Oct. 19, 1926. 1,604,048

K. HOBBS

GASOLINE FILTER

Filed April 10, 1926

Fig. 1

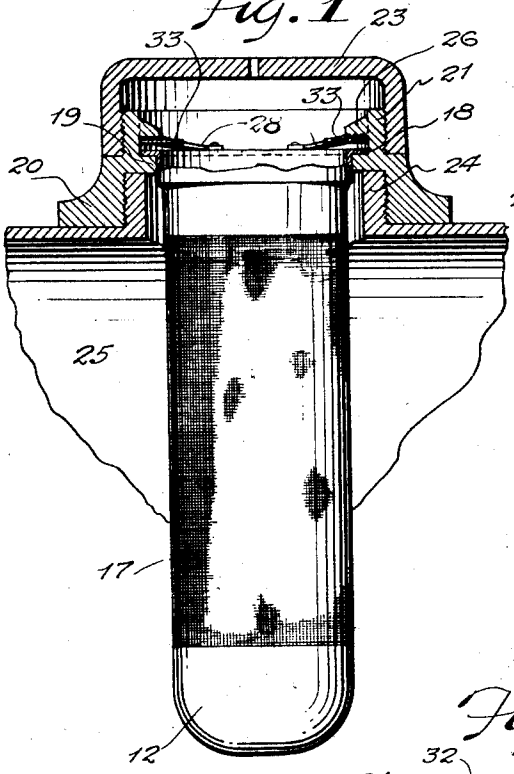



Fig. 2

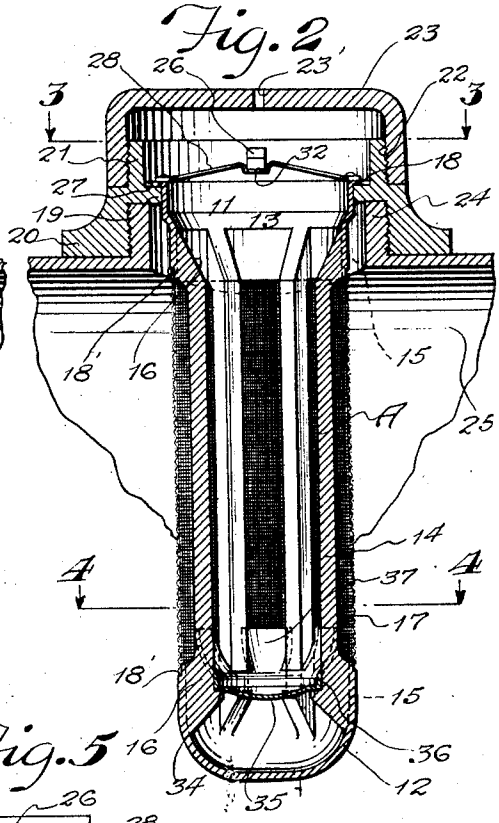



Fig. 5

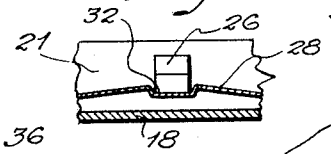



Fig. 4

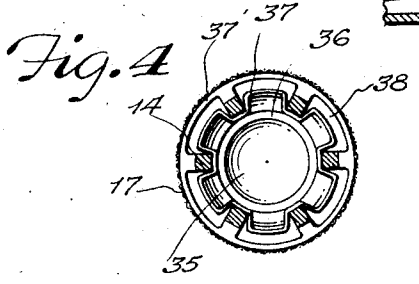



Fig. 3

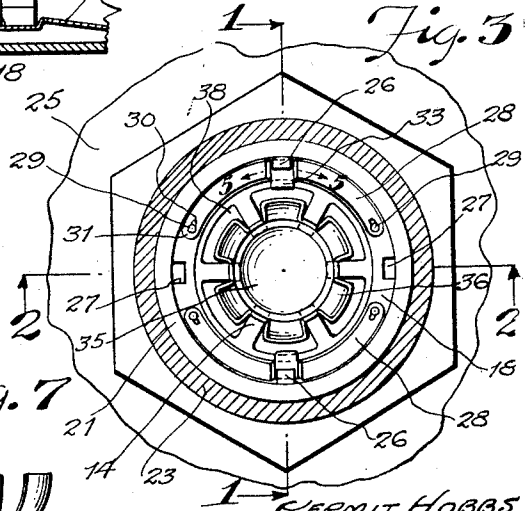



Fig. 6

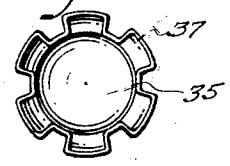
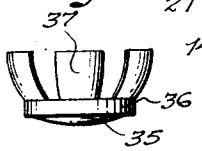



