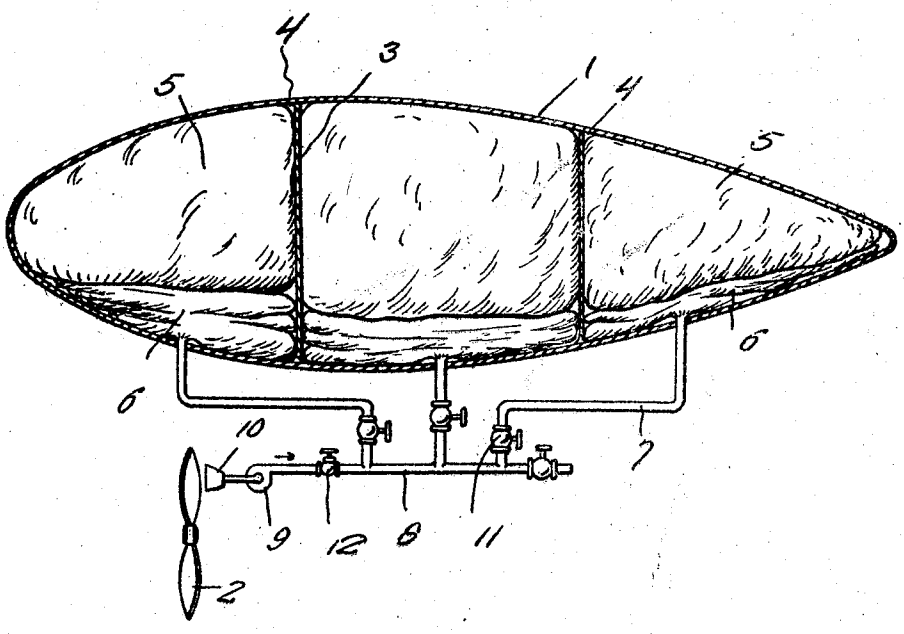
March 23, 1926. 1,577,756

I. W. REAGAN

BALLOON

Filed Dec. 10, 1924



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UNITED STATES PATENT OFFICE.

IRVIN W. REAGAN, OF ELFERS, FLORIDA.

BALLOON.

Application filed December 10, 1924. Serial No. 755,001.

To all whom it may concern:

Be it known that I, IRVIN W. REAGAN, a citizen of the United States, residing at Elfers, in the county of Pasco and State of Florida, have invented certain new and useful Improvements in a Balloon, of which the following is a specification.

This invention relates to improvements in lighter-than-air crafts, and has for its principal object to provide a balloon wherein means is associated therewith for facilitating the ascension and descension in a simple and efficient manner.

One of the important objects of the present invention is to provide a balloon which includes a plurality of gas bags which are inflated with an expansible gas, air bags being positioned below the gas bags for compressing the gas bags when inflated with air to facilitate the descension of the balloon without the loss of the expansible gas within the gas bags, the air bags being deflated to permit the expansion of the gas in the gas bags during the ascension of the balloon.

A further object of the invention is to provide a balloon of the above mentioned character wherein means is associated for cooperation with the propeller of the balloon for collecting air and discharging the same into the air bags, additional means being provided for controlling the supply of air to each of the air bags thus enabling the balloon to be easily stabilized.

A further object of the invention is to provide a balloon of the above mentioned character, which is simple in construction, inexpensive, strong and durable and furthermore adapted for the purposes for which it is designated.

Other objects and advantages of this invention will become apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals designate like parts throughout the same:

The figure represents a view partly in section, and partly diagrammatic.

In the drawing, wherein for the purpose of illustration is shown the preferred embodiment of my invention, the numeral 1 designates the envelope of my improved balloon, the same being preferably in the shape of a cigar. The usual carriage which is supported and suspended below the envelope is not shown in the drawing, but the propeller of the engine is illustrated at 2, the engine being also not shown for the reason that the same forms no important part of the present invention.

Suitable vertically extending partitions 3 are arranged within the envelope 1 whereby the compartments 4 are formed in the envelope. Adapted to be disposed in each of the compartments is a gas bag 5 which is adapted to be inflated with expansible gas in any well known manner. Also arranged in each of the compartments 4 below the inflated gas bag therein is the air bag 6.

Air is supplied to the air bags 6 through the several distributor pipe lines 7 which are connected at one end to the respective air bags and at their opposite ends to a main feed line 8. The latter in turn is associated with a suitable air receiving and discharging member designated generally by the numeral 9, which may comprise either an air compressor, blower fan or air collector, the same being disposed rearwardly of the propeller 2 and furthermore provided with the funnel shaped air receiver 10. Suitable cut off valves 11 are associated with the independent distributor pipes 7 and for cutting off the supply of air from the main feed line 8 to the distributor pipe 7, I provide a valve 12 in the main feed line as clearly illustrated in the drawing.

When the balloon is about to ascend, the air is released from the air bags 6 so that the gas in the gas bags 5 will expand, thus permitting the balloon to rise to the desired altitude. The air is released from the air bags so that the gas in the gas bags will expand nearly to the atmospheric pressure. When it is desired to descend, air is charged into the air bags, causing the same to become inflated and furthermore causing the compression of the gas bags without increasing the pressure in the envelope. This will decrease the lifting power, relieving the upward pressure of the gas on the upper half of the balloon and distributing a like pressure on the lower half of the balloon. By permitting the air bags to become inflated, thus compressing the gas bags within the compartments of the envelope, when descending, it will not be necessary to discharge any of the gas from the gas bags as is now usually done, thus preventing any unnecessary waste of the gas from the gas bags, yet

permitting the efficient descension of the balloon. The provision of the control valves 11 in the independent distributor pipes 7 will enable the balloon to be maintained in a stabilized position while in the air, and the valves are so arranged as to enable the operator within the carriage to have ready access thereto.

A balloon of the above mentioned character, may be constructed at a very low cost and will further be strong and durable, and the operation thereof will at all times be positive and efficient.

While I have shown the preferred embodiment of my invention, it is to be understood that various changes in the size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention and the scope of the appended claims.

Having thus described the invention, what I claim is:—

1. A balloon including in combination with the usual propeller associated therewith, an imperforated envelope, partitions in the envelope dividing the same into a plurality of compartments, an inflated gas bag separate from and independent of the envelope in each compartment, an air bag separate from and independent of the envelope and gas bag in each compartment below the gas bag therein, means for inflating the air bag, said means including an air receiving and discharging member, disposed rearwardly of the propeller and communicating therewith, a feed pipe extending from said member, and distributor pipes connecting said air bags with the said feed pipe.

2. A balloon including in combination the usual propeller, an imperforated envelope, partitions in the envelope dividing the same into a plurality of compartments, an inflated gas bag separate from and independent of the envelope beneath the compartment, an air bag in each compartment separate from and independent of the gas bag and the envelope and disposed below said gas bags therein, means for inflating the air bags consisting of an air receiving and discharging member disposed rearwardly of said propeller and in communication therewith, a feed pipe extending from said member, distributor pipes connecting said air bags with said feed pipes, valves in said distributor pipes, and valves in said feed pipes.

In testmony whereof I affix my signature.

IRVIN W. REAGAN.