

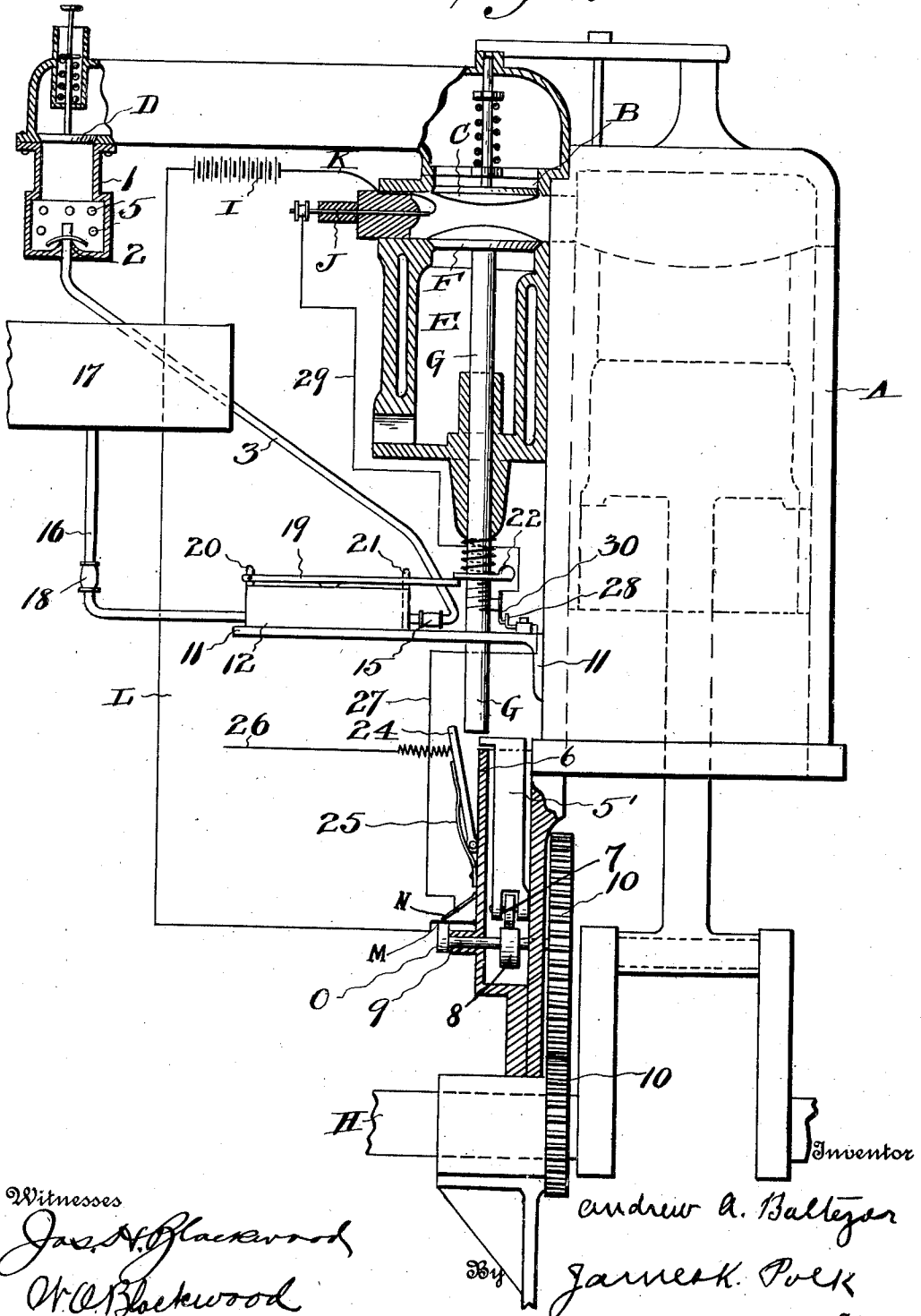
A. A. BALTEZOR.
INTERNAL COMBUSTION ENGINE.
APPLICATION FILED OCT. 15, 1910.

1,002,626.

Patented Sept. 5, 1911.

2 SHEETS—SHEET 1.

FIG. 1.



Witnesses
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2 SHEETS—SHEET 2.

Fig. 2.

