

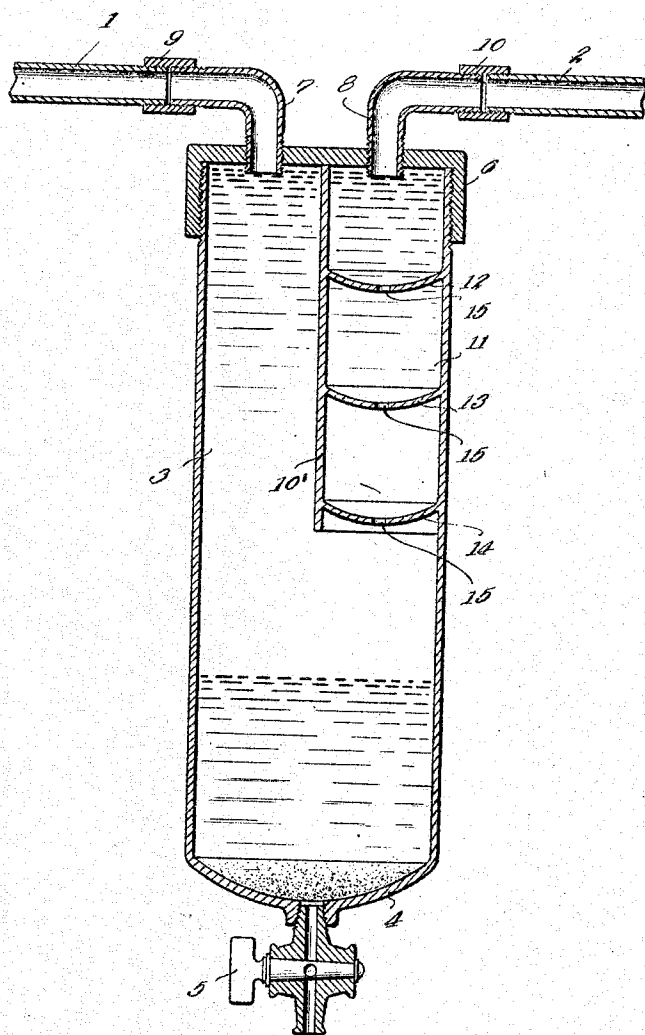
Nov. 24, 1925.

H. BRUSO ET AL

1,563,247

FILTER

Filed April 17, 1922



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WITNESS:

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UNITED STATES PATENT OFFICE.

HENRY BRUSO AND ROLAND KRUM, OF ST. CLAIR, MICHIGAN.

FILTER.

Application filed April 17, 1922. Serial No. 553,373.

To all whom it may concern:

Be it known that we, HENRY BRUSO and ROLAND KRUM, citizens of the United States, residing at Saint Clair, in the county of Saint Clair and State of Michigan, have invented new and useful Improvements in Filters, of which the following is a specification.

Our present invention has reference to an attachment for motor driven vehicles.

In carrying out our invention we propose to provide a simple means whereby solids and water in the liquid fuel for the engine of an automobile or the like will be prevented from entering the carbureter in its passage from the tank to the carbureter.

We also propose to produce a filtering device of this character by the use of which water and sediment in the liquid fuel will not only be prevented from entering the carbureter from the tank, but wherein an accumulation of water between these parts will prevent the operation of the engine, and consequently notify the driver of existing conditions, so that it will be absolutely necessary to drain the filtering device before the engine will again act.

It is a still further object to produce a filtering device for gasoline or kerosene driven motors that shall be of a comparatively simple construction, which may be cheaply manufactured and marketed, and which will perform its functions with accuracy and with certainty.

The foregoing objects, and others which will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and operative association of parts such as is disclosed by the drawing which accompanies and which forms part of this application.

In the drawing:—

The figure illustrates a substantially central vertical longitudinal sectional view through the improvement.

Leading from a liquid fuel supply tank (not shown) there is a tube 1. The tube has its passage controlled by the usual valve (not shown). The numeral 2 designates a second tube which may be and preferably is in a line but spaced from the tube 1. The tube 2 leads to the carbureter of an engine (not shown).

