Dec. 16, 1941. F. AMIOT 2,266,682

DEVICE FOR FILLING TANKS

Filed Nov. 16, 1939

Fig. 1

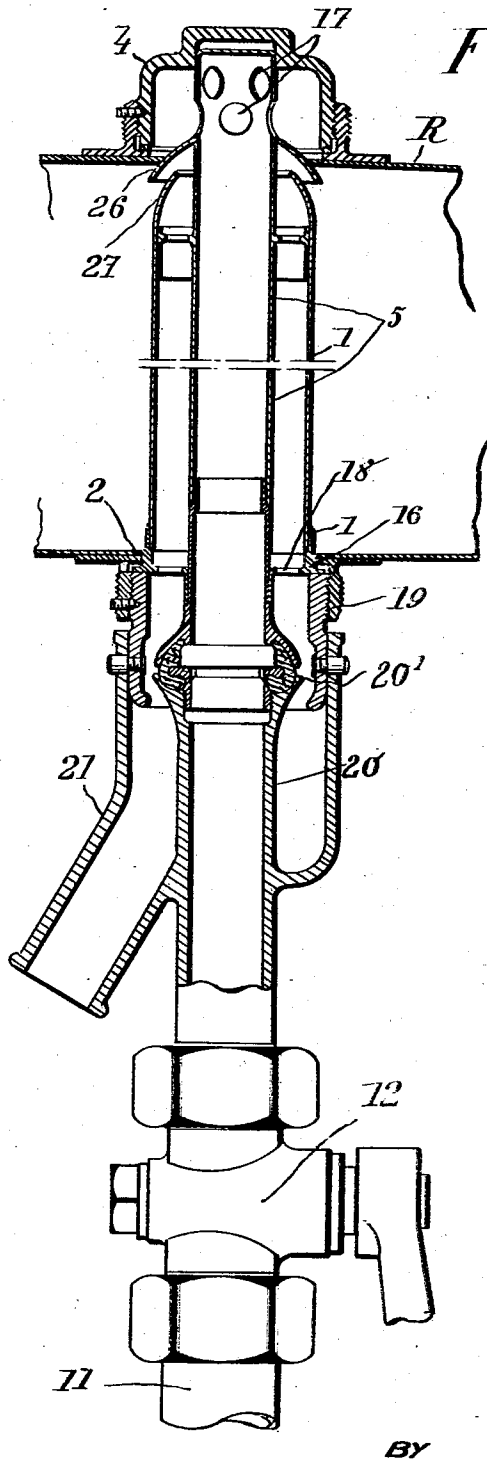


Fig. 2

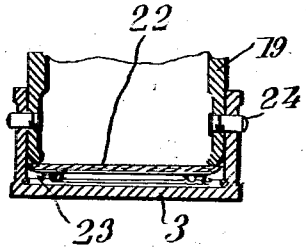
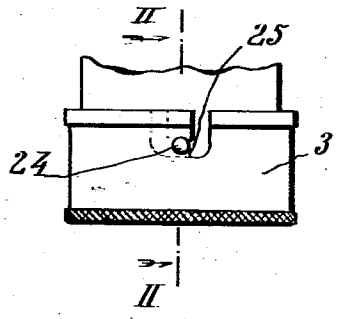


Fig. 3



INVENTOR
FELIX AMIOT,

Bailey & Parsons

ATTORNEYS

UNITED STATES PATENT OFFICE

2,266,682

DEVICE FOR FILLING TANKS

Felix Amiot, Neuilly-sur-Seine, France

Application November 16, 1939, Serial No. 304,831
In Luxemburg September 30, 1939

3 Claims. (Cl. 244—135)

The present invention relates to devices for filling tanks, and especially aircraft tanks such as are placed in the wings.

In a prior U. S. patent application I described devices of this kind, which were characterized by the provision of means for preventing any amount of liquid spilled during the filling of the tank from reaching the inner wall of the casing (for instance the airplane wing) containing the tank, and causing said spilled liquid to flow directly to the outside of said casing.

For this purpose, according to a preferred embodiment described in said prior application, the liquid is fed to the tank from the bottom through a tube extending upwardly through the tank and opened at the top for pouring liquid into said tank, any liquid spilled from said top being evacuated, together with air, through a conduit or sleeve surrounding said tube and opening directly into the atmosphere.

The chief object of the present invention is to provide a filling device of this type which is particularly well adapted to meet the requirements of practice, and is very easy and quick to operate.

According to an essential feature of the present invention, the feed tube above mentioned is mounted in a fixed or stationary manner with respect to the tank and aircraft or other structure, and I provide means for coupling to the bottom of said tube the conduit leading from the external source of liquid or fuel.

According to another feature of the present invention, the means for establishing the connections with the external source of liquid, or on the contrary for closing the tank, are of the bayonet type.

Other features of the present invention will result from the following detailed description of a specific embodiment thereof.

A preferred embodiment of the present invention will be hereinafter described, with reference to the accompanying drawing, given merely by way of example, and in which:

Fig. 1 is an axial vertical section of a fuel tank for airplane, provided with a device for the filling of said tank from an external source of fuel, said device being made according to an embodiment of the present invention;

Fig. 2 is a separate view, on the line II—II of Fig. 3, in section, showing the assembly of one of the tubes of Fig. 1 and of a closure plug according to the invention;

Fig. 3 is an elevational view corresponding to Fig. 2.

In the following description, it will be supposed, by way of example, that the invention is applied to the case of a fuel tank R fitted on an aircraft, inside the wing thereof.

The device according to the invention includes a feed tube 5 extending upwardly through said tank R, said tube being mounted on the inside of another tube, or conduit, 1, which is coupled, in a fluidtight manner, at 2, to the bottom of the tank. This conduit 1 permits the spilled or leaking liquid to escape downwardly to the outside of the wing, and also the air driven out from the tank by the filling thereof to escape to the atmosphere.

According to the present invention, tube 5 is mounted in a fixed and stationary (or eventually removable) manner inside conduit 1, and means are provided for fitting to the bottom end of tube 5, a tube 11 leading from the external source of fuel for the filling of the tank.

For this purpose, in the embodiment illustrated by the drawing, the central tube, or feed tube 5 is mounted as follows:

It is engaged, at its upper part, inside a member such as 4, this member advantageously constituting a kind of dome-shaped extension of the top of tank R.

Furthermore, said feed tube 5 is fixed, at its lower end, in a piece such as 16 which constitutes a rigid connection between tube 5 and the wall of the outer conduit 1.

Feed tube 5 is fitted, at its upper part, with holes 17 for the passage of the liquid or fuel. On the other hand, annular piece 16 is also provided with holes 18 for the passage of air and of the spilled or leaking liquid.

Finally, an inverted cup-shaped piece 26 is mounted at the top end of tube 5, forming a deflector and covering the upper end 27 of the external tube or conduit 1.

Concerning the means for fitting to the bottom end of tube 5 a tube 11 leading from the external source of fuel, they are advantageously made as follows, as illustrated by the drawing:

I provide, at the bottom end of the structure above described, a socket 19, or any other equivalent annular member, fixed to the coupling piece 16 or to the bottom end of tube 5, and on which can be secured either of the two following elements: either a suitable coupling conduit, or eventually directly tube 11; or a plug such as 3 (Figs. 2 and 3) which closes said socket 19 in a fluidtight manner.

Of course, means are provided for permitting the escape of air from the tank during the filling

