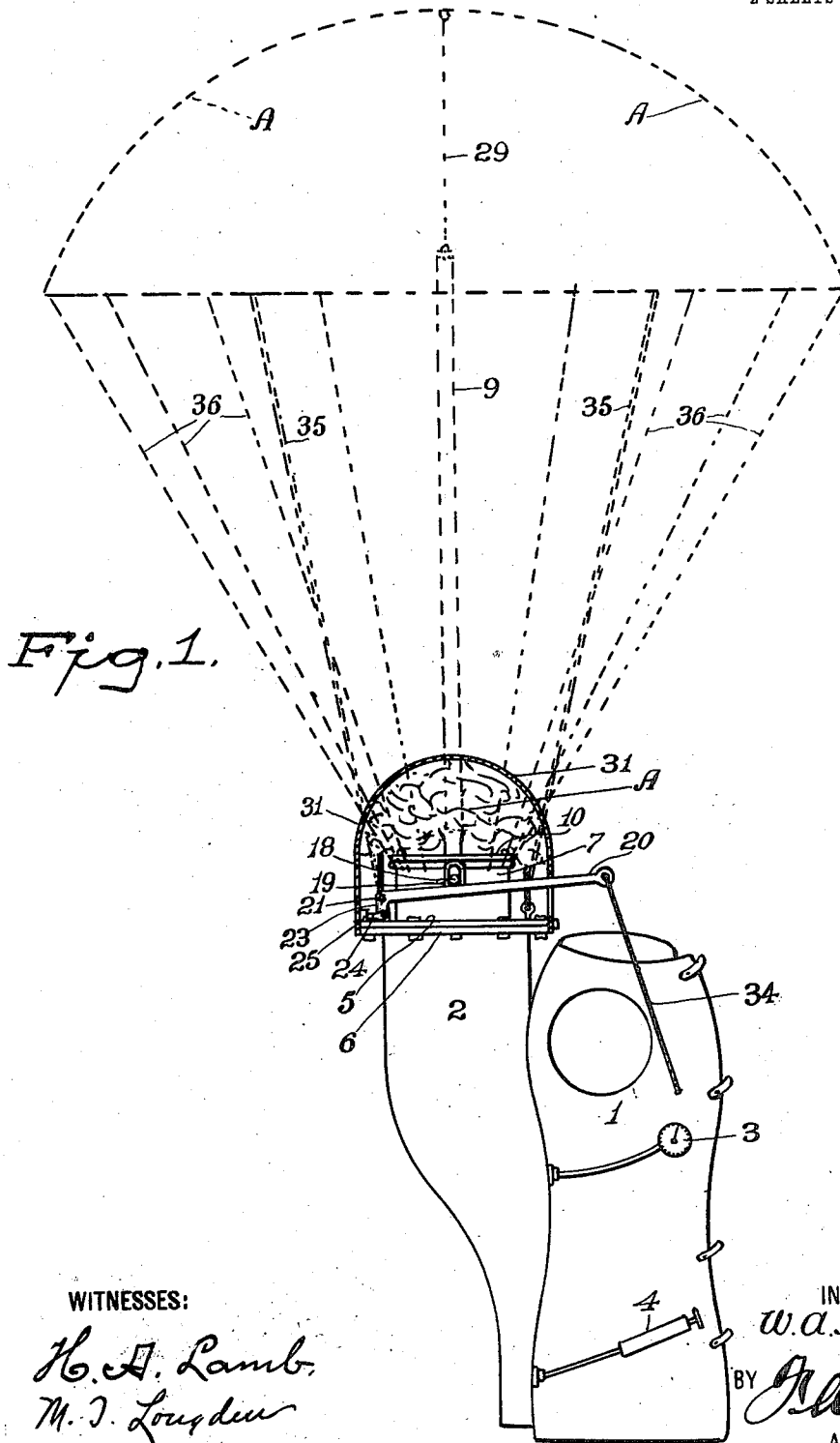


W. A. HODGE.
PARACHUTE APPARATUS.
APPLICATION FILED JULY 9, 1912.

1,043,836.

