June 3, 1924. 1,496,713

H. J. KUHN ET AL

GASOLINE STRAINER

Filed Nov. 14, 1922

Fig. 2.

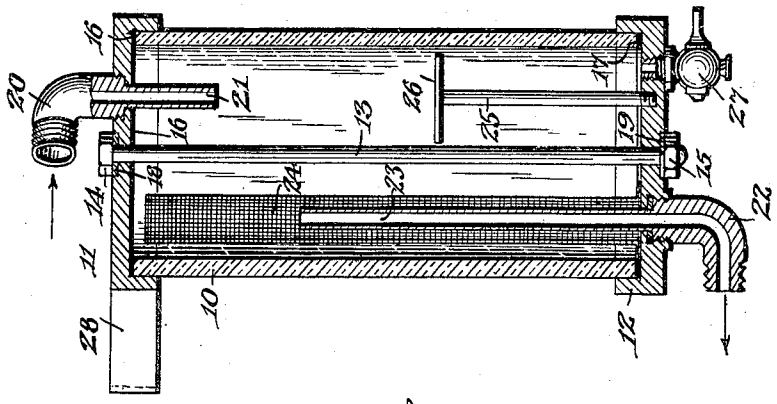


Fig. 3.

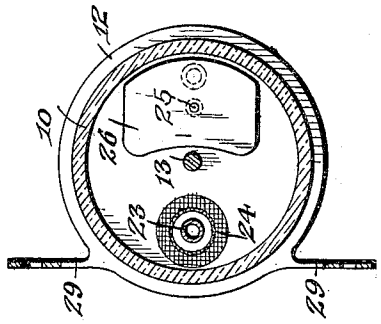
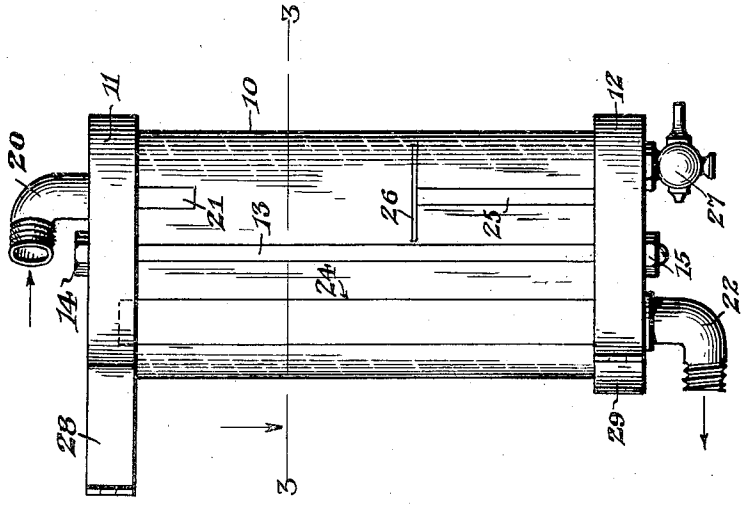


Fig. 1.



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UNITED STATES PATENT OFFICE.

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GASOLINE STRAINER.

Application filed November 14, 1922. Serial No. 600,860.

To all whom it may concern:

Be it known that we, HARRY J. KUHN and ESTON C. HARRIS, both citizens of the United States, residing at South Fallsburgh, in the county of Sullivan and State of New York, have jointly invented certain new and useful Improvements in Gasoline Strainers, of which the following is a specification.

This invention relates to devices associated with internal combustion motors for separating water and the like from the hydro-carbon fuel and likewise removing the more solid impurities therefrom, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

Another object of the invention is to provide a device of this character which may be readily adapted without structural change to hydro-carbon motors of various types, and to motors using the various forms of hydro-carbon fuels, such as gasoline, kerosene, benzine and the like.

With these and other objects in view, the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention—

Figure 1 is a side elevation, and

Figure 2 is a vertical section, of the improved device,

Figure 3 is a transverse section on the line 3—3 of Fig. 1.

The improved device comprises a casing or shell preferably with transparent sides 10 and end caps 11 and 12, the caps being united by a clamp bolt 13 having a head 14 above the cap 11 and a nut 15 beneath the cap 12.

Suitable packing rings 16 and 17 are disposed respectively between the caps 11 and 12 and the connecting shell member 10, while suitable packings 18 and 19 are disposed between the head 14 and the cap 11, and between the nut 15 and the head 12.

