L. L. MARTINEAU.
LIQUID CONTAINER FOR AEROPLANES.
APPLICATION FILED DEC. 15, 1918.


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Inventor

Witnesses

V. J. Evans

Attorney
UNITED STATES PATENT OFFICE.

LAUREAT L. MARTINEAU, OF ST. JOHN, NORTH DAKOTA.

LIQUID-CONTAINER FOR AEROPLANES.

1,351,395.


Application filed December 18, 1918. Serial No. 367,324.

To all whom it may concern:

Be it known that I, LAUREAT L. MARTINEAU, a citizen of the United States, residing at St. John, in the State of North Dakota, have invented new and useful Improvements in Liquid-Containers for Aeronautics, of which the following is a specification.

The object of my present invention is the provision of a container for liquids such as gasoline, kerosene and alcohol, designed to form part of the equipment of an aeroplane or other airship and constructed with a view to stopping leaks and preventing the loss of liquid when the container is subjected to gun-fire and even when the container is pierced by a bullet or similar projectile.

With the foregoing in mind, the invention in all of its details will be fully understood from the following description and claims, when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a side elevation of the container constituting the best practical embodiment of my invention that I have as yet devised.

Fig. 2 is a longitudinal central section of the same.

Fig. 3 is a transverse section taken in the plane indicated by the line 3-3 of Fig. 2.

Fig. 4 is a transverse section taken in the plane indicated by the line 4-4 of Fig. 2.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

My novel container is designed more especially for the carrying of gasoline or analogous hydrocarbon, inasmuch as it is essential in aeroplane practice to avert leakage of the gasoline because of the danger from fire that is ordinarily attendant upon such leakage. It is also essential in the aeroplane art to avoid making the container unduly heavy, and this latter consideration has been observed in the conception of my novel container as will hereinafter appear.

In furtherance of my invention, I employ a liquid tank 1 that is cylindrical in shape and is preferably made of thin steel or of a metal or alloy that is not easily ripped, or, if preferred, for the sake of lightness the tank 1 may be of oil-proof and fireproof fiber, provided such material is capable of resisting considerable interior and exterior fluid pressure. At its ends the tank 1 is provided with oval heads 2, and interiorly the tank is provided with light braces 3, which for the sake of strength are interposed between and fastened to opposite points of the interior of the tank.

Fitted in the center of one end of the tank 1 is a solid shaft 4, and fastened in the opposite end of the tank is a conduit 5, of steel or other suitable material, which is connected to a pipe 6 that terminates in the tank close to the bottom thereof and preferably at a point adjacent to the transverse center of the tank. The conduit 5 is preferably equipped with a gage 7 and with a filling appurtenance 8, equipped with a non-return valve 9. Manifestly, the said conduit 5 is adapted to conduct the gasoline or other liquid from the interior of the tank 1 to the internal combustion engine or other point of use.

Inclosing and spaced from the tank 1 is the revoluble protection member 10 of my novel container. The said container 10 is chambered as indicated by 11, is provided with inner and outer spaced walls 12 and 13, is equipped in its outer wall 13 with a valved induction conduit 14, and is provided at its ends with bearings 15 and 16, which are revoluble about the shaft 4 and the conduit 5, respectively. The bearing 15 is carried by a sleeve 17, and fixed upon the said sleeve 17 and exteriorly of the revoluble protection member 10, is a hand wheel 18 through the medium of which the revoluble member may be quickly and easily turned about its axis as occasion demands. It will also be manifest here that the revoluble protection member 10 is adapted to be turned by the impact of a bullet or the like, and that this capacity of function is important in enabling the protection member to prevent leakage of gasoline or other liquid from the container. The walls 12 and 13 of the protection member 10 are formed of light fireproof fiber, or soft metal or steel in the discretion of the manufacturer of the container. The said walls 12 and 13 of the revoluble protection member are each lined with a seamless coating 20 of pure rubber combined with four (more or less) layers of fabric consisting of thin rubber sheets and closely woven textile, generally similar in character to the casings of wheel tires. In the chamber 11, lined as specified, is disposed a seamless rubber tube 21, generally similar to the inner tube of an in-
flatable tire. The said tube 21 is connected with the inner end of the induction tube 14 hereinbefore alluded to. At this point I would have it understood that I contemplate forcing through the induction tube 14 and into the rubber tube 21 a small quantity of fire and cold-proof rubber liquid cement, indicated by 22. Sufficient of the liquid cement is employed to fill the bottom space of the tube in the chamber 11.

It will be manifest from the foregoing that in the event of the protection member 10 being punctured by a bullet or otherwise, the puncture will be healed or repaired at once when the protection member is rotated about its axis, and at this point I would have it understood that without involving departure from the scope of my invention the protection member 10 may be turned about its axis so long as an aeroplane is in flight.

It will be gathered from the foregoing that my novel protection member 10 is calculated to efficiently guard the container 1 against the puncture or other injury, but, if, for any reason, leakage takes place from the container 1, the liquid that escapes will be caught and retained in the protection member 10, and consequently there will be no liability of such liquid causing a fire or explosion.

Having described my invention, what I claim and desire to secure by Letters Patent, is:

1. The combination of a liquid container, and a revoluble protection member inclosing and spaced from said container; said revoluble protection member comprising inner and outer spaced walls, a valved induction tube in the outer wall, linings at the inner sides of said walls, an inflatable tube disposed between the walls and connected to the induction tube, and liquid cement in said inflatable tube.

2. The combination of a liquid container, a shaft extending from one end thereof, a conduit member extending through the opposite end of the container and communicating with the interior thereof, a revoluble protection member inclosing the liquid container and mounted to turn about the shaft and conduit member, and mobile means in the revoluble member to automatically heal punctures therein.

3. A fuel tank comprising a fuel container, a revoluble protection member surrounding and spaced from the container, and mobile means in the revoluble protection member to automatically heal punctures therein.

In testimony whereof I affix my signature.

LAUREAT L. MARTINEAU.