Fig. 7




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Patented Oct. 19, 1926. 1,604,048

# UNITED STATES PATENT OFFICE.

KERMIT HOBBS, OF CHICAGO, ILLINOIS.

## GASOLINE FILTER.

Application filed April 10, 1926. Serial No. 101,171.

This invention relates to certain novel improvements in gasoline filters and more particularly to a filter of this character which is adapted to be associated with the filling nipple of a gasoline tank in position to extend therein and has for its principal object the provision of an improved construction of this character which will be highly efficient in use and economical in manufacture.

The present invention constitutes an improvement over that disclosed in my Patent 1,581,947.

The present invention contemplates the provision for protecting the foraminated sleeve included as a part of the filter from damage by the nozzle of a supply hose inserted into the filter.

The invention further contemplates the provision for separating sediment from gasoline as discharged from a supply hose into the gasoline tank. To accomplish this object it is intended that there be included as a part of the filter a sediment cup arranged above which is a baffle plate in spaced relation with adjacent walls of the filter to afford communication between the sediment cup and the interior of the filter.

A further object of the invention is the novel combination and arrangement of parts for removably supporting the baffle plate, herein mentioned, in position above the sediment cup.

A still further object of the invention is the novel combination and arrangement of parts for detachably securing the filter in extended position in a gasoline tank.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing, illustrating the preferred form of construction, and in which

Fig. 1 is a fragmentary sectional detail view of a gasoline tank illustrating the invention associated therewith,

Fig. 2 is a vertical sectional detail view of the same,

Fig. 3 is a plan view of the same taken substantially on line 3—3 of Fig. 2,

Fig. 4 is a sectional detail view taken substantially on line 4—4 of Fig. 2,

Fig. 5 is a fragmentary sectional detail view taken substantially on line 5—5 of Fig. 3,

Fig. 6 is a top plan view of the baffle plate embodied in the invention, and

Fig. 7 is a side elevational view of the same.

To accomplish the various objects of the present invention I provide a tubular body generally indicated at A defining at its upper end portion a filling neck 11 and at its lower end portion a sediment cup 12. The body A further defines rail members 14 set inwardly from the outer wall surfaces 15 of the filling neck and sediment cup hereinafter mentioned. The opposite end of these rail members merge into the walls defining the filling neck and sediment cup as at 16 to form an integral part of this filling neck and sediment cup. The rail members 14 are disposed inwardly of the wall surfaces 16 so as to arrange these rail members in spaced relation with a foraminated sleeve 17. This sleeve 17 has its opposite end portions confined in recesses 18′ formed in the walls defining the filling neck and the sediment cup.

The filling neck includes an outwardly extending flange 18 adapted to be supported by an inwardly extending flange 19 formed as an integral part of a supporting fitting 20. This supporting fitting includes a ring portion 21 threaded as at 22 to receive a closure cap 23. This supporting fitting is adapted to be threaded upon the filling nipple 24 included as a part of the gasoline tank 25 fragmentarily illustrated in Figs. 1 and 2 of the drawing.

Formed as an integral part of this ring member 21 are oppositely disposed lugs 26 arranged above the inwardly extending flange 19 and disposed inwardly of the ring member 21. The outwardly extending flange 18 has notches 27 formed therein which are adapted under certain conditions to permit passage of the lugs 26 when the filter is withdrawn from extended position in the gasoline tank.

