June 30, 1953 C. E. CARROLL 2,643,836

PERSONNEL PARACHUTE HARNESS

Filed July 22, 1952 2 Sheets-Sheet 1

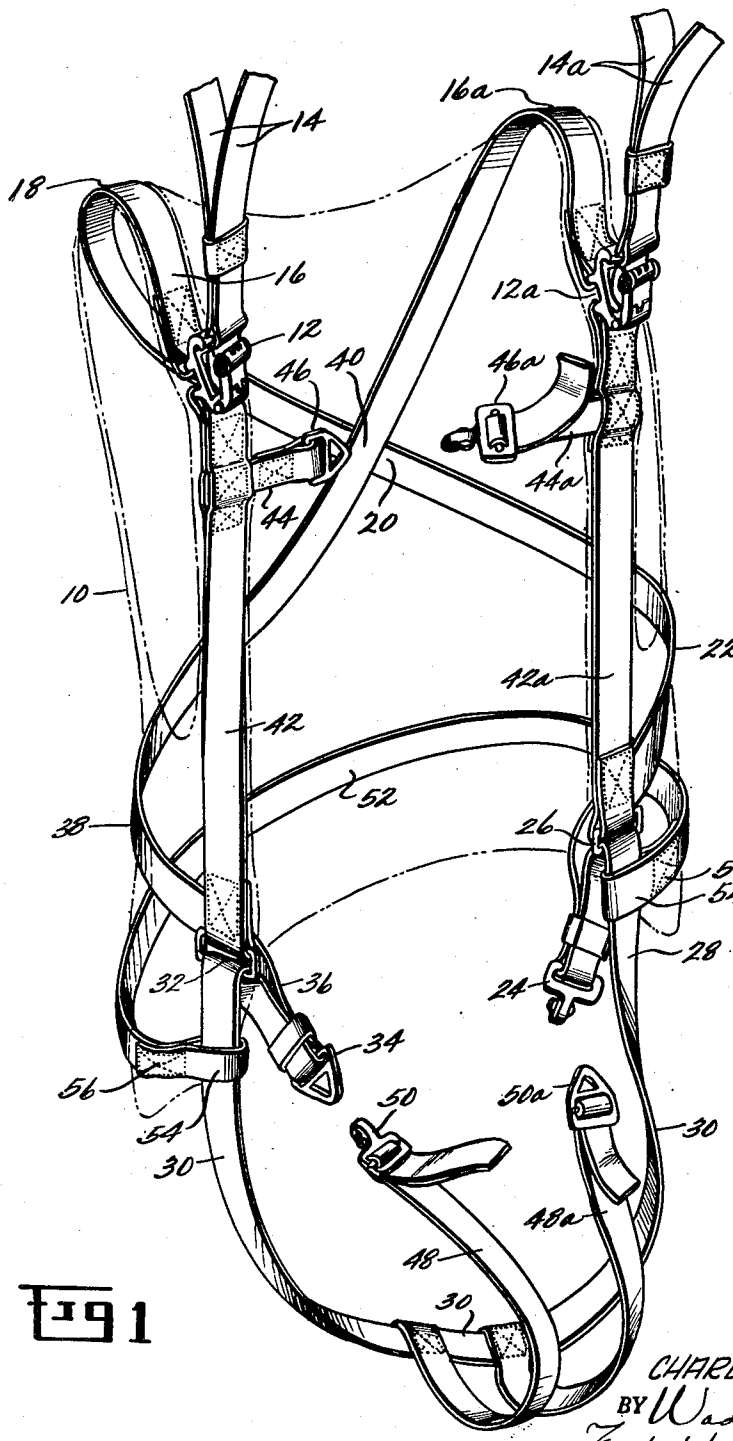


Fig. 1

INVENTOR.
CHARLES E. CARROLL
BY Wade Kouts and
Frederick W. Cotterman
ATTORNEYS

June 30, 1953 C. E. CARROLL 2,643,836

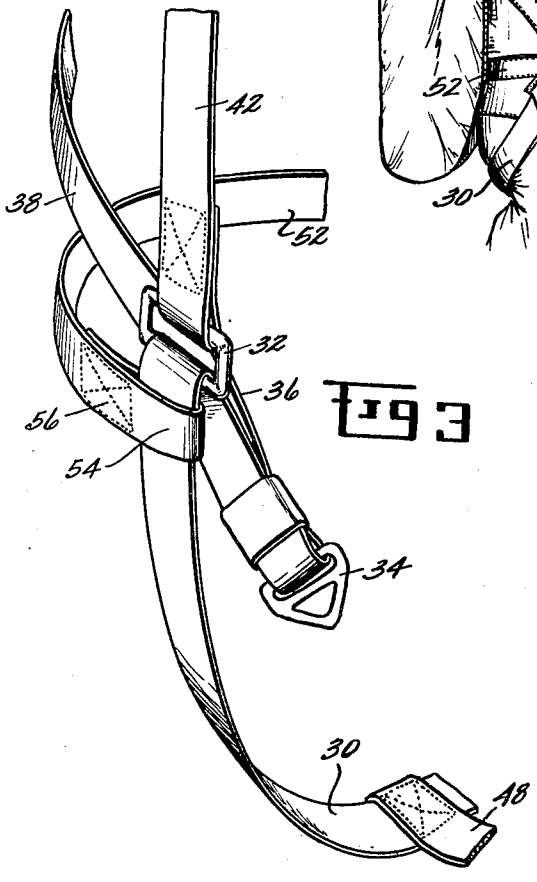
PERSONNEL PARACHUTE HARNESS

Filed July 22, 1952 2 Sheets-Sheet 2

Fig 2



Fig 3



INVENTOR.
CHARLES E. CARROLL
BY Wade Kountz
Frederick W. Cotterman
ATTORNEYS

Patented June 30, 1953

2,643,836

UNITED STATES PATENT OFFICE

2,643,836

PERSONNEL PARACHUTE HARNESS

Charles E. Carroll, Dayton, Ohio

Application July 22, 1952, Serial No. 300,365

3 Claims. (Cl. 244—151)

(Granted under Title 35, U. S. Code (1952), sec. 266)

1

This invention relates to parachute harness and particularly to personnel parachute harness.

The harness herein disclosed is of very light weight, principally for the reason that it employs a minimum number of metal fittings, metal adjustment devices, stiffening members, etc., and can be quickly and comfortably fitted to a wide range of personnel sizes. It contains two only "let-out-or-take-up" points.

With the exception of the lower sling portion, the harness is preferably sewed to a vest or jacket which serves to hold the several straps in the correct position for quick donning or divesting the pack, or for adjusting for maximum comfort.

The prime novel feature of the harness resides in the arrangement or routing of the straps near the wearer's hips. The manner in which this arrangement differs from the art will appear in the accompanying drawing and description wherein:

Figs. 1 and 2 are respectively a perspective view and side elevation of a parachute harness embodying my invention, the vest portion being shown in phantom in Fig. 1.

Fig. 3 is a fragmentary side elevation of a portion of the harness drawn to a larger scale than shown in Fig. 2 and the vest portion is omitted.

In Fig. 1 of the drawing the harness is shown as it would appear on a wearer who was facing forward. The vest or jacket 10 to which the harness is sewn and which maintains the several parts in the desired assembled relation is shown in phantom in Fig. 1.

