Sept. 9, 1924. 1,507,806

L. A. ZELLER

GASOLINE FILTER

Filed Jan. 17, 1921

Fig. 1.

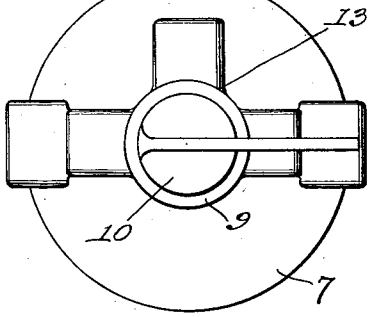


Fig. 3.

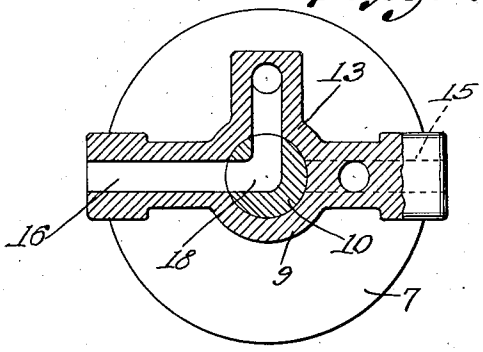


Fig. 2.

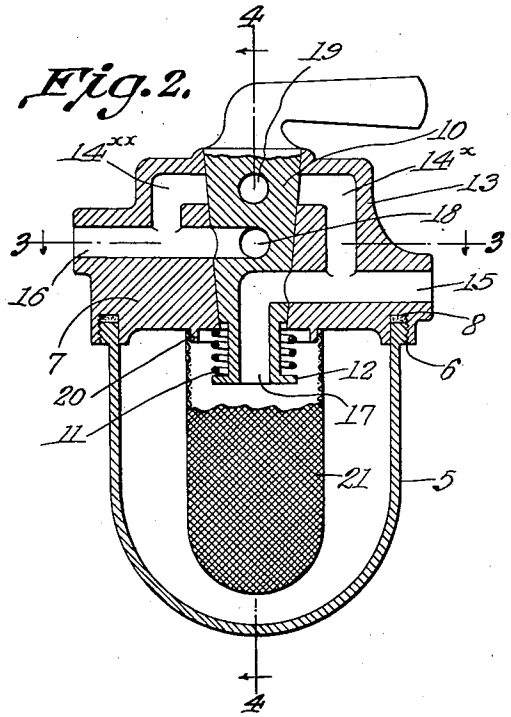
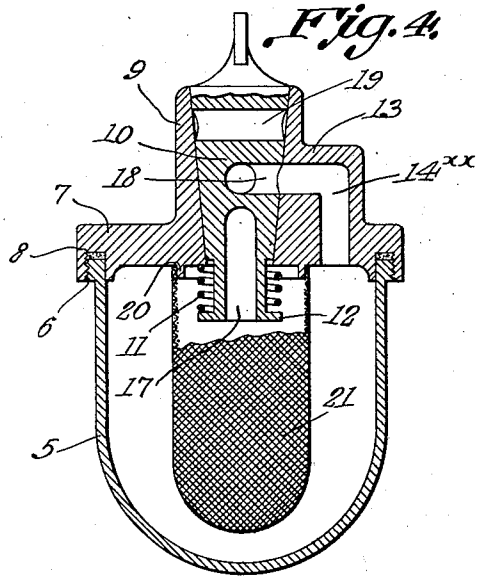


Fig. 4.



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UNITED STATES PATENT OFFICE.

LINCOLN A. ZELLER, OF NEW YORK, N. Y.; WILLIAM McKINLEY ZELLER AND CONRAD ULMER EXECUTORS OF SAID LINCOLN A. ZELLER, DECEASED.

GASOLINE FILTER.

Application filed January 17, 1921. Serial No. 437,847.

To all whom it may concern:

Be it known that I, LINCOLN A. ZELLER, a citizen of the United States, and a resident of New York, in the county of Bronx and State of New York, have invented a new and useful Gasoline Filter, of which the following is a specification.

My invention relates to gasoline or liquid fuel filters and has particular reference to a filter for installation in the pipe line between the carburetor and liquid fuel tank of an internal combustion engine.

The principal object of the invention is to provide a liquid fuel filter that can be readily disassembled in order to clean or remove sediment from the filtering element.

