

March 4, 1924.

1,486,090

C. E. KLUEGEL ET AL

AUXILIARY AIR INLET AND MIXING CHAMBER

Filed Oct. 7, 1922

Fig. 1

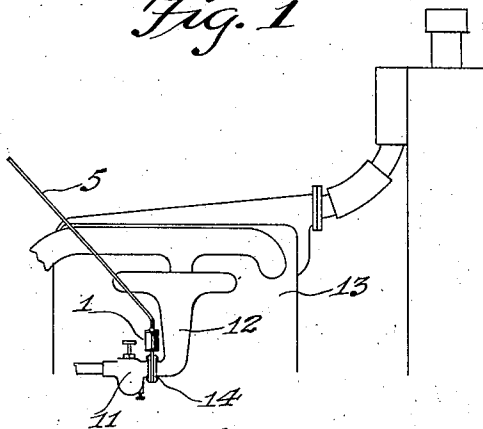


Fig. 2

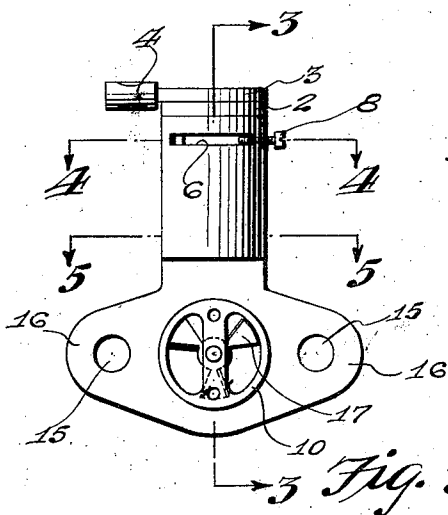


Fig. 3

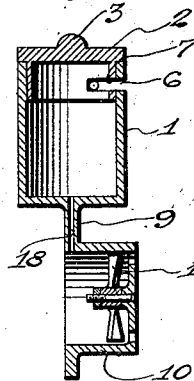


Fig. 4

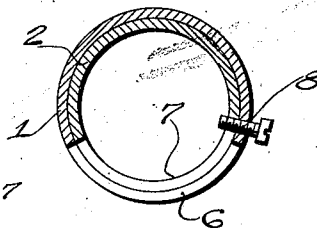


Fig. 5

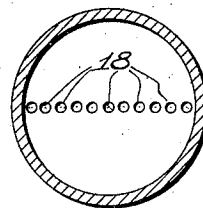


Fig. 6

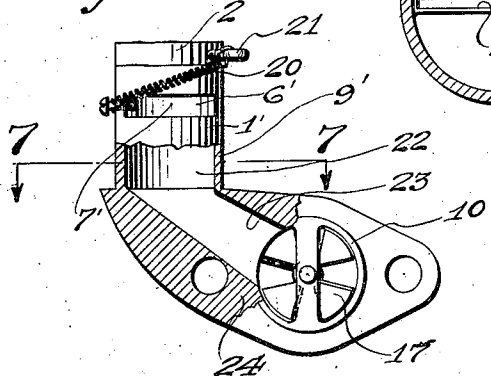
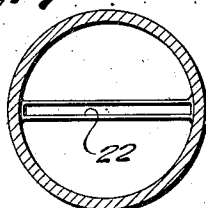


Fig. 7



CHARLES E. KLUEGEL
JAMES F. FAGIELSKI
CHARLES HOLDMANN
FRED G. HOLDMANN
INVENTOR

BY Victor J. Evans
ATTORNEY

WITNESS:

UNITED STATES PATENT OFFICE.

CHARLES E. KLUEGEL, JAMES JAGIELSKI, CHARLES HOLDMANN, AND FRED A. HOLDMANN, OF CHICAGO, ILLINOIS.

AUXILIARY AIR INLET AND MIXING CHAMBER.

Application filed October 7, 1922. Serial No. 593,141.

To all whom it may concern:

Be it known that we, CHARLES E. KLUEGEL, JAMES JAGIELSKI, CHARLES HOLDMANN, and FRED A. HOLDMANN, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in an Auxiliary Air Inlet and Mixing Chamber, of which the following is a specification.

