

H. W. HANCOCK & C. H. JARVIS.

TANK-VALVE.

APPLICATION FILED JAN. 5, 1911.

Patented Dec. 17, 1912.

1,047,800.

FIG. 1

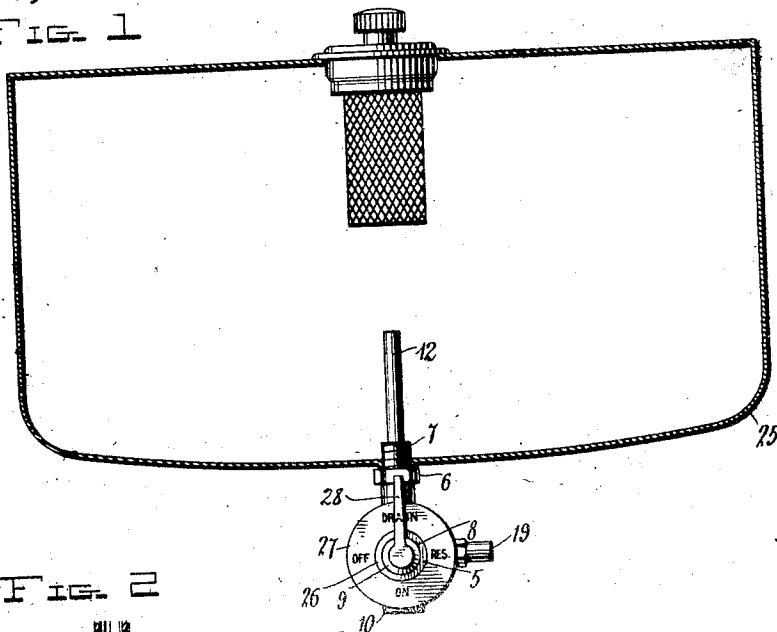


FIG. 2

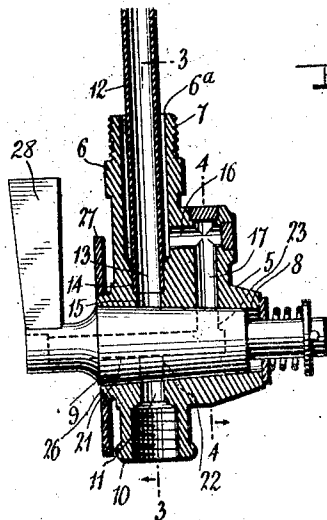


FIG. 3

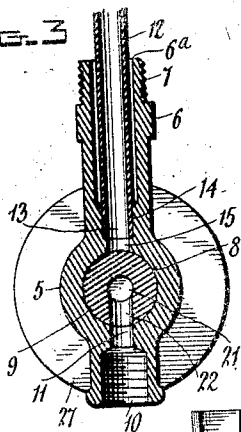


FIG. 4

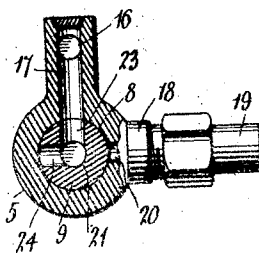
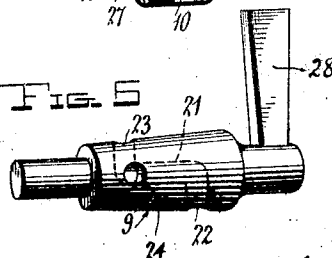


FIG. 5



Witnesses

J. L. Boston
George L. Ladd

Inventors

Harry W. Hancock
and Charles H. Jarvis

Wm. H. H. H. H.
Attorneys

UNITED STATES PATENT OFFICE.

HARRY W. HANCOCK AND CHARLES H. JARVIS, OF CHARLOTTE, MICHIGAN; SAID
JARVIS ASSIGNOR TO SAID HANCOCK.

TANK-VALVE.

1,047,800.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed January 5, 1911. Serial No. 600,872.

To all whom it may concern:

Be it known that we, HARRY W. HANCOCK and CHARLES H. JARVIS, citizens of the United States, residing at Charlotte, in the county of Eaton, State of Michigan, have invented certain new and useful Improvements in Tank-Valves; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in valves, especially adapted for use in connection with gasoline tanks of automobiles.

In all gasoline tanks there is a certain amount of water which is separated from the gasoline and which normally lies on the bottom of the tank. After the supply of gasoline has become exhausted this water has heretofore been drained by means of a suitable valve.

Often-times when running automobiles the supply of gasoline has become exhausted and as a result the machine is left without fuel.

The principal object of our invention is to provide a valve having means associated therewith which will permit of a limited quantity of gasoline to be drawn from the tank in order that the operator may know that the supply is becoming exhausted.

A still further object of the invention is to provide a device for the purpose described in which means are provided for permitting the balance of the gasoline to be withdrawn.

Another object of the invention is to provide a device of the character described by means of which the tank can be drained of the water, thus eliminating the necessity of employing an additional valve for this purpose.

A still further object of the invention is to provide a valve seat and turning plug of novel construction by means of which the three operations can be made.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to with-

out departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a sectional view through a gasoline tank showing our improved valve associated therewith, Fig. 2 is a vertical sectional view through the valve, Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 2, Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 2, and Fig. 5 is a perspective view of the turning plug showing the ports therein in dotted lines.

