Oct. 22, 1935. R. R. HALSTEAD 2,018,493

AIR CLEANER

Filed June 23, 1934 2 Sheets-Sheet 1

Fig. 1.

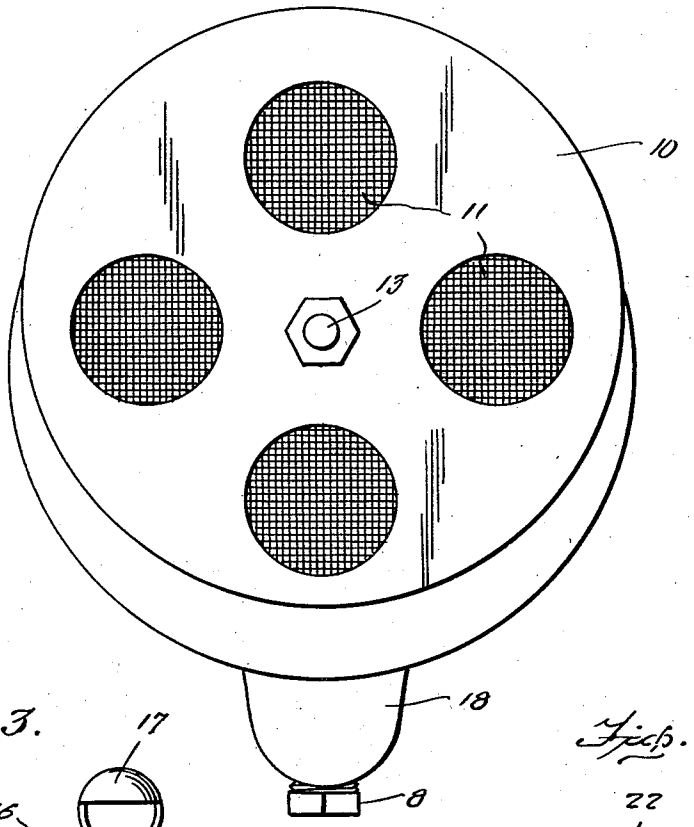


Fig. 3.

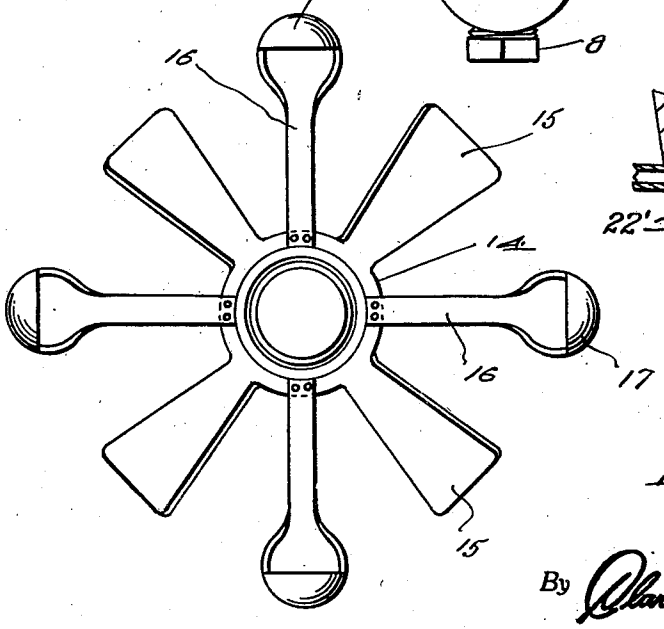
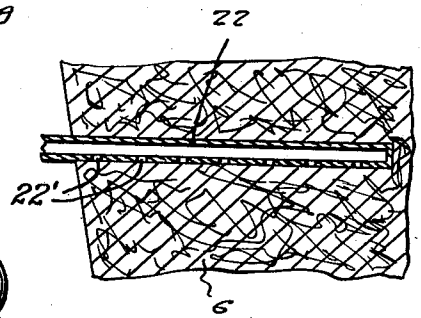


Fig. 4.



