A. J. FRITZ.

MIXING DEVICE.

APPLICATION FILED MAY 13, 1911.

1,016,741. Patented Feb. 6, 1912.

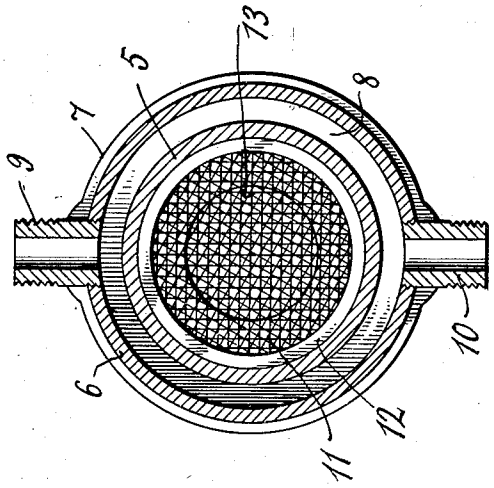

Fig. 2.

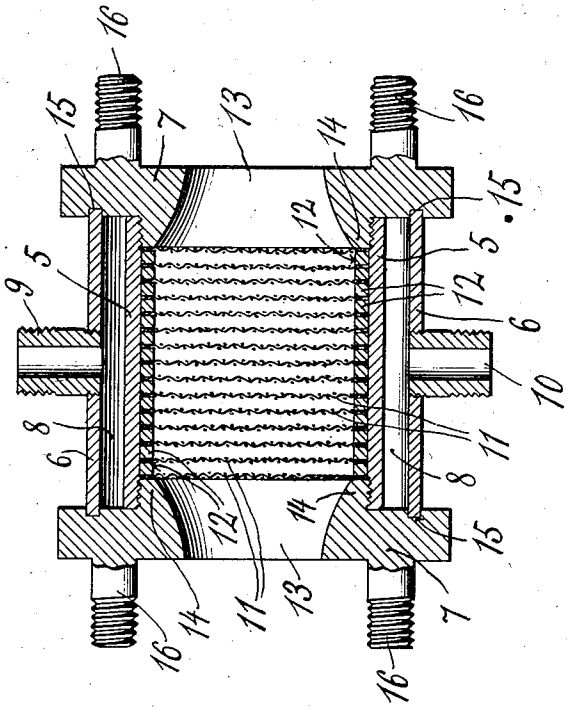

Fig. 1.

Witnesses

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UNITED STATES PATENT OFFICE.

AUGUST J. FRITZ, OF FARMINGTON, NEW MEXICO.

MIXING DEVICE.

1,016,741. Specification of Letters Patent. Patented Feb. 6, 1912.

Application filed May 13, 1911. Serial No. 626,913.

To all whom it may concern:

Be it known that I, AUGUST J. FRITZ, a citizen of the United States, residing at Farmington, in the county of San Juan and State of New Mexico, have invented certain new and useful Improvements in Mixing Devices, of which the following is a specification.

This invention relates to charge-forming devices for internal-combustion engines, and more particularly a device for producing a more uniform mixture of air and hydrocarbon, said device being located between the carbureter and the intake of the engine; and it is the object of the invention to provide a device of this kind which is highly efficient in operation, and also simple in construction so that it may be readily installed, no specially constructed carbureter being required.

The invention also has for its object to provide improved means for heating the charge during its passage through the device.

With the herein stated objects in view, the invention consists in a novel construction and arrangement of parts to be hereinafter described and claimed, reference being had to the accompanying drawing forming a part of this specification, in which drawing—

Figure 1 is a central longitudinal section of the device, and Fig. 2 is a cross-section thereof.

Referring specifically to the drawing, the casing of the device is cylindrical and comprises spaced and concentric inner and outer shells 5 and 6, respectively, and heads 7 over the ends thereof. The inner shell forms a mixing chamber and the outer shell forms a jacket surrounding the same, the space 8 between the shells being designed to receive a heating medium which may be the engine exhaust, the latter entering and leaving the space at diametrically opposite points, there being nipples 9 and 10 connected to the shell 6 at these points, the former of which is connected to the exhaust pipe of the engine, and the other nipple serving as an outlet for the exhaust from the jacket.

In the shell 5 is located a series of screens, said screens being each composed of cross wires 11 fastened to rings 12. The screens extend across the interior of the shell throughout the entire length thereof, the rings fitting snugly side by side against the inner surface of the shell. The screens are so arranged that the wires thereof extend across at different angles, in view of which a more intimate mixture of the charge is effected.

The heads 7 have openings 13 which are in line with the interior of the shell 5, one of the heads being connected to the outlet pipe of the carbureter, and the other head to the intake manifold of the engine. The charge formed by the carbureter enters one end of the screened mixing chamber and after passing therethrough escapes from the other end thereof, it being thoroughly broken up and mixed in its passage through the screens. The mixture is heated in its passage through the shell, the heating medium being the engine exhaust passing through the jacket surrounding the shell as already described.

The inner faces of the heads 7 are formed with outstanding circular flanges 14 which are screw-threaded on the outside so as to screw to the shell 5 against the end screens of the series to hold the screens in place. The inner faces of the heads are also formed with circular grooves 15 in which the ends of the shell 6 seat, said grooves being concentric to the flanges 14, and so arranged with respect thereto as to properly space the two shells. On the outer faces of the heads are screw-threaded studs 16 for fastening the device in place.

I claim:

A mixing device of the character described, comprising a casing consisting of spaced and concentric inner and outer shells, the outer shell being provided with an inlet and an outlet for the space between said shell and the inner shell, heads connected to the ends of the shells to close the space

therebetween, and having inlet and outlet openings in line with the inner shell, and said heads having circular flanges and circular grooves spaced from and concentric to the flanges, said flanges being threaded to screw into the inner shell, and the ends of the outer shell seating in the grooves, and a series of screens located in the inner shell between the inner ends of the aforesaid flanges, and held in place within the shell by the engagement of the flanges with the end screens of the series.

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

AUGUST J. FRITZ.

Witnesses:

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