Oct. 21, 1941. O. E. GUILLAUME 2,259,633

FUEL SEPARATOR

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Fig. 2.

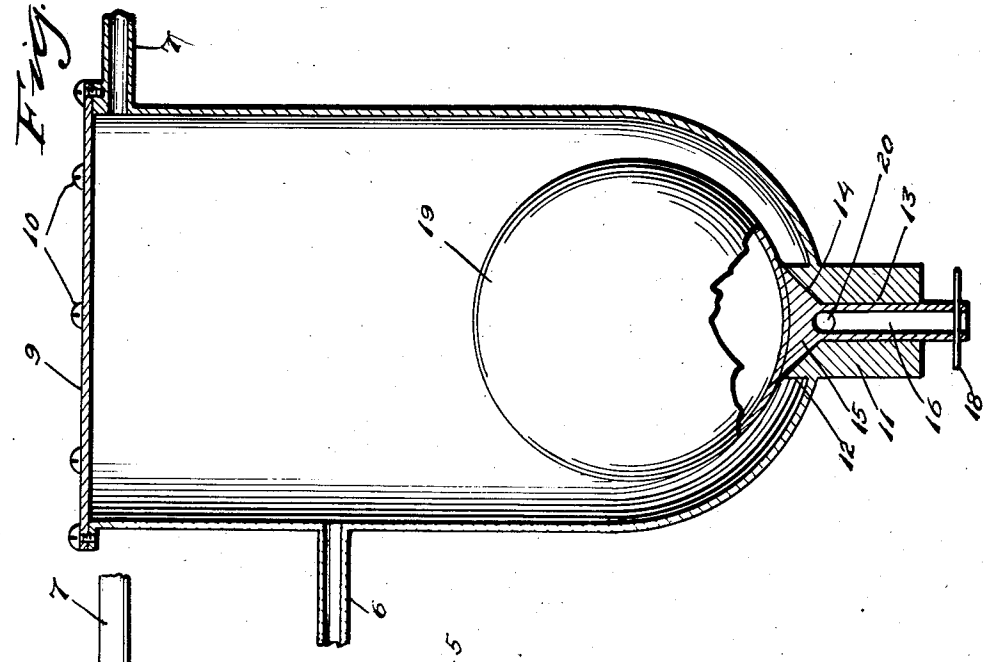
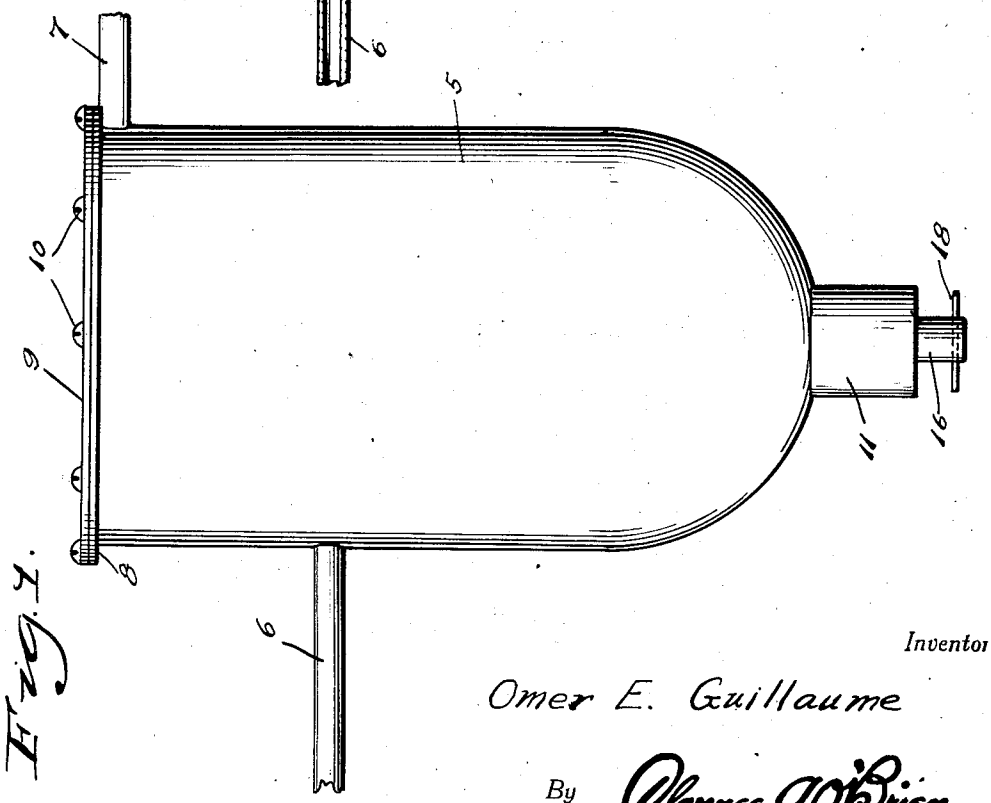


Fig. 1.



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Fig. 3.

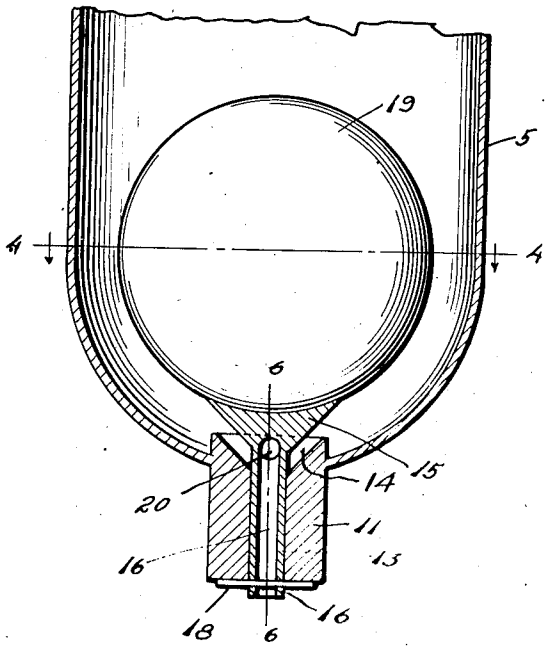


Fig. 5.

