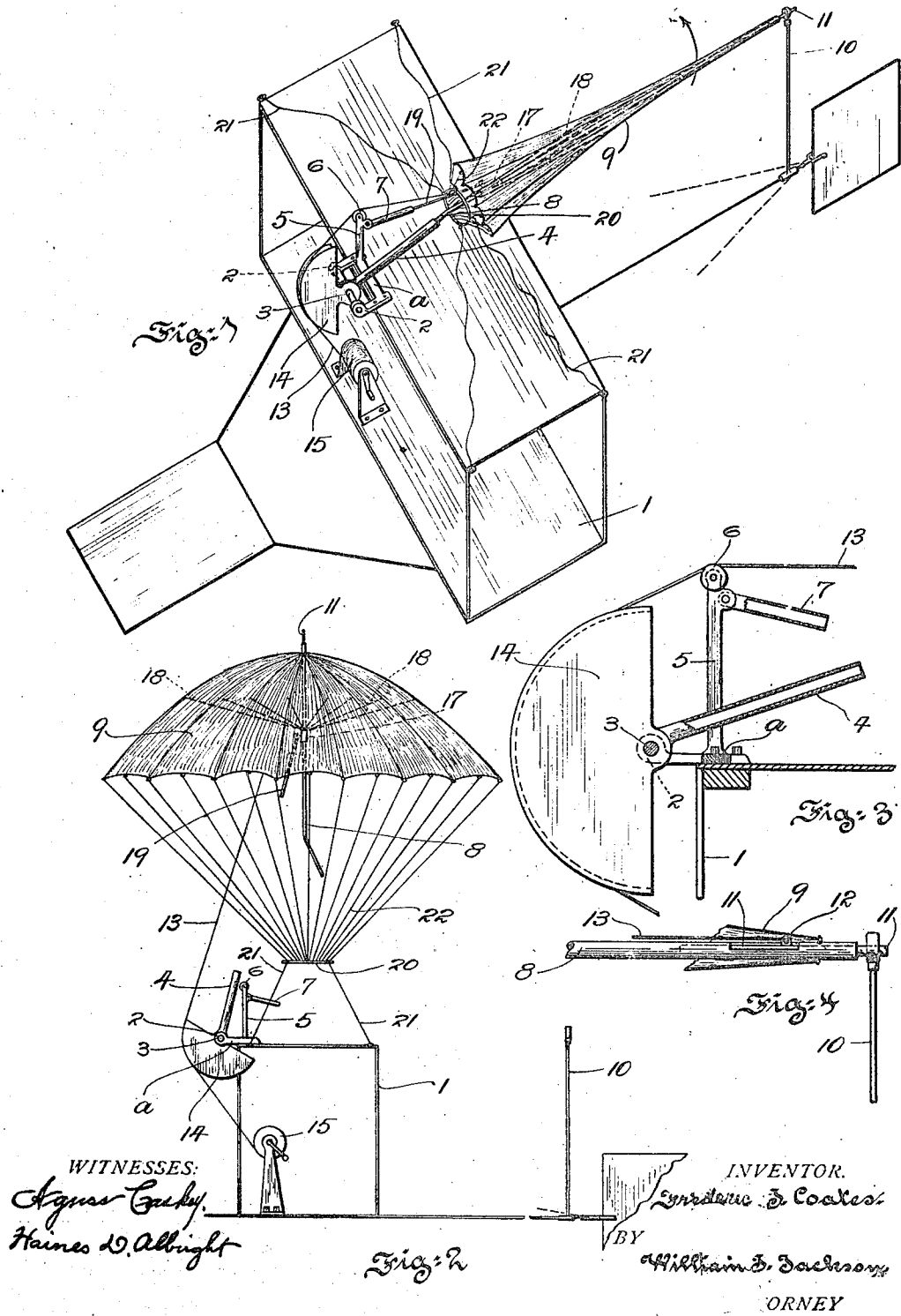


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SAFETY ATTACHMENT FOR AEROGRAFT.
APPLICATION FILED MAR. 8, 1911.

1,004,742.

Patented Oct. 3, 1911.



UNITED STATES PATENT OFFICE.

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SAFETY ATTACHMENT FOR AEROCRAFT.

1,004,742.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERIC J. COATES, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Safety Attachments for Aerocraft, of which the following is a specification.

The principal object of the present invention is to equip aerocraft with a safety attachment, which may be maintained in collapsed or horizontal position during the flight of the machine to which it is applied, but which may be readily and quickly moved to vertical or operative position by the navigator should the working parts of the aerocraft for any reason cease to properly operate, thereby permitting the aerocraft to descend balloon-like fashion in contra-distinction from being dashed to the ground.

The invention consists of the improvements hereinafter described and finally claimed.

The nature, characteristic features, and scope of the invention will be more fully understood from the following description taken in connection with the accompanying drawings, forming part hereof and in which:

Figure 1, is a perspective view of aerocraft equipped with the safety attachment of the invention, showing the same in collapsed or inoperative position, Fig. 2, is a view in side elevation of the aerocraft showing the safety attachment in vertical or operative position, Fig. 3, is a fragmentary view partly in elevation and partly in section of details of construction, and Fig. 4, is a fragmentary view in elevation of a further detail of construction.

