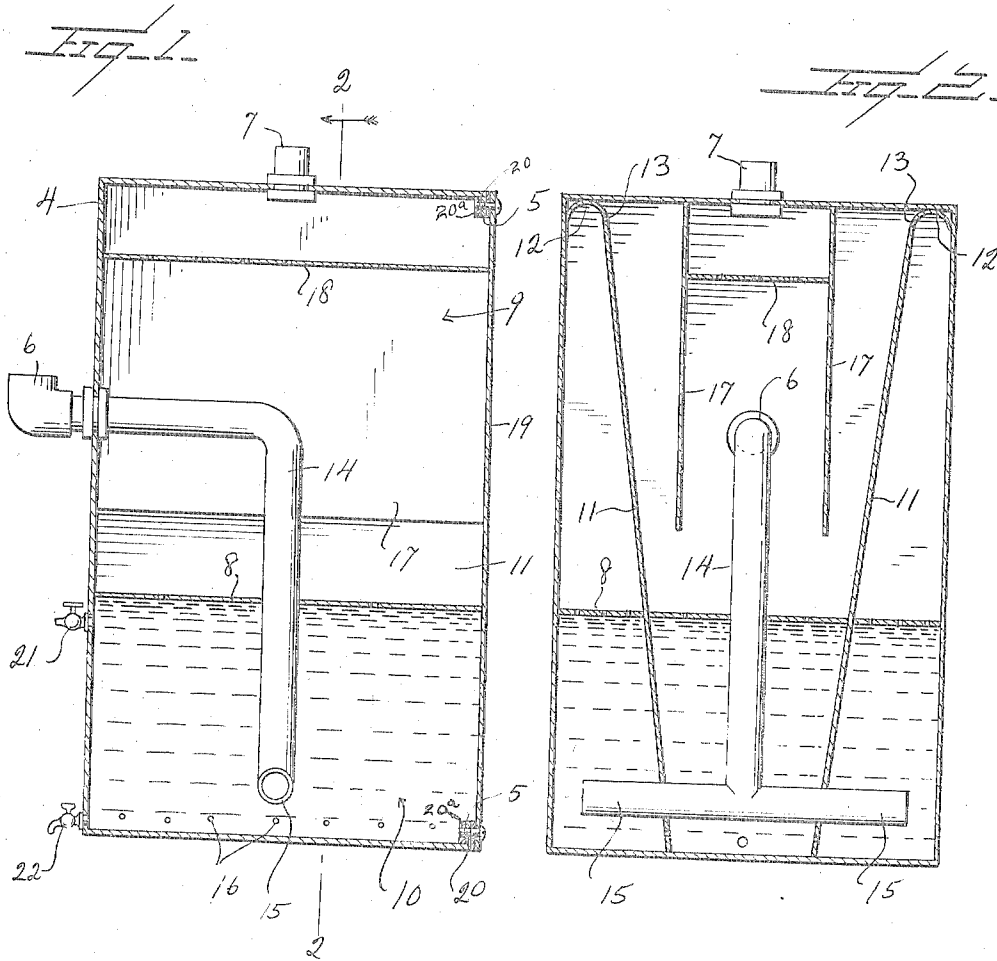


1,345,681.

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EDWIN J. KRATOCHVIL, OF BANCROFT, NEBRASKA.

AIR-WASHER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWIN J. KRATOCHVIL, a citizen of the United States, residing at Bancroft, in the county of Cuming and State of Nebraska, have invented certain new and useful Improvements in Air-Washers, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to air washers and particularly to air washers used in connection with internal combustion engines.

The invention has for its object to provide a device of this character which causes the air to pass through water before entering the carbureter so as to remove all impurities.

Another object is to provide a device of this character which prevents the water through which the air passes from reaching the outlet of the air-washers regardless of the vibration or movement of the support on which it is used.

A further object is provide an air washer of this character wherein the air after passing through the water is strained before it leaves the washer.

A still further object is to provide an air washer of this character which deflects any water that might rise with the air, back to the water chamber without causing the water to come in contact with the air that is being cleansed or discharged from the water chamber.

35 With these and other objects in view the invention consists in the improved construction and arrangement of parts to be herein-after more particularly described, fully claimed and illustrated in the accompanying drawings, wherein:—

Figure 1 is a side sectional view of an air washer constructed in accordance with an embodiment of the invention; and

45 of Fig. 1.