Patented Nov. 12, 1912.

2 SHEETS—SHEET 1.



WITNESSES:

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Fig. 2.

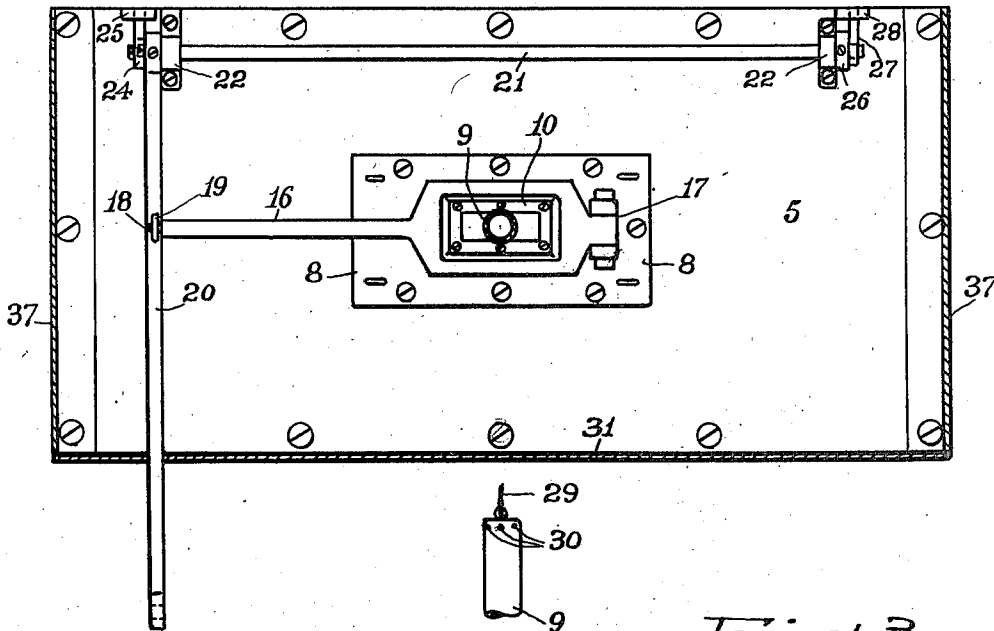


Fig. 3.

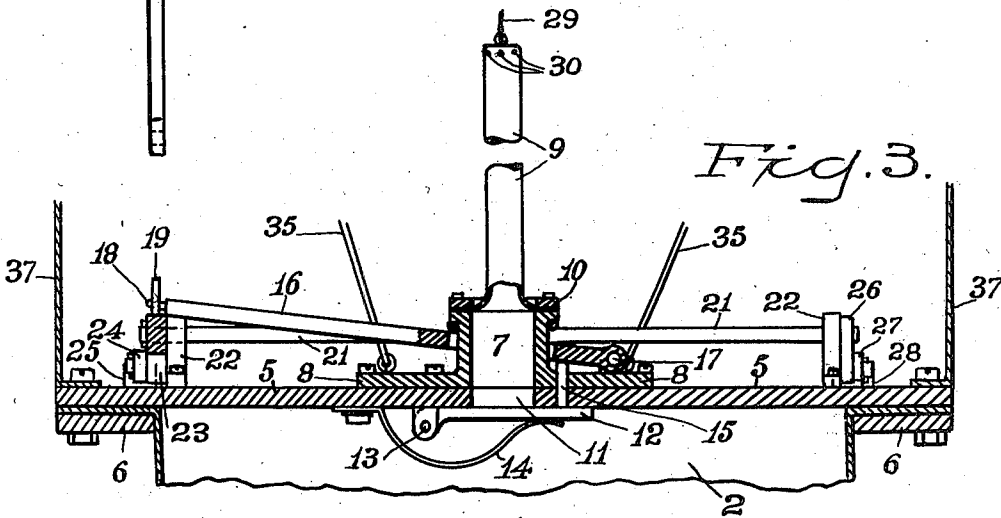
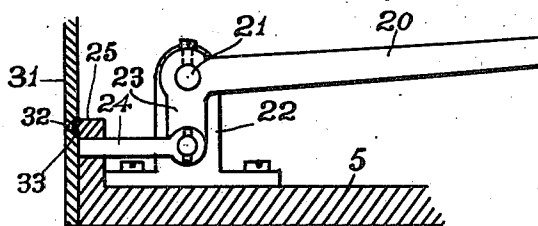


