

F. FILIASI.
 DEVICE FOR KEEPING AFLOAT AEROPLANES.
 APPLICATION FILED NOV. 3, 1910.

1,004,761.

Patented Oct. 3, 1911.

Fig. 1.

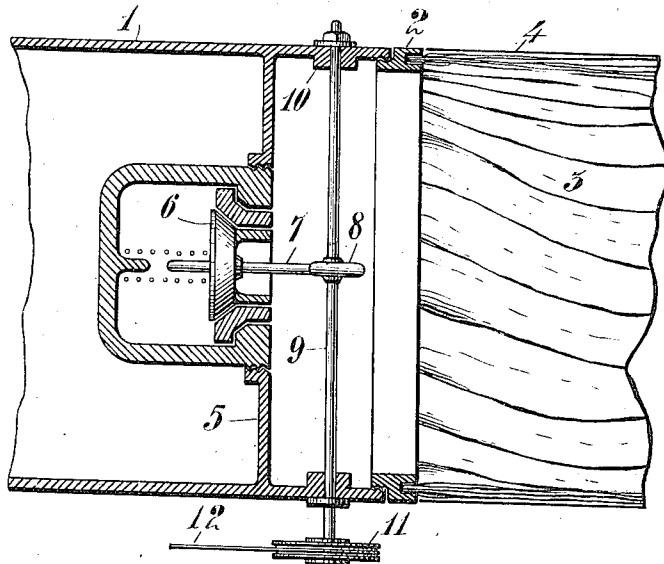


Fig. 2.

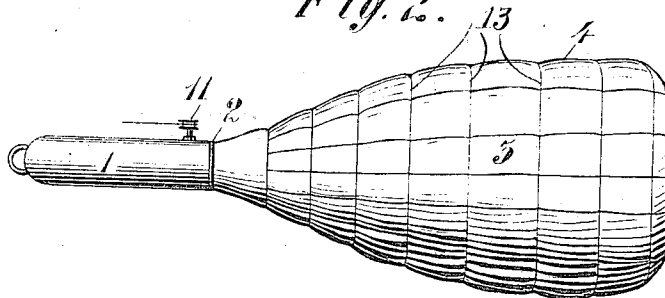
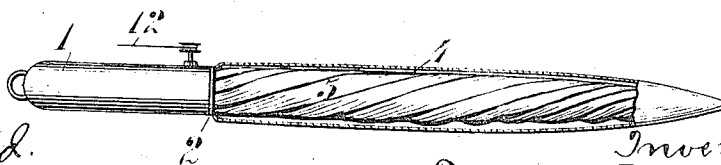


Fig. 3.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR KEEPING AFLOAT AEROPLANES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANCESCO FILIASI, gentleman, a subject of the King of Italy, residing at Palazzo Cellamare a Chiaia, in the city of Naples, Kingdom of Italy, have invented certain new and useful Improvements in Devices for Keeping Afloat Aeroplanes and the Like, of which the following is a specification, reference being had therein to the accompanying drawing.

It may happen, and in fact it has already repeatedly occurred in practice, that an aeroplane is compelled to alight while it is flying upon the surface of the sea or crossing a lake. In these circumstances it is necessary to provide the aeroplane with means capable of keeping same afloat, so that the aviator may be able to wait for assistance.

The object of the present invention is a floating device applicable to aeroplanes and capable of working in the due moment and which, besides of being very light, occupies also a very small space so that it offers only a little head resistance to the air during the motion and does not require a noticeable increase of the power of the motor.

In the annexed drawing: Figure 1 is a sectional view of one portion of the casing, and a portion of the bag, showing the manner of connecting the same with each other and the valve mechanism for releasing air from the casing so that the same may close into and inflate the bag. Fig. 2 is an elevation of the complete device showing the bag inflated. Fig. 3 is a view similar to Fig. 2 with the bag collapsed or folded and illustrating the same inclosed by a paper or other destructible covering.

