

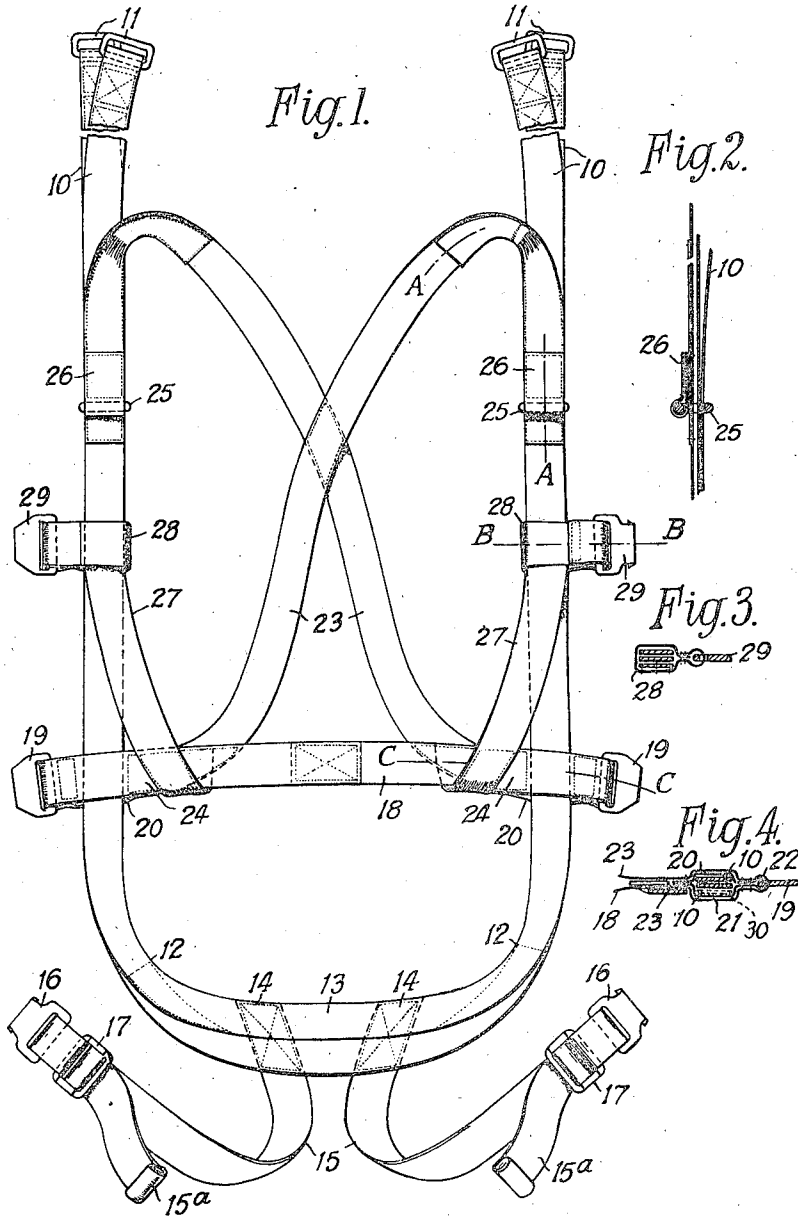
Feb. 17, 1948.

J. GREGORY

2,436,167

PARACHUTE HARNESS

Filed Sept. 16, 1946



Inventor  
James Gregory  
By Shoemaker & Mattore  
Attorneys.

# UNITED STATES PATENT OFFICE

2,436,167

## PARACHUTE HARNESS

James Gregory, Woking, England

Application September 16, 1946, Serial No. 697,283  
In Great Britain October 18, 1945

4 Claims. (Cl. 244—151)

1

This invention relates to parachute harness for aviators and others.

The invention has for its main object the provision of an improved harness adapted for fitting to individuals of widely varying heights, with a minimum of adjustment, which can be performed by the individual himself either before or after making the connections for securing the harness to his body.

Another object of the invention is to provide an improved harness of the type comprising a sling in which the wearer sits during descent, the main lift webs being connected to a seat strap or loop forming the seat, with the feature that the rising portions of the lift webs above the seat strap or loop are slidably engaged with all the parts of the harness connected thereto.

It is a further feature of the improved harness that the free sliding movement of the lift webs through their connections to the belt and other parts of the harness enables them to be adjusted in relation to one another so that by pulling down the lift webs on one side and slackening them on the other side, the wearer of the harness can effect a sliding movement of the seat strap or loop beneath him, thereby securing greater comfort.

One embodiment of the invention is herein-after described with reference to the accompanying drawings, in which:

Fig. 1 represents the improved harness opened out ready for use.

Figs. 2, 3 and 4 are details in section on the lines A—A, B—B and C—C respectively of Fig. 1.

In the embodiment of the invention illustrated in Fig. 1, two lift webs 10 are provided on each side, the two webs running down in superposed or flatwise contact from their shackles 11 which are connected to the lift strops of the parachute (not shown); the lower ends of the two lift webs, starting from a point 12 on each side, are spread out into edgewise relation and lapped or otherwise connected with those of the two lift webs on the other side, so as to form a broad seat loop 13. From points 14 near the middle of the seat loop, two leg straps 15 extend forwards for passage upwards beside the thighs, the free ends being provided with suitable coupling devices 16 so that they may be quickly secured together over the thighs; these free ends are fitted with sliding buckles 17 for adjustment, the other ends being stitched or otherwise secured to the seat loop at the points 14. The buckles 17 are preferably attached to the coupling devices 16 by short lengths of webbing or the like, the loose ends 15a of the

2

straps 15 hanging down from the buckles 17 ready for manipulation when required.

