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Fuel saving device

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ABSTRACT

An electromagnetic fuel saving device including a coil for fitment on a fuel line and means for applying a signal to the coil to create a periodic and varying electromagnetic field to fuel passing through the fuel line.

AUSTRALIA

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COMPLETE SPECIFICATION
FOR A PETTY PATENT

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Invention Title:	FUEL SAVING DEVICE

Details of Associated Provisional Applications:

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The following statement is a full description of this invention including the best method of performing it known to me:

FUEL SAVING DEVICE

TECHNICAL FIELD

This invention relates to a fuel saving devices for internal combustion engines.

BACKGROUND ART

Fuels such as petrol, diesel, kerosene, and alcohol are not burned fully by most internal combustion engines, due to limited oxygen, carbon deposits, poor air-fuel mixture, poor ignition voltage, and other factors.

Engines with microprocessor controlled fuel injection and timing improve this situation but they can not achieve 100% burning of the fuel.

The car assessory market has seen many types of fuel saving devices in recent times.

Currently available fuel improvement devices are claimed to offer up to a 22% improvement in fuel consumption, and this is generally achieved by catalytic action or static magnetic fields. Such devices have a relatively short operational life.

It is an object of the present invention to provide an electromagnetic fuel saving device which offers a substantial reduction in fuel costs, which promotes combustion efficiencies and which has an extended operational life.

Further objects and advantages of the present invention will become apparent from the ensuing description which is given by way of example only.

DISCLOSURE OF INVENTION

According to the present invention there is provided an electromagnetic fuel saving device comprising a coil adapted to be disposed about a section of a fuel pipe and means for applying a signal to the coil to create a periodic and varying electromagnetic field to fuel passing through the pipe.

The frequency of the current fed to the coil may vary between 1 KHz and 20KHz.

The coil may be wound on a former locatable co-axially on the

pipe.

The time taken to sweep between the two frequencies may be up to five minutes.

According to a further aspect of the present invention, there is provided a method of altering the molecular structure of fuel as it passes through a fuel line by applying a periodic and varying electromagnetic field to the fuel line via a coil co-axially wound on the fuel line.

The frequency of the electromagnetic field may vary between 1KHz and 20KHz.

Waveform output may be controlled by a crystal and the internal programming of a microprocessor.

The microprocessor may emit a triangular wave which has a period of 300 seconds. This wave may then be fed to a voltage controlled oscillator which produces a quasi-sinewave output from a lookup table and outputs a frequency sweep from 4Hz to 40Hz. The output of the oscillator may then be fed to a second oscillator which outputs a square wave and feeds it to the coil via a transistor.

Fuels are treated with a complex electromagnetic fields which cause the fuel to burn more efficiently and provide more torque output from the engine.

BRIEF DESCRIPTION OF THE DRAWINGS

One embodiment of the invention will now be described with reference to the accompanying drawings in which,

Figure 1 is a diagrammatic drawing of a fuel saving device in accordance with on possible embodiment of the present invention, and

Figure 2 is a componentry layout drawing for one possible form of device illustrated by figure 1.

With respect to figure 1 of the drawings a device in accordance with the present invention can comprise a tubular body 1 having rear and front ends 2, 3 respectively. The device is connected over a fuel line 4 so that the predominant direction of flow of the fuel in the pipe is from the front end 3 to the rear end 2. A power source can be connected to the device via

wires 5 and an LED6 can indicate the operational mode of the device.

With respect to figure 2 of the drawings a device in accordance with one aspect of the present invention may consist of DC power input at A, which is positive in the range of 7 to 30 volts, and B which being a negative power terminal. Current from the positive power terminal passes through a reverse voltage protection diode at C and then passes through the spike suppression inductor of 1 millihenry, then to the switch mode power supply integrated circuit, LM2575M-ADJ at F.

The voltage incoming from positive terminal A is further limited in range by the voltage dependant resistor at E.

The switch mode power supply may provide 1.23 volts to a 1000 microfarad, 6.3 volt, electrolytic capacitor at J, and then onto the inductive coil at I.

The coil may consist of approximately 90 turns of 0.5mm, copper enamelled wire, wound on a former.

An electromagnetic signal is produced by the micro processor at H.

Waveform behavior is tightly controlled by the crystal at G, and the internal programming of the micro processor.

