G. W. THOMPSON.

VALVE.

APPLICATION FILED JAN. 3, 1920.

1,381,765. Patented June 14, 1921.

Fig. 1.

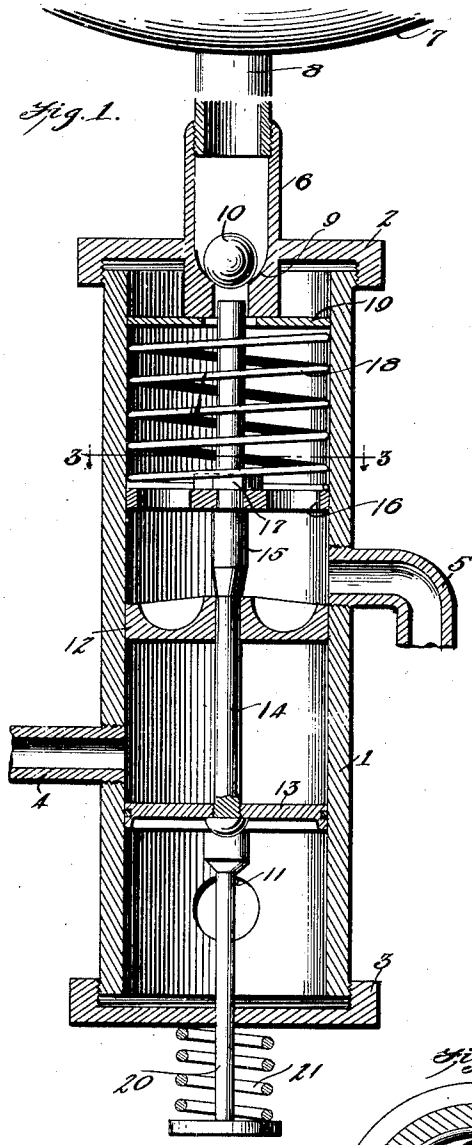


Fig. 2.

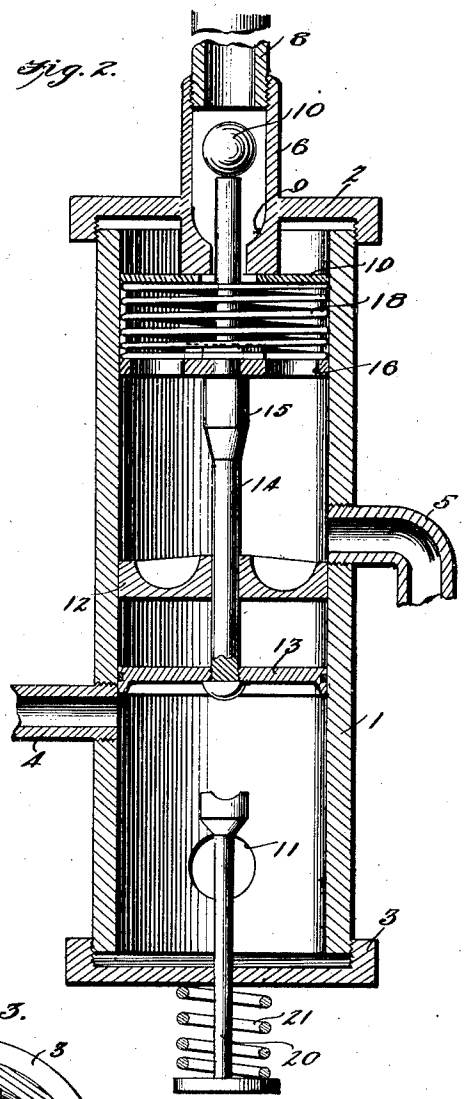
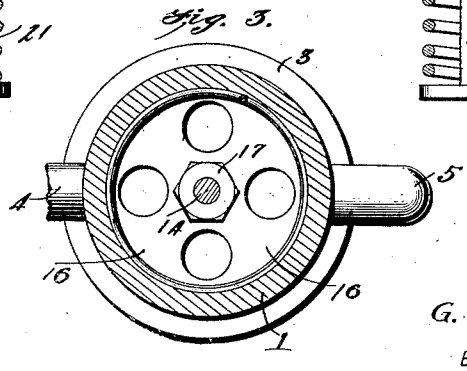


Fig. 3.



WITNESSES

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VALVE.

1,381,765. Specification of Letters Patent. Patented June 14, 1921.

