L. LE BOZEC.

OIL OR PETROL TANK AND OIL OR PETROL FEED APPARATUS.

APPLICATION FILED AUG. 6, 1917.

1,283,228. Patented Oct. 29, 1918.

Fig. 1

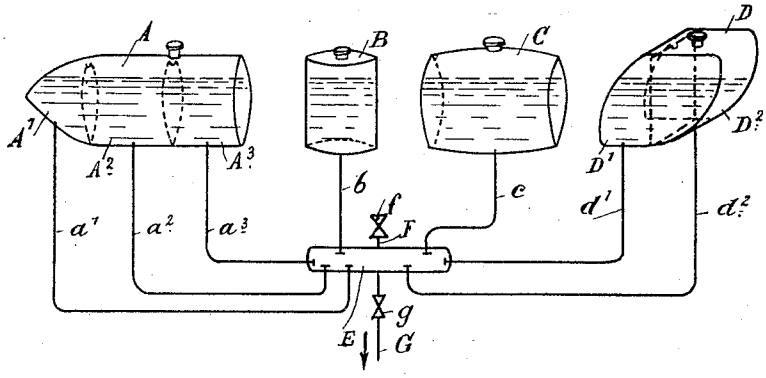


Fig. 2

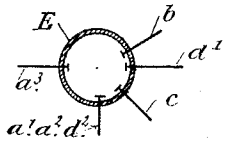


Fig. 3.

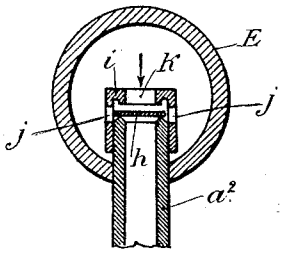
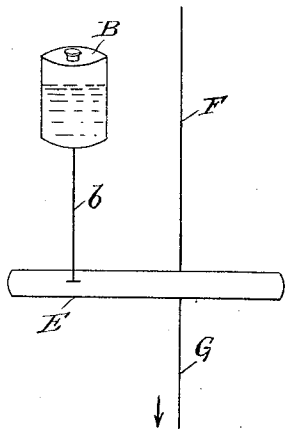


Fig. 4.



Inventor:-
Léon Le Bozec.
By:- B. Singer, Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LÉON LE BOZEC, OF BÉCON-LES-BRUYÈRES, FRANCE.

OIL OR PETROL TANK AND OIL OR PETROL FEED APPARATUS.

1,283,228. Specification of Letters Patent. Patented Oct. 29, 1918.

Application filed August 6, 1917. Serial No. 184,791.

To all whom it may concern:

Be it known that I, LÉON LE BOZEC, residing at Bécon-les-Bruyères, France, have invented new and useful Improvements in Oil or Petrol Tanks and Oil or Petrol Feed Apparatus, of which the following is a specification.

This invention relates to improvements in oil tanks and oil feed apparatus, whereby it is possible:

(1) To connect the tanks, or the compartments of one or more tanks, for the purpose of the joint feeding of one or more machines, with liquid fuel, lubricant or other fluid.

(2) To limit automatically the loss of liquid in the event of a leakage, to the damaged tank or compartment, without unfavorably affecting the working of the other compartments or tanks.

In order to illustrate the invention, reference is made to the accompanying drawing, in which,

Figure 1 shows diagrammatically the whole of the device,

Fig. 2 shows diagrammatically on an enlarged scale, the chief elements of the device in cross-section, and

Fig. 3 is a cross-section of a valve on a still larger scale.

Fig. 4 is a diagram of a modified form of the device.

In the said drawing, A, B, C, D, are tanks containing liquid for feeding an engine, two of the said tanks (A and D) being partitioned inside so that one of them is divided into three compartments A^1, A^2, A^3 and the other into two compartments D^1 and D^2.

The tanks A, B, C, D or their compartments are respectively connected to a collector E by pipes a^1, a^2, a^3, b, c, d^1 and d^2 each of which is provided, in the interior of the collector E, with a valve, the construction of which will be hereinafter described.