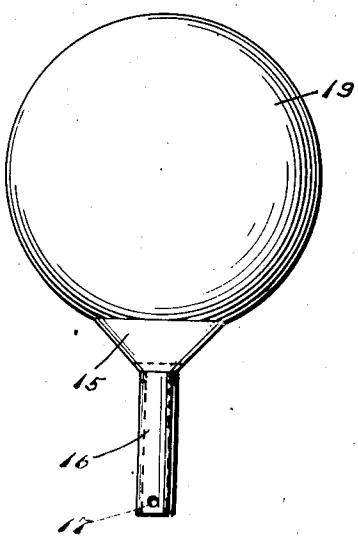


Fig. 4.

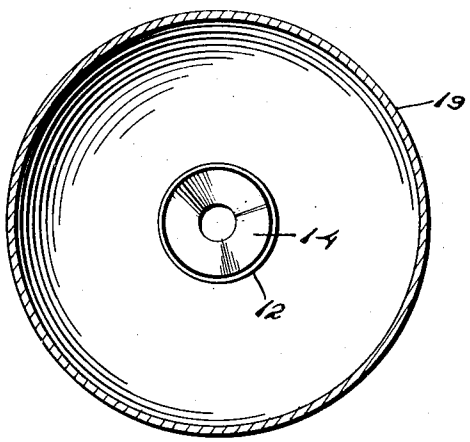
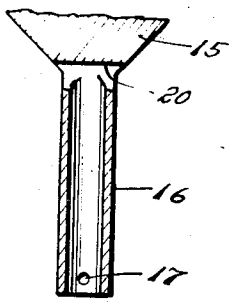


Fig. 6.



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2,259,633

UNITED STATES PATENT OFFICE

2,259,633

FUEL SEPARATOR

Omer E. Guillaume, Honolulu, Territory of Hawaii

Application September 27, 1940, Serial No. 358,733

1 Claim. (Cl. 210—54)

This invention relates to new and useful improvements in fuel separators and more particularly to an apparatus for separating gasoline, kerosene, Diesel fuel, or other liquids having various specific gravities different from water.

The principal object of the present invention is to provide a simple and inexpensive device which will be positive acting and not susceptible to the ready development of defects.

Other objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings:

Figure 1 represents a side elevational view of the separator.

Figure 2 is a vertical sectional view through the separator showing the float partly in section.

Figure 3 is a fragmentary vertical sectional view through the lower portion of the separator showing the float ball in floated position.

Figure 4 is a sectional view taken substantially on the line 4—4 of Figure 3 with the float removed.

Figure 5 is a side elevational view of the float.

Figure 6 is a fragmentary detailed sectional view substantially on the line 6—6 of Figure 3.

Referring to the drawings, wherein like numerals designate like parts, it can be seen that the separator consists of a cylindrical tank 5 having a fuel inlet pipe 6 and an outlet pipe 7. This tank has a flanged upper end 8 to which a cap plate 9 is secured by screws or bolts 10.

The bottom of the tank is of hemispherical shape and has the seat and guide body 11 in the central portion thereof. A portion of this body extends upwardly into the bottom portion of the tank as at 12. A bore 13 extends vertically through the body 11 and the upper interior of this body is beveled to define a seat 14 against which a tapered valve structure 15 is operative. This valve element 15 has a depending hollow stem 16, this stem having openings 17 in the lower end thereof through which a stop pin 18 is disposed to limit rising of the valve.

The top of the valve structure 15 is concaved to receive a portion of a spherical-shaped hollow float 19. This float can be secured by welding or other means to the valve structure 15. Ports 20 open through the sides of the stem 16 from the interior of the stem 13 immediately at the merging point of the stem with the valve structure 15.

As can be seen, the float 19 assumes the position shown in Figure 2 when there is but a small amount of water or no water in the bottom of the tank. Due to the difference in specific gravity, water will remain below various kinds of oils such as are used for fuel, and in the operation of the present apparatus, in the event the water content of the tank 5 increases sufficiently to float the float 19, the valve structure 15 will be lifted from the seat 14 and the water will be permitted to discharge through the stem 16. As the water is drained, the float 19 will again settle on the seat 14, as it is to be understood that the float 19 is too heavy to float in liquid of the specific gravities of gasoline, kerosene, Diesel fuel, etc.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is—

A device for separating water from liquid fuel comprising a tank having a substantially semi-spherical bottom, a body depending from the bottom of the tank and having a portion extending slightly into the tank, said body having a longitudinally extending bore therein and an inverted conical recess in its top with which the bore communicates, a float in the tank of greater weight than the liquid fuel to be placed in the tank but buoyant in water, a substantially conical valve forming member connected with the lower part of the float and engaging the conical recess when the float is in lowered position and a tubular stem extending downwardly from the valve forming part and having a lateral opening at its point of junction with the valve forming part for communicating the interior of the stem with the interior of the tank when the float is in raised position, said stem having a sliding fit in the bore of the body for guiding the float in its movement.

OMER E. GUILLAUME.