

G. H. CLEMMER.
FUEL MIXER.

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1,093,385.

Patented Apr. 14, 1914.

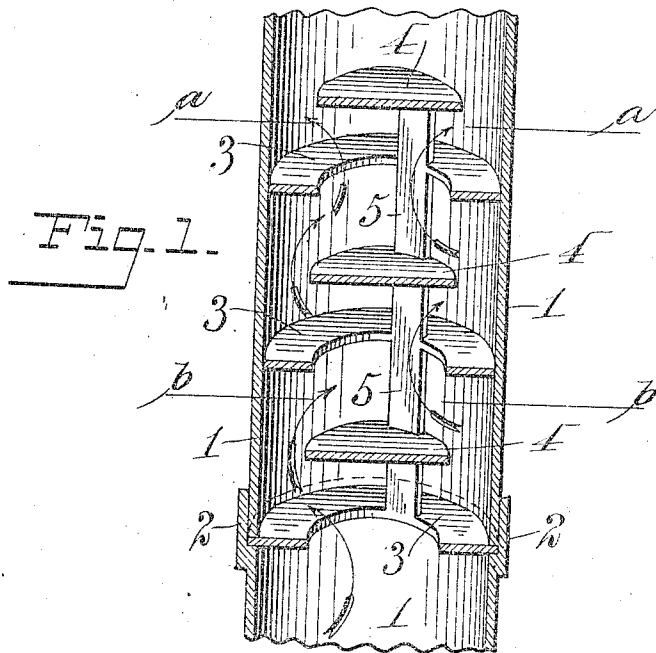
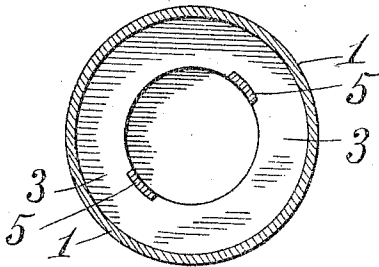


Fig. 2.

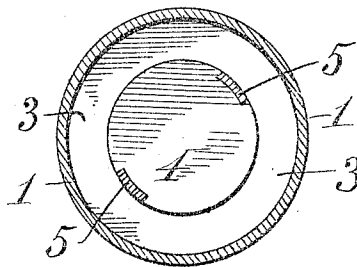


Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE H. CLEMMER, OF WEST ALEXANDRIA, OHIO.

FUEL-MIXER.

1,093,385.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE H. CLEMMER, a citizen of the United States, residing at West Alexandria, in the county of Preble and State of Ohio, have invented certain new and useful Improvements in Fuel-Mixers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in mixers or agitators for gaseous substances and air to provide a suitable fuel for explosive engines.

The invention is designed to provide a simple and efficient mixer or agitator which is capable of being placed in the intake-pipe of a gas engine between the carbureter and the valves of the cylinder, for the purpose of producing a more satisfactory vaporization of the fuel to be introduced to the cylinder of the engine.

With this end in view my invention has for its object to provide a series of baffle or impact devices which, while they thoroughly arrest and distribute the gaseous substance passing through them, also allow a passage of such substance with such a degree of freedom as to avoid the possibility of the mixer or agitator becoming clogged up.

It is well known that different grades of gasoline are used to furnish fuel for explosive engines and that the heavier grades have more of a tendency to clog up the passages through the mixer.

It is, therefore, a further object of my invention to provide a mixer or agitator which is capable of handling the heavier grades of oil as well as the lighter grades without the possibility of the device becoming inefficient through any clogging up of the openings through which the fuel passes.

In the accompanying drawings, Figure 1 designates a longitudinal section through a portion of the intake-pipe and the baffle or distributing devices which are shown in perspective; Fig. 2 is a sectional view on the line *a-a* of Fig. 1; and Fig. 3 is a sectional view on the line *b-b* of Fig. 1.

In the drawings I have not deemed it necessary to illustrate any portion of the combustion engine or the carbureter as these

elements are well known as well as the relative position of the intake-pipe which extends from the carbureter to the manifold of the engine. The intake-pipe 1 is of usual form and my improved mixer or agitator is shown arranged adjacent to a joint thereof formed by the bell and spigot end or connection 2. The mixer or agitator consists of a succession of annular perforate and imperforate members 3 and 4 which are united by side bars 5 to the inner margins of the members 3 and the outer margins of the members 4. The members 3 are of larger circumference and constitute in effect a series of rings which engage the inner circumference of the pipe 1. The imperforated members or disks 4 are substantially equal in diameter to the openings in the rings and lie immediately over said openings. The connecting gaseous substance impacts with these rings and is caused to pass through the axial openings of said rings which are of substantial area. Arranged above the axial openings of the rings or members 3 are the imperforate members or disks 4 against which the fuel substance impacts and is driven outwardly around each imperforate member to be arrested by the next adjacent ring member 3. The mixer or agitator may consist of any desirable number of these baffle device arranged and united in a single instrument. In the drawings, I have shown three perforate and three imperforate members arranged in alternate relation and united to the side bars 5. A greater number of such devices may be assembled in one instrument or a less number, the object being to provide a freedom of passage for the fuel and at the same time a succession of baffle plates or members which direct the incoming substance outwardly and inwardly as it passes through. The lowermost ring 3 or that one which is adjacent to the joint in the pipe, as shown in Fig. 1, is made of larger diameter than the remaining rings 3 for the purpose of securing the mixer at the joint of the pipe. It will be noted that the outer circumference of said ring 3 is clamped between the bell and spigot end of the pipe and the device is therefore held securely in position.

Having described my invention, I claim:

In a device of the character specified, the combination with the fuel intake pipe having a jointed connection, of a mixer or fluid agitator arranged therein and consisting of

a series of rings placed one in advance of the other and engaging the inner circumference of said pipe, one of said rings being fixed at the joint of the pipe, a series of imperforate disks similarly arranged one in advance of each ring, the diameters of said disks being substantially equal to the diameters of the openings of said rings, and oppositely arranged bars extending from the ring secured at the joint of the pipe and

connecting the remaining rings and the disks thereto, substantially as shown and described.

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

GEORGE H. CLEMMER.

Witnesses:

R. J. McCARTY,
MATTHEW SIEBLER.