Aug. 21, 1923. **1,465,835**

LE ROY E. ATKINSON

PARACHUTE FOR AERIAL VESSELS

Filed Aug. 12, 1922 **2 Sheets-Sheet 1**

Fig. 1.

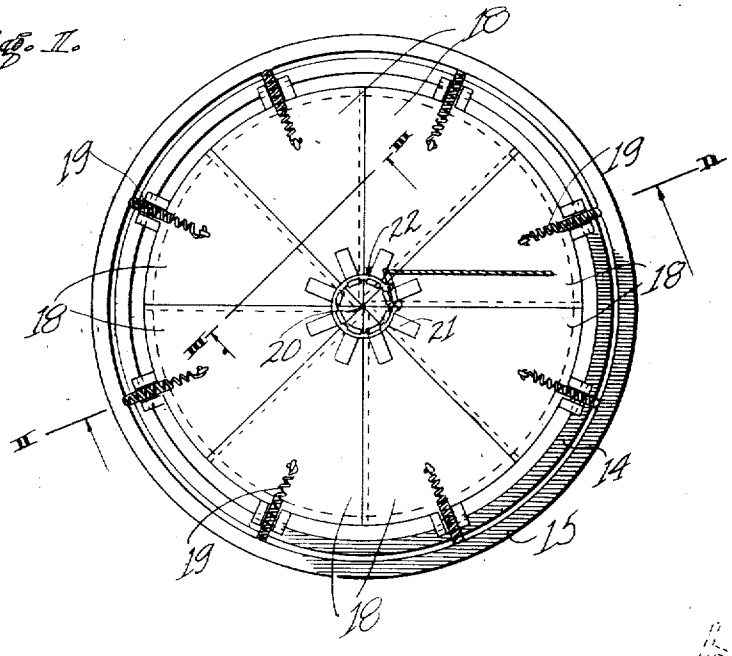


Fig. 2.

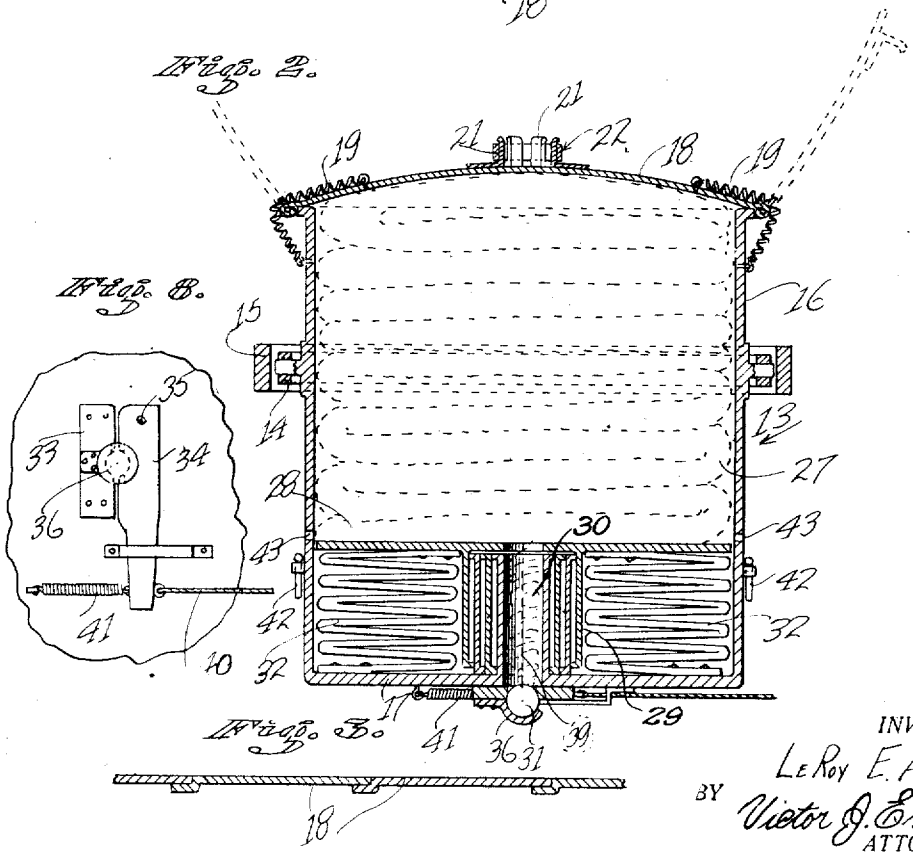


Fig. 3.