The partitions of the tanks A and D are perforated at the top in order to enable their compartments to communicate with each other at the said point, and in order that the tanks can be filled each through a single upper opening.

The collector E is provided at the top with a pipe F with a relief valve f which can be replaced by a pipe, the upper end of which must terminate at a higher level than that of the liquid in the tanks. At the bottom, the collector E is connected by a pipe G provided with a stop valve g, to the engine to be supplied.

Each pipe connecting one of the tanks A to D, to the collector E, is provided inside the latter, with a valve (Fig. 3) comprising a small disk h which rests on the end of the pipe which is beveled inside and outside by the intersection of two conical surfaces, as clearly shown.

On the said end of the pipe is placed a cap provided laterally with holes j which are smaller than the hole k at the end.

When after filling the tanks A to D, it is desired to feed the engine, the relief valve f is first opened, and then closed again as soon as the liquid begins to escape. Then the valve g of the pipe G leading to the engine, is opened. It will be readily understood that, owing to the interposition of the collector E, all the tanks will take part simultaneously in feeding the engine.

During the whole time that the liquid passes from the tanks to the engine, the disks h are held in contact, by the pressure of the liquid of the tanks (which are on a higher level) with the cover of the cap i, and the escape of the liquid takes place through the holes j.

Assuming that for any reason a leak springs up in the compartment A^2 of the tank A, the liquid contained in the said compartment will escape and be lost, but that from the other compartments or other tanks will not be able to follow the same path, as the disk h contained in the cap i surmounting the end of the pipe a^2, will be forced in a tight manner against the said end of the pipe a^2 owing to the difference of pressures acting on the two faces of the disk, and will thus prevent the liquid admitted into the collector E from the other compartments or other tanks, from escaping through the said pipe a^2. The loss of liquid will thus be limited to the leaking compartment or reservoir.

It must be pointed out that, owing to the hole k being made in the cap j in line with the pipe supporting the latter, the pressure of liquid in the event of leakage will always be sufficient, owing to the small weight of the disk h compared to its surface, to force the said disk or valve h against its seat, on the pipe, whether the device be horizontal or not, so that the pipes can be introduced into the collector E at any angle and even in the

downward direction. The whole of the device therefore can be inclined or turned in any direction, without danger of any return of the liquid through the pipes; which result cannot be obtained with chambers having floats which jam as soon as their vertical position is not sufficiently secured.

It must be pointed out that the collector E, owing to the fact that the conduits supplying it, can be introduced into it at any angle, need not be at all large, and that consequently it can be easily constructed—without the installation being thereby rendered any heavier—with such a wall thickness as will enable it to withstand bullets, which is an advantage if the device be applied for instance to air-craft or military motor-cars or ships.

It must be further pointed out that the valve device described and shown more particularly in Fig. 3, is merely a preferable system, and that any valve device adapted to work in a position inclined to the vertical, can equally well be used in certain cases.

Having now 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:

1. In combination with the feed tank of an engine, a collector, pipes connecting said tank with said collector, an admission valve at the extremity of each of said pipes within said collector.

2. In combination with the feed tanks and feed compartments therein of an engine, a collector, pipes connecting said tanks with said collector, a valve at the extremity of each of said pipes within the collector, said valve being constituted by a disk supported by the end of said pipe, which end is beveled inside and outside by the intersection of two conical surfaces, and a cap provided with lateral holes and a larger axial hole, substantially as described and for the purpose set forth.

3. The combination of the feed tanks and compartments therein of an engine with a collector, of conduits, connecting said collector and tanks and compartments respectively, admission valves disposed at the extremities of said conduits in the interior of said collector, and a conduit at the upper part of the collector, the upper extremity of which is in communication with the atmosphere at a level higher than that of the liquid in said tanks and their compartments.

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

LÉON LE BOZEC.

Witnesses:
CHAS. P. PRESSLY,
JULES LEBRUN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."