Referring to the drawings 4 designates a body member or casing having an opening 5 in its front portion, an air inlet 6 and an air outlet 7. Mounted in the casing adjacent one end thereof is a plurality of plates 8, each plate being perforated to permit the passage of air therethrough. These plates serve to separate the casing into two compartments, the upper compartment 9 serving as an air receiving chamber, while the lower

compartment 10 serves as a water chamber. A pair of baffle plates 11 are disposed within the casing, the upper ends 12 of said plates being curved and extended into engagement with the sides of the casing, said plates having perforations 13 adjacent the curved ends thereof through which the cleansed air passes.

It will be noted that these baffle plates incline downwardly to the bottom of the casing through the perforated plates 8 in spaced relation to each other and the side walls of the casing. They also incline downwardly toward each other so that the outer surface thereof serves the purpose of a funnel to direct the air upwardly.

An air inlet pipe 14 is connected to the air inlet pipe 6 and extends through the central perforated plate 8 into the water chamber 10 between the baffle plates 11. This pipe includes branches 15 which extend in the opposite direction to each other through the lower portions of the baffle plates so that the air is discharged in the water chamber adjacent the outer surface of each baffle plate. A plurality of holes 16 are provided in the lower portion of the baffle plates 11 so as to permit the water in the water chamber to reach the proper level in all portions thereof.

Depending from the top of the casing is an air guide member comprising a pair of plates 17 which are disposed in spaced relation to each other adjacent the outlet pipe 7 and terminate in spaced relation to the perforated plates 8. An air strainer 18 is supported between the plates 17 and serves to strain the air before it reaches the outlet pipe 7.

The opening 5 is closed by means of a cover 19; a gasket being disposed between the cover and the casing to prevent the same from leaking. Securing means such as stove bolts are screwed into threaded openings 20 in a frame 20^a secured to the marginal portions of the casing 5 so as to firmly secure the cover and render the same air and water tight. At the same time the cover can be readily removed so that the various parts of the device can be reached when necessary. In order to ascertain when the water in the water chamber reaches the proper level, a pet cock 21 is carried by the casing and communicates with the water chamber closely adjacent the lower surface of the perforated

plates 8. A drain cock 22 is also carried by the casing for draining the water from the water chamber when necessary.

In operation, the air enters through the inlet pipe 6 and passes down the pipe 14 and is discharged from the branches 15 into water deposited in the water chamber 10. The air then passes up through the perforated plates 8 between the sides of the casing and the outer surface of the baffle plates 11. In view of the inclined position of the baffle plates 11 and their curved ends 12 the air is directed through the perforations 13. Should any water be carried upward by the air and through the perforations 13, the guide plates 17 will serve as deflectors, the water being deflected against the inner surface of the baffle plates which are inclined so as to permit the water to freely flow down the sides thereof, and through the perforations of the central plate 8, into the water chamber. The cleansed air is then directed upwardly between the plates 17, through the air strainer 18 and the outlet 7 to the carbureter.

From the foregoing it will be readily seen that this air washer positively prevents any impurities that may be contained in the air from entering the carbureter as the air is discharged beneath the water in the water chamber and must pass through the volume of water in order to escape. In view of this movement, all dust and like impurities are removed. At the same time as the air rises toward the ends 12 of the baffle plate any moisture that may be conveyed by the air upwardly is deflected back into the water chamber by means of the outer surface of the guide plates 17. The pure air then passes through the outlet 7. In addition to this important feature, there are no complicated parts or mechanism to get out of order as every portion is firmly secured within the chamber, and in view of this the device will operate indefinitely.

The invention having been set forth, what is claimed as new and useful is:—

1. An air washer comprising a body portion including a liquid chamber, baffle plates disposed in said body portion and extending into the liquid chamber, an air inlet pipe including branches, said pipe extending into the liquid chamber between the baffle plates, the branches thereof extending through said baffle plates in the opposite direction to each other.

2. An air washer comprising a casing, a liquid chamber in said casing, baffle plates disposed in said casing and extending into the liquid chamber, an air inlet pipe passing into said liquid chamber between the baffle plates, said pipe having discharge branches extending in the opposite direction to each other through the baffle plates, an air outlet member carried by said casing remote from the water chamber, and a water deflector and outlet guide disposed in said casing adjacent the outlet member and between the baffle plates.

3. An air washer comprising a casing, inclined baffle plates disposed in said casing, said plates extending from the top to the bottom of the casing in spaced relation to each other and the side walls of the casing, perforated plates extending laterally of said casing, said plates cooperating with one end of the casing to form a water chamber, an air inlet pipe extending into said chamber between the baffle plates, said pipe having discharge branches extending in the opposite direction to each other and through the baffle plates, a water deflector and air outlet guide member depending from the other end of the casing, said member having an air strainer, and an outlet pipe carried by the casing above the air strainer.

In testimony whereof I hereunto affix my signature.

EDWIN J. KRATOCHVIL.