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H. C. DOMAN.

CARBURETER FOR EXPLOSIVE MOTORS OR ENGINES.

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Fig. 1.

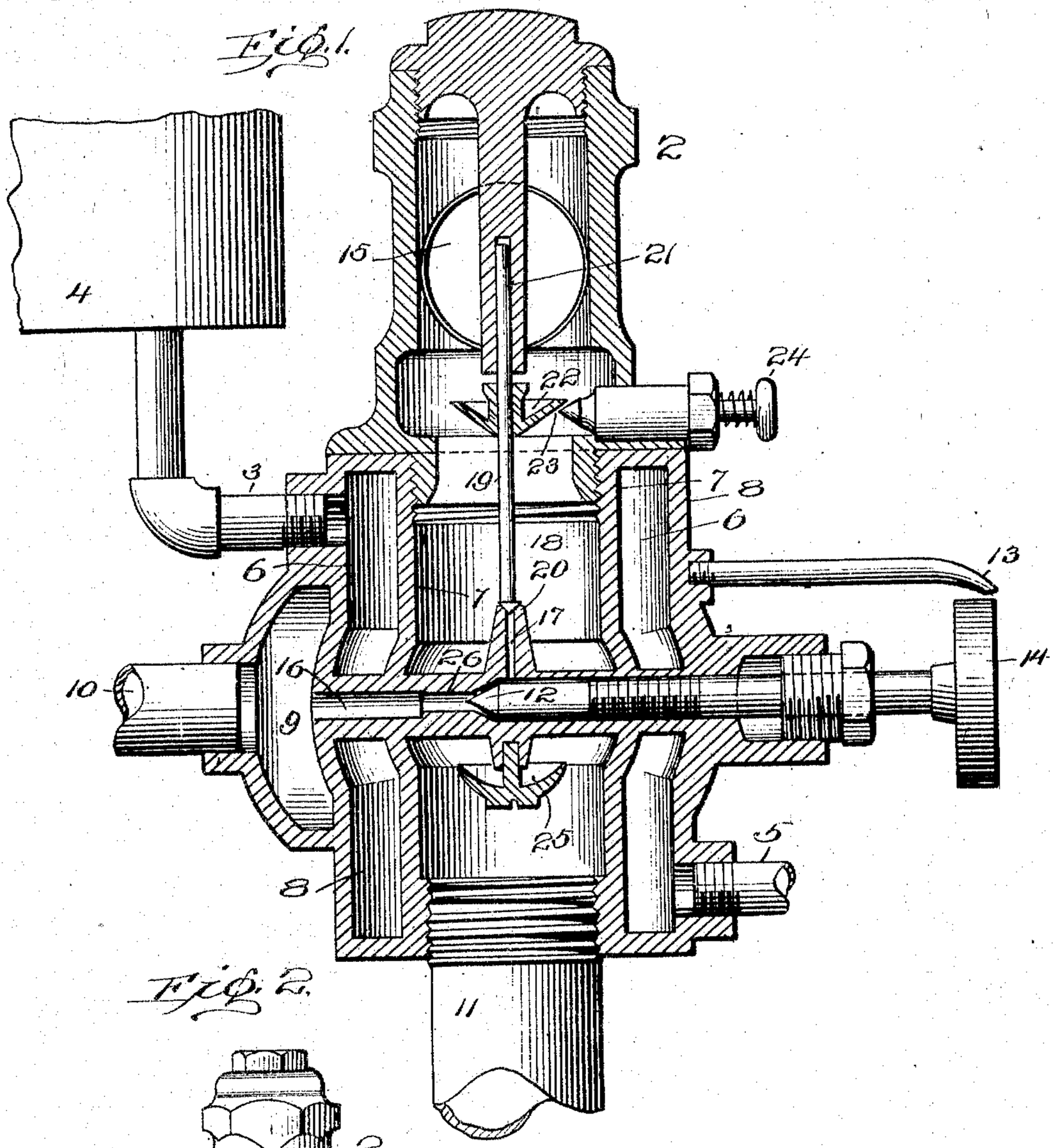
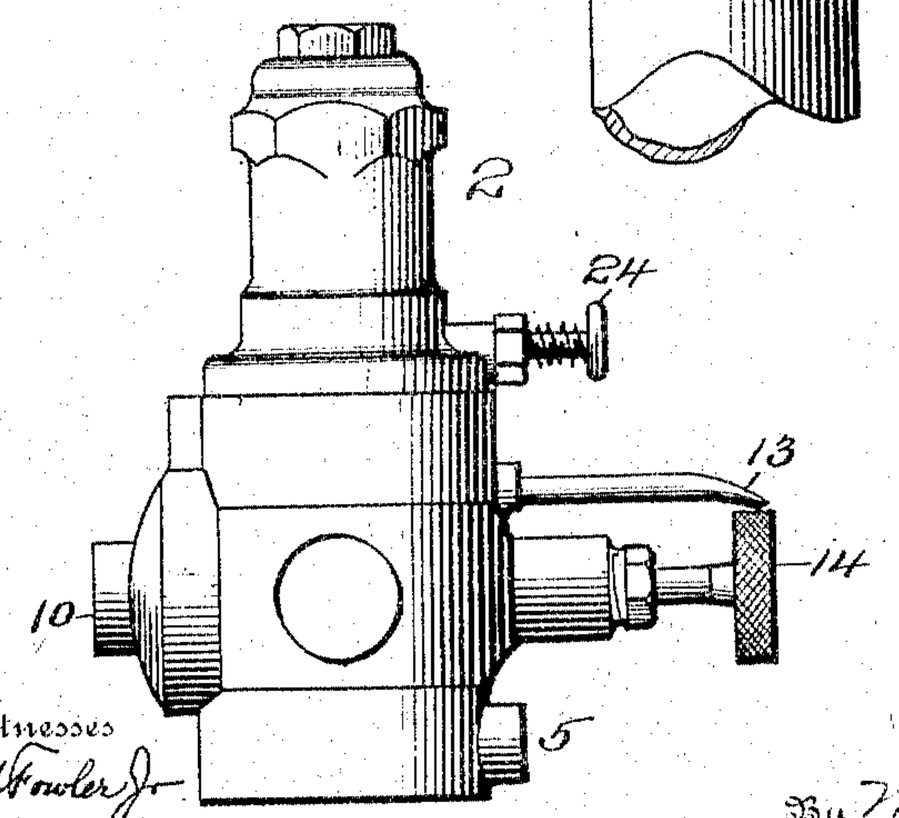


