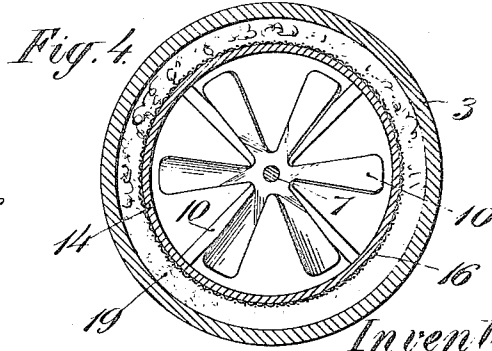
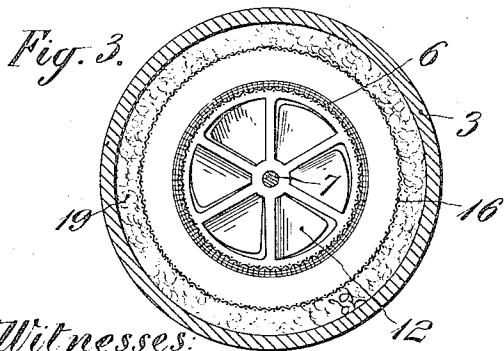
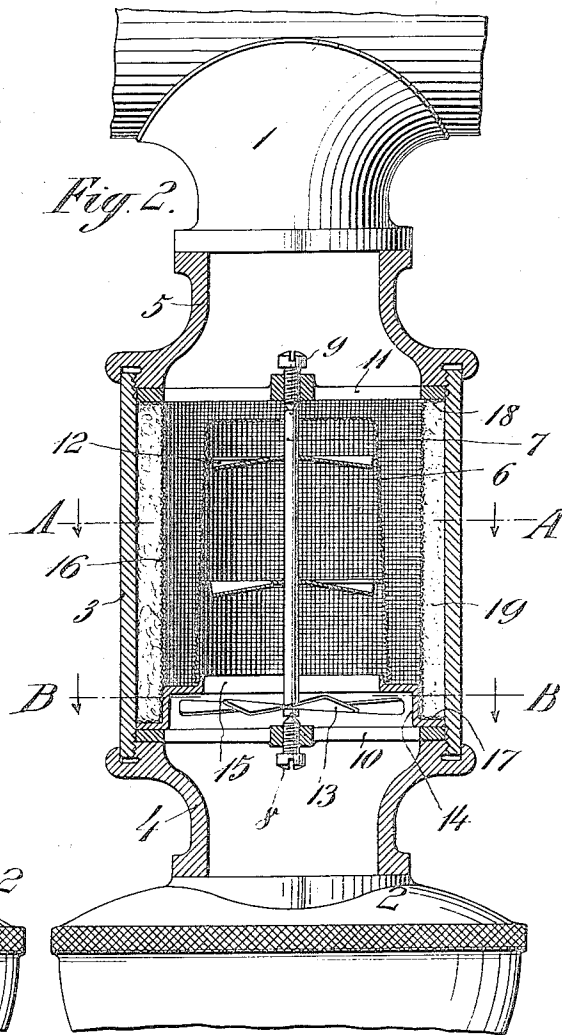
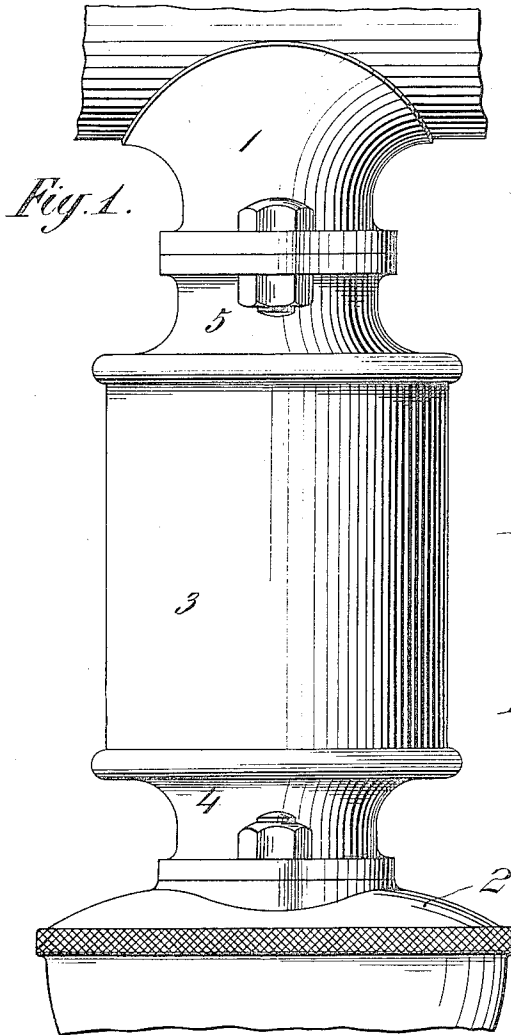


