

LE ROY J. WILKINSON.
 SAFETY APPARATUS FOR AVIATORS.
 APPLICATION FILED DEC. 30, 1918.

1,298,615.

Patented Mar. 25, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

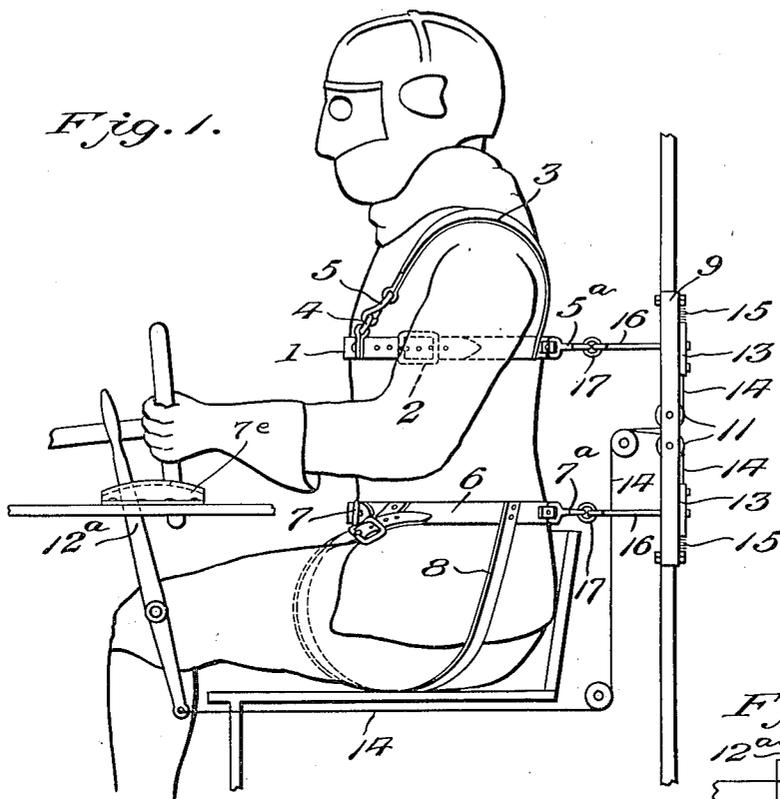


Fig. 8.

Fig. 2.

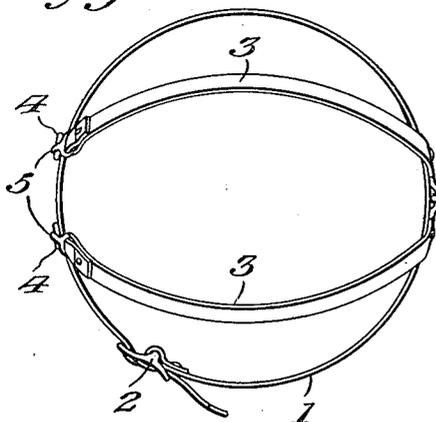
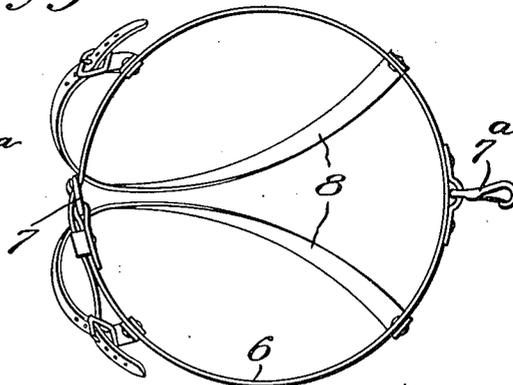


