg straps 2 and 3 and preferably said cords have round cross section to enable them to run freely through the loops. Preferably, the cord 6 consists of a steel wire covered with leather or the like as indicated at 20 in Figure 3. However, the strap or web 5 may also be made to extend itself through the loops of the leg straps and connected with the connector 7.

It is clearly seen that the straps 4, 4*a*, 5, 6 and 8 form an upper sling for the wearer while

the leg straps 2, 3 form a lower sling, and by these slings the parachutist is suspended as in a swing. The ends of the straps 4, 4a, 5 and 8 broken away on the drawing are connected with the shroud lines of the canopy of the parachute as usual. Clasps 11 or the like may be arranged on the front side of each shoulder to hold together the webs or straps 4, 4a, 5 and 8. A back cross strap 12 may be arranged to connect the outer leg straps 2 and if desired also the lower parts of the riser straps 4, 4a.

On the release of the quick-release locking device or connector 7, the straps 8 are released and the cords 6 fall downwards and readily slide out of the loops of the leg straps 2 and 3, whereupon the body of the wearer is completely freed from the harness. The leg straps 2 and 3 may be made adjustable to fit to the size of the body.

Fig. 2 shows the invention applied to a harness with swivel-hooks 10 or the like at the ends of the straps to enable engagement with the quick-release device 21. Adjusting buckles 22 may be arranged at the straps 8. Also the straps 5, 6 and the other straps may be adjustable in a similar manner if desired. In similar manner the size of the loops of the leg straps may be adjusted by suitable means. In this embodiment the riser straps 4, 4a may be substantially parallel while they cross each other in Figure 1. The device 21 may be attached to a flap 23 stitched to straps 4 and/or 4a.

In Fig. 3 the outer leg straps 2 are made in one piece with or stitched to the back seat strap 12 instead of being associated with the seat strap 1.

Figure 4 shows the lower part of the strap 5 in the case that the cord 6 is omitted and the strap 5 itself extends through the loops of the leg straps 2, 3.

As many changes could be made in the above method and construction and many apparently widely different embodiments of the invention could be made without departing from the scope thereof, as defined by the following claims, it is intended that all matter contained in the above description shall be interpreted as illustrative and not in a limiting sense.

What I claim is:

1. In a parachute harness the combination of a sling in which the wearer sits and including a seat portion with leg straps, chest straps terminating in suspension straps, supporting straps, each extending downwards from the shoulder of the wearer to form a loop engaging and supporting said leg straps, and quick connector means releasably connecting together the chest straps and the said supporting straps engaging the leg straps.

2. In a parachute harness the combination of a sling in which the wearer sits and including a seat portion with leg straps each forming a loop, chest straps, quick connector means releasably connecting together the chest straps, supporting straps each extending from a point near the shoulder of the wearer through the loops of the leg straps at either side of the seat portion and terminating in fastening parts adapted to be releasably connected by the said connector means.

3. In a parachute harness the combination of a sling in which the wearer sits and including a seat portion with a seat strap and a seat back strap, inner loop-like leg straps associated with the said seat strap, outer loop-like leg straps associated with said seat back strap at either end thereof, riser straps extending from the seat portion and terminating in suspension straps, supporting straps extending along the sides of the wearer through the loops of the inner and outer leg straps and terminating in fastening parts, and quick connector means releasably connecting together the fastening parts of said supporting straps.

4. In a parachute harness the combination of a sling in which the wearer sits and including a seat portion with leg engaging means each forming a loop, supporting straps in the form of cords having round cross section and each associated at one end with suspension straps and extending through the said loops of the leg engaging means at either side of the seat portion and quick connector means connecting the other ends of said cords.

5. A parachute harness as claimed in claim 4 in which the cord is a steel wire.

6. A parachute harness as claimed in claim 4 in which the cord is covered by a protecting sheath.

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