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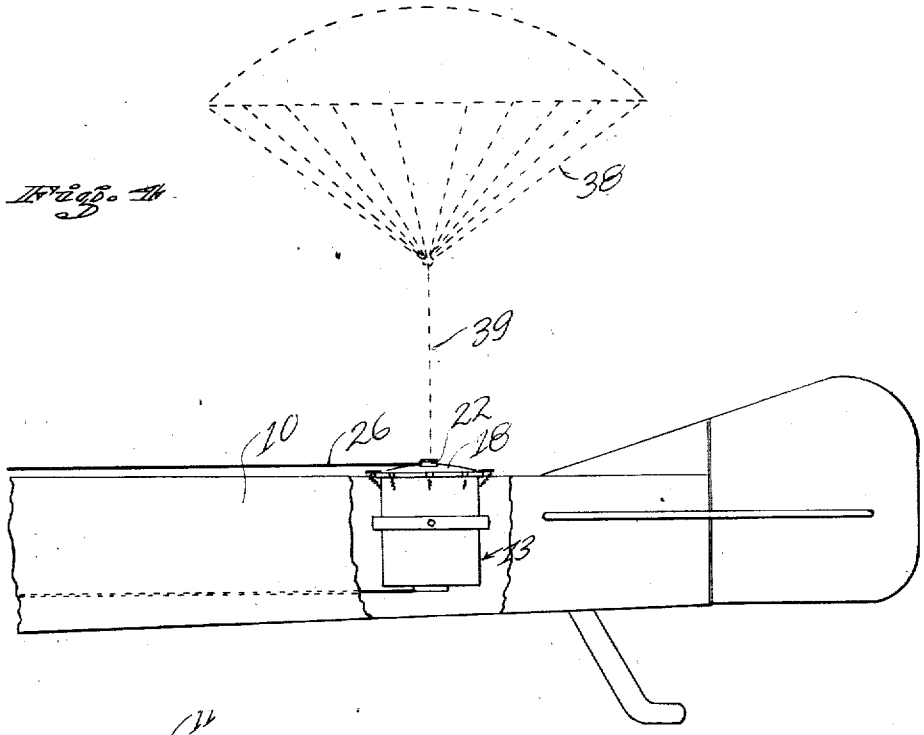
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Fig. 4.



