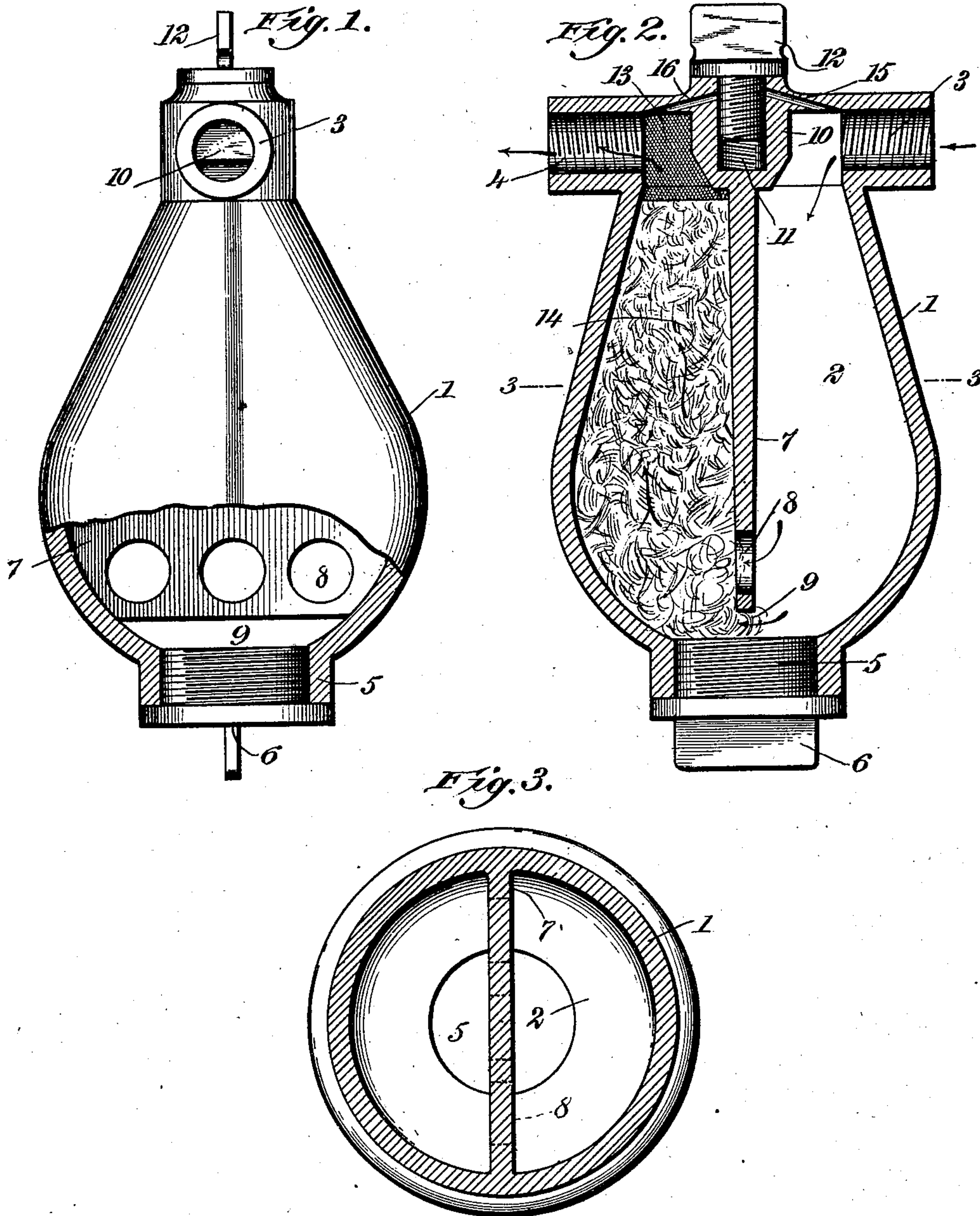


No. 723,556.

PATENTED MAR. 24, 1903.

G. W. STEWART.
HYDROCARBON FILTER.
APPLICATION FILED OCT. 18, 1902.

NO MODEL.



WITNESSES:
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UNITED STATES PATENT OFFICE.

GEORGE W. STEWART, OF TICONDEROGA, NEW YORK, ASSIGNOR OF ONE-HALF TO FRANK T. LOCKE, OF TICONDEROGA, NEW YORK.

HYDROCARBON-FILTER.

SPECIFICATION forming part of Letters Patent No. 723,556, dated March 24, 1903.

Application filed October 18, 1902. Serial No. 127,764. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. STEWART, a citizen of the United States, and a resident of Ticonderoga, in the county of Essex and State of New York, have invented a new and Improved Hydrocarbon-Filter, of which the following is a full, clear, and exact description.