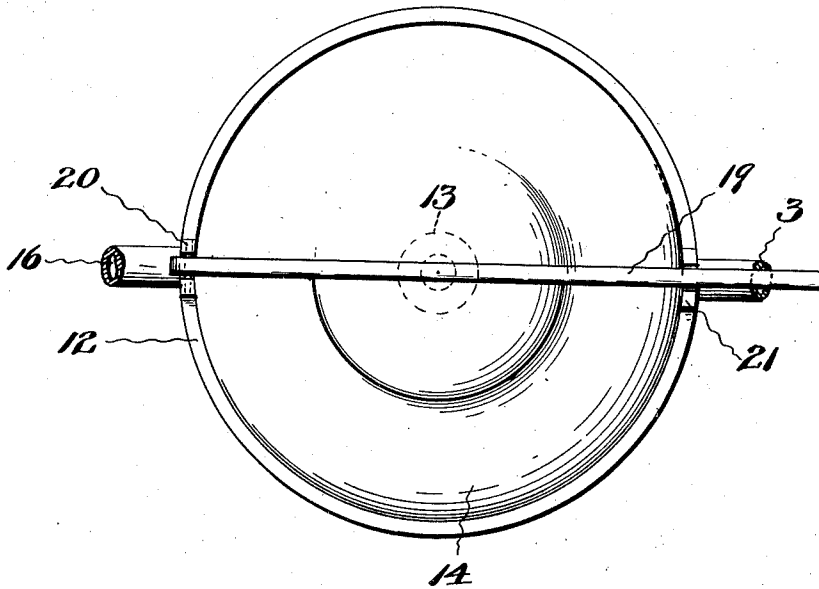
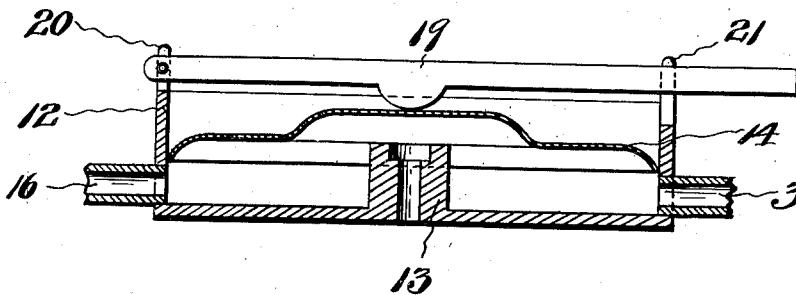


Fig. 3.



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UNITED STATES PATENT OFFICE.

ANDREW A. BALTEZOR, OF AURORA, MISSOURI.

INTERNAL-COMBUSTION ENGINE.

1,002,626.

Specification of Letters Patent.

Patented Sept. 5, 1911.

Application filed October 15, 1910. Serial No. 587,222.

To all whom it may concern:

Be it known that I, ANDREW A. BALTEZOR, a citizen of the United States, and a resident of Aurora, in the county of Lawrence and State of Missouri, have invented certain new and useful Improvements in Internal-Combustion Engines, of which the following is a specification.

My invention relates to internal combustion engines employing a volatile liquid for the explosive mixture, and has for one of its objects the provision of a free feed for the volatile liquid consisting of a cup having a spring diaphragm operated by the exhaust valve rod, said cup being located between the fuel supply and the carbureter and serving to insure an even feed of fuel to the carbureter.

Another object of my invention is the provision of means, either manually operated or under control of a suitable governor, to stop the supply of fuel to the carbureter and also to cut out the sparker in any one or more of the engine-cylinders and hold the exhaust-valves of said cut-out cylinder or cylinders open so that in cranking the engine to start it but a single cylinder will be in operation.

My invention will be described in detail hereinafter and illustrated in the accompanying drawings, in which—

Figure 1 is a view of a conventional explosion engine cylinder showing my improved feeding device in position and the electric sparking device in place; and Figs. 2 and 3, views of the feeding device on an enlarged scale.

In the drawings similar reference characters indicate corresponding parts throughout the several views.

A indicates a cylinder of an explosive-motor of the single or multiple cylinder type, having the inlet B for the explosive charge controlled by spring-seated valve C, and a suction-regulator valve D.

The carbureter 1 is seated below the valve D, and consists of a cup-shaped receptacle having a flanged opening 2 in its bottom to receive the end of supply-pipe 3, and air-ducts 5 in its side walls, the mixture of the air and vapor from the gasoline or other liquid fuel taking place in receptacle 1.

E indicates the exhaust, having valve F therein, with its stem G adapted to be actuated by a push-rod 5, slidably mounted

in guide 6, and having a roller 7 journaled in its lower end that engages cam-disk 8, secured to shaft 9, geared to engine-shaft H by gearing 10.