Fig. 2.



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UNITED STATES PATENT OFFICE.

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CARBURETER FOR EXPLOSIVE MOTORS OR ENGINES.

No. 817,051. Specification of Letters Patent. Patented April 3, 1906.

Application filed March 10, 1905. Serial No. 249,417.

To all whom it may concern.

Be it known that I, HERMAN C. DOMAN, a citizen of the United States, residing at Oshkosh, in the county of Winnebago and State of Wisconsin, have invented new and useful Improvements in Carbureters for Explosive Motors and Engines, of which the following is a specification.

My invention relates to a carbureter for explosive motors and engines.

In the accompanying drawings application is shown to a gasolene-engine, the objects of my invention being to heat the gasolene before it is vaporized, to provide a water-jacket and heated water-supply around the vaporizing-chamber, to provide a gasolene-reservoir adjacent to the heated water-jacket, and to provide a means of conveying a supply of heated water from the cylinder-jacket through the carbureter water-jacket.

In the accompanying drawings, Figure 1 is a vertical sectional view of my invention. Fig. 2 is a side view of a device constructed in accordance with the present invention.

Referring to the drawings by numerals, 2 represents the carbureter, and 3 represents the water-pipe conveying water from the cylinder-jacket 4 to the water-jacket of the carbureter.

5 represents the outlet water-pipe from the carbureter water-jacket.

6 represents the water-jacket between the interior wall 7 and the exterior wall 8 of the carbureter 2.

The heated water drops by gravitation from the cylinder-jacket 4 through the inlet-pipe 3 and passes continually through the water-jacket 6 and out from the outlet-pipe 5 to any waste-pipe as the engine is operated, thus affording a continuous supply of heated water through the water-jacket 6.

Adjacent to the exterior wall 8 I provide the gasolene-chamber 9. The gasolene is supplied through the intake-pipe 10. The air is drawn by the suction of the engine through the air-inlet 11.