A belt 18 running across the back of the wearer's waist, and provided with suitable coupling devices 19 so that the belt can be quickly fastened around the waist, includes two loops 20 near the free ends; each of these loops is lined with a sheet metal reinforcement 21 (see Fig. 4), on which the coupling device 19 is hingedly attached at 22, so that the tension of the belt does not tend to close the space inside the reinforced loop 20, 21. Through this space the rising portions of the lift webs 10 are freely slidable up and down so that the belt 18 can be adjusted in level to suit the wearer's figure.

A pair of cross braces 23, secured to the belt at points 24 adjacent to the reinforced loops 20, 21, extend diagonally across the wearer's back, over his shoulders and downwards in flatwise contact with the lift webs 10 on the respective sides; the lift webs pass freely through buckles or open frames 25 of rectangular shape (see Figs. 1 and 2) anchored to these cross braces 23 by means of patches 26 at right and left in front of the wearer's chest, the cross braces being continued downwards in contact with the lift webs 10 for part of the distance down to the belt or waist level, and then diverging laterally and rearwards at 27 (Fig. 1) for attachment of their extremities to the belt itself, for example by overlapping the parts 24 where their other ends are secured. These continuations 27 of the cross braces, before diverging from the lift webs, pass together with them through another pair of reinforced loops 28 fitted with suitable coupling devices 29 which can be quickly fastened together in front of the wearer, thereby completing the locking of the harness; these reinforced loops 28 allow the lift webs 10 and cross brace continuations 27 to be drawn together in front of the wearer under moderate tension, the lower portions of the continuations 27 being pulled downwards through the loops 28 so as to settle the cross braces 23 over the shoulders, while the said lower portions hang loosely below the belt 18 which holds them against the body.

When the harness has thus been fitted, the wearer can grasp the lift webs 10 on the two sides of his body and adjust them upwards or downwards, or adjust one upwards and the other downwards, as may be required to secure comfort and balance, and he can also slide the loops 20, 28 of the belt and chest coupling devices upwards or downwards as may be required. The tightening of the coupled leg straps 15 may be

3

performed by pulling their loose ends 15a through the buckles 17 at any time, either when first fitting the harness if the wearer is to remain seated, or later as a preliminary to a parachute descent should this become necessary. All these adjustments can be readily carried out by the wearer himself.

The coupling devices 16, 19 at the ends of the leg straps and belt respectively, and those (29) fitted to the loops 28 slidable upon the lift webs 10 above the belt may be of any suitable or known type, preferably engaging automatically by pushing one member of the coupling into the other, with or without locking means to prevent accidental release.

The downward continuations of the cross braces 23, instead of diverging from the lift webs 10 as indicated at 27 in Fig. 1, may follow the respective lift webs closely and terminate inside the loops 20; to which their extremities are sewn on one side; Fig. 4 shows (in dotted lines) the extremity 30 of one cross brace arranged in this manner. Alternatively, the downward continuations of the cross braces may follow the respective lift webs and terminate near the loops 20, their extremities being sewn to a convenient portion of the belt 13, thus again leaving the webs 10 free to move in relation to all other parts of the harness.

In a modification, the lift webs 10, instead of being arranged in front of the wearer's body, may be placed at the back, the cross braces 23 being anchored to buckles 25 adjustable on these lift webs; the sliding loops 28 will then be connected to their coupling devices 29 by straps of sufficient length to pass around the sides of the body for coupling in front, and the loops 20 of the belt 13 will be placed closer together. Alternatively the lift webs may be split or halved, one half being at the front and the other half at the back.

What I claim is:

1. Parachute harness comprising lift webs, a seat member connected to the lower ends of said lift webs to form a sling seat, a belt, fastening means for said belt, cross braces extending over the shoulders of the wearer, and connections between said lift webs and said belt and cross braces

4

respectively, said connections including sliding members adjustable up and down said lift webs.

2. Parachute harness comprising lift webs, a seat member connected to the lower ends of said lift webs to form a sling seat, a belt, fastening means for said belt, cross braces extending diagonally upwards from the rear portion of said belt over the shoulders to the front of the wearer, connections between said lift webs and said belt, and connections between said lift webs and the front portions of said cross braces, all said connections including sliding members adjustable up and down said lift webs.

3. Parachute harness comprising lift webs, a seat member connected to the lower ends of said lift webs to form a sling seat, a belt, fastening means for said belt, connections between said belt and said lift webs, and detachable connections between opposite points of said lift webs above said belt, all said connections including sliding members adjustable up and down said lift webs.

4. Parachute harness comprising lift webs, a seat member connected to the lower ends of said lift webs to form a sling seat, and harness connections between opposite points of said lift webs, said harness connections including loops formed in the material of said connections and lined with sheet metal reinforcement, and said lined loops encircling the respective lift webs and adapted to slide up and down said lift webs.

JAMES GREGORY.

#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

Number	Name	Date
40 1,769,520	Knight	July 1, 1930
1,857,375	Hoffman	May 10, 1932

#### FOREIGN PATENTS

Number	Country	Date
45 499,325	Great Britain	June 22, 1936