Secured to the side of engine-cylinder A is a shelf 11, on which is mounted my improved force-feed device that I shall hereinafter refer to as a "pulsator." Said pulsator consists of a cup-shaped receptacle 12, having a central boss or projection 13 extending upwardly in the cup to receive a screw to secure the pulsator on the shelf 11 and also serve as a stop to limit the downward movement of diaphragm 14, consisting of a plate of resilient material secured to the body of the cup. Supply-pipe 3 is tapped into the side of receptacle 12 and supplied with a check valve 15, the said check valve opening toward the carbureter 1. 16 indicates the feed-pipe from the tank 17, also tapped into the receptacle 12 and provided with a check valve 18, opening toward the pulsator.

19 indicates a lever fulcrumed on upright 20, secured to receptacle 12, and having its free end mounted in slotted guide 21 and engaged by a collar 22, adjustably secured to exhaust-valve stem G, 23 indicating a spring engaging said collar 22 and the exhaust-valve casing E to hold the valve F in a closed position.

The diaphragm 14, when depressed by the downward movement of lever 19, actuated by the collar 22 on exhaust-valve stem G, forces the gasoline in the receptacle 12 up through supply-pipe 3 into carbureter 1, and when the exhaust-valve is opened, the pressure on lever 19 being released, the diaphragm 14 resumes its normal position and gasoline is drawn through pipe 16 into the receptacle, ready for the next closing movement of the exhaust-valve.

It will be apparent that by holding the stem G in a raised position, out of position to be engaged by the push-rod 5, that the suction will be broken in the cylinder and the pulsation of diaphragm 14 will be discontinued. To accomplish this I provide an arm 24, pivotally secured to guide-casing 6 and having a spring 25 engaging it to hold the arm normally in position to engage the end of valve-rod G when it is in its uppermost position. Arm 24 is held normally out of engagement with valve-rod G by means of a chain or rope 26, connected with a suit-

able governor (not shown), and it may have its end located for convenience of operation by hand.

By releasing the arm 24 to the action of spring 25 it will be apparent that it will swing under the end of stem G when raised to open the exhaust-valve and hold the valve open, thus preventing the supply of the explosive mixture to the cylinder, as well as the feed of gasolene to the carbureter. When this operation is accomplished by the governor the speed of the engine will be reduced.

In combination with the above-described fuel-feeding mechanism I provide a sparking-circuit for the engine consisting of a battery I, a spark-plug J, one pole of the battery connected to one of the terminals of the plug J by a wire K and the other pole of the battery connected by wire L with a spring-tongue M, secured to casing 6 and normally out of contact with arm N, also secured to casing 6, O being a cam-disk on the shaft 9 that engages said tongue M to flex it into engagement with arm N at the moment that the circuit is to be closed to the spark-plug.

In my invention the wire that closes the circuit to the spark-plug, instead of going directly to the plug, as in the usual construction of spark-circuits, is formed in two sections, one section 27 secured to arm N and to contact 28, mounted on shelf 11, while the other section 29 has one end secured to spark-plug J and its other end secured to sliding contact 30, secured to valve-stem G, said contacts 28 and 30 engaging one another when the exhaust-valve F is closed, and are out of engagement when the valve is open.

It will be apparent that when the exhaust-valves in any of the motor units are held open by the mechanism, hereinbefore described, to shut off the gasolene feed the terminals 28 and 30 will also be held from engagement so that the spark-circuits of the several units will also be cut out.

Having thus described my invention, what I claim is—

1. In combination with an explosive-engine, an exhaust-valve, and its stem, a fuel-feed comprising a cup-shaped receptacle, a spring-diaphragm secured to said receptacle, a lever engaging said diaphragm, means secured to said valve-stem to engage the lever, and pipes secured to said receptacle and to a source of supply and the engine respectively, substantially as shown and described.

2. In combination with an explosive-engine, an exhaust-valve, and its stem, a fuel-feed actuated by said stem, said fuel-feed comprising a cup-shaped receptacle, a spring-diaphragm secured to said receptacle, a lever engaging said diaphragm, means secured to said valve-stem to engage the lever, a pipe connecting the receptacle and a source of fuel-supply, another pipe connecting the receptacle and the engine-cylinder, a spring-actuated arm adapted to engage the valve-stem and hold the valve open, and means to hold the arm out of engagement with the valve-stem, substantially as shown and described.

In witness whereof, I have hereunto set my hand in presence of two subscribing witnesses.

ANDREW A. BALTEZOR.

Witnesses:

H. L. DAVIS,

I. P. ORAHOOD.