March 31, 1925. 1,532,054

W. M. HORTON ET AL

MIXING DEVICE

Filed Oct. 27, 1923

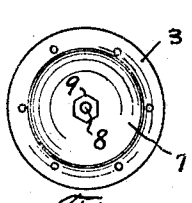


Fig. 2.

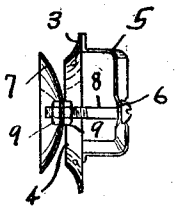


Fig. 3

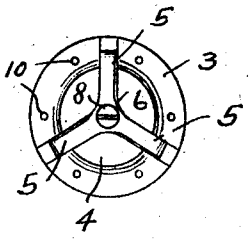


Fig. 4.

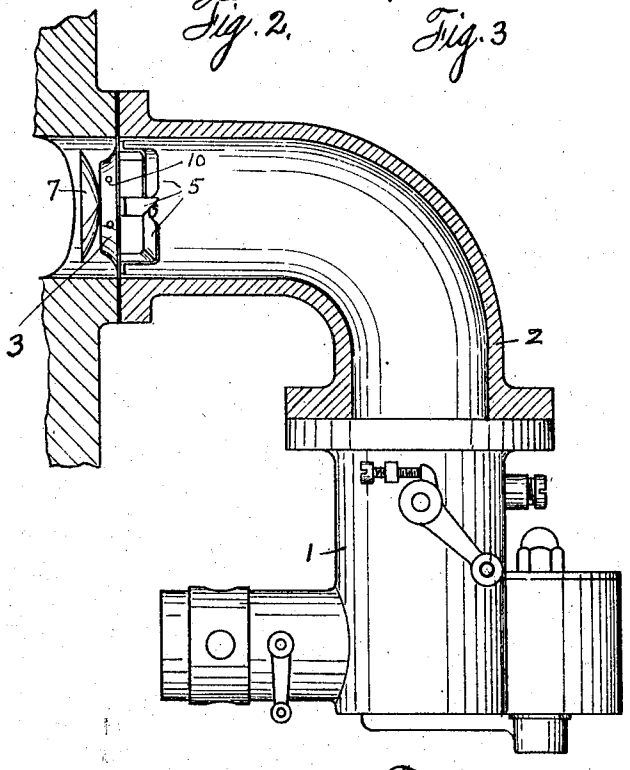


Fig. 1

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Patented Mar. 31, 1925. 1,532,054

UNITED STATES PATENT OFFICE.

WILLIAM M. HORTON AND CARL M. LINDER, OF HOUSTON, TEXAS.

MIXING DEVICE.

Application filed October 27, 1923. Serial No. 671,107.

To all whom it may concern:

Be it known that we, WILLIAM M. HORTON and CARL M. LINDER, citizens of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in a Mixing Device, of which the following is a specification.

This invention relates to new and useful improvements in a mixing device.

One object of the invention is to provide an attachment of the character described, specially designed to be secured within the intake pipe of an internal combustion motor, above the carburetter, to assist in breaking up and vaporizing the motive fluid as it passes into the manifold on its way to the motor cylinder.

Another object of the invention is to provide a device of the character described which is of very simple construction, and may be cheaply and easily manufactured, and readily installed.

With the above and other objects in view, this invention has particular relation to certain novel features of construction, operation, and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:—

Figure 1 is a side view of a carburetter, showing the intake pipe in section, with the attachment installed therein.

Figure 2 shows a plan view of the attachment.

Figure 3 shows a vertical sectional view thereof; and,

Figure 4 shows a bottom plan view.

Referring now more particularly to the drawings, the numeral 1 designates the carburetter and the numeral 2 designates the intake pipe which leads from said carburetter to the intake manifold.

The vaporizing attachment includes a ring 3, having a central opening 4, and whose walls converge upwardly. Depending from this ring there is a cage-like spider having a plurality of legs, as 5. These legs are formed integrally together and radiate from a central hub, or bearing, 6 and their upper ends are attached to the said ring. The horizontal parts of the legs 5 are turned at similar oblique angles to a horizontal plane to form baffles which tend to impart a whirling motion to the volume of motive fluid passing through the intake pipe. Above the ring 3 there is a concavo-convex baffle 7 with its convex side presented to the oncoming stream of motive fluid. This baffle is centered over the opening 4 and is larger in diameter than said opening, and is anchored in place by anchor bolt 8. The lower end of this bolt is anchored to the spider and it projects up through the opening 4 and through a central bearing in the baffle 7, and has the clamp nuts 9, 9, threaded thereon, on opposite sides of the baffle to secure said baffle to the anchor bolt and to provide for its adjustment thereon. The ring 3 is perforated, forming ports 10 through which the part of the motive fluid passes, which assists in the breaking up and vaporizing of said fluid.

The attachment may be secured at any point in the intake pipe found to be most desirable, and may be secured therein in any manner desired. It is preferably forced therein and held in position by friction, or it may be soldered in place.

The motive fluid will be drawn in with considerable force and will strike against the obliquely arranged legs 5, and the solid particles, partly broken up, will pass thence partly through the opening 5 and partly through the ports 10, and will strike against the baffle 7 and be further vaporized. A thoroughly mixed and vaporized motive fluid will thus be obtained and its efficiency thereby materially increased.

What we claim is:

A mixing device including an annular member having a central opening with converging walls, a cage like spider depending from said member and having a plurality of legs, said legs being formed integrally together and radiating from a central hub, the sections of the legs adjacent said hub being turned at similar oblique angles forming spiralled baffles, an anchor fastened to said hub, and projecting through said opening and a concavo-convex baffle fastened to said anchor opposite said spider.

In testimony whereof we have signed our names to this specification in the presence to two subscribing witnesses.

WILLIAM M. HORTON.
CARL M. LINDER.

Witnesses:
W. H. DUNLAY,
WM. A. CATHEY.