

United States Patent

Nowicki

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[54] **AUTOMOBILE CARBURATOR AIR
INTAKE FILTERS**

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116/137 A**

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[58] **Field of Search**....55/274, 498, DIG. 34; 210/85,
210/90; 116/137 A, 137, 138; 73/38, 421.5

[56]

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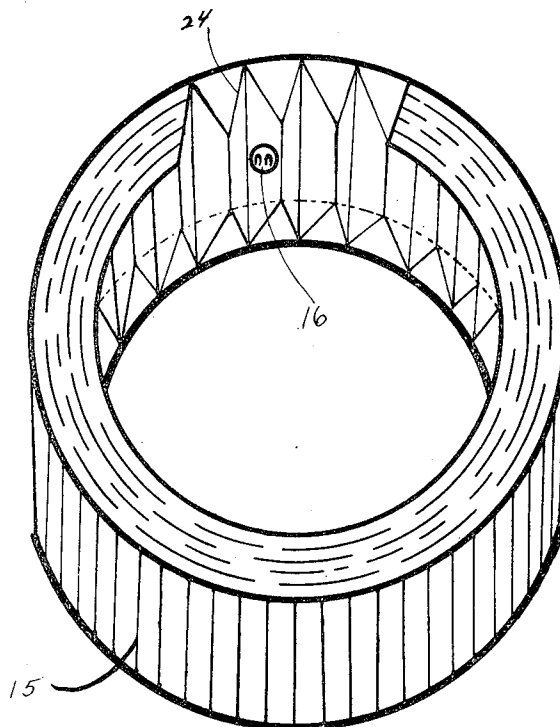
Primary Examiner—Bernard Nozick

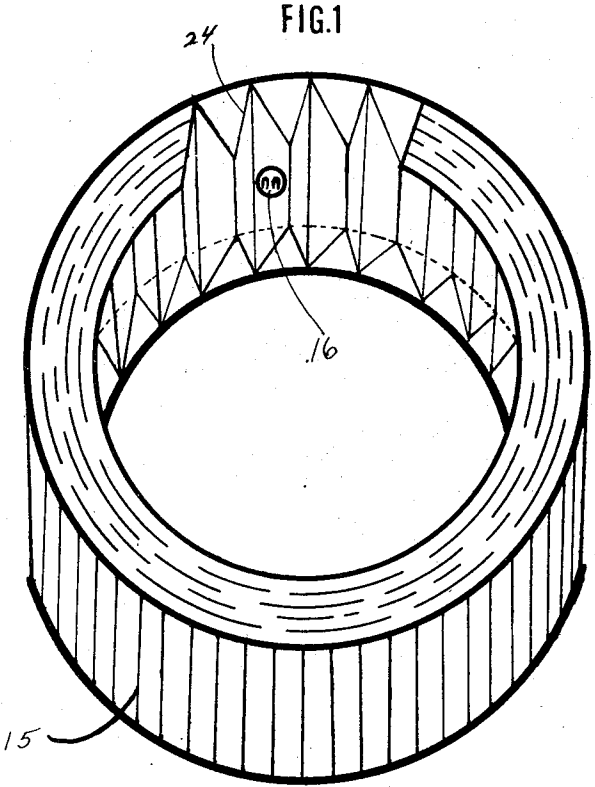
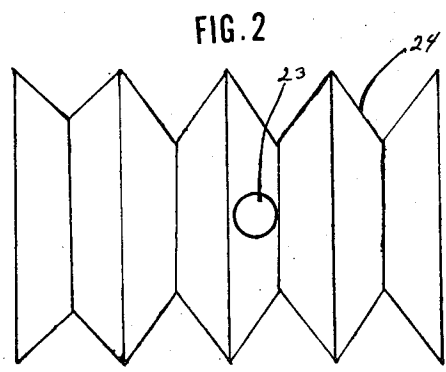
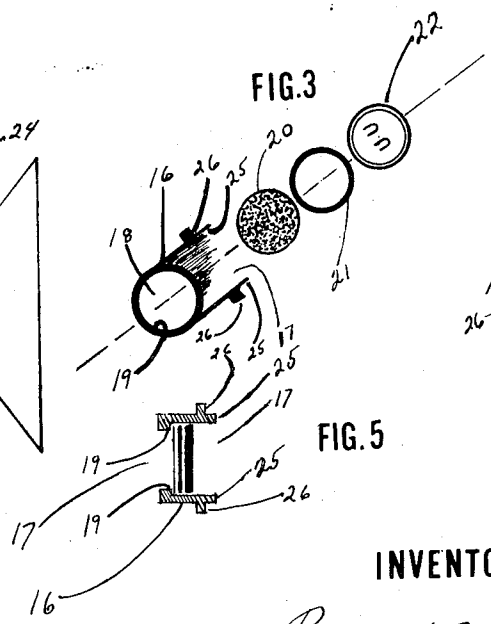
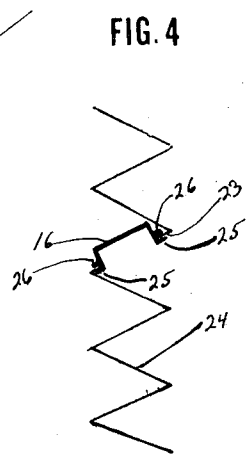
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ABSTRACT

An annular pleated filter element with a anti-pollution
warning reed compression collar device secured to the
filtering paper through an aperture within a pleat.