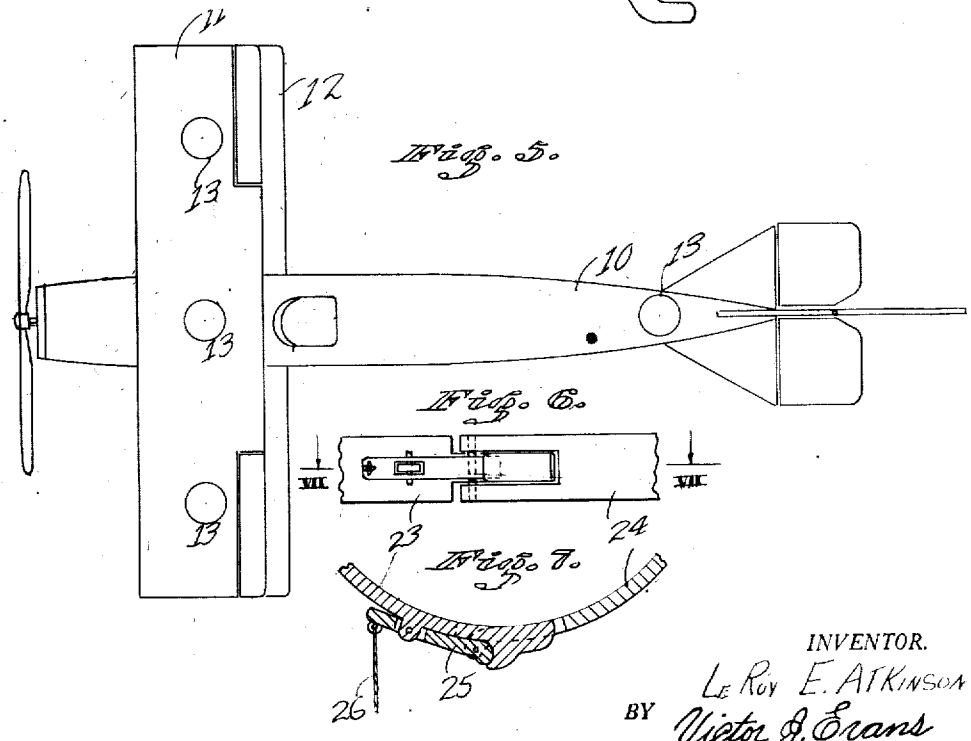


Fig. 5.

Fig. 6.

Fig. 7.

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Patented Aug. 21, 1923.

1,465,835

UNITED STATES PATENT OFFICE.

LE ROY E. ATKINSON, OF SAN JOSE, CALIFORNIA, ASSIGNOR OF THIRTY ONE-HUNDREDTHS TO FREDERICK J. GURVINE, OF SAN JOSE, CALIFORNIA.

PARACHUTE FOR AERIAL VESSELS.

Application filed August 12, 1922. Serial No. 581,484.

To all whom it may concern:

Be it known that I, LE ROY E. ATKINSON, a citizen of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented new and useful Improvements in Parachutes for Aerial Vessels, of which the following is a specification.

This invention relates to parachutes for aerial vessels and has particular reference to a plurality of parachutes disposed on the top plane and the fuselage of an airplane for maintaining the stability of the ship in case of emergency.

A further object of this invention is to provide means for readily releasing each parachute so that it can quickly assume an opened position and thus either slacken the descent of the airplane or establish the stability of the airplane in order that the pilot will have an opportunity to gain control of the ship.

An additional object of this invention is to provide auxiliary means for readily releasing the parachute from the airplane in case this operation is deemed advisable.

A still further object of this invention is to provide improved means for storing the parachute when it is in a collapsed or inoperative position.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a plan view of the container for the parachute,

Figure 2 is a vertical section through the container, taken on the line 2—2 of Figure 1,

Figure 3 is a cross section through the lids of the container, the view being taken on the line 3—3 of Figure 1,

Figure 4 is a side elevation of the rear end of the fuselage of an airplane, showing the parachute in dotted lines as the same will appear when unfolded.

Figure 5 is a top plan view of an airplane, showing the preferred position of the parachutes with relation to the airplane,

Figure 6 is a fragmentary side elevation of the means for retaining the covering plates in a closed position,

Figure 7 is a cross section taken on the line 7—7 of Figure 6, and

Figure 8 is a bottom plan view of the means for releasing the parachute from the airplane.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 10 designates the fuselage of a conventional type of airplane provided with the usual upper and lower wings or planes 11 and 12.

On the upper wing 11 and in the fuselage, adjacent the rear thereof, I propose to dispose a plurality of containers, designated as a whole by the numeral 13, each of which has stored therein a parachute.

Since the construction of all the containers and the correlating parts are identical, I will confine myself to a description of but one container and one parachute and the associated mechanism.

Each container is preferably supported in an inner base ring 14, pivotally connected to an outer ring 15 so that the container will have a universal movement and in order that irrespective of the tilt or angle of the airplane the container will always assume a normally vertical position. This container is preferably cylindrical in form and has its side wall 16 integrally formed with the base 17 thereof. To the top of the side wall of the container, I propose to hingedly secure sectional lids 18, preferably eight in number, each section being adapted to be controlled by a strong spring 19. It will be observed that the extremities of the sections meet at a point 20 adjacent which I propose to secure L shaped strips 21 adapted to be surrounded by a band 22, which includes sections 23 and 24. To the section 23 there is pivoted a lever arm 25, which is controlled by a cord 26 operated from the pilot's seat. The construction of the ring is conventional and shown to illustrate

means for releasing the sections when the cord 26 is actuated.