Fittings 12 and 12*a* in addition to each having provision for connection with one downwardly extending front strap and one upwardly extending strap end, are further provided with means for quick attachment and detachment of the riser strap 14 and 14*a* from the parachute (not shown), whereby the harness may be used with different parachutes and quickly detached from the parachute canopy after landing.

A single continuous main strap 16 is connected at its opposite ends to and extends from the riser fittings 12 and 12*a*, this strap passes upwardly from the fitting 12 over the right shoulder as at 18, then extending diagonally downward across the back of the harness as at 20, then around the waist above left hip as at 22, then downwardly and toward the front and through the eye of the snap hook link 24 and then inclining upwardly on itself, passing outward through the link fitting 26, then downwardly as at 28, then curving upwardly forming a seat portion or sling

2

as at 30, the strap extending upward at the opposite side of the harness and inward through the link fitting 32, then down and through the D ring link or fitting 34 and back up as at 36 and around the right side of the waist above the hip as at 38 and diagonally upward across the back and other end portion as at 40, curving forward over the left shoulder as at 16*a* and then down to the other riser fitting 12*a* where it is fastened.

Front straps 42 and 42*a* are permanently attached at their upper ends to the riser fittings 12 and 12*a* and at their lower ends to the link fittings 32 and 26, respectively, in effect forming a downward continuation of the opposite ends 16, 16*a*, to the links 32 and 26 through which the upper portions of the seat sling 30 pass.

A breast strap is formed of short strap parts 44 and 44*a* each sewn at one end to the front straps 42 and 42*a*, respectively, their opposite ends carrying snap hook and D ring coupling means 46 and 46*a* respectively. Leg straps 48 and 48*a* are attached to the seat strap or sling portion in spaced adjacent relation 30, the free ends being provided with coupling members 50 and 50*a* for cooperative quick detachable coupling to members 34 and 24, respectively. A back supporting strap 52 is looped loosely at its opposite ends around the main strap 16 as at 54 and 54*a* and the looped ends being stitched as at 56 and 56*a* whereby the back strap is adjustable vertically along the upper portions of the seat strap portion 30.