The waveform output the micro processor is connected to a MOSFET Transistor which switches the current on and off through the coil at I.

The program in the micro processor causes the frequency of the current in the coil at I, to vary from 1 kilohertz to 20 kilohertz. The time taken to sweep between these two frequencies may vary. The 3 to 40 hertz sweep may take up to 5 minutes to complete.

A waveform output provided by a microprocessor is connected to the coil via a MOSFET transistor which switches the current to the coil on and off.

The waveform output is controlled by a crystal G and the internal programming of the microprocessor.

The microprocessor emits a triangular wave at H which has a

period of 300 seconds. This wave is fed to a voltage controlled oscillator at L which produces a quasi-sinewave output from a lookup table and outputs a frequency sweep from 4Hz to 40Hz. The output of the VCO2 at L is then fed to another VCO1 at M. The VCO1 at M outputs a square wave to the MOSFET transistor K. The frequency sweep of this VCO1 may be between 1KHz to 20KHz.

As fuel passes through the coil at I its molecules are subjected to the complex electromagnetic variations in the coil.

Devices in accordance with the present invention provide a "life of the vehicle" operation, and fuel improvement of up to 50% for current internal combustion engines.

The above illustration of the invention is not the only configuration that will provide fuel improvement and many modifications and variations may be made by persons skilled in the art without departing from the broad scope and ambit of the invention as hereto set forth.

Aspects of the present invention have been described by way of example only and it will be appreciated that modifications and additions thereto may be made without departing from the scope thereof, as defined in the appended claims.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. An electromagnetic fuel saving device comprising a coil adapted to be disposed about a section of a fuel pipe and means for applying a signal to the coil to create a periodic and varying electromagnetic field to fuel passing through the pipe, characterised in that the frequency of current fed to the coil varies between 1 KHz and 20KHz, and the time taken to sweep between the two frequencies is up to five minutes and is varied.

2. A fuel saving device as claimed in claim 1 and substantially as herein described with reference to the accompanying drawings.

DATED this 7th day of November 2000

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By his Patent Attorneys
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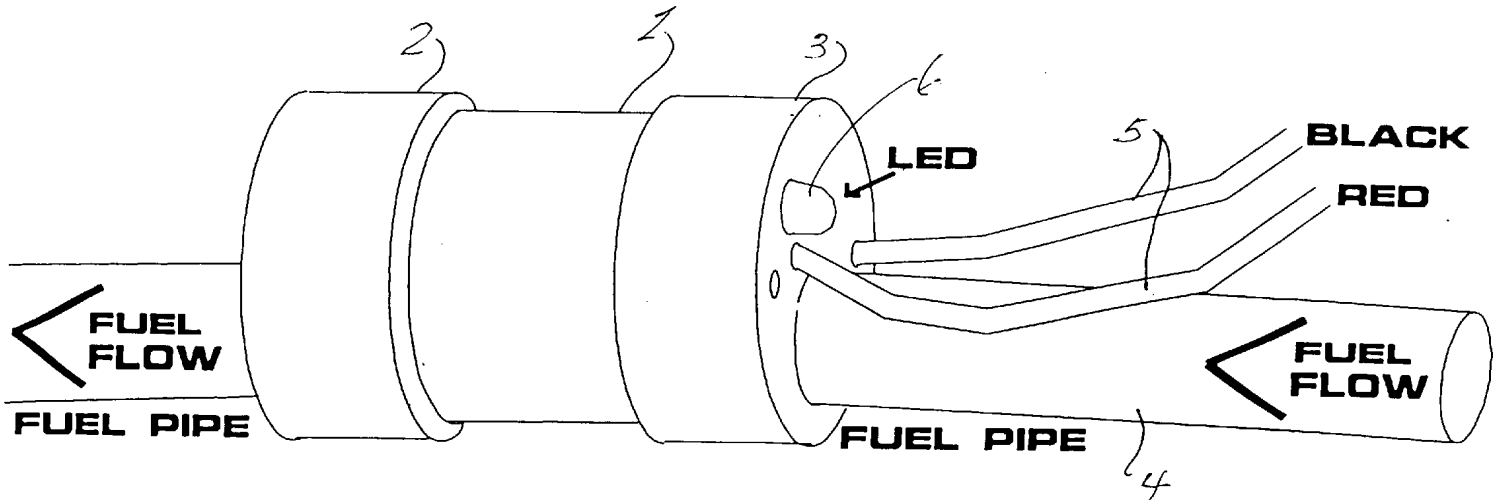