Within the container 13 there is stored the parachute 27 which is adapted to rest upon a base plate 28. This base plate is connected to the base 17 by telescoping sections 29 which are tubular in form, so as to provide a passageway 30 for the passage therethrough of a ball 31, the purpose of which will be hereinafter explained.

Between the bottom of the base plate 28 and the upper surface of the base 17, I propose to dispose a plurality of expansible springs 32 which serve to discharge the parachute from its collapsed position, as shown to advantage in Figure 2, to its open position, as shown to advantage in Figure 4, when the operator or pilot actuates the pull cord 26.

Should it be desired to free the parachute from the aeroplane, I have devised means which are shown to advantage in Figures 2 and 8. By a consideration of these figures, it will be noted that to the base 17, I have secured a strip 33 and have positioned in parallelism thereto a lever 34 pivoted as at 35. The strip 33 has connected thereto a holder 36 which has resting therein the ball 31, above referred to. The ball is connected to the guy cords 38 of the parachute, by a cable 39. Connected to the end of the lever 34, is a pull cord 40, which is in turn under the control of the pilot, while on the opposite side of the lever to where the cord 40 is secured, I have provided a coil spring 41, which is adapted to return the lever to its normal position after it has been actuated by the pilot. The numeral 42 designates locking pins which are detachably secured to the container on the outer periphery thereof, which pins are inserted in the apertures 43 of the container when it is desired to retain the plate 28 against displacement for packing purposes. While I have shown but two pull cords under the control of the pilot, nevertheless, it is to be understood that suitable cords are provided for operating the containers disposed on the upper wing of the airplane.

In operation, in case of emergency, the pilot pulls the control cord 26 and releases the band 24. Due to the fact that the sectional lids 18 are held under tension, they will readily assume the dotted line position, shown to advantage in Figure 2. When the sections have been opened the parachute will be discharged, due to the expansion of the springs 32 and will assume the open position as disclosed to advantage in Figure 4. Should the pilot desire to release the parachute from the fuselage, then it is only necessary that he actuate the pull cord 40 and the ball 31 will travel upwardly through the innermost tubular section and the parachute will fly free from the fuselage.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:—

1. In combination with the fuselage and wing of an airplane, of a plurality of containers secured thereto, each container being adapted to house therein a parachute, means operable from adjacent the pilot's seat for opening said container, means disposed in said container for discharging a parachute therefrom, means under the control of the pilot for releasing the parachute from the airplane, said means comprising parallel strips secured to the base of the container, a ball connected to the parachute and retained in an inoperative position, and manually controlled means for releasing said ball, for the purpose specified.

2. In combination with the fuselage and upper wing of an airplane, of parachute holding containers positioned thereon, supporting means for said containers for retaining the same in a normally vertical position, each of said containers comprising a cylindrical body, hinged sectional lids secured to the upper extremity of said body, tension means positioned on said lid section, a ring for holding said sections normally closed, a pull cord under the control of the pilot for opening said ring, and means for discharging a parachute from its respective container upon the opening of said ring.

3. In combination with the fuselage and upper wing of an airplane, of parachute holding containers positioned thereon, supporting means for said containers for retaining the same in a normally vertical position, each of said containers comprising a cylindrical body, a hinged sectional lid secured to the upper extremity of said body, tension means positioned on said lid section, a ring for holding said sections normally closed, a pull cord under the control of the pilot for opening said ring, means for discharging a parachute from its container upon the opening of said ring, said means including a base plate for supporting the parachute, tubular telescoping sections connected to the bottom of the container, and spring means positioned beneath said base plate for forcing the same upwardly in said container.

4. In combination with the fuselage and upper wing of an airplane, of parachute holding containers positioned thereon, supporting means for said container for retaining the same in a normally vertical position,

each of said containers comprising a cylindrical body, a hinged sectional lid secured to the upper extremity of said body, tension means positioned on said lid sections, a ring for holding said sections normally closed, a pull cord under the control of the pilot for opening said ring, means for discharging said parachute therefrom upon the opening of said section, and means under the control of the pilot for releasing the parachute from the airplane.

In testimony whereof I affix my signature.

LE ROY E. ATKINSON.