In the drawings, the aerocraft 1, which may be of any well-known construction has mounted thereon at the front thereof bearings 2, which extend forwardly of the aerocraft and mounted between which for partial rotation is a shaft 3. The shaft 3, has fixed thereto a grooved segment 14, fixed to which and extending therefrom is a tubular member 4, arranged at a slight inclination to the aerocraft top. A stationary upright 5, which may be carried by the casting *a*, forming the bearings 2, is also present, provided at its top with a roller 6, and having projected inwardly therefrom and pivoted adjacent its top a downwardly directed tubular member 7.

Normally contained within the tubular portion 4, above mentioned is the central rod

8, of a parachute 9, the outer end of said rod 8, being supported by an upright 10, carried by the rudder guide or other convenient place. As shown the outer end of the rod 8, is hollow and has fitted therein a slid- 60 member 11, equipped with an eye 12, which projects through the slotted top of the rod 8. Connected with the eye 12, of the member 11, is a cord, chain or the like 13, which passes forwardly of the aerocraft through 65 the parachute over the pulley 6, of the upright 5, around the grooved segment 14, and is connected to a rotatable drum 15, which may be placed convenient to the navigator. Slidable on the rod 8, of the parachute 9, is a runner 17, connecting which and the parachute parts are ribs 18. Having pivotal 70 relation with the runner 17, is a spreader rod 19, which is adapted to fit within the tubular portion 7, of the upright 5, when the parachute is in normal position. A ring 20, is provided connecting which and the four corners of the aerocraft are cables 21, and connecting the ring 20, and various portions 80 of the perimeter of the parachute are a multiplicity of cords or cables 22.

The operation of the above described device may be said to be as follows: As long as the aerocraft is working properly, the safety attachment is maintained in horizon- 85 tal position as shown in Fig. 1. When in this position the member 11, of the rod 8, which may be termed a detent is retained by the ring like top of the support 10. Should, however, for any reason the working parts of the aerocraft fail to properly operate and the apparatus commence to drop, the navigator immediately turns the crank of the drum 15, in the proper direction thereby re- 95 leasing the detent 11, from the ring like portion of the support 10. By continued operation of the drum 15, the outer end of the parachute is raised in the direction of the arrow in Fig. 1, through the instru- 100 mentality of the cord 13, cooperating with the pivotally arranged segment 14, and its complementary tubular portion 4, it being understood that during this movement that the stationary upright 5, and its complemen- 105 tal tubular members 7, serve to force upward the runner 17, of the parachute to extend the same. When the parachute has partially raised from a horizontal to a vertical position atmospheric air is calculated to fill 110 and fully open the parachute thereby causing the parts 8, and 19, to leave the parts 4,

and 7, and permit the parachute to assume the position shown in Fig. 2. In this position the cords 22, and cables 21, together with the ring 20, serve to centralize the parachute as a whole with respect to the aircraft and at the same time anchor the parachute thereto. In this position of the parachute the aircraft will be sufficiently buoyed to permit of its gradual descent to earth.

10 By the above described arrangement and construction of parts it will be understood that the parachute as a whole normally has hinged relation with the aircraft by virtue of the segment 14, tubular portion 4, and

15 the rod 8, of the parachute. As the parachute is moved around its hinged point and atmospheric air fills the same to extended position the parachute then has merely anchored relation with the aircraft.

20 What I claim is:

1. In combination an aircraft, a hinged socket surmounting the aircraft, a single parachute disposed horizontally of the aircraft in a collapsed state, the stem of said

25 parachute being normally received in said socket, manually operated means for raising the parachute free of said socket to vertical position above the aircraft in extended position and means for anchoring the

30 parachute to the aircraft.

2. In combination an aircraft, a hinged socket surmounting the aircraft, a single parachute arranged horizontally of the aircraft in a collapsed and locked state the stem

35 of said parachute being normally received in said socket, means for releasing the parachute locking mechanism and simultaneously raising the parachute free of said socket to a vertical and extended position above the

40 aircraft and means for anchoring the parachute to the aircraft.

3. In combination an aircraft, a hinged segment provided with a socket surmounting the aircraft, a parachute anchored to the

45 aircraft the stem of which is normally re-

ceived in a horizontal position by said socket, means for locking the parachute in horizontal position, and manually operated means operatively connected with said parachute for releasing the locked position of the parachute and for simultaneously raising the same free of said socket to a vertical and extended position above the aircraft.

4. In combination an aircraft, a hinged segment and its complemental socket surmounting the aircraft, a parachute anchored to the aircraft the stem of said parachute normally received in a horizontal position by said socket, means for locking the parachute in horizontal position means as a cable for cooperating with said segment for releasing the parachute and elevating the same to a vertical and extended position above the aircraft and free of said socket and means for anchoring the parachute to the aircraft.

5. In combination an aircraft, a hinged segment and its complemental socket surmounting the aircraft, a parachute anchored to the aircraft, the stem of which freely engages said socket when in a horizontal position, a detent carried by the outer end of the parachute stem, an element carried by the rear of the aircraft adapted to be engaged by said detent, means for anchoring the parachute to the aircraft, a rotatable drum carried by the aircraft, a cable connecting said detent and said rotatable drum and passing over the segment whereby upon rotation of said drum, the detent is released and the parachute raised to a vertical and extended position above the aircraft and free of the socket.

In testimony whereof I have hereunto signed my name.

FREDERIC J. COATES.

Witnesses:

ROY L. McNEIL,
BERTHA S. McNEIL.