Fig. 4.



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PARACHUTE APPARATUS.

1,043,836.

Specification of Letters Patent.

Patented Nov. 12, 1912.

Application filed July 9, 1912. Serial No. 708,491.

To all whom it may concern:

Be it known that I, WILLIAM A. HODGE, a citizen of the United States, residing in the town of Milford, county of New Haven, State of Connecticut, have invented certain new and useful Improvements in Parachute Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain improvements in parachute apparatus, and has for its object to provide a device of this description which shall be very positive and safe in its operation and not at all likely to get out of order, and with these ends in view my invention consists in the details of construction and combination of parts herein after fully described and then particularly pointed out in the claims which conclude this description.

In the accompanying drawing Figure 1 is a side elevation of my improvement with the spring cover in section—Fig. 2 a horizontal sectional view, on an enlarged scale—Fig. 3 a central vertical longitudinal section, on an enlarged scale, and Fig. 4 is a detail sectional elevation, on an enlarged scale, showing particularly the mechanism that I prefer to employ for unlocking the spring cover.

Similar numerals of reference denote like parts in the several figures of the drawing.

1 is a waistcoat to be worn by the aeronaut, and 2 is an air reservoir preferably shaped to the back of the waistcoat and secured thereto. This reservoir may be made of aluminum or any suitable flexible material such as leather, and it is equipped with a gage 3 secured to the waistcoat and also a pump 4 which is likewise secured to the waistcoat so as to be in position for ready use, the object of the gage being to determine the pressure of the air within the reservoir while the pump may be utilized to increase this pressure if desired. The bottom of the reservoir is closed while its upper portion or mouth is secured in an air tight manner to the bottom plate 5 of the parachute chamber by means of an annulus 6 bolted to the bottom of the plate 5 with the edge of the reservoir confined tightly between said annulus and plate.

7 is a nipple having a flanged base 8 which

is bolted to the upper face of the plate 5, and to the upper portion of this nipple is secured a flexible nozzle 9, the bottom of this nozzle being secured directly to the outer face of the nipple by means of an annulus 10 bolted to the nipple and confining this bottom portion of the nozzle between the annulus and nipple so that the connection of the nozzle with the nipple will be air tight. The interior of the nipple 7 is alined with an opening 11 in the plate 5 which opening is normally closed by means of a valve 12 pivoted at 13 to the bottom of the plate 5 and normally seated against said plate by the action of a spring 14 secured at one end to the plate and bearing directly against the bottom portion of the valve. Projecting upwardly from the forward portion of the valve 12 beyond the opening 11 is a pin 15 which extends loosely through the plate 5 and base 8, and resting upon said pin so as to be normally supported thereby is a lever 16 one end of which is hinged at 17 to the top of the plate 5 and is yoke-shaped so as to surround the nipple 7, the free end of said lever being elongated and provided on its extremity with a pin 18 which extends loosely through an elongated loop 19 that projects upwardly from the primary lever 20. This lever 20 is secured at its rear end to a rock rod 21 journaled in bearings 22 that are secured to the plate 5, the rear extremity of this lever having a crank extension 23 to the lower end of which is pivoted a horizontally disposed pin 24 that extends loosely through an ear 25 that rises from the plate 5, and the opposite extremity of the rod 21 has secured thereto a crank 26 to the lower end of which is pivoted a horizontally disposed pin 27 that extends loosely through an ear 28 that rises from the plate 5, so that it will be clear that when the forward end of the primary lever 20 is depressed the pins 24, 27, will be thrown rearwardly beyond the ears 25, 28, the object of which will be presently explained.

