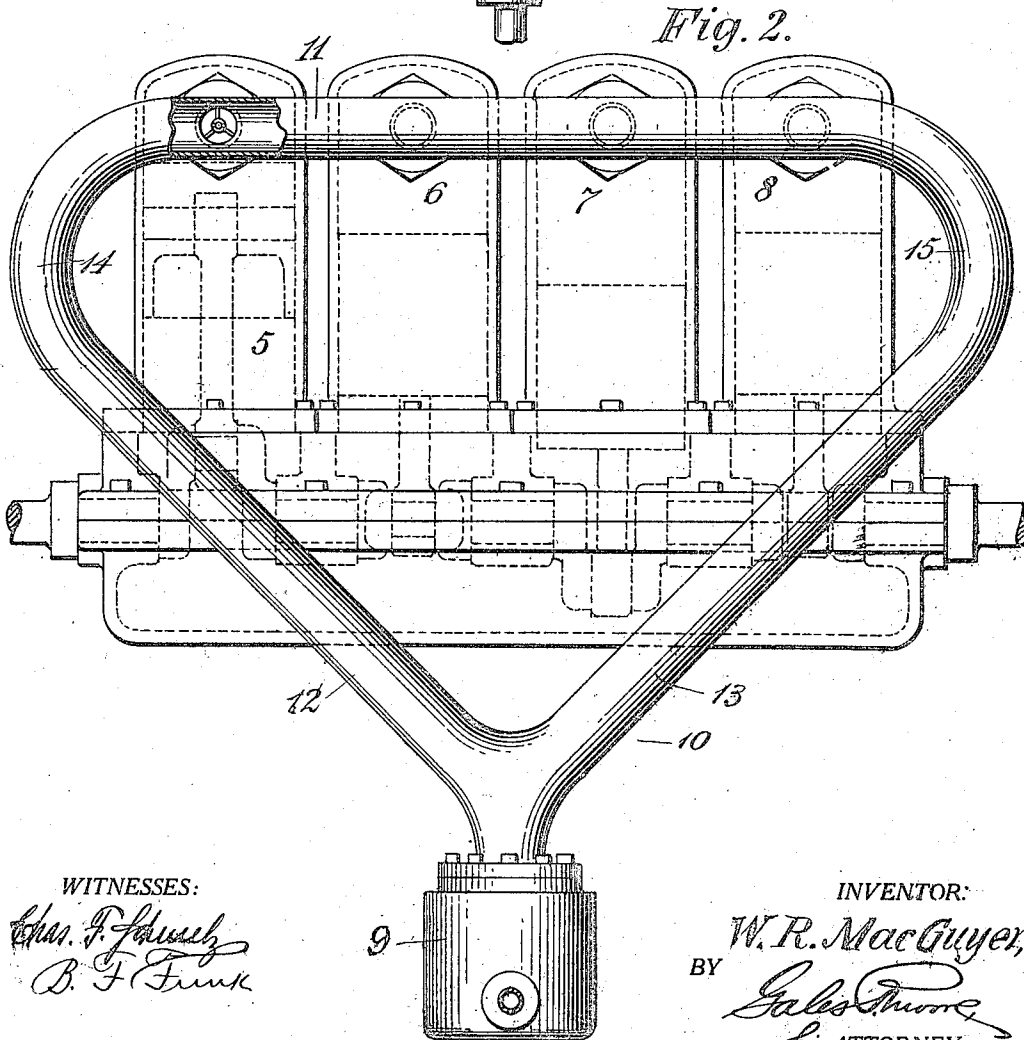
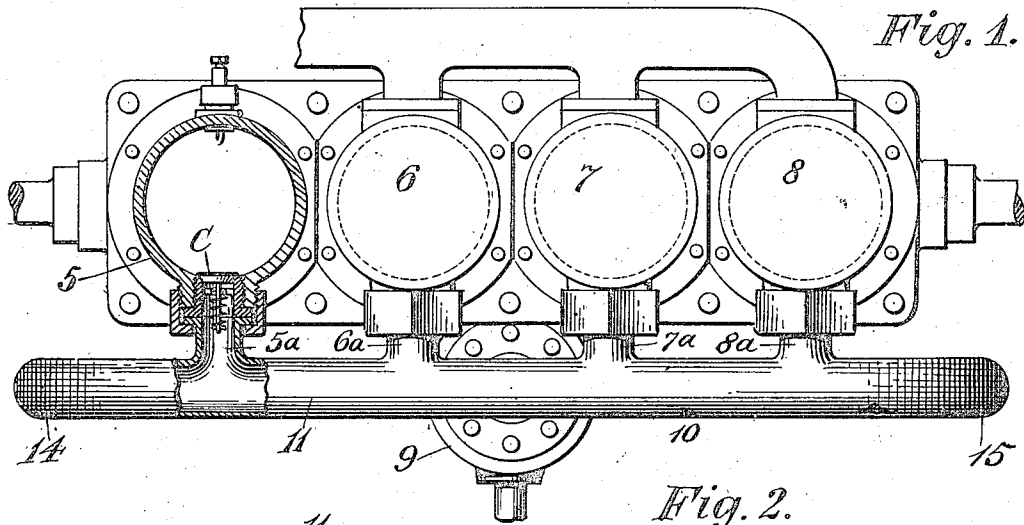


W. R. MacGUYER.
FEEDING MEANS FOR EXPLOSION MOTORS.
APPLICATION FILED JULY 29, 1907.

962,371.

