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P. JENNESS.

GAS OR INTERNAL COMBUSTION ENGINE GOVERNOR.

APPLICATION FILED SEPT. 8, 1903.

NO MODEL.

fig. 1.

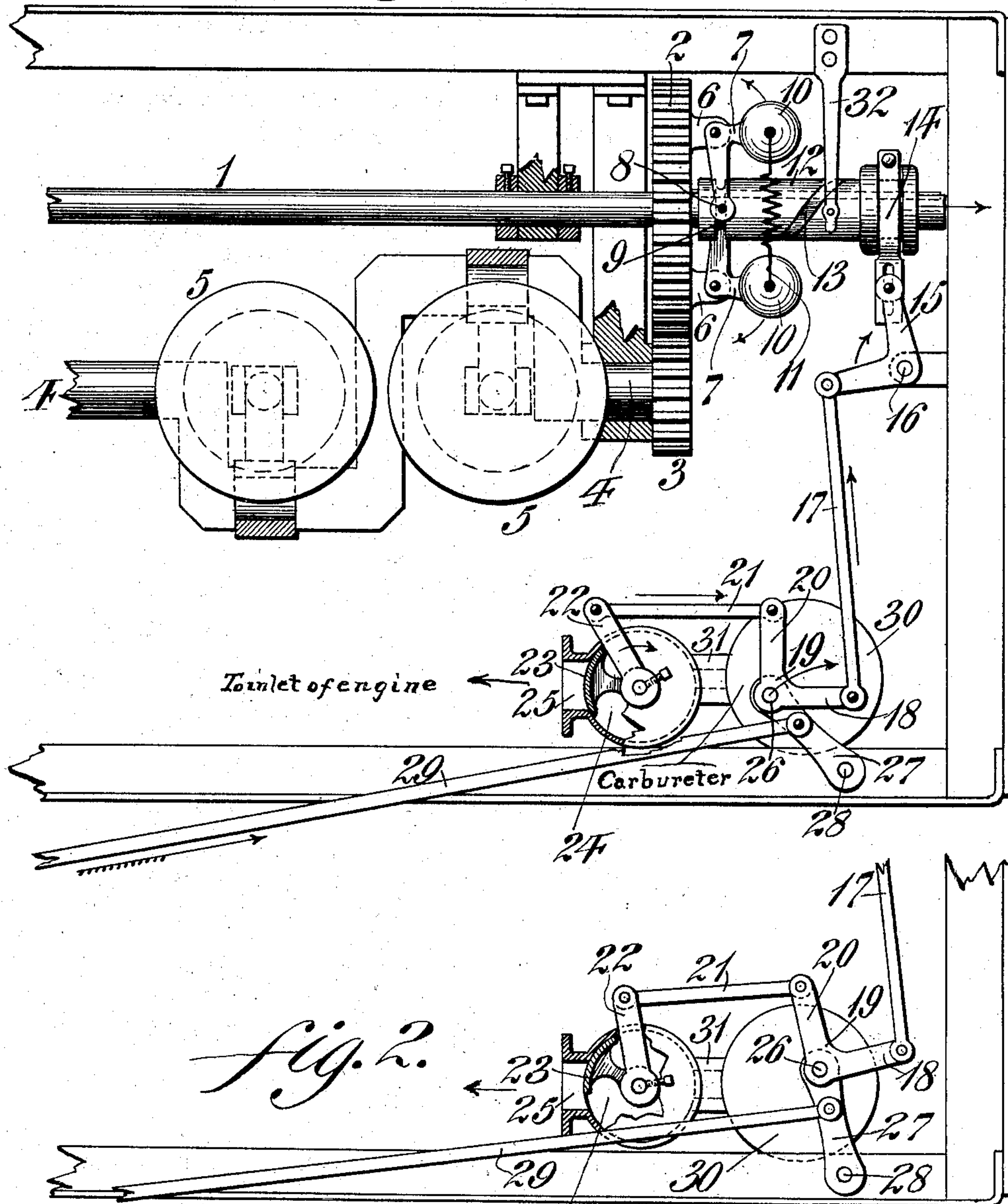


fig. 2.

Witnesses

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PETER JENNESS, OF PHILADELPHIA, PENNSYLVANIA.

GAS OR INTERNAL-COMBUSTION ENGINE GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 757,311, dated April 12, 1904.

Application filed September 8, 1903. Serial No. 172,205. (No model.)

To all whom it may concern:

Be it known that I, PETER JENNESS, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Gas or Internal-Combustion Engine Governors, of which the following is a specification.

My invention consists of a novel construction of a gas or internal-combustion engine governor, which is especially adapted to be used in connection with engines employed in automobiles; and it consists in the novel construction of mechanism whereby the supply of air and gas to the engine-cylinders is automatically regulated with great exactness, provision being also made for readily adjusting the apparatus by the operator according to requirements.

To the above ends my invention consists of the novel features of construction hereinafter described, and pointed out in the claims.

Figure 1 represents a plan or diagrammatic view of a gas or internal-combustion engine governor embodying my invention. Fig. 2 represents a plan view, partly in section, of a portion of the apparatus seen in Fig. 1, showing the valve in partly-open position.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a cam-shaft, which is mounted in suitable bearings and provided with the gear 2, which is adapted to mesh with the pinion 3, which is mounted on the engine or crank shaft 4, which is operated by the gas or internal-combustion engine or engines 5, it being of course understood that the engine or crank shaft 4 runs twice as fast as the cam-shaft 1, which operates the engine-valves in the usual manner.