S. R. JACOBS.
 CARBURETER FOR HYDROCARBON ENGINES.
 APPLICATION FILED AUG. 19, 1909.

942,503.

Patented Dec. 7. 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

SOLOMON R. JACOBS, OF NEW YORK, N. Y.

CARBURETER FOR HYDROCARBON-ENGINES.

942,503.

Specification of Letters Patent.

Patented Dec. 7, 1909.

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To all whom it may concern:

Be it known that I, SOLOMON R. JACOBS, a citizen of the United States, and resident of the borough of Manhattan, in the city and State of New York, have invented a new and useful Improvement in Carbureters for Hydrocarbon-Engines, of which the following is a specification.

My invention has for its object to provide an auxiliary carbureter for hydrocarbon engines, which auxiliary carbureter is intended to be interposed between the regular carbureter and the engine for the purpose of obtaining by centrifugal action, a whirling motion of the mixture for producing a very dry mixture by the elimination of the heavy particles of hydrocarbon and also obtaining a more complete commingling of the particles of air and hydrocarbon. By this elimination of the heavy particles of hydrocarbon and by the obtaining of a drier mixture, more effective results may be obtained from the fuel when it reaches the engine.

A practical embodiment of my invention is represented in the accompanying drawings, in which,

Figure 1 represents a portion of a carbureter of any well known or approved type and a portion of a hydrocarbon engine with my auxiliary carbureter interposed between them, the auxiliary carbureter being shown in side elevation. Fig. 2 is a similar view with the auxiliary carbureter shown in longitudinal central section. Fig. 3 is a cross section taken in the plane of the line A—A of Fig. 2, looking in the direction of the arrows, and Fig. 4 is a cross section taken in the plane of the line B—B of Fig. 2, looking in the direction of the arrows.

The inlet pipe of the hydrocarbon engine is denoted by 1. The regular carbureter is denoted by 2.

Proceeding to describe the auxiliary carbureter: the body portion is denoted by 3, one end of which is provided with a removable reduced portion 4, for attachment to the carbureter 2, and the other end of which is provided with a removable reduced portion 5 for attachment to the inlet pipe 1 of the hydrocarbon engine. A perforated rotary cage 6 is located within the body portion 3, which rotary cage is shown, in the present instance, as composed of wire mesh of inverted cup shape having an open mouth directed toward the carbureter 2. This cage is provided with a shaft 7 mounted at its

ends between adjusting screws 8, 9, carried by spiders 10, 11, located at the opposite ends of the body portion 3. The shaft 7 is provided within the perforated cage 6, with one or more fans 12. In the present instance, two of these fans are shown, the peripheries of the fans being secured to the walls of the cage for steadying the same with respect to the shaft 7. Another larger fan 13 is provided on the shaft 7, below the cage 6, adjacent to the spider 10. A stepped ring 14 rests upon the spider 10 and an inner upwardly turned lip 15 projects into the mouth of the cage 6. A perforated screen 16 surrounds the rotary cage 6 and is spaced therefrom, which screen 16 is preferably made of fine wire mesh. This screen is held in position by providing its opposite ends with flanges 17, 18, the flange 17 resting upon the stepped ring 14 and the flange 18 being engaged by the upper spider 11. The separable reduced portion 5 of the auxiliary carbureter serves to removably hold all of the parts in their assembled adjustment. The space between the screen 16 and the inner wall of the body portion 3, is preferably filled with an absorbent material 19 for receiving and temporarily retaining the heavier particles of hydrocarbon that are projected through the said screen 16 from within the rotary cage 6.