A further object of the invention is to provide a filter to be installed in the liquid fuel supply pipe of an internal combustion engine and which is so constructed as to permit the liquid fuel to pass through the filter or, if desired, permit the liquid fuel to pass directly to the carburetor.

With the preceding and other objects and advantages in mind, the invention consists in the novel combination of elements, construction and arrangement of parts and operations to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, wherein:

Figure 1 is a plan view of my improved filter;

Figure 2 is a vertical sectional view of the same;

Figure 3 is a horizontal sectional view taken on line 3—3 of Figure 2; and

Figure 4 is a vertical sectional view taken on line 4—4 of Figure 2.

Referring in detail to the drawing wherein similar characters of reference designate similar parts throughout the several views, the numeral 5 designates a bowl-shaped receptacle formed with an externally threaded annular bead 6 at its upper end. For the bowl-shaped receptacle 5 there is provided a circular cover 7 having an annular groove 8 in its under face for the reception of the threaded bead 6, the outer wall of this groove 8 being internally threaded for cooperation with the bead 6.

This cover plate 7 is cast with a vertically disposed substantially frusto-conical valve casing 9 at its center, and rotatable therein is a frusto-conical valve or cock 10, the latter end of which projects below the under face of the cover 7. Encircling this lower end of the valve 10 is a coil spring 11, the lower end of which engages an annular flange 12 disposed at the lower end of the valve 10 and its opposite end bearing against the under face of the cover 7. This spring 11 holds the valve 10 against the inner face of the valve casing and thus compensates for wear between the valve and casing.

A horizontally disposed T-shaped casting 13 is formed with the upper face of the cover 7 and the sides of the valve casing 9. One of the legs of this T-shaped casting is formed with an L-shaped passageway 14^{xx} and the second leg is formed with an L-shaped passageway 14^{x}, both of which open into the valve casing 9.

Formed in the cover 7 upon opposite sides of the valve casing 9 and opening into this valve casing are passageways 15 and 16. These passageways 15 and 16 extend parallel to those legs of the casting 13 that are in longitudinal alinement and have communication with the passageways 14, 14^{x} of the latter. The passageway 14^{xx} of the remaining leg opens into the receptacle 5. The passageway 15 constitutes an inlet and is adapted to be connected with the supply pipe from the liquid fuel storage tank (not shown) while the passageway 16 is adapted to be connected with a pipe which leads to the carburetor (not shown).

The valve 10 is formed with a vertically disposed L-shaped opening 17 adapted to register with the passageway 15 and is also provided with a horizontally disposed L-shaped opening 18 above the opening 17 that is adapted to communicate with the passageways 16, 14^{xx} of two legs of the casting 13 disposed at right angles to each other, as illustrated in Figure 3.

A transverse opening 19 is provided in the valve 10 above the opening 18 and is adapted to establish communication between the passageways 14, 14^{x} of the two longitudinally alined legs.

An annular shoulder 20 depends from the under face of the cover 7 and engaged with this shoulder 20 is a cylindrical reticulated or filter element 21 closed at its lower end.

When the valve 10 is in the position shown in Figures 2, 3 and 4, the liquid fuel will be discharged into the filtering element 21 by way of the L-shaped opening 17. The liquid will then flow through the passageway

14^{xx}, the opening 18 and thence through the outlet passageway 16. When it is desired to permit the liquid fuel to pass directly to the carburetor without being filtered, the valve 10 will be arranged at right angles to the position shown to bring the opening 19 into registration with the passageways 14, 14^{x} in the longitudinally alined legs.

It is to be understood that the form of my invention herein shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, what I claim as new and desire to secure and protect by Letters Patent of the United States, is:

A gasoline filter comprising a cover member formed with a centrally disposed vertical tapered seat, and with top, bottom and intermediate horizontally disposed passages communicating with said seat, the top and bottom horizontal passages communicating with each other, and the intermediate and top horizontal passages communicating with each other, the cover member also being formed with a passage leading from the seat at a point in line with the intermediate passage and thence through the base of the cover member, a conical valve disposed in said seat and formed with a top horizontal passage, an intermediate horizontal passage, and a bottom passage extending horizontally and thence vertically through the base of the valve, a shoulder carried by the valve at its lower end, a spring engaging the cover member and acting upon said shoulder, a supporting member carried by the cover member and adapted to suspend a filter member, and a bowl shaped receptacle threaded at its upper end to be received by a similar threaded annular wall of the cover member.

LINCOLN A. ZELLER.