The tubular body is normally detachably secured in extended position through the medium of locking members 28. These locking members 28 are preferably formed from a strip of material bowed in a direction along their length as best illustrated in

Fig. 2. These locking members are attached to the outwardly extending flange 18 through the medium of pin members 29 adapted to work in slots 30 formed in the end portions 31 of these locking members. These slots 30 permit the locking members to be depressed to disengage the lugs 26 from depressions 32 formed intermediate the opposite ends of these locking members. These locking members further include inwardly extending finger engaging strips 33. These strips are preferably formed as an integral part of the locking members and they facilitate depressing of the locking members to disengage the lugs 26 from the depressions 32.

In positioning the tubular body A in extended position in the gasoline tank the outwardly extending flange 18 is disposed in a position above the inwardly extending flange 19 to permit passage of the lugs 26 through the notches 27. After this has been accomplished the locking members 28 are depressed, by applying the fingers upon the strips 33 and the tubular body is rotated to bring the lugs 26 in engagement in the depressions 32. In this position of the tubular body it is manifest that the same is effectively locked against withdrawal. After the tubular body has been locked in the position illustrated in Fig. 2 the cap 23 is then threaded upon the ring member 21 to prevent the admission of dirt or other foreign particles of matter into the gasoline tank through the filter. As will be noted in Fig. 2 this cap is provided with the usual vent port 23′ for purposes well known in the art.

The construction of the filter thus far described is such that by the provision of the rail members 14 damage to the sleeve 17 is prevented when the nozzle of the supply hose (not shown) is inserted in the filter to discharge the gasoline flowing therethrough into the tank 25. I am aware of the fact that prior to my invention there are now in use gasoline filters which include as a part thereof wire strips or rods for the purpose of protecting the foraminated sleeve from damage by the nozzle of the hose, however, I have found by experience that these wire strips or rods are easily bent and that by constant insertion of the nozzle of the hose in the filter the wire strips or rods are soon bent to such condition that they no longer serve the purpose. It is therefore one of the objects of the present invention to form these rail members as an integral part of the filling neck and sediment cup whereby they will have sufficient strength to resist bending upon engagement therewith by the nozzle of the supply hose.

It is a known fact that where a sediment cup is provided for accumulating sediment separated from the gasoline as it passes through the foraminated sleeve that if the sediment accumulated in this cup is not protected from the incoming gasoline that the sediment will be greatly agitated and a large amount thereof pulverized and forced through the sleeve into the gasoline tank. It is therefore one of the objects of the present invention to provide a simple combination and arrangement of parts which will check the force of the gasoline as it comes into the filter. To accomplish this object I provide, when forming the sediment cup 12, an annular seat 34 which is formed in the wall portion 16 between the sediment cup 12 and adjacent end portions of the rail members 14. This seat is adapted to accommodate a baffle plate 35 and support this baffle plate above the sediment cup 12. This baffle plate includes upstanding wall portions 36 having formed as an integral part thereof extensions 37. These extensions, when the baffle plate is mounted upon the seat 34, are adapted to extend between the rail members 14 at their lower end portions, as best illustrated in Fig. 2. By positioning these extensions between the rail members 14 it is manifest that the baffle plate will be securely held against displacement upon coming into contact with the incoming gasoline. As shown in Fig. 4 these extensions are disposed in spaced relation with the adjacent walls 37 defining the sediment cup 12 providing passages 38 through which the sediment separated from the gasoline is adapted to pass to find confinement in the sediment cup 12.

The construction of the device thus far set forth is such that when the gasoline is discharged into the filter the force of the same is checked by the baffle plate. As the gasoline comes in contact with this baffle plate the gasoline is splashed in a direction toward the foraminated sleeve where the gasoline finds entrance into the tank 25. Such sediment as is carried with the gasoline is separated therefrom by this sleeve and passes through the passages 38 in confined position in the sediment cup 12.

The novel manner herein set forth for supporting the baffle plate 35 permits this baffle plate to be expeditiously removed when the sediment cup is to be cleaned.

From the description herein set forth it is manifest that I provide a filter which will be durable in use and which can be associated with gasoline tanks having the usual standard filling nipple 24.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction herein set forth but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A filter including a tubular body defining a wall having a plurality of spaced parallel longitudinally extending passages formed therein and defining at its lower end a sediment cup, and a baffle plate carried by the body above said sediment cup and below the lower termini of the passages and in spaced relation with the wall permitting communication between the sediment cup and the interior of the tubular body above the baffle plate.