FIG 1

1/1

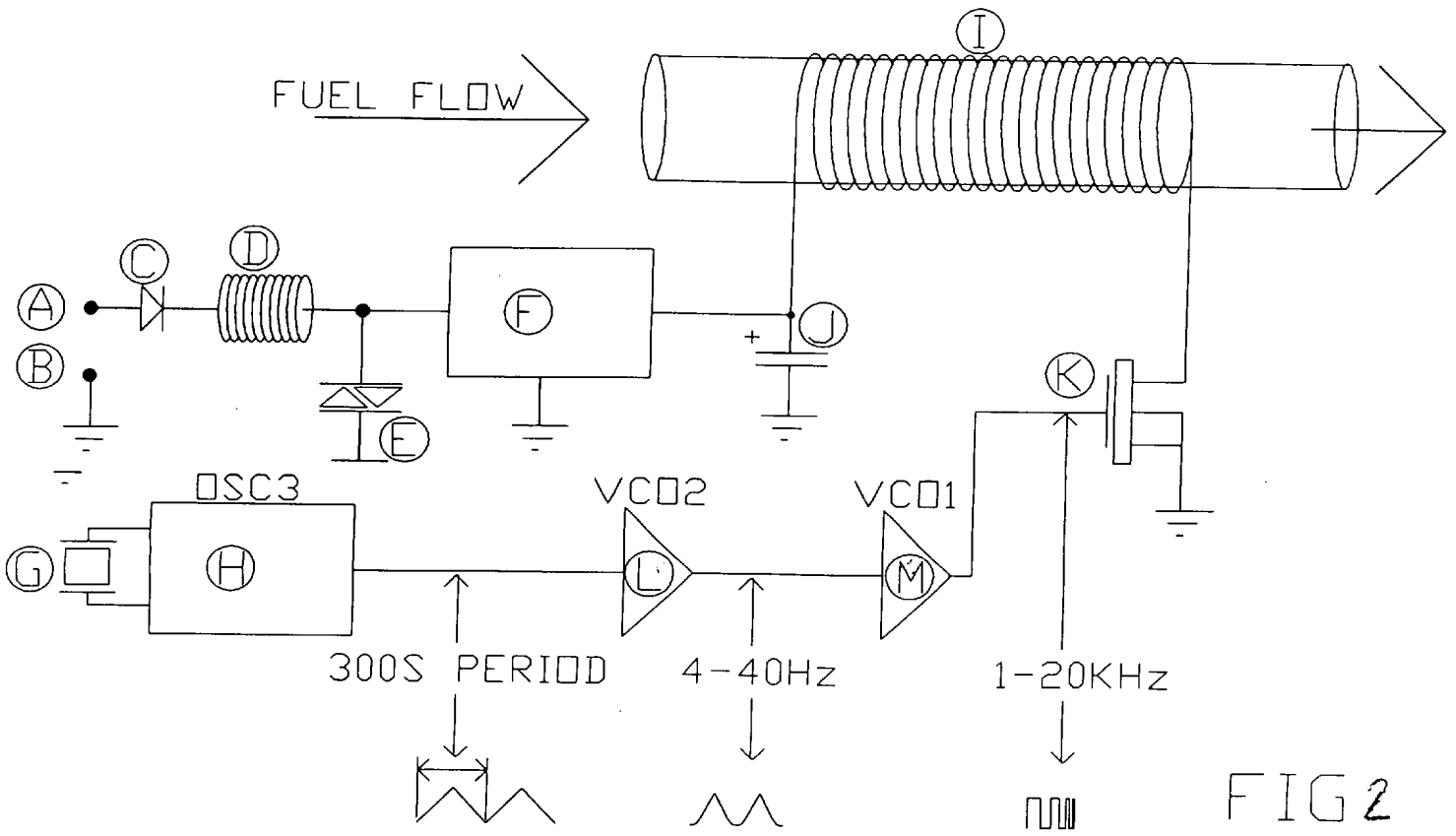
FUEL FLOW
I
A
B
C
D
E
F
J
K
OSC3
G
H
VCO2
L
VCO1
M
300S PERIOD
4-40Hz
1-20KHz

FIG 2