The harness shown and described has many advantages.

(1) It may be adjusted instantly to a close fit over a wide range of personnel sizes by pulling on the leg straps at 48 and 48*a*, which are adjustable in fittings detachable hook and D ring 50 and 50*a* which in turn are hooked to complementary D ring and hook fittings 34 and 24, respectively. This permits adjustment of all strap components of the harness since straps 38 and 22, respectively, form a shoulder strap, a diagonal back strap and a lower main seat sling.

(2) It requires no tools or expert personnel to make the adjustment of the harness to fit different size personnel.

(3) It can be adjusted to size, donned or divested in less time than a conventional harness.

(4) It is lighter in weight, and more comfortable than conventional harness due to the convenient single point adjustment between the crossed back strap, leg encircling straps, and seat sling portion and minimum use of heavy metal connectors and adjusting fittings.

(5) Assures a good fit on the wearer due to the

versatility of the simple adjusting arrangement.

(6) Highly adaptable to economic production due to simplicity of construction.

The invention described in the foregoing specification and following claims may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

I claim:

1. In a parachute harness, parachute riser fittings adapted to be spaced apart on a wearer's chest, a front strap depending from each riser fitting, a front strap lower link on the lower end of each front strap, a single strap connected to and starting from one of said fittings and extending upward and rearwardly over one shoulder, then downwardly and diagonally across the back toward one hip, around the waist above the hip and then diagonally downward and back up to form an adjustable leg strap portion then through one front strap lower link and downwardly and around the buttock of a wearer, then upwardly and through the other front strap lower link to form a seat sling, then diagonally downward and upward to form a second adjustable leg strap portion, then diagonally upwardly around the waist above other hip and rearward diagonally across the back and the other diagonal strap portion and over the other shoulder, then downwardly and secured to the other riser fittings, adjustable leg straps sewn to the buttocks portion of the said single strap midway of its length and extending forwardly in spaced relation to each other, complementary leg strap separable connector links on said forwardly extending leg straps and on the said main strap leg strap portions for connecting the main strap leg portions and said leg strap portions together to encircle the legs of a wearer.

2. In a parachute harness, adjusting means which comprises right and left parachute riser fittings adapted to be positioned on the wearer's chest, depending front straps having their upper ends connected to the lower edges of said riser fittings and having a pair of seat supporting links fastened to the lower ends of said front straps, a single combined body encircling, seat sling and leg strap fastened at one end to the upper end of the left fitting, extending upward and rearwardly over the left shoulder of a wearer, then downward diagonally across the back toward the right hip, around the waist above the said hip and downward to and through a leg strap attaching link, then doubled back upon itself and slidably received in the seat supporting link on the right front strap, then downwardly and upwardly to form a seat sling portion passing through the seat supporting link

on the left front strap, then inclining downwardly and forwardly and through a second leg strap attaching link, then doubled back on itself, extending upwardly diagonally across the back to the left shoulder, then forward over the shoulder and downward, secured to the right-hand riser fitting, an adjustable breast strap comprising two parts with one part fixed to each front strap and adjustable coupling means one on each part and leg straps secured at the center of the seat sling portion and extending forwardly therefrom in spaced relation to each other, quick release connector means on said leg straps arranged for connection with leg strap attaching links.

3. A parachute harness comprising left and right riser fittings adapted to be worn spaced apart on the chest of a wearer, each fitting having permanent strap attaching means at its top and bottom and means intermediate for detachably securing a parachute riser thereto, a single continuous combined body encircling, seat sling, and leg adjustment strap attached at one end to the top of the right riser fitting and extending upward and back over the right shoulder, then diagonally downward across the back around the waist above the hip and downward to and through a left-hand leg strap attaching link slidably adjustable thereon said single strap being then doubled back upon itself and extending slidably through a left seat supporting link connected to the bottom of the left permanent strap attaching means then downward around the wearer's rump and upward forming an adjustable seat sling, then extending to and through a right seat supporting link connected to the right riser fitting, then diagonally downward through a right-hand leg strap connector link slidable thereon and doubled back on itself inclining upwardly around the waist above the right hip, across the back over the left shoulder and forward and across the left shoulder, then downward to the left riser fitting, an adjustable separable breast strap connected between the connection means from the right and left riser fitting to the right and left seat supporting links, and a back strap having looped ends each slidably receiving one of the sides of the seat sling, and a pair of leg encircling straps secured to the seat sling intermediate the seat supporting links and extending forwardly, and separable connectors adjustable on the strap members for detachable connection with the leg strap connector links on the single strap.

CHARLES E. CARROLL.

No references cited.