The floating device substantially consists in a vessel —1— filled with compressed air and having preferably a cylindrical shape the fore end of which is sharpened for the purpose of diminishing the head resistance of the air when moving forward. The rear end carries a ring —2— to which a bag —3— of watertight linen is fixed, which has such a size that, when it is completely unfolded, it is capable of containing at the ordinary pressure all the compressed air stored into the tube —1—. The said bag is rolled up like a cigar, so that it looks like a continuation of the tube —1—, and to keep it rolled a watertight wrapper —4— of thin paper is provided which is torn in the moment in which the bag unfolds.

At the bottom —5— of the cylinder con-

taining the compressed air is applied a valve —6—, kept closed by the pressure of the compressed air. The valve carries outside a rod —7— which with its end rests against a cam —8— keyed on a shaft —9— which passes through the walls of the cylinder in two air tight bearings —10—. The shaft —9— at the outside carries a pulley —11— on which is wound a rope —12— the end of which is within the reach of the aviator. By pulling the said rope the shaft —9— revolves and the cam —8— pressing upon the rod —7— of the valve compels the latter to open and to give free passage to the air which rushes into the bag —3—. When this takes place the paper wrapper —4— is torn and thus the apparatus is ready for use. It will be understood that any other valve construction and any other valve controlling device may be adopted according to the circumstances. As it is convenient to give to the filled bag a flattened shape, it is provided inside with straps from one wall to the other, by means of which it takes the desired shape in correspondence with the free room available between the different parts of the aeroplane. Moreover the bag itself on the outside may be provided with a net —13— by means of which a greater resistance is secured. It will be easily understood that an aeroplane may be provided with two or more of said bags disposing the same in such a way as to attain a stable equilibrium on the water. In this case all the controlling ropes —12— will join at a single lever or hand wheel within the reach of the aviator and by turning the said lever or hand wheel the simultaneous unfolding of all the bags is produced. Things could also be arranged in such a way that the opening of the valves takes place automatically through the effect of a horizontal plane or of a hollow body connected with the aeroplane, which plane or body, when plunging into the water, pushes upward, and disengages a trigger which causes to act a spring which operates the traction of the controlling rope. However, the valves preferably are opened by the aviator himself before the aeroplane reaches the surfaces of the water; in this way, when touching the water, the bags are already unfolded and ready to work as floats and moreover through the resistance which they oppose when they are filled, they shall have already diminished the

speed of the aeroplane. Lastly it will be convenient to provide the bag with a small valve, to which may be adapted a pump intended to compress the air in the same way as it is practiced for inflating the pneumatic tires, in case the bag should undergo any loss of air and it should be necessary to have it refilled after a long stay in the water.

10 Having thus particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

15 1. A device for floating aeroplanes comprising in combination, a casing containing air under pressure and provided with an outlet, a valve closing said outlet, an inflatable bag having its opening secured to the casing and arranged to receive air discharged through said valve outlet, means 20 for operating said valve, and a paper bag for retaining said first named bag in a folded or collapsed position.

2. A device for floating aeroplanes or the like comprising in combination, an elongated casing for containing air under pressure and provided with an end outlet wall

disposed inwardly with respect to the end of the casing wall, an outlet valve in said casing wall, an inflatable bag having an open end, a ring secured to the margin of the open end of the bag and to the margin of said end of the casing, and means for operating the valve to cause inflation of the bag. 30

3. A device for floating aeroplanes or the like comprising in combination, a casing for containing a pressure medium and provided with an outlet wall disposed inwardly with respect to the end of the casing wall, an outlet valve for releasing the pressure medium 40 from the casing, means disposed between the end of the casing wall and said outlet wall for operating said valve, an inflatable bag having an open end, and a ring secured to the margin of the open end of the bag and 45 to the margin of said casing, substantially as described.

In testimony whereof I have affixed signature in presence of two witnesses.

FRANCESCO FILIASI.

Witnesses:

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TENTANINO LABACCETTA.