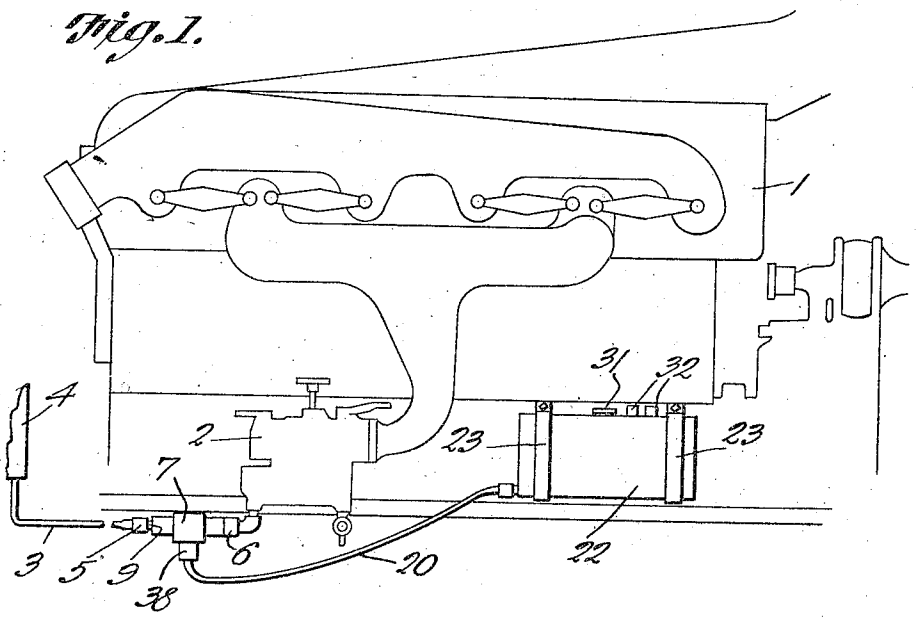
C. McDADE & F. A. CHAPMAN.

EMERGENCY TANK FOR AUTOMOBILES.

APPLICATION FILED APR. 18, 1917.

1,258,797. Patented Mar. 12, 1918.

Fig. 1.



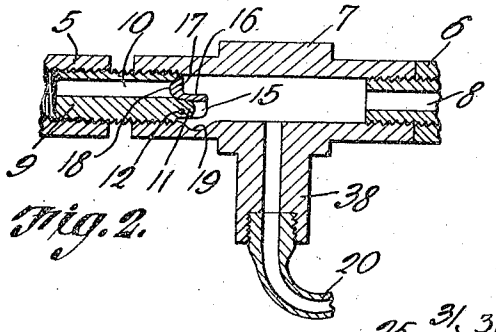


Fig. 2.

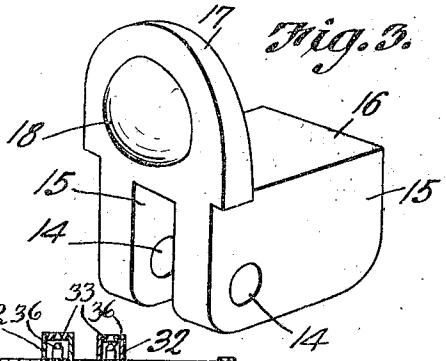


Fig. 3.

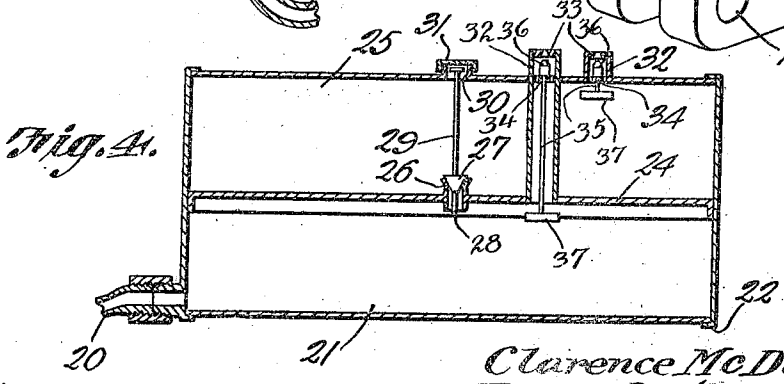


Fig. 4.

Witness

J. R. Gomez

H. A. Mitchell

Inventors

Clarence McDade and

Frank A. Chapman

By Crow & Co.

Attorney

UNITED STATES PATENT OFFICE.

CLARENCE McDADE, OF MIDDLEPORT, OHIO, AND FRANK AMELIOUS CHAPMAN, OF HARTFORD, WEST VIRGINIA.

EMERGENCY-TANK FOR AUTOMOBILES.

1,258,797. Specification of Letters Patent. Patented Mar. 12, 1918.

Application filed April 18, 1917. Serial No. 162,944.

To all whom it may concern:

Be it known that we, CLARENCE McDADE and FRANK A. CHAPMAN, citizens of the United States, residing, respectively, at Middleport and Hartford, in the counties of Meigs and Mason, States of Ohio and West Virginia, have invented a new and useful Emergency-Tank for Automobiles, of which the following is a specification.

It is the object of this invention to provide novel means whereby a supply of gasolene may be provided for the carbureter of an internal combustion engine, under circumstances arising when the main supply tank proves ineffective for this purpose, such, for instance, as when the vehicle is ascending a steep hill.

A further object of the invention is to provide novel means whereby a reserve supply of gasolene may be delivered upon occasion.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 is a diagrammatic view illustrating in side elevation, an internal combustion engine whereunto the device forming the subject matter of this application has been applied;

Fig. 2 is a longitudinal section of the check valve structure which is interposed in the main conduit leading from the main supply tank to the carbureter;

Fig. 3 is a detail perspective showing the check valve employed in Fig. 2; and

Fig. 4 is a section of the auxiliary supply tank.