This invention relates to a device for mixing air with the combustible fuel used in an internal combustion engine, for increasing the power derived from the fuel, thereby permitting the obtaining of greater mileage per gallon of fuel, upon various makes of motor vehicles.

Another object of this invention is to provide a mixer, which is controlled from the dash or instrument board of the vehicle and is located between the carburetter and the inlet into the cylinders, of an internal combustion engine, the said device comprising an air inlet, and a mixing fan operated by the suction created through the inlet for drawing air into the inlet and thoroughly mixing it with the fuel entering the cylinders.

Other objects of the invention will appear in the following detailed description taken in connection with the accompanying drawing wherein:

Fig. 1 is a fragmentary side elevation of a motor vehicle showing the improved mixer applied thereto.

Fig. 2 is a side elevation of the mixer.

Fig. 3 is a vertical section through the mixer on the line 3—3 of Fig. 2.

Fig. 4 is a cross section through the mixer taken on the line 4—4 of Fig. 2.

Fig. 5 is a detail section on the line 5—5 of Fig. 2.

Fig. 6 is a view partly in side elevation and partly in section of a modified form of the invention.

Fig. 7 is a cross section on the line 7—7 of Fig. 6.

Referring more particularly to the drawings, the improved gas equalizer and saver comprises a cylindrical body 1, which is open at one end and has a rotary plug 2 rotatably mounted in the open end. A transversely extending connecting arm 3 is formed upon the plug 2 and is connected by means of the extension 4 with a rod 5 which

is adapted to be connected to any suitable accelerating structure of the vehicle upon which the device is mounted. The cylindrical body 1 is provided with an arcuate slot 6 adapted to permit air to enter the interior of the body, and the plug 2 is provided with a slot 7 adapted to register with the slot 6 to permit the entrance of air into the body, or to be moved out of registration with the slot 6 to cut off the entrance of air. The regulation of the registering portions of the slots 6 and 7 will regulate the quantity of air drawn into or entering the body 1. A set screw 8 is provided for limiting the rotary movement of the plug 2.

The cylindrical body 1 is connected by a flat coupling 9 with a transversely extending cylindrical housing 10 which is connected to the carburetter 11 and the intake manifold 12 of the engine 13 by means of suitable rivets, bolts or the like as shown at 14, which extend through the openings 15 in the attaching flanges 16. A mixing fan 17 is rotatably supported within the transverse housing 10 and is adapted to be rotated by the suction created through the housing, by the entrance of the fuel into the cylinders and by the operation of the pistons therein. The connection 9 is provided with a plurality of openings 18, which communicate with the interior of the body 1 and the housing 10 so that the suction through the manifold 12 will draw air from the body 1 into the housing 10 where it will be thoroughly mixed with the fuel being drawn into the manifold, by rotation of the mixing fan 17.

In Figs. 6 and 7 of the drawings a slight modification of the invention is shown and in this modified form, the housing 1' and cap 2' are connected by a spring 20, which tends to hold the cap 2' in position to permit full registration of the openings 6' and 7'. Any suitable means may be connected to the eyelet 21 for rotating the cap 2' to reduce the portions of the openings, in registration. In the modified form, the connecting section 9' is provided with a flat slot 22 which communicates with a flat slot 23 formed in the body 24. The body 24 is positioned transversely to the body 1', as clearly shown in Fig. 6 of the drawings, and it carries the housing 10' in which the mixing fan 17' is rotatably mounted.

It is, of course, to be understood that the invention may be constructed in other man-

ners and the parts associated in different relations and, therefore, we do not desire to be limited in any manner except as set forth in the claim hereunto appended.

5 Having thus described our invention what we claim is:

A gas equalizer including a cylindrical body open at one end; a rotary plug mounted in the open end of the body, said body
10 and plug each having an arcuate slot adapted to be moved into registering positions, means connected with the plug for rotating the same to bring said openings

into registering positions, a cylindrical housing at right angles to the body, a flat 15 engaging portion connecting the body and housing and having a plurality of openings therein to provide direct communication between the body and housing, and a mixing fan rotatably supported in the housing. 20

In testimony whereof we affix our signatures.

FRED A. HOLDMANN.
CHAS. E. KLUEGEL.
CHAS. HOLDMANN.
JAMES JAGIELSKI.