6 designates lugs on the gear 2, upon which are pivotally mounted the bell-cranks 7, each of which have the pins 8, which engage the groove 9 on opposite sides of the sleeve 12, which is splined to the shaft 1, said bell-cranks or elbow-levers 7 being provided with the balls 10, which are held in their proper relative position by means of the spring 11.

13 designates a spiral contact on the sleeve 12 for advancing the spark, said sleeve being

also provided with a groove to fit the ring 14, which is pivotally connected to the bell-crank 15, which is fulcrumed at the point 16.

17 designates a rod leading from an arm of the bell-crank 15 to the arm 18 of the bell-crank 19, which has the arm 20, to which one end of the link 21 is connected, the opposite end of said link being connected to the arm 22, which operates the throttle 23, which controls the discharge of the gas from the commingling-chamber 24 through the outlet 25 to the engine-cylinders. The bell-crank 19 is pivoted at the point 26 to the arm or lever 27, which is fulcrumed at the point 28, said arm 27 having connected thereto the rod 29, which is operated by any suitable means.

30 designates the float or gasolene-chamber of the carbureter 31; but as these parts form no part of the present invention *per se* I have deemed it unnecessary to describe the same in detail.

32 designates the contact-strip employed, the function of which will be evident.

I have also deemed it unnecessary to show or describe the wires or other connections whereby the ignition is effected, since the construction of the same will be familiar to those skilled in this art.

The operation is as follows: As will be apparent to those skilled in this art, the governor comprises the elbow-levers 7 and the balls 10 and operates the sleeve 12, having the spiral contact 13 thereon for advancing the spark, and by means of the ring 14 and its adjuncts the bell-crank 15 is operated to the desired extent, said bell-crank being connected to the throttle or air valve 23 by means of the link or connecting-rod 17, the bell-crank 19, and the rod or link 21, as has already been explained. It will be apparent that the throttle-gate or air-valve 23 closes or tends to close as the spark is advanced by the governor, according to the position of the arm or lever 27, on which bell-crank 19 is pivoted, said lever 27 being itself pivoted at the point 28, as has been explained, it being further apparent that the position of the pivot of the bell-crank 19 is readily controlled by means of the rod 29, which leads to any desired point and may be operated by any suitable means.

It will be apparent from the foregoing that by my invention the number of parts is reduced to a minimum and the construction greatly simplified, so that but a single throttle
 5 is necessary for both governing the charge admitted to the cylinders and for admitting more or less gas by independent means at the will of the operator. It will further be apparent
 10 that the spark is automatically retarded whenever the motor is stopped, it being immaterial at what position the independent controlling device may be set.

It will be apparent that changes may be made by those skilled in the art in the manner of assembling and constructing the above parts, and
 15 I do not, therefore, desire to be limited in every instance to the exact construction I have herein shown and described.

Having thus described my invention, what
 20 I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the character named, a carbureter, a throttle-valve, a governor, connections between said governor and throttle, a
 25 bell-crank lever which forms a part of said connections, a pivoted arm carrying the fulcrum of the bell-crank lever, and hand-controlled means for moving said arm and thereby the throttle, whereby but a single throttle-
 30 valve is employed for both governing the charge admitted to the engine-cylinder and for admitting more or less gas independently at the will of the operator.

2. In a device of the character named, a
 35 cam-shaft, a sleeve splined thereupon for longitudinal movement, a spiral contact on said sleeve, a governor adapted to actuate said sleeve, a carbureter, a throttle-valve, connections between said governor and throttle, a
 40 bell-crank lever which forms a part of said connections, a pivoted arm carrying the fulcrum of the bell-crank lever, and hand-controlled means for moving said arm and thereby the throttle, whereby but a single throttle-
 45 valve is employed for both governing the charge admitted to the engine-cylinder and for admitting more or less gas independently at the will of the operator.

3. In a device of the character named, a gov-

ernor, a carbureter, a sleeve, connections be- 50
 tween said governor and sleeve for moving the latter, a bell-crank actuated by the movement of said sleeve, a second bell-crank, a rod connecting said bell-cranks, a lever or arm pivoted to a fixed point, said last-mentioned 55
 bell-crank being pivoted to said lever, means for adjusting the position of said lever, a throttle-valve for said carbureter and connections intermediate said last-mentioned bell-
 60 crank and said throttle-valve.

4. In a device of the character named, a longitudinally-movable sleeve, a spiral contact thereon, a coöperating contact, a groove in said sleeve, a governor adapted to move said sleeve longitudinally, a ring in engagement 65
 with said groove, a bell-crank pivoted to a fixed point and connected to said ring, a second bell-crank, a rod common to said bell-cranks, an arm or lever upon which said second bell-crank is pivotally mounted, said arm 70
 being pivoted to a fixed point, a carbureter, a throttle-valve for said carbureter, connections intermediate said second bell-crank and valve, and means for adjusting the position of said second bell-crank. 75

5. In device of the character named, a governor, a longitudinally-movable sleeve having a groove therein, connections from said governor engaging said groove, a spiral contact 80
 13 on said sleeve, a coöperating contact, a ring 14 engaging a second groove in said sleeve, a bell-crank 15 connected to said ring, said bell-crank being fulcrumed at a fixed point, a second bell-crank 19, a rod 17 connecting said bell-cranks, a lever 27 fulcrumed 85
 at a fixed point 28, said bell-crank 19 being pivoted to said lever, a carbureter having a commingling-chamber 24 therein, a valve 23 controlling the discharge of gas from said commingling-chamber, an arm 22 for actuating 90
 said valve, a rod 21 intermediate said arm and the bell-crank lever 19, and a rod 29 for adjusting simultaneously the position of said lever 27 and said bell-crank 19.

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Witnesses:

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