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

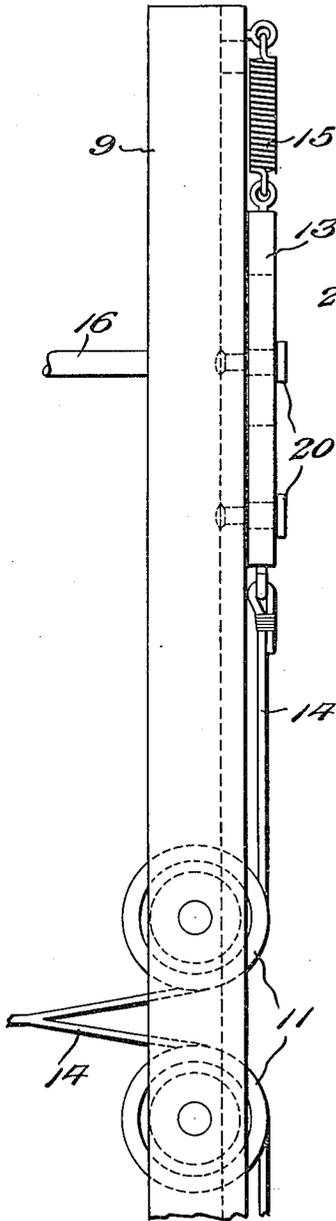


Fig. 5.

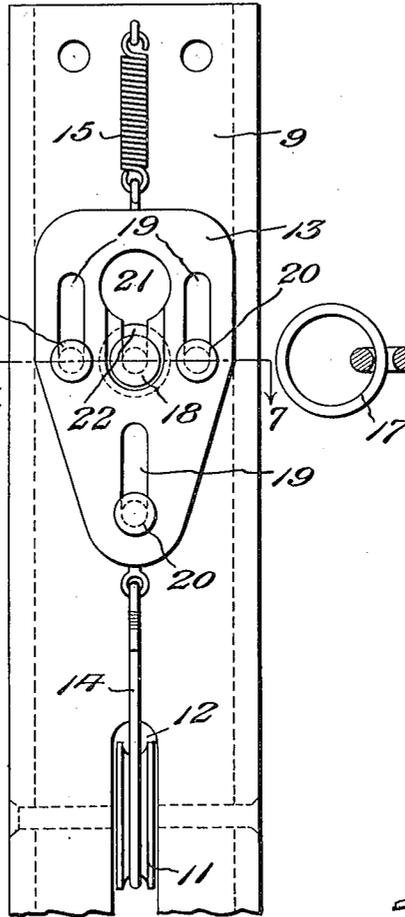


Fig. 6.

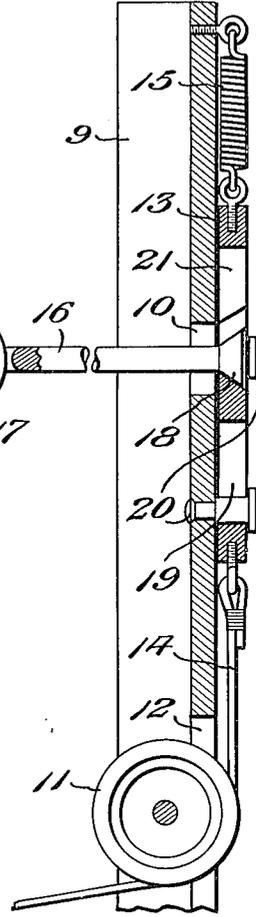
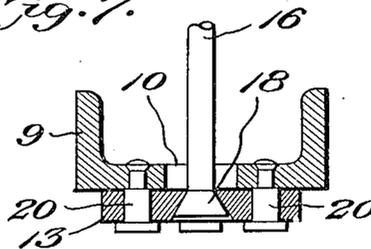


Fig. 7.



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SAFETY APPARATUS FOR AVIATORS.

1,298,615.

Specification of Letters Patent.

Patented Mar. 25, 1919.

Application filed December 30, 1918. Serial No. 268,782.

To all whom it may concern:

Be it known that I, LE ROY JOHN WILKINSON, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented new and useful Improvements in Safety Apparatus for Aviators, of which the following is a specification.