Patented June 21, 1910.



WITNESSES:

Chas. F. Farnsch
B. F. Frank

INVENTOR:

W. R. MacGuyer,
BY *Gales Moore*
his ATTORNEY.

UNITED STATES PATENT OFFICE.

WOODFORD R. MACGUYER, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE NEW DEPARTURE MANUFACTURING COMPANY, OF BRISTOL, CONNECTICUT, A CORPORATION OF CONNECTICUT.

FEEDING MEANS FOR EXPLOSION-MOTORS.

932,371.

Specification of Letters Patent. Patented June 21, 1910.

Application filed July 29, 1907. Serial No. 395,932.

To all whom it may concern:

Be it known that I, WOODFORD R. MACGUYER, a citizen of the United States, residing at Waterbury, county of New Haven, State of Connecticut, have invented a certain new and useful Feeding Means for Explosion-Motors, of which the following is a full, clear, and exact description, 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, forming part of this specification.

This invention relates to feeding means for explosion motors.

One of the objects of the invention is to provide means for facilitating the introduction of the fuel from the source of fuel supply into the cylinder or cylinders in which it is to be exploded.

Another object of the invention is to provide means for insuring a proper volume of fuel being fed into the cylinder or cylinders preparatory to being exploded.

Another object of the invention is to provide means whereby fuel will be fed into the motor cylinder as soon as the inlet valve is opened.

Another object of the invention is to provide means for maintaining a constant circulation of fuel in the supply conduit from which the fuel is permitted to enter the motor cylinders.

Other objects and advantages as well as the novel details of construction of this invention will be specifically described hereinafter, it being understood that changes in form, proportion and minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

In the drawings Figure 1 is a view partly in plan and partly in section of a motor embodying my invention; and Fig. 2 is a view partly in elevation and partly in section of a motor to which my invention is applied.

My invention is applicable to a motor embodying any number of cylinders, but I have shown it as being applied to a four cylinder motor, the cylinders being designated as 5, 6, 7 and 8 respectively. It is to be understood that these cylinders are to be equipped with all of the necessary appurtenances commonly found in motors of this type includ-

ing sparking plugs, a source of electrical generation therefor, exhausts and mufflers, etc., but as these are all old and well known I have deemed it unnecessary to specifically describe or illustrate them. The source of fuel supply for the motor may conveniently consist of a carbureter 9 from which the fuel may be conveyed to the motor cylinders through a looped conduit 10 including a branch 11 having a plurality of outlet ports 5^a, 6^a, 7^a and 8^a respectively leading into the cylinders 5, 6, 7 and 8. The branches 12 and 13 lead from the carbureter 9 and diverge toward the respective ends of the branch 11 and are connected thereto by relatively broad bends 14 and 15, so as to feed fuel from the source of supply into the respective ends of said branch 11 whence it may be conveyed to the respective cylinders.

The ports 5^a to 8^a respectively are of slightly less diameter than the diameter of the branch 11 so that the interior area of the branch 11 will be sufficient to contain so much fuel that no one cylinder will be able to exhaust the entire volume contained in said branch 11, hence there will be, at all times, sufficient fuel in the branch 11 to feed more than one cylinder. The ports 5^a to 8^a are also relatively short so that the branch 11 may be close to the respective cylinders thereby permitting the fuel to be fed, practically, directly from the branch 11 into the respective cylinders. Each port leading from the branch 11 into the cylinder is provided with an inwardly opening check valve C so that on the suction stroke of the piston, the valve C will be unseated to permit fuel to enter the cylinder, but during the compression stroke, the valve will be seated. It is to be understood, of course, that these valves may be operated mechanically if desired.

By utilizing the construction of reed conduit having the generic principles involved in the invention illustrated in the accompanying drawings, the suction stroke of each cylinder will cause a circulation of gas in the branch 11 and the successive operations of the respective pistons will maintain this circulation of fuel so that fuel will be present adjacent each supply port when the valve C is open to admit fuel in its cylinder. This circulation will be insured, in a measure, on account of the fact that both ends

of the branch 11 are open for admission of fuel or, in other words, in communication with the source of fuel supply and on account of this arrangement, a steady suction will be maintained in the carbureter during the operation of the motor instead of the intermittent or jerky suction resulting from the use of the fan-form of feed conduit in which there is a separate pipe leading to each cylinder. It will be observed in the form illustrated, a single conduit is used common to all of the cylinders and that action of each piston assists in providing gas for the cooperating pistons.

While I prefer to use the form of conduit 10 illustrated in the drawings, and while I believe that the broad bends 14 and 15 are of advantage in reducing the friction of the gas or fuel passing into the branch 11, I do

not desire to be limited to the particular form of conduit shown.

What I claim is—

In a motor, the combination with a plurality of cylinders, and a source of fuel supply, each said cylinder being provided with a fuel inlet, of a feed conduit having said inlets opening thereinto at points between the ends of the conduit, and communication between said source of supply and each end of said conduit; substantially as described.

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

WOODFORD R. MACGUYER.

Witnesses:

PATRICK S. VERDON,
PETER A. ROGERS.