G. S. BOUCHER.

AUXILIARY AIR FEEDING DEVICE.

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1,184,611.

Patented May 23, 1916.

Fig. 1

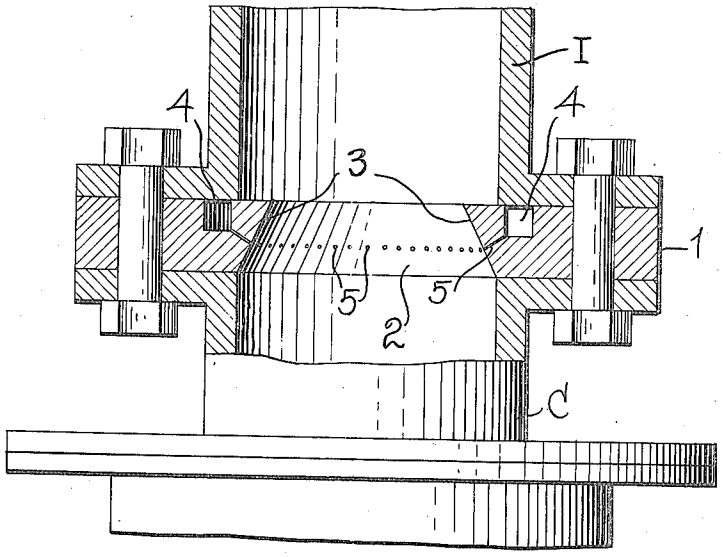
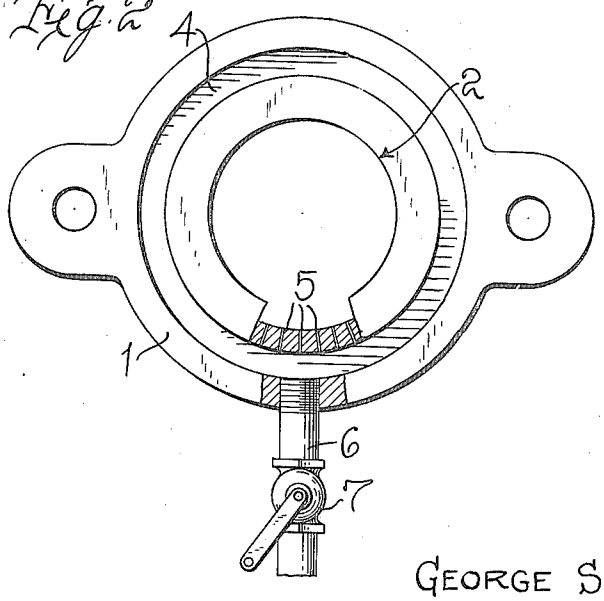


Fig. 2



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AUXILIARY AIR-FEEDING DEVICE.

1,184,611. Specification of Letters Patent. Patented May 23, 1916.

Application filed February 14, 1916. Serial No. 78,220.

To all whom it may concern:

Be it known that I, GEORGE S. BOUCHER, a citizen of the United States, residing at Damascus, in the county of Washington and State of Virginia, have invented certain new and useful Improvements in Auxiliary Air-Feeding Devices, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in auxiliary air feeding devices and has relation more particularly to a device of this general character adapted to be interposed between the carbureter and intake to the motor, and it is an object of the invention to provide a device of this general character having novel and improved means wherein the heavy particles of gasolene are thrown toward the center and thereby prevented from coming into contact with the side walls of the intake or manifold.

It is also an object of the invention to provide a novel and improved device of this general character having a tapered opening with the smaller end delivering into the intake or manifold so that the mixture drawn from the carbureter passes therethrough with greater rapidity, and whereby the auxiliary air admitted by the device serves to further comminute the mixture.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved air feeding device whereby certain important advantages are attained and the device is rendered simpler, less expensive and otherwise more convenient and advantageous for use, all as will be hereinafter more fully set forth.

The novel features of the invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein—

Figure 1 is a view partly in elevation and partly in section illustrating an embodiment of my invention; and Fig. 2 is a view partly in top plan and partly in section of my improved device as herein disclosed.

As disclosed in the accompanying drawings, C denotes a portion of a carbureter and I the intake of a manifold, and interposed between said intake and carbureter is my improved device which comprises a plate 1 preferably of brass and having produced therethrough the opening 2 with the wall 3 thereof tapered with the smaller end of the opening 2 discharging within the intake I and of a diameter materially less than the diameter of the bore of the intake, whereby it will be perceived that the mixture drawn within the intake I from the carbureter C will travel with greater rapidity. It will also be perceived that by having the wall 3 of the opening 2 tapered the heavy particles of gasolene within the mixture will be thrown toward the center and thereby prevented from coming in contact with the side walls of the intake I or manifold, resulting in a more effective mixture.

As herein disclosed, the plate 1 has produced therein an annular recess 4 surrounding the opening 2 and underlying the adjacent end of the intake I and closed thereby, whereby an annular chamber is afforded, and said chamber has in communication therewith a plurality of inwardly directed openings 5 disposed substantially at right angles to the wall 3 of the opening 2 and through which the auxiliary air is delivered and as the auxiliary air travels in a direction substantially opposite to the travel of the mixture from the carbureter C within the intake I, it will be at once perceived that the gasolene is further comminuted or broken up.

The chamber afforded by the annular recess 4 has in communication therewith a pipe or conduit 6 leading from the atmosphere or the source of air supply and interposed in said pipe or conduit 6 is a controlling valve 7, whereby the flow of the auxiliary air may be regulated to suit the speed of the motor.

My device is in actual use and I have clearly established that with the use of my improvement, a material increased run of the motor per gallon of fuel may be had.

From the foregoing description, it is thought to be obvious that an air feeding device constructed in accordance with my invention is of an extremely simple and comparatively inexpensive nature and is particularly well adapted for use by reason of the convenience and facility with which it may be assembled, and it will also be obvious that my invention is susceptible of some change and modification without material departure from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise ar-

rangement and formation of the several parts herein shown in carrying out my invention in practice.

I claim:

In combination with a carbureter and the intake of a manifold, a plate adapted to be interposed between the carbureter and intake, said plate being provided with an opening therethrough, and an annular recess produced in a face of the plate and underlying the intake and closed by the intake whereby an annular chamber is afforded, said plate being provided with an air inlet in communication with the annular recess and having a plurality of auxiliary air openings in communication with the first named opening and the annular recess, the first named opening being tapered with the smaller end thereof delivering within the manifold, said auxiliary air openings being disposed in a direction toward the carbureter, the ends of the auxiliary openings in communication with the first named opening being inwardly of the ends of said auxiliary openings in communication with the annular recess.

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

GEORGE S. BOUCHER.

Witnesses:

A. A. MOCK,

F. G. CLEMENTS.