1 Claim, 5 Drawing Figures





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AUTOMOBILE CARBURATOR AIR INTAKE FILTERS

This invention relates to automobile carburetor air intake filters having an annular pleated filter element in combination with a anti-pollution warning device.

A major problem all over the country today is automobile air pollution and what is being done in reducing it. Automobile owners, gas stations and repair shops do not have any way to determine the condition of automobile carburetor air intake filters, a major cause of auto air pollution. The only means they have to determine the condition of auto air intake filters is compressed air hose and a drop light. This is not the proper way to determine the condition of a carburetor air intake filter to determine if it is up to manufacturers specifications, to see if it is in need of replacement. In the mean time automobiles are burning excessive gas, excessive oil, losing power, car engine stalling all of which causes many accidents on the road. Unnecessary wear on the engine, improper mixture of air and fuel are major causes of carburetor fires, and cause excessive smoke from the exhaust system. All put together we have auto air pollution.

It is therefore an object of this invention to improve carburetor air intake filter elements with a combination vacuum sensing sound producing vibrating reed compression collar to warn the operator of a motor vehicle which is being operated so that it is polluting the air due to a faulty carburetor air intake filter element which needs immediate replacing. The warning sound from the combination vacuum sensing sound producing vibrating reed compression collar will only sound when the carburetor air intake drops below automobile manufacturers specifications. With the running of the engine the warning sound will indicate that the carburetor air intake filter element is faulty.

The warning device will continue to sound until the carburetor air intake filter element is replaced with a new one to help reduce auto exhaust pollution.

These prominent objects are accomplished by the novel construction and arrangement of parts hereinafter described and shown in the accompanying drawings, constituting an essential component of this disclosure, and in which:

FIG. 1 illustrates my new invention an improved carburetor air intake filter element in combination with a anti-pollution warning device which is a vacuum sensing sound producing vibrating reed compression collar secured to a pleat within the element.

FIG. 2 shows the aperture within a pleat of the filtering paper.

FIG. 3 shows a disassembled view of the anti-pollution warning reed compression collar device.

FIG. 4 shows the anti-pollution warning reed compression collar device inserted into the aperture within a pleat of the filtering paper the collar of the device is

crimped over the filtering paper securing the device to the filtering paper within a pleat.

FIG. 5 shows a cut away view of the anti-pollution warning reed compression collar device.

Referring in greater detail to the drawings the new invention will be seen to consist of a automobile carburetor air intake filter element 15, with a anti-pollution warning device 16 FIG. 3 as shown in having an aperture 17 therethrough. The warning device being provided with at the air inlet end 18 a inner annular seat 19 within the aperture 17. An insert supported across the aperture 17 including a dust protective screen 20 and O-ring 21 seated on the inner annular seat 19 and extending into the aperture 17 a calibrated vacuum sensing sound producing vibrating reed 22 is press fitted and supported across the aperture 17 and seated on the O-ring 21 securing a dust tight fit within the aperture 17. The collar 25 of the device 16 is then inserted into the aperture 23 within the filtering paper 24 within a pleat as shown in FIG. 2. The filtering paper 24 is positioned and seated on the outer annular shoulder 26 of the device 16 the collar 25 is then crimped over the filtering paper 24 securing the device 16 to the filtering paper 24 and aperture 23 within the pleat as shown in FIG. 4. The suction of air through the aperture 23 within the filtering paper 24 and through the aperture 17 within the device 16 activating the warning reed 22 whereby the reed 22 vibrates producing a warning sound to indicate a clogged air filter 15. It is to be understood that the device 16 and warning reed 22 will vary in size and design to accommodate due to different sizes of air filters.

With the new invention installed and in operation in its factory specified carburetor base and housing it will maintain carburetor air intake within manufacturers specifications and will help reduce auto exhaust pollution.

From the foregoing it will be seen that a novel and unusually practical device for the purpose has been shown and described in its best known embodiments; therefore that is claimed as new and sought to secure by Letters Patent, is:

1. An air intake filter element having an annulus of pleated filter paper provided with an aperture extending through the wall thereof, a collar member provided with a tube of a size corresponding to the aperture extending through the aperture, said tube having spaced radially extending outer walls between which the filter paper is secured, the tube having an inner annular seat, a porous screen extending across the tube seated on the seat, an O-ring seated on the screen and overlying the seat, and a calibrated vacuum sensing articulating reed member press fitted into contact with the tube and seated on the O-ring, whereby said collar member functions as a warning device indicating clogged filter paper.

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