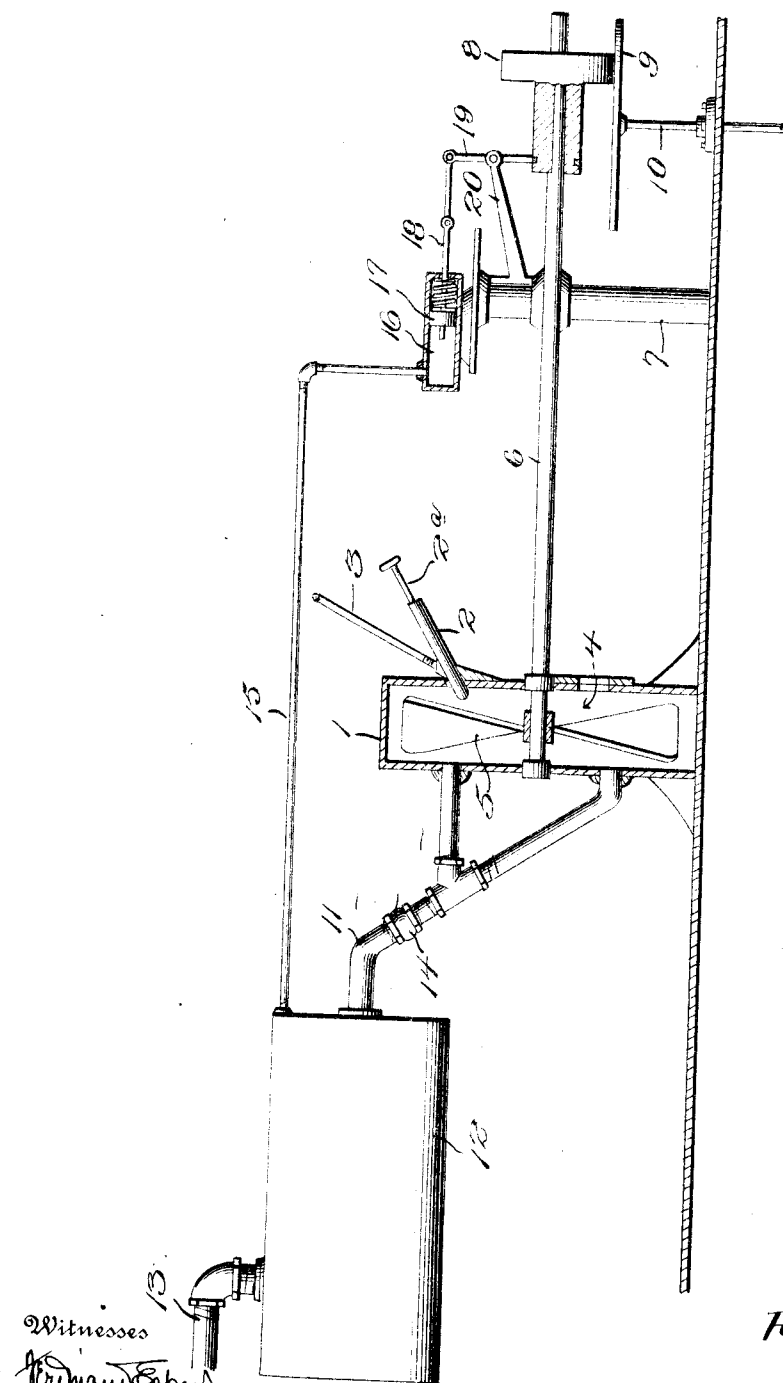


R. B. WORTMAN.
 CARBURETING APPARATUS.
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Patented June 10, 1913.



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CARBURETING APPARATUS.

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To all whom it may concern:

Be it known that I, RAYMOND B. WORTMAN, a citizen of the United States, residing at Okemah, in the county of Okfuskee and State of Oklahoma, have invented certain new and useful Improvements in Carbureting Apparatus, of which the following is a specification.

This invention comprehends certain new and useful improvements in apparatus or systems for carburetion for internal combustion engines, preferably of the two-cycle type, and the invention has for its primary object a simple and efficient construction of apparatus of this character which will be automatic in its action in keeping the pressure uniform, which will be easy to construct and assemble, and which will be durable and not liable to get out of order. And the invention also aims to generally improve this class of devices and to render them more useful and commercially desirable.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which the figure is a side elevation of my improved carbureting apparatus, parts being shown in section.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawing, the numeral 1 designates a casing which may be of any desired type, construction and design, and 2 designates an inspirator or spray nozzle which is secured to the casing and into which a supply pipe 3 extends, said pipe being connected to any suitable source of supply for the gasoline, the spray nozzle being controlled or regulated by a needle valve 2^a.