2. A filter including a tubular body defining a wall having a plurality of spaced parallel longitudinally extending passages formed therein and defining at its lower end a sediment cup, and a baffle plate carried by the body above said sediment cup and below the lower termini of the passages and in spaced relation with the wall permitting communication between the sediment cup and the interior of the tubular body above the baffle plate, said baffle plate having portions extending into the passages in supporting relation with portions of the tubular body defining the sediment cup.

3. A filter of the class described including a tubular body defining a wall having a plurality of passages formed therein, a filling neck at one end of the body, a sediment cup at the other end of the body and in communication therewith, a seat defined by said body above the sediment cup, and a baffle plate supported by said seat and having portions extending into the passages.

4. A filter including a tubular body defining a wall having a plurality of spaced parallel longitudinally extending passages formed therein and defining at its lower end a sediment cup, a baffle plate carried by the body above said sediment cup and below the lower termini of the passages and in spaced relation with the wall permitting communication between the sediment cup and the interior of the tubular body above the baffle plate, and a foraminated closure for said passages.

5. A filter including a tubular body defining a wall having a plurality of spaced parallel longitudinally extending passages formed therein and defining at its lower end a sediment cup, a baffle plate carried by the body above said sediment cup and below the lower termini of the passages and in spaced relation with the wall permitting communication between the sediment cup and the interior of the tubular body above the baffle plate, said baffle plate having portions extending into the passages in supporting relation with portions of the tubular body defining the sediment cup, and a foraminated closure for said passages.

6. A filter of the class described including a tubular body defining a wall having a plurality of passages formed therein, a filling neck in one end of the body, a sediment cup at the other end of the body and in communication therewith, a seat defined by said body above the sediment cup, a baffle plate supported by said seat and having portions extending into the passages, and a foraminated closure for said passages.

7. A filter including a cylindrical tubular body defining at one end a filling neck and at its opposite end a sediment cup and inwardly spaced rail members forming an integral part of the filling neck and the sediment cup and defining passages, and a foraminated closure for the passages, there being annular recesses formed in the walls of the filling neck and the sediment cup receiving adjacent end portions of the foraminated closure.

8. A filter of the class described including a tubular body defining at its upper end a filling neck and at its lower end a sediment cup and inwardly disposed spaced parallel longitudinally extending rail members defining passages and merging at their opposite ends into wall portions defining the filling neck and the sediment cup forming an integral part of these wall portions, and a foraminated sleeve around said tubular body closing the passages, said sleeve being disposed in spaced relation with the rail members.

9. A filter of the class described including a tubular body defining at its upper end a filling neck and at its lower end a sediment cup and inwardly disposed spaced parallel longitudinally extending rail members defining passages and merging at their opposite ends into wall portions defining the filling neck and the sediment cup forming an integral part of these wall portions, and a foraminated sleeve around said tubular body closing the passages, said sleeve being disposed in spaced relation with the rail members, there being annular recesses formed in the walls defining the filling neck and the sediment cup receiving adjacent end portions of the sleeve.

10. A device of the class described including a supporting fitting adapted for connection with a filling neck of a gasoline tank, a tubular body supported by the supporting fitting and extending into the tank and having portions of the cylindrical wall thereof cut away to provide longitudinally extending spaced passages the walls of the tubular body defining said passages being disposed inwardly of the upper and lower end portions of the tubular body, and a foraminated sleeve around the body having end portions engaging the outer cylindrical walls of the said end portions of the tubular body for spacing the sleeve from the wall portions of the body defining the passages.

11. A filtering tube including a filling neck having an inwardly and downwardly extending passage formed therein, a sediment cup, rail members disposed inwardly of the outer wall surfaces of the filling neck and sediment cup with their inner surfaces in alignment with the inner wall surfaces of the passage, the opposite end portions of the rail members merging into the wall portions of the filling neck and sediment cup and forming an integral part thereof, and a foraminated sleeve having end portions engaging the filling neck and the sediment cup for disposing the sleeve in spaced relation with the rail members.

In testimony whereof I affix my signature.

KERMIT HOBBS.