The nozzle 9 is elongated so as to extend well up within the parachute proper when the latter is distended, as shown in dotted lines at Fig. 1, the upper end of the nozzle being connected to the parachute A by means of a suitable cord 29, while perforations 30 within the upper end of the nozzle permit the escape of compressed air so that the latter may readily and quickly cause the

parachute to initially open so that it may surely be properly spread or distended during a descent of the aeronaut.

When not in use the parachute and the nozzle are rolled or folded and deposited on top of the nipple 7, and a cover 31, made of thin sheet metal very resilient and secured at one edge to one side edge of the plate 5, incloses the parachute as shown at Fig. 1. This cover 31 is provided with notches 32 near its free end which are engaged with hook-like projections 33 that extend from the ears 25, 28, so as to normally hold the cover in position over the folded parachute, and such cover in closed condition lies very closely at its free end against these ears so that when the forward end of the primary lever is depressed the pins 24, 27, will be projected to unlock the cover and cause the same by its resiliency to assume a vertical plane so as not to obstruct the parachute when it is desired to distend the latter.

The primary lever 20 is equipped with any suitable cord or chain 34 within convenient reach of the aeronaut, and the operation of my improvement is as follows:—The aeronaut grasps the cord 34 and pulls the lever 20 downwardly, thereby unlocking the cover and causing the same to assume a vertical position, and a continued downward pull of said lever will cause the upper end of the loop 19 to act against the lever 16 and thereby depress the latter, whereby the valve 12 is opened thus allowing the gas from the reservoir to escape through the nozzle and initially open up the parachute so that the latter will readily distend as the aeronaut drops through the air. The ordinary main guys 35 and minor guys 36 that depend from the parachute are secured to the plate 5 in any ordinary manner.

In order that the parachute may be completely inclosed so as to be shielded from dirt or other foreign matter, I provide the bottom plate with upstanding sides 37, so that when the cover is locked in position over the parachute the entire parachute chamber may be closed.

My improvement may be varied as to many of its details of construction without departing from the spirit of my invention, the gist of which rests in the broad idea of releasing the parachute and initially open-

ing it up by the action of the compressed air which is brought about by the aeronaut by a single pull on the cord 34.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A device of the character described, comprising a compressed air reservoir adapted to be secured to the person of the aeronaut, a valve controlled nozzle for said reservoir, a parachute whose inner face is secured to the upper end of said nozzle, means for resiliently inclosing the parachute and nozzle in collapsed condition, and means controlled by the aeronaut for releasing the parachute and opening said valve.

2. An apparatus of the character described, comprising a waistcoat, a compressed air reservoir secured thereto, a parachute, a flexible nozzle attached at its upper portion to the inside of said parachute and communicating at its lower end with said reservoir, a valve for controlling communication between said reservoir and nozzle, a resilient cover adapted to inclose the parachute in collapsed condition, and means controlled by the aeronaut for unlocking said cover and opening said valve.

3. An apparatus of the character described, comprising a waistcoat, a compressed air reservoir secured thereto, a bottom plate to which said reservoir is secured at its upper portion said plate provided with an opening communicating with said reservoir, a resilient valve normally closing said opening, a parachute connected to said plate, a flexible nozzle whose upper end is perforated and is attached to the inner face of said parachute while its lower extremity communicates with said opening, a resilient cover secured at one edge to said plate and adapted to be locked near the other edge whereby the parachute in collapsed condition may be inclosed, and means controlled and operated by the aeronaut for releasing said cover and opening said valve whereby the parachute will be initially opened.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. HODGE.

Witnesses:

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M. T. LONGDEN.