In the usual explosive-motors heretofore used the gasolene or other hydrocarbon bases have been vaporized or mixed with common air under certain ratios and with certain degrees of regulation and control. It is believed from experimentation that in the use of gasolene the ratio of supply of gasolene to air for proper vaporization under ordinary suction must be between six per cent. and sixteen per cent. of gasolene. When extra revolution of the engine is used to increase the speed of the engine, the suction of air is increased, and the supply of gasolene must correspondingly be increased. My invention provides a means of automatic regulation and supply of gasolene for such emergency. The gasolene-reservoir 9 is of a double functional use and benefit—first, by reason of its contiguity to the heated water-jacket to warm the gasolene, and, second, to afford an immediate extra supply of heated gasolene to furnish a reserve for the motor at any extra revolution. It will be understood in this connection that the needle-valve 12 ordinarily controls the supply of gasolene and is set with the pointer 13 indicating upon the dial 14 the degree of supply.

The reservoir or chamber 9 is regarded as an important feature of my invention, as it affords a means for heating the gasolene before vaporization and also affords an extra supply of gasolene for an increased revolution of the motor.

In the operation of the motor the air is sucked into the carbureter through the inlet-pipe 11. The gasolene is supplied from the chamber 9 through the channel 16 and around the needle-point 12 and upwardly through the channel 17 into the vaporizing-chamber 18, where it is mixed with the air, and the vapor passes through the vapor-outlet 15 into the engine.

19 represents a valve normally resting on the valve-seat 20 by gravitation. When the gasolene is supplied and the motor started, the pressure raises the valve 19 in the stem 21 sufficiently to admit the gasolene into the vaporizing-chamber, and when the pressure and suction are stopped the valve drops by gravitation to shut off the supply of gasolene.

22 represents a shoulder integral with or attached to the valve 19 and provided with an upwardly-inclined annular base.

24 represents a primer that, before starting the engine, may be pushed against the incline 23 to raise the valve 19 and admit a small supply of gasolene, which then drops into the primer-cup 25. When the suction is started, the air is drawn through the inlet 11, around the cup 25 and the cross-pipe 26, breaking and staggering the current of air and forming a vortex in the center, which materially assists the process of vaporization. The gasolene is drawn from the cup 25 into the center of the current of air and immediately vaporized.

Having thus described my invention, what I claim to have invented, and desire to secure by Letters Patent, is—

1. A carbureter, comprising a casing provided with inner and outer walls, said casing provided with a central, mixing or vaporizing chamber, said casing provided with a water-jacket formed between said inner and outer walls, said casing provided with a reservoir formed upon the outer wall intermediate its ends, a cross-pipe integral with said casing and communicating with the reservoir, a valve positioned within said pipe, a priming-cup depending from said pipe, said pipe provided with an outlet formed above said cup, a movable valve positioned upon said casing and normally closing said outlet, and a primer for moving said valve.

2. A carbureter, comprising a casing provided with a mixing-chamber, a water-jacket and a reservoir, a horizontal transverse pipe extending through said mixing-chamber and water-jacket and communicating with said reservoir, a valve threaded into said pipe, a primer-cup removably secured to the lower portion of said transverse pipe, and outlet-valved means formed upon said pipe above said primer-cup.

3. A carbureter, comprising a casing provided with inner and outer walls producing a mixing-chamber and a water-jacket, the water-jacket formed between said inner and outer walls, said casing provided with a gasolene-reservoir formed upon the outer wall intermediate the ends of said water-jacket, a transverse pipe extending across said water-jacket and mixing-chamber and opening into said reservoir, mixing-chamber, and outer atmosphere, a needle-valve threaded into said pipe, said pipe provided with a vertical outlet, a removable primer-cup threaded upon the lower portion of said pipe, a vertically-movable valve carried by said casing and adapted to normally close the outlet of said pipe, said valve provided with a shoulder having an annular base, and means for engaging said base for lifting said valve.

4. A carbureter, comprising a casing provided with an inlet-pipe, a slidable valve provided with a stem carried by said casing and adapted to normally rest upon said inlet-pipe, a shoulder provided with an annular, upwardly-inclined base fixedly secured to the stem of said valve, and a beveled member carried by said casing and adapted to engage the base of said shoulder for lifting said valve.