My present invention pertains to means for contributing to the safety of aviators; and it consists in the peculiar and advantageous apparatus, hereinafter described and claimed, whereby the aviator is securely held in the aeroplane, irrespective of the position of the latter, and yet, when occasion demands, the aviator is enabled to instantaneously release himself from the machine.

In the accompanying drawings, hereby made a part hereof:

Figure 1 is a general view, illustrative of the practical application of my novel apparatus.

Fig. 2 is a detail view of the upper harness member comprised in the apparatus.

Fig. 3 is a detail view of the lower harness member of the apparatus.

Fig. 4 is an enlarged detail side elevation of the harness retaining and releasing means.

Fig. 5 is a rear elevation of the same.

Fig. 6 is a horizontal section taken through the channel upright of said means.

Fig. 7 is a transverse section taken in the plane indicated by the line 7-7 of Fig. 5.

Fig. 8 is a detail of rack 7^a.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

As best shown in Fig. 2, the upper harness member of my apparatus is made up of a strap 1 adapted to be fastened through the medium of a buckle 2 about the chest of the aviator, and shoulder straps 3 permanently connected to the rear portion of the chest strap and detachably connected with the forward portion thereof through the medium of eyes 4 and snap-hooks 5. At about the middle of its back the strap 1 is provided with a snap-hook 5^a, for an important purpose hereinafter set forth.

In Fig. 3 is shown the lower harness member of the apparatus, and by reference to said figure said member will be understood as comprising a waist-strap 6, having a

buckle 7, and also having a snap-hook 7^a at its back, and leg-receiving straps 8, suitably connected at their ends with the waist-strap and preferably in the adjustable manner illustrated.

The aeroplane portion of my novel apparatus is best shown in Figs. 4 to 7, and is made up of an upright 9, of channel form in cross section, suitably fixed in the aeroplane and having spaced apertures 10 in its transverse wall, spaced sheaves 11 arranged intermediate the upper and lower apertures 10 and movable in vertical slots 12, provided in the transverse wall of upright 9, a lever 12^a mounted in the aeroplane within convenient reach of the aviator, locking plates 13, slidable vertically back of the upright 9, cables 14 connecting the said plates 13 and the lever 12^a and passed around the sheaves 11, retractile springs 15 adapted to normally hold the plates 13 yieldingly in the positions illustrated, and forwardly extending fasteners 16 which extend through the apertures 10 in upright 9 and are provided at their forward ends with eyes 17 for the engagement of the snap-hooks 5^a and 7^a on the harness members. The fasteners 16 are preferably in the form of pins, provided at their rear ends with heads 18. The retaining plates 13 are slotted longitudinally at 19 and are held to the back of the upright 9 by headed pins 20. It will also be noticed that each plate 13 is provided with an aperture 21 ample for the passage of the adjacent fastener heads 18, and that said aperture merges into a comparatively narrow longitudinal slot 22 of a width to snugly receive the shank of the adjacent fastener 16. The retractile springs 15 are interposed between and connected to the outer ends of the plates 13 and the back of the upright 9.

By virtue of the snap-hooks 5^a and 7^a being enlarged, the fasteners 16 may be left in the apparatus while the aviator in harness is out of the aeroplane.

At 7^a is a rack or keeper complementary to the lever 12^a to hold the same in two positions—*i. e.*, when the fasteners 16 are rigidly locked, and when said fasteners are released. This precludes slipping of the cable off the sheaves.

In the practical use of my novel apparatus the plates 13 are normally and strongly held by the springs 15 in the positions clearly shown in Figs. 4 and 5, so as to pre-

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clude the casual release of the fasteners 16, and when the aviator is equipped with the upper and lower harness members and is seated in the aeroplane with the snap hooks 5 5^a and 7^a connected with the fasteners 16, it will be apparent that, no matter what position the aeroplane assumes, the aviator will be securely held against displacement from the machine. When, however, something happens that renders it desirable for the aviator to quickly release himself from the same, he is enabled to expeditiously accomplish such purpose by manipulating the lever 12^a so as to draw the cables 14 downwardly and pull the plates 13 toward the sheaves 11, since when the plates cause the openings 21 therein to register with the apertures 10 in the upright 9, the fasteners 16 are free to move forwardly out of engagement with the plates 13 and the upright 9, thereby entirely disconnecting the aviator from the machine.