In the accompanying drawings, the numeral 1 denotes an internal combustion engine with which is assembled a carbureter 2.

A primary conduit 3 leads from the carbureter to a main supply tank 4 shown diagrammatically in Fig. 1. The numeral 7 denotes a T-shaped valve casing including a depending neck 38. One part 5 of the primary conduit 3 is connected by means of a threaded screw plug 9 with one end of the valve casing 7, and the other part 6 of the primary conduit 3 is connected in any desired manner as indicated at 8 with the other end of the casing 7. The screw plug 9 has an eccentric passage 10, and at its inner end, below the passage 10, the screw plug 9 is supplied with an ear 11 carrying a pivot element 12 received in openings 14 in wings 15 constituting a part of a U-shaped body 16 supplied with an upstanding valve 17 having a projection 18. The ear 11 is received between the wings 15 and the projection 18 is received in the inner end of the passage 10 in the screw plug 9. The wings 15 are heavy enough so that the valve 17 stands in open position, normally, with respect to the inner end of the passage 10, and in order that an adequate opening of the valve 17 may be possible, the body portion of the valve casing 17 may be supplied with a depression 19 receiving the front lower corners of the wings 15.

A conduit 20 leads from the lower end of the neck 38 to the lower compartment 21 of an auxiliary tank 22 supported as indicated at 23, in any desired manner, on the vehicle of which the engine 1 constitutes a part. The auxiliary tank 22 has an internal substantially horizontal partition 24 separating the lower compartment 21 from an upper compartment 25 in the auxiliary tank 22. The partition 24 has a seat 26 with which coöperates a vertically moving, gravity closed valve 27 having a nose 28 which depends into the seat 26. Assembled with the valve 27 is an upstanding stem 29 which projects into a nipple 30 carried by the top of the auxiliary tank 22, the nipple 30 being closed by a removable cap 31. The top of each tank is supplied with an upstanding tube 32 carrying a seat 33. Extended across the tube 32 adjacent the lower end thereof is a guide 34 in which reciprocates a stem 35, provided at its upper end with a valve 36 coöperating with the seat 33. Secured to the lower end of the stem 35 is a float 37.

In practical operation, and under ordinary working conditions, the valve 17 stands in an open position with respect to the pas-

sage 10. Gasolene then flows from the main tank 4 through the primary conduit 3 to the carbureter 2.

Under certain conditions, for instance, when the vehicle is traversing a steep hill, it is necessary to supply gasolene to the carbureter 2, independently of the main tank 4. Under ordinary working conditions, gasolene discharged into the valve casing 7 traverses the conduit 20 and enters the lower compartment 21 of the auxiliary tank 22. While the compartment 21 is being filled with gasolene, the valve 27 is raised by air pressure in the compartment 21, and the air in the compartment 21 passes into the compartment 25, and out of the compartment 25 by way of the tube 32. When a sufficient quantity of gasolene has accumulated in the compartment 21, the gasolene, raising the valve 27, enters and fills the compartment 25. As the gasolene accumulates in the compartment 25, air is permitted to flow outwardly through the seat 33 of the compartment 25, but when enough gasolene has accumulated in the compartment 25, then the corresponding float 37 will rise, and the valve 36 thereof, coöperating with the said seat 33 will prevent gasolene in the compartment 25 from being forced out of the said compartment.

It being presupposed that there is a supply of gasolene in the lower compartment 21, the gasolene, when the vehicle is traversing a hill, will flow through the conduit 20 into the valve casing 7 and close the valve 17, by pressure, so that this reserve supply of gasolene will not find its way into the main tank 4, as distinguished from the carbureter 2, by way of the conduit 3. A supply of gasolene, therefore, will be given to the carbureter 2, under the circumstances above mentioned.

The operator may at any time remove the cap 31 and lift up the valve 27 by means of the stem 39. Under such conditions, the reserve supply of gasolene in the compartment 25 will flow into the compartment 21 through the seat 26.

The general structure of the device is such that a sufficient supply of gasolene for the carbureter 2 will be afforded, when the vehicle is working on a hill and, further, the operator of the car will have at his command, a reserve supply of gasolene, in the compartment 25, which may be used to advantage when the main tank 4 has been permitted to become empty.

Having thus described the invention, what is claimed is:—

1. In a device of the class described, an internal combustion engine including a carbureter; a main tank; a primary conduit leading from the main tank to the carbureter; a valve casing interposed in the primary conduit; a connection uniting one end of the valve casing with the conduit; a swinging valve carried by the connection and constituting means for controlling the passage of fluid through the connection, the valve being counterbalanced to stand open, normally; an auxiliary tank; and a conduit connecting the valve casing with the auxiliary tank, the last specified conduit communicating with the valve casing between the valve thereof and the carbureter.

2. In a device of the class described, an internal combustion engine including a carbureter; a main tank; a primary conduit leading from the main tank to the carbureter; a check valve interposed in the primary conduit; an auxiliary tank having a partition dividing the auxiliary tank into upper and lower compartments; a second conduit leading from the lower compartment to the auxiliary tank and communicating with the primary conduit in advance of the check valve; a valve in the partition and controlling the passage of fluid from the upper compartment to the lower compartment, the said valve being under the control of an operator, and being upwardly movable, into an open position, under pressure created within the lower compartment, to permit a filling of the upper compartment.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

CLARENCE McDADE.
FRANK AMELIOUS CHAPMAN.

Witnesses:
HOWARD W. WILLIAMS,
THOS. W. FIELD.