Our improved filter includes a preferably cylindrical casing 3 arranged below the terminals of the fluid conducting tubes 1 and 2.

The casing 3 has its bottom concaved outwardly as at 4, the said bottom having a central opening therethrough controlled by a cock 5. The passage through the cock 5 provides a drain for the casing 4.

Tightly secured in any desired manner in the open top of the casing 3 there is a cap 6. This cap has spaced openings therethrough, and screwed or otherwise secured in each of the openings there is a branch of angle pipes 7 and 8 respectively. The horizontal branches of the pipes 7 and 8 are directed toward the tubes 1 and 2 respectively. The ends of the tubes and the horizontal branches of the angle pipes 7 and 8 are threaded, the said threads being, however, pitched at opposite angles, and screwed on the said ends of the pipes and tubes are couplings 9 and 10 respectively.

In the casing 3, to one side of the pipe 7 there is a vertically disposed partition terminating a suitable distance above the concaved bottom 4 of the casing, and providing one side of the casing at the upper portion thereof with a compartment 11. With this compartment the pipe 8 centrally communicates. The compartment has arranged therein any desired number of horizontal partitions in the nature of baffle plates 12, 13 and 14 respectively. The baffle plates are dished, their concaved faces being disposed downwardly, and each baffle plate is centrally provided with a rather restricted opening 15. The lowermost baffle plate 14 is disposed a considerable distance above the lower end of the partition 10', which forms the outer wall of the compartment 11.

Initially, the fuel from the automobile supply tank flows through the pipe 1 into the casing 3. Before its passage into the compartment or rather series of compartments 11, the foreign matter, incident to the weight thereof will drop to the bottom of the casing 3, and water, being heavier than the fuel, will likewise fall to the bottom of the casing. The restricted openings in the concavo-convex baffle plates will tend to prevent entrance of foreign matter into the receptacles 11. When the engine is working fuel will be sucked through the pipe 2 first into the carbureter and from thence into the engine cylinders. The ports or openings in the baffle plates 14, 13 and 12, being restricted act in the same manner as the nozzle of a hose, that is fuel drawn into the several compartments will first be directed against

the lower convex walls thereof and in passage through the restricted openings 15 will be agitated and directed at varying angles against the side walls and against the convex lower surface of the next lower partition. In this manner, there is little liability of foreign particles passing through the upper compartments and through the pipe 2 and also in this manner the fuel is agitated so that the same is delivered to the carbureter in better condition for vaporizing than were the fuel merely strained in its passage through the casing 3. It is to be noted that the pipe members 7 and 8 project a suitable distance into the casing 3 and the compartment 11 respectively, so that only the fuel will be sucked by the engine through the pipe 8 and tube 2 into the carbureter, the result being that water in the filter to a determined level will stop the engine from lack of fuel.

It is thought that the foregoing description, when taken in connection with the drawing will fully set forth the construction and operation of the improvement to those skilled in the art to which such inventions relate and that further detailed description will not be required, but it is deemed necessary to state that we do not wish to be restricted to size, proportion, material em-

ployed, etc., and therefore hold ourselves entitled to such changes from the illustrated embodiment as herein set forth as fall within the scope of what we claim.

Having described the invention, we claim:—

The combination with a pipe leading to a fuel supply and a pipe leading to the carbureter of an internal combustion engine, of a casing for the fuel between the pipes having a concaved lower end provided with an outlet, a stop cock controlling the outlet, a partition depending from the top of the casing and dividing one portion of said casing into a compartment, horizontally disposed concaved baffle partitions in the compartment, each having a single centrally disposed restricted opening, a removable top closing the upper portion of the casing and the compartment therein, angle pipes passing through the top, couplings connecting the angle pipes to the first mentioned pipes and one of said angle pipes communicating with the mentioned compartment.

In testimony whereof we affix our signatures.

HENRY BRUSO.
ROLAND KRUM.