5. A carbureter, comprising a casing provided with a transverse inlet-pipe, said pipe provided with a downward extension, a primer-cup threaded into said extension, a vertically-movable valve carried by said casing and normally engaging said pipe, a shoulder provided with an upward extension fixedly secured to said valve, and means carried by said casing and adapted to engage the extension of said shoulder and being capable of lifting said valve off of said inlet-pipe.

6. A carbureter, comprising a casing provided with an inlet-pipe, a vertically-movable valve carried by said pipe, said valve provided with an inclined portion, and a member capable of engaging the inclined portion of said valve and being moved at substantially right angles to the vertical plane of movement of said valve for lifting said valve from engagement with said inlet-pipe.

7. A carbureter, comprising a casing provided with a mixing-chamber, an inlet-pipe extending transversely of said casing and provided with an upward extension, said extension provided with a valve-seat, said pipe provided with a downward extension, a removable primer-cup carried by said downward extension of the pipe, a vertically-movable valve seated upon the outward extension of said pipe, a shoulder provided with an upwardly-inclined portion carried by said valve, and a cushioned primer carried by said casing and adapted to engage the inclined portion of said shoulder for lifting said valve from its seated position.

8. A carbureter, comprising a casing provided with inner and outer walls, said casing provided with a central mixing or vaporizing chamber, said casing provided with a water-jacket formed between said inner and outer walls, said casing provided with a reservoir formed upon the outer wall intermediate its ends, a cross-pipe integral with said casing and communicating with the reservoir, a valve positioned within said pipe, said pipe provided with an outlet formed in its upper surface, and valve means for normally closing said outlet.

9. A carbureter, comprising a casing provided with inner and outer walls producing a mixing-chamber and a water-jacket, the water-jacket formed between said inner and outer walls, said casing provided with a gasolene-reservoir formed upon the outer wall intermediate the ends of said water-jacket, a transverse pipe extending across said water-jacket and mixing-chamber and opening into said reservoir, mixing-chamber, and outer atmosphere, a needle-valve threaded into said pipe, said pipe provided with an outlet, a vertically-movable valve carried by said casing and adapted to normally close the outlet of said pipe, and vertically-movable valve means carried by said casing and adapted to normally close the outlet of said pipe.

10. A carbureter, comprising a casing provided with a mixing-chamber, an inlet-pipe extending transversely of said casing and provided with an upward extension, said extension provided with a passage and a valve-seat, a vertically-movable valve normally seated upon said extension, a shoulder provided with an upwardly-inclined portion, said shoulder carried by said valve, and a

spring-actuated primer carried by said casing and adapted to engage the inclined portion of said shoulder for lifting said valve from its seated position.

11. A carbureter, comprising a casing, provided with mixing-chamber, and a water-jacket surrounding said chamber, said casing provided with a gasolene-reservoir formed upon said jacket, said casing provided with a hollow pipe or tubing extending transversely of said mixing-chamber and water-jacket and opening at one end into said gasolene-chamber at its opposite end into the outer atmosphere, said pipe provided with an outlet, opening into said mixing-chamber, valve means positioned within said pipe, and movable valve means for normally closing the outlet formed in the pipe and opening into said mixing-chamber.

12. A carbureter, comprising a casing provided with a mixing-chamber, and a water-jacket of substantially the same length as and entirely surrounding said mixing-chamber, said casing provided with a gasolene-reservoir formed upon the sides and intermediate the ends of said water-jacket, a hollow member extending at one end into said reservoir and extending across said water-jacket and mixing-chamber and opening at its opposite end into the outer atmosphere, said hollow member provided with an outlet-opening into said mixing-chamber, and valve means for controlling the supply of material from the reservoir through said member and into said mixing-chamber.

13. A carbureter, comprising a casing provided with a mixing-chamber, and a water-jacket entirely surrounding said mixing-chamber, said water-jacket and mixing-chamber of substantially the same length, said casing provided with a reservoir formed upon the side of said water-jacket, a hollow member opening at one end into said reservoir and extending entirely across said water-jacket and mixing-chamber, said hollow member provided with an outlet, and valve means for normally controlling the flow of liquid from said reservoir through said hollow member and outlet.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HERMAN C. DOMAN

Witnesses:

EDW. C. DOMAN,

F. W. SUSZYCKI.