By this means a leak proof casing or shell is produced, as will be obvious.

While we have shown a cylindrical form of casing, it will be understood that any other form may be employed, if required.

The intake to the casing or shell is represented at 20, and is connected to the upper cap 11 and extends for some distance into the interior of the shell as shown at 21, while the outlet from the casing or shell is represented at 22 and is connected through the lower cap 12 and extended by a relatively long pipe or tube 23 for some distance upwardly into the interior of the shell, preferably at the side opposite to the intake 20 and 21.

The lower or discharge end of the intake at 21 extends above the line of the upper end of the discharge pipe 23, so that the hydrocarbon fuel gathered in the shell will never arise to flood the pipe 24. Provided the shell 10 has no leak the gasoline will not rise to a level high enough to shut off the view of the gasoline entering the shell at the discharge end 21 of the intake, so that the performance of the entering gasoline can be observed at all times.

Surrounding the outlet portion 23 is a tubular screen 24 which extends at its upper end to a point near the inner face of the upper cap 11.

Supported upon the lower cap 12 is a rod or standard 25, having a laterally directed spreader or retarder 26, the latter located in vertical alinement with the intake discharge 21, and serving to receive the liquid fuel falling from the intake and distributing it in the form of finely divided particles throughout the interior of the shell, and preventing the down rushing liquid from agitating any sediment or water which may have gathered in the bottom of the casing.

A pet cock 27 is connected into the lower cap 12 to draw off the contents of the shell, when required.

The improved device may be attached by any suitable means to any suitable part of the vehicle between the supply tank and the carbureter, for instance upon the instrument board or "dash" of a motor driven vehicle convenient to the occupant of the driver's seat, or other position, as required.

When attached to the instrument board, or "dash," which is usually inclined, bracket devices 28 and 29 of different projections will be attached to or formed on the caps 11 and 12 so that the filter device may be supported upon the inclined faces of the dash with the shell 10 constantly in vertical position, as will be obvious.

It will be understood that the bracket devices will be varied necessarily to conform

to the position which the device is to occupy upon the vehicle, and it is not desired to limit the invention in this respect.

By this simple arrangement the hydro-carbon fuel entering by the intake 20—21 falls upon the distributer or spreader 26, and runs over its edge and is finely divided thereby and falls to the bottom of the casing and passes thence through the fine meshes of the screen member 24 and rises therein and within the shell and flows over the upper end of the outlet tube 23, the sediment being caught by the screen and settles to the bottom of the casing from whence it can be removed through the pet cock 27, or otherwise.

The casing or shell may be of any shape or size and of any suitable material.

By this simple arrangement the inrushing liquid hydro-carbon will be broken up and retarded by contact with the plate 26 and the water, if any, and the coarser particles of other foreign matter separated and permitted to settle to the bottom of the shell while the separated hydro-carbon elements rise within the shell and pass through the screen and overflow into the intake end of the tube 23 and thence to the carbureter.

By this means the hydro-carbon fuel is effectually separated from its impurities and the strained hydro-carbon only passes to the carbureter leaving the sediment and water in the shell from which it can be removed as before described.

The parts being detachably united by the bolt 13 can be easily separated for cleansing or repairs.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specifications, but it will be understood that modifications within the scope of the claims may be made in the construction without departing from the principle of the invention or sacrificing any of its advantages.

Having thus described the invention what is claimed as new is:

1. In a strainer device, a closed casing having an intake at the upper end and an outlet at the lower end, the inlet extending downwardly into the casing and the outlet extending upwardly into the casing, and a screen member enclosing the upwardly directed portion of the outlet and open at the top, said screen member being laterally extended at the lower end to provide a support bearing upon the bottom of the casing and maintained from displacement by the weight of the liquid in the casing, and a spreader member supported in the casing and in alinement with the intake.

2. In a strainer device, a closed casing having an intake at the upper end and an outlet at the lower end, the inlet extending downwardly into the casing and the outlet extending upwardly into the casing, and a screen member enclosing the upwardly directed portion of the outlet, and open at the top, said screen member being laterally extended at the lower end to provide a support bearing upon the bottom of the casing and maintained from displacement by the weight of the liquid in the casing.

In testimony whereof, we affix our signatures hereto.

HARRY J. KUHN.
ESTON C. HARRIS.