It will also be apparent from the foregoing that by manipulating the plates 13 and properly positioning the fasteners 16 in engagement with the upright 9 and the plates 13, the machine portion of the apparatus may be quickly and easily set for use.

From the foregoing description and the drawings, it will be manifest that my novel apparatus, while efficient and reliable for the purpose stated, is simple and inexpensive in construction and is susceptible of being quickly and easily installed in an aeroplane.

When deemed expedient, certain elements of the aeroplane portion of my novel apparatus might be made of aluminum or other material compatible with the light character of the aeroplane, but this is not of the essence of my invention, and, therefore, the different elements may be made of any suitable material without affecting my claimed invention.

I would also have it understood that the harness to be worn by the aviator may, without involving departure from the scope of my claimed invention, be of any suitable character that will permit of the aviator being connected with the fasteners 16 of the machine portion of the apparatus.

The aeroplane portion of my novel apparatus is preferably of the specific construction shown and described, but I do not desire to be understood as confining myself to said specific construction, inasmuch as in the future practice of the invention various changes in the form and arrangement of the parts may be made without involving departure from the scope of my appended claims.

Having described my invention, what I claim and desire to secure by Letters Patent is:

1. In a safety apparatus for aviators, the combination of an upright channel bar fixed

in an aeroplane and having spaced apertures in its transverse wall and also having a vertical slot in said wall between said apertures, sheaves in said slot, fasteners extending longitudinally through the said apertures of the bar and having heads at their rear ends and eyes at their forward ends; said eyes for the engagement of hooks with which an aviator is to be equipped, slidable retaining plates, held to the back of the upright bar and having apertures for the passage of the fastener heads and also having inwardly extending slots in communication with said apertures and adapted to snugly receive the shanks of the fasteners, retractile springs interposed between the outer portions of said plates and the upright bar to normally hold the fastener heads in engagement with the plates, a handle carried by the aeroplane, and cables connected with the inner portions of the retaining plates and passed around the sheaves and connected with said handle.

2. In a safety apparatus for aviators, the combination of a bar adapted to be secured in an aeroplane and having an aperture, a fastener having an enlargement adapted to move through said aperture; said fastener being constructed and arranged for connection with a harness to be worn by an aviator, a retaining plate movable on the bar and having an aperture adapted on movement of the plate to be registered with the aperture in the bar and also having a slot in communication with said aperture and adapted to normally prevent the passage of the enlargement on the fastener, a retractile spring interposed between the bar and the plate to yieldingly hold the slot of the plate in engagement with the fastener, a cable for pulling the plate against the action of said spring, and a sheave carried by the bar and around which the cable is passed.

3. In a safety apparatus for aviators, the combination of a support having an aperture, a fastener having an enlargement adapted to pass through said aperture; said fastener being provided for connection with the equipment of an aviator, a movable retainer, constructed and arranged in one position, to hold the enlargement of the fastener and in another position to release the fastener and permit of the disconnection of the same from the bar, a spring for yieldingly holding the retainer in the first-named position, a manually actuatable means for moving the retainer against the action of the spring in its second-named position.

4. In a safety apparatus for aviators, harness adapted to be worn by an aviator and equipped with a snap-hook, in combination with a bar adapted to be secured in an aeroplane and having an aperture, a fastener

movable through said aperture and having
an eye for the connection of the snap-hook
and also having an enlargement, a spring-
held-retaining plate having an aperture for
5 the passage of the enlargement on the
fastener, and a contracted opening in en-
gagement with said aperture for prevent-

ing the passage of said enlargement, and
manually operated means for moving said
plate against the action of the spring. 10
In testimony whereof I have affixed my
signature.

LE ROY JOHN WILKINSON.