4 designates the air inlet which is formed in the casing 1, said air inlet being controlled or regulated by any desired form of shutter or other closure, whereby in connection with the needle valve 2^a of the inspirator nozzle, the supply of air and gasoline may be easily regulated and kept at the

desired proportion. The casing 1 contains a fan blower 5 with any desired number of blades, said fan blower being mounted upon a shaft 6 which has bearings in the casing 1 and also in a post or standard 7. A pinion 8, preferably formed of fiber, is splined on the shaft 6 and frictionally engages a drive disk 9 which is preferably formed of steel, the disk and pinion being set at right angles to each other as shown, and the disk being secured to one end of an actuating shaft 10 which is rotated in any desired way, preferably by being connected through any suitable gearing, to the crank shaft of the engine which is equipped with my improved carbureting system or apparatus, whereby the speed of the actuating shaft 10 is maintained at all times proportionate to the speed of the engine and crank shaft. A mixture pipe 11, provided with any desired number of branches, leads from the fan blower casing 1 to a mixture reservoir or tank 12, said reservoir being connected by one or more pipes 13 to the engine cylinders, the number of pipes 13 being, of course, governed by the number of cylinders of the engine.

14 designates a check valve in the pipe 11.

In order to maintain the pressure in the tank 12 uniform, I have provided a pressure regulating pipe 15 which is connected at one end to the tank 12 and at its other end to an air cylinder 16 in which a piston 17 is mounted for longitudinal movement. The piston 17 is connected to a rod 18 and the rod is in turn operatively connected to a shipper lever 19 which engages the hub of the pinion 8, said lever being fulcrumed intermediate of its ends on an arm 20 projecting from the post or standard 7.

From the foregoing description in connection with the accompanying drawing, the operation of my improved carbureting apparatus will be apparent. In the practical use of the device, the rotation of the shaft 10 and the consequent revolution of the friction disk 9, will cause the pinion 8 and the shaft 6 to rotate, and the revolution of the fan blower 5 will draw in the air and gasoline, into the casing 1 from whence the mixture will be forced past the check valve 14 into the tank 12 and from thence to the engine cylinder or cylinders. The air pressure in the pipe 15 will act upon the piston 17, and as the pressure tends to increase, the piston 17 will be moved in a direction to

rock the shipper lever 19 so as to move the pinion 8 in toward the center of the disk 9, thereby reducing the speed of the shaft 6. On the other hand, a diminution of the air pressure in the tank 12 and pipe 15 will cause the pinion 8 to move out toward the rim of the disk 9, the speed of the shaft 6 being thereby increased. By this means the pressure in the tank is kept uniform, for as the pressure rises and falls, the speed of the fan blower 5 is varied accordingly.

While the accompanying drawing shows what I believe to be the preferred embodiment of my invention, it is to be understood that the invention is not limited thereto, but that various changes may be made in the construction, arrangement and proportions of the parts without departing from the scope of the invention as defined in the appended claims.

Having thus described the invention, what is claimed as new is:

1. A carbureting apparatus including a blower casing having front and back walls, a blower in said casing, means for supplying fuel and air through diametrically disposed portions of the back wall, a mixture storage tank, outlet pipes leading from the front wall at points opposite the fuel and air intakes and leading to the tank, means for driving the blower, and means operable by the pressure in the tank for governing the rate at which the blower is driven.

2. A carbureting apparatus including a blower casing having front and back walls,

a blower in said casing, means for supplying fuel through the back wall of the blower, said means including an intake pipe, the inner end of which is inclined toward the central portion of the blower casing, the back wall of the casing being further provided with an air intake at a point diametrically opposed to the fuel intake pipe, a mixture storage tank, outlet pipes leading from the front wall at points opposite the fuel and air intakes and leading to the tank, means for driving the blower, and means governed by the pressure in the tank for regulating the rate at which the blower is driven.

3. A carbureting apparatus including a blower casing having front and back walls, a blower in said casing, means for supplying fuel to the casing, means for supplying air to the casing, means for independently governing the supply of fuel and air, a mixture storage tank, a pipe communicating between said tank and the blower casing, means for driving the blower, and means operable by the pressure in the tank and independent of the means for regulating the supply of fuel and air for regulating the rate at which the blower is driven.

In testimony whereof, I affix my signature in presence of two witnesses.

RAYMOND B. WORTMAN. [L. s.]

Witnesses:

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