In operation, as the mixture of liquid hydrocarbon and air is sucked by the engine from the carbureter 2, it passes upwardly through the fan 13 into the cage 6, and from thence through the fans 12 and the top of the cage into the inlet pipe 1. As this mixture passes through the cage 6, it will, because of its action upon the fans, cause the cage to rotate rapidly, thus giving to the mixture a whirling motion. This whirling motion of the mixture as it passes through the cage, will cause the heavier particles of hydrocarbon to be thrown by centrifugal action, outwardly through the perforations of the cage against the surrounding screen 16. Some of this heavier hydrocarbon will also pass through the screen 16 into the absorbent material 19. This whirling action of the mixture as it passes through the rotary cage, will also produce a very thorough commingling of the air and lighter hydrocarbon particles.

It is evident that changes might be resorted to in the construction, form and arrangement of the several parts of the aux-

iliary carbureter without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly to the structure herein set forth, but

5 What I claim is:

1. An auxiliary carbureter including a rotary perforated cage provided with one or more fans acted upon by the mixture passing through the cage for rotating the cage and thereby whirling the mixture to produce a more complete commingling of the air and hydrocarbon and for eliminating the heavier particles of hydrocarbon from the mixture by centrifugal action.
- 15 2. An auxiliary carbureter including a rotary perforated cage for whirling the mixture as it passes therethrough to produce a more complete commingling of the air and hydrocarbon and for eliminating the heavier particles of hydrocarbon from the mixture by centrifugal action, and a perforated screen surrounding the cage against which the said heavier particles of hydrocarbon are thrown.
- 25 3. An auxiliary carbureter including a rotary perforated cage for whirling the mixture as it passes therethrough to produce a more complete commingling of the air and hydrocarbon and for eliminating the heavier particles of hydrocarbon from the mixture by centrifugal action, a perforated screen surrounding the cage against which the said heavier particles of hydrocarbon are thrown, and an absorbent material surrounding the said screen for temporarily retaining the heavier particles of hydrocarbon which pass through the screen.
- 30 4. An auxiliary carbureter including a rotary perforated cage provided with one or more fans acted upon by the mixture passing through the cage for rotating the cage and thereby whirling the mixture to produce a more complete commingling of the air and hydrocarbon and for eliminating the heavier particles of hydrocarbon from the mixture by centrifugal action and a perforated screen surrounding the cage against which the said heavier particles of hydrocarbon are thrown.
- 45 5. An auxiliary carbureter including a rotary perforated cage provided with one or more fans acted upon by the mixture passing through the cage for rotating the cage and thereby whirling the mixture to produce a more complete commingling of the air and

hydrocarbon and for eliminating the heavier 55 particles of hydrocarbon from the mixture by centrifugal action, a perforated screen surrounding the cage against which the said heavier particles of hydrocarbon are thrown and an absorbent material surrounding the 60 screen for temporarily retaining the particles of hydrocarbon which pass through the screen.

6. An auxiliary carbureter including a body portion, spiders located therein, a shaft 65 rotatably mounted by said spiders, a perforated cage carried by said shaft and one or more fans carried by said shaft, said fans being acted upon by the mixture passing through the cage for whirling the mixture 70 to produce a more complete commingling of the air and hydrocarbon and for eliminating the heavier particles of hydrocarbon from the mixture by centrifugal action.

7. An auxiliary carbureter including a 75 body portion, spiders located therein, a shaft rotatably mounted by said spiders, a perforated cage carried by said shaft, a fan carried by said shaft exterior to the mouth of the cage and one or more fans located with- 80 in the cage, said fans being acted upon by the mixture passing through the cage for whirling the mixture to produce a more complete commingling of the air and hydrocarbon and for eliminating the heavier par- 85 ticles of hydrocarbon from the mixture by centrifugal action.

8. An auxiliary carbureter including a body portion, spiders located therein, a shaft 90 rotatably mounted by said spiders, a perforated cage carried by said shaft, a stepped ring for directing the mixture into the mouth of the cage and one or more fans carried by the shaft acted upon by the mixture passing through the cage for whirling 95 the mixture to produce a more complete commingling of the air and hydrocarbon and for eliminating the heavier particles of hydrocarbon from the mixture by centrif- 100 ugal action.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this tenth day of August, 1909.

SOLOMON R. JACOBS.

Witnesses:

F. GEORGE BARRY,
HENRY THIEME.