My invention relates to hydrocarbon-filters, my more particular object being to produce a neat, cheap, and compact filter admitting of general use, and especially applicable to launches, automobiles, and other machinery, in connection with gasoline-engines. Preferably the filter is located at some point between the gasoline-tank and the needle-valve.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my filter, certain parts being broken away. Fig. 2 is a central section at right angles to the view shown in Fig. 1, and Fig. 3 is a horizontal section upon the line 3 3 of Fig. 2 looking toward the bottom of the bulb.

The bulb 1 is provided with a cavity 2 and with inflow and outflow passages 3 and 4. At the bottom of the bulb is a discharge-passage 5, normally closed by a screw-plug 6. This plug is provided for the purpose of removing any residual products which may be stopped by the filter and also for renewing the filtering material placed within the bulb. Mounted centrally within the bulb and preferably integral therewith is a web 7, provided with holes 8, extending toward the discharge-outlet 5, being separated from the plug 6 by a hiatus 9. This arrangement allows the residual products to be readily discharged by merely unscrewing the plug 6. Mounted within the top of the bulb and preferably integral therewith is a thickened portion 10, provided with a screw-socket 11, engaged by a screw 12, as indicated more particularly in Fig. 2. A gauze-netting 13, preferably of a generally semicylindrical form, is fitted into

one-half of the bulb, as shown in Fig. 2. A filling consisting, preferably, of fibrous material—such as cotton, curled hair, or silk fiber 14—is disposed between the web 7 and one of the walls of the bulb. This filling is preferably inserted through the discharge-aperture 5, as above explained. By means of the holes 8 and the hiatus 9 the web 7 may engage the material practically throughout the entire length thereof, and yet permit free passage of the liquid through and under the web 7—that is to say, if the web 7 were not provided with the holes 8 its length would have to be curtailed in order to allow free passage of the liquid beneath it, and this curtailment of the length of the web would render the filling 14 comparatively insecure. A pair of air-passages 15 and 16 are connected with the screw-socket 11 and also with the cavity of the bulb, as indicated in Fig. 2. By this means communication may be established between the cavity upon either side of the web 7 and the outer atmosphere, the screw 12 being removed for this purpose whenever it may be desired to admit the air. The passages 15 and 16 thus serve as a vent which is normally closed, but may be opened at will.

It will be understood, of course, that not only will the sediment and impurities of various kinds be removed by the filtering material, but all heavy substance contained within the hydrocarbon will collect at the bottom and may be discharged. For instance, if the hydrocarbon contains water the same may be extracted independently of the action of the filter proper.

At the beginning of the operation and as often thereafter as desired the screw-plug 12 is removed, so as to allow the bulb to fill with hydrocarbon liquid, after which the plug is replaced.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As an article of manufacture, a hydrocarbon-filter comprising a hollow bulb provided with inflow and outflow passages, a screw-socket intermediate of said passages, and a pair of air-passages connecting said screw-socket with said inflow and outflow passages, said bulb being further provided with

a web having openings and disposed within said bulb at a point intermediate of said inflow and outflow passages, a filtering material disposed within one-half of said bulb and
 5 engaging said web, and a screw-plug for engaging said screw-socket, thereby closing said air-passages.

2. As an article of manufacture, a hydrocarbon-filter comprising a hollow bulb provided with inflow and outflow passages, and
 10 with a web disposed intermediate of the same and further provided with a threaded socket and with air-ducts in communication with said socket and with the chamber of said
 15 bulb, and a screw-plug for detachably engaging said screw-socket.

3. As an article of manufacture, a hydrocarbon-filter comprising a hollow member provided interiorly with a central web having
 20 perforations, and also with inflow and outflow passages, said member being further provided with a pair of ducts for admitting air upon both sides of said web, a fastening for open-

ing or closing said ducts simultaneously, and means for removing residual products lodged
 25 within said hollow member.

4. As an article of manufacture, a hydrocarbon-filter comprising a hollow bulb provided with inflow and outflow passages and with a discharge-passage, and also provided
 30 with a web disposed intermediate of said inflow and outflow passages, said web extending diametrically through said bulb nearly to said discharge-passage, for the purpose of retaining a filtering material within one-half
 35 of said bulb, said web being provided with holes to permit free passage of hydrocarbon through the same, and a screw-plug for normally closing the said discharge-passage.

In testimony whereof I have signed my
 40 name to this specification in the presence of two subscribing witnesses.

GEORGE W. STEWART.

Witnesses:

FRANK T. LOCKE,
 DEXTER C. MITCHELL.