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To all whom it may concern:

Be it known that I, GEORGE W. THOMPSON, a citizen of the United States, and a resident of Cheboygan, in the county of Cheboygan and State of Michigan, have invented certain new and useful Improvements in Valves, of which the following is a specification.

My invention is an improvement in valves, and the invention has for its object to provide a valve for interposition in the fuel line and in the oil supply line of a motor vehicle for controlling the flow of the fuel from a supply tank to the carbureter, by the pressure in the oil line, and so arranged that when the pressure in the oil line is reduced below a predetermined point the supply of fuel to the carbureter will be cut off.

In the drawings:

Figures 1 and 2 are vertical sections of the valve, showing the parts in different positions;

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

In the present embodiment of the invention the improved valve comprises a casing consisting of a cylindrical body 1 and heads 2 and 3 connected therewith, the said heads being threaded on to the ends of the body, and the body has lateral outlets 4 and 5, the outlet 4 being for the oil, while the outlet 5 is for connection with the carbureter.

The head 2 of the casing has a nipple 6, which is adapted to be connected with the supply tank 7, by means of a nipple 8 on the tank, which is threaded within the nipple 6. This nipple 6 has a valve seat 9 just within the head and a spherical check valve 10 coöperates with the seat. The inlet 11 for the oil also extends laterally from the casing, the said inlet being spaced below the outlet 4, as shown.

A partition 12 is arranged transversely of the casing just below the fuel outlet 5 which is above the oil outlet 4, and the said partition is between the said outlets, separating the casing into a fuel compartment and an oil compartment.

A plunger 13 is arranged in the oil compartment and a stem 14 which is connected with the plunger extends upwardly through a central opening in the partition 12, to and within the lower end of the nipple 6. It will be noticed that the stem 14 has an enlarged portion 15 intermediate its ends, which, by its engagement with the partition 12, limits the downward movement of the plunger 13 and the stem to a position such that the plunger will be between the oil inlet 11 and the outlet 4, with the upper end of the stem still within the nipple 6, that is, the enlargement 15 limits the movement of the stem to a position such that it will not disengage at its upper end from the nipple, and such that the plunger 13 cannot pass below the inlet 11.

A disk 16 is connected with the plunger just above the enlargement 15, the disk being held in place between the enlargement and a lock nut 17 on the stem. This disk has openings, as shown, so that the fuel is free to pass through the disk, and a coil spring 18 is arranged above the disk, between the same and a disk 19 at the lower end of the nipple, the said disk 19 having a central opening for the stem.

In operation, the flow of fuel into the casing is controlled by the pressure of the oil in that portion of the casing below the plunger 13. With the parts in the position of Fig. 2, when oil is turned on, the pressure of the oil will lift the plunger 13 and the upper end of the stem 14 will unseat the valve 10, permitting the fuel to flow, and the lifting of the plunger 13 will connect the inlet 11 with the outlet 4, so that the oil can flow from the chamber.

As long as there is a predetermined pressure of oil, determined by the tension of the spring 18, the fuel will be permitted to flow. As soon as the oil fails to flow, the pressure below the plunger 13 will be lessened, there being no outflow of oil, and the plunger 13 will be moved downwardly by the spring 18. The valve 10 will seat, cutting off the fuel to the carbureter. Also, stem 14 at point 15 will seat in partition 12, so as to stop leakage of gas to oil chamber.

A primer is provided for lifting the plunger 13 when necessary. This primer, as shown, is a stem 20 mounted to slide through the head 3 and having a head at its outer end and a head at its inner end which is adapted to engage the plunger when the same is moved upwardly to lift the plunger. The stem is normally pressed outwardly by a spring 21. When in this position stem 20 seats in cap 3, to stop leakage of oil from chamber.

I claim:

In combination, a valve casing adapted to be interposed in the fuel line and the oil

line of any gas or oil burning motor and having a partition dividing the casing into a fuel compartment and an oil compartment, the fuel compartment having an inlet at the top and an outlet near the partition, and the oil compartment having inlet and outlet ports spaced apart vertically, a plunger movable in the oil compartment and having a stem extending through the partition into the inlet port of the fuel compartment, a ball seating upon and closing the fuel inlet adapted to be unseated by the engagement of the plunger stem therewith when the plunger is above the oil outlet and the inlet and the outlet of the oil compartment are in communication, and a spring normally pressing the plunger downwardly.

GEORGE W. THOMPSON.