Like reference numerals indicate corresponding parts throughout the several views.

Referring to the drawing 5 designates a valve casing having an upwardly extending boss 6 which is exteriorly threaded at its end as shown by 7 and provided with an interior bore 6*. Formed in the casing is a transverse seat 8 adapted to receive a turning-plug 9. An interiorly threaded boss 10 forming the drain outlet extends downwardly from the casing and communicates with the valve seat by means of a passage 11. Arranged within the bore 6* of the boss 6 is an upwardly extending pipe 12, the lower end 13 thereof being seated in a correspondingly sized seat 14 which is formed in the valve casing. The exterior diameter of this pipe 12 is less than the interior diameter of the boss 6. Thus it will be observed that a chamber is formed between the pipe and the boss 6. Communicating with the valve-seat 8 and the interior of the pipe 12 is a port 15. Formed in the valve-casing and communicating with the chamber between the pipe and the boss 6 is a laterally extending passage 16 which in turn communicates with a vertical passage 17, the lower end of which communicates with the valve-seat 8 and at a point directly in rear of the port 15, said passages 16 and 17 forming a port which communicates with the bore 6* and the valve seat 8. Integral with and laterally projecting from the casing is a main outlet boss 18. This boss is preferably interiorly threaded for receiving one end of a pipe 19 which in turn communicates with the carbureter of an engine (not shown). Communicating with the interior of said boss 18 and with the valve-seat 8 is a passage 20 and this passage is disposed in alinement with the vertical passage 17 above

described. The valve or turning-plug 9 is formed with a longitudinal passage 21 and communicating with said passage and with the valve seat is a radially extending passage 22. This passage 22 is adapted to register with either the passage 11 or 15 for a purpose hereinafter more fully described. The valve is furthermore provided with radially extending passages 23 and 24, which are arranged substantially at right angles to one another. These passages are adapted to coact with either the passage 17 or with both of said passages 17 and 20.

The boss 6 is threaded into the bottom of a gasoline tank 25 and the pipe 12 extends thereinto for a suitable distance. Arranged around the valve 9 and projecting from the valve casing is an exteriorly threaded boss 26 to which is secured a name-plate 27 upon which suitable indicating means, such as "Drain", "Off", "Reservoir" and "On", are shown. Associated with the turning-plug 9 is an operating handle 28.

From the foregoing whenever it is desired to drain the tank of water the operating handle and consequently the valve will be positioned as shown in Fig. 2 of the drawing. In this position the water will pass down through the chamber between the pipe 12 and the boss 6, through passages 16 and 17, through passages 23, 21 and 22 of the valve and thence through passage 11 and on out through the drain-pipe. After the tank has been filled in order to supply the carbureter with gasoline the operating handle is turned to a position diametrically opposite from that shown in Fig. 2 of the drawing. As a result the gasoline will enter the pipe 12, pass through passage 15, thence through passage 22 of the valve, along the longitudinal passage 21, through the radially extending passage 24 and into the outlet pipe. After a certain amount of gasoline has been used the level of the gasoline in the tank will drop down to the top of the pipe 12. As a result no gasoline will be fed to the carbureter and in consequence thereof the engine will stop and by means of this the operator will be notified that the supply of gasoline in the tank is becoming exhausted. The operator at this point turns the operating handle to a mid-way position or to the position indicated by the word "Reservoir" in Fig. 1 of the drawing. Thus in this po-

sition the balance of the gasoline in the tank will then flow through the passage between the pipe 12 and the boss 6, through passages 16 and 17 thence through passages 24 and 23 in the valve and thence through the outlet pipe to the carbureter as will be readily understood. Should it be desired to entirely cut-off the supply of gasoline the operating handle is turned to the "Off" position. In this position the valve will cut off all communication between both the drain outlet and the main outlet.

What is claimed is:—

1. A tank valve for the purpose described, comprising a casing formed with a bore constituting a drain inlet, said casing being also provided with a valve seat, an inlet pipe having one end seated within the bore and communicating with the valve seat and having its other end projecting beyond the casing, a port communicating with said drain inlet and with the valve seat, said casing being also provided with a main outlet and a drain outlet, and a multi-ported rotary valve mounted in the valve seat for controlling the flow of liquid between the inlet pipe and the main outlet and the drain inlet and the drain outlet.

2. A tank valve for the purpose described comprising a casing formed with a bore and a counterbore, the bore forming a drain inlet, said casing being further formed with a transversely disposed valve seat, an inlet pipe having one end seated within the counterbore and having its other end extending beyond the casing, a passage formed in the casing and communicating with the pipe and the valve seat, a main outlet for the pipe formed in the casing, a port formed in the casing and communicating with the bore and the valve seat, an outlet for the drain inlet formed in the casing, and a multi-ported rotary valve mounted in the valve seat for controlling the flow of liquid between the inlet pipe and the main outlet and the drain inlet and the drain outlet.

In testimony whereof we affix our signatures in presence of two witnesses.

HARRY W. HANCOCK.
CHARLES H. JARVIS.

Witnesses:

ARCHIE L. DITTMORE,
LEWIS MCCONNELL.