Inventor

R. R. Halstead

By Clarence A. O'Brien

Attorney

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AIR CLEANER

Richard R. Halstead, Beach, N. Dak., assignor to Halstead Corporation, Beach, N. Dak., a corporation of North Dakota

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2 Claims. (Cl. 183—9)

This invention appertains to new and useful improvements in attachments for automobiles, and more particularly to an air cleaner whereby all dirt and other foreign matter will be filtered from the air before entering the combustion chamber of an internal combustion engine.

The principal object of the present invention is to provide an air cleaner which is substantially automatic in operation and which will not be susceptible to the development of ready defects.

Another important object of the present invention is to provide an air cleaner which will be of simple construction and capable of being manufactured and retailed at a low price.

These and various other important objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings:

Figure 1 is an end elevational view of the device.

Figure 2 is a central longitudinal sectional view through the device.

Figure 3 represents an elevational view of the rotor.

Figure 4 is a fragmentary detailed sectional view through the filtering element and liquid dispensing tube.

Figure 5 is a fragmentary vertical sectional view taken substantially on the line 5—5 of Figure 2.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5 represents the shell which contains a body of filtering material 6. The bottom of this shell 5 is inclined, as at 7, and is provided with a drain plug 8. One end of the shell 5 is provided with an extending tube 9 to which the carbureter can be connected (not shown).

The other end of the shell 5 is provided with a removable end wall 10 having screen-filled openings 11 therein. At the central portion of this closure 10 is mounted a bearing 12 through which the pin 13 extends, this pin extending through the closure 10 so as to support the annulus 14 from which extend the fan blades 15 and also the arms 16 which carry the spoons 17.

The end of the shell 5, adjacent the end wall 10, is provided with a basin 18 which communicates with the deep portion 7a of the bottom 7 by means of the conduit 19. This basin 18 is located so that the spoons 17 will dip into the liquid content thereof, as the rotor assembly, generally referred to by numeral 20 and including the blades 15 and spoons 17, rotates.

The purpose of these spoons 17 is to lift the filter fluid from the fluid basin 18, moving the same upwardly and throwing it toward the cup 24, which cup is open at its top. This cup 24 has an opening in the bottom thereof to loosely receive the guide pin 25 which extends through the opening and is provided at its upper end, within the cup, with a stop 24' against which the cup can abut when in a raised position. The guide pin 23 extends from the free end of the conduit 22, which conduit has its opposite end embedded in the mass of filtering material 6. The embedded end of the conduit 22 is provided with perforations 22' through which the fluid can reach the filtering element 6.

Referring to Figure 5 it can be seen that reference character 24c denotes the bracket supported by the inside of the shell 5. An upstanding member is provided on the bracket and on this is rockably mounted the arm 24d, this arm having a weight 24e at one end and being attached at its opposite end to the cup 24. The weight 24e is sufficient to lift the cup 24 when the latter is empty and no fluid is being supplied by the spoons 17. When the cup is empty it rises until it is stopped by the pin head 24'.

In this empty condition operation of the cup 24, the arm 24d pushes the pin 25 upwardly, which in turn drives the contact 26 against the contact 27, thus closing an electrical alarm circuit including an indicating lamp 28 or some other form of signal. The pan 21 supported by the outer end of the conduit 22, simply serves as a rest for the cup 24 when the latter is in depressed position due to a volume of fluid therein.

Obviously when the engine is running, air will be sucked through the mesh-filled windows 11 and through the filtering material 6 to pass out through the tubular connection 9 to the carbureter. In this travel of the air, the air will pass through the rotor 20 and cause rotation thereof and this rotation of the rotor will cause a supply of liquid to be passed to the filtering body 6. Thus the filtering body 6 will be impregnated with liquid and this will materially assist in the collection of dust and the elimination of dust from the air before it passes into the carbureter.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Patentkrav:

1. [illegible]

2. [illegible]