

METHOD AND APPARATUS FOR OPERATING AN ENGINE ON NATURAL AIR

FIELD OF THE INVENTION

- 5 The present invention relates to an engine that runs on natural air pressure, more particularly to a method and apparatus for operating a vehicle engine on natural air pressure in order to alleviate problem of pollution.

BACKGROUND OF THE INVENTION

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Air pollution is one of the most serious problems facing the world today. One of the major contributors to air pollution is ordinary internal combustion engine which are used in most motor vehicles today. Various devices, including many items mandated by legislation, have been proposed in an attempt to limit the pollutants which an internal combustion engine exhausts to the air. However, most of these devices have met with limited success and are often both prohibitively expensive and complex. A clean alternative to the internal combustion engine is needed to power vehicles and other machinery.

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A compressed gas, preferably air, would provide an ideal motive fluid for a engine since it would eliminate the usual pollutants exhausted from an internal combustion engine. An apparatus for converting an internal combustion engine for operation on compressed air is disclosed in U.S. Pat. No. 3,885,387 issued

May 27, 1975 to Simington. The Simington patent discloses an apparatus including a source of compressed air and a rotating valve actuator which opens and closes a plurality of mechanical poppet valves. The valves deliver compressed air in timed sequence to the cylinders of an engine through
5 adapters located in the spark plug holes. However, the output speed of an engine of this type is limited by the speed of the mechanical valves and the fact that the length of time over which each of the valves remains open cannot be varied as the speed of the engine increases.

10 Another apparatus for converting an internal combustion engine for operation on steam or compressed air is disclosed in U.S. Pat. No. 4,102,130 issued July 25, 1978 to Stricklin. The Stricklin patent discloses a device which changes the valve timing of a conventional four stroke engine such that the intake and exhaust valves open once for every revolution of the engine instead of once
15 every other revolution of the engine. A reversing valve is provided which delivers live steam or compressed air to the intake valves and is subsequently reversed to allow the exhaust valves to deliver the expanded steam or air to the atmosphere. A reversing valve of this type however does not provide a reliable apparatus for varying the amount of motive fluid injected into the
20 cylinders when it is desired to increase the speed of the engine. Further, a device of the type disclosed in the Stricklin patent requires the use of multiple reversing valves if the cylinders in a multi-cylinder engine were to be fired sequentially.

OBJECT OF THE PRESENT INVENTION

Therefore, it is an object of the present invention to provide a reliable method
5 and apparatus for operating an engine with a natural air with appropriate pressure.

A further object of the present invention is to provide a method and apparatus
which is effective to deliver a constantly increasing amount of natural air to an
10 engine as the speed of the engine increases.

A still further object of the present invention is to provide a method and
apparatus which will operate an engine using natural air at a speed sufficient
to drive a conventional automobile at highway speeds.

15 It is still a further object of the present invention to provide a method and
apparatus which is readily adaptable to a standard internal combustion engine
to convert the internal combustion engine for operation with a natural air.

BRIEF DESCRIPTION OF THE DRAWINGS

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Preferred embodiments of a method and apparatus for operating an engine
according to the present invention will be described with reference to the
accompanying drawings wherein like members bear like reference and wherein:

FIG. 1 is a schematic representation of an apparatus according to the present invention of an engine;

5 FIG. 2 is a schematic view of one embodiment of an engine and air motor according to the present invention;

FIG. 3 is a plan view taken according to the present invention arranged on an engine;

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FIG. 4 is a cross-sectional view of a vehicle having an engine that work on natural air according to the present invention arranged on a vehicle;

FIG. 5 is a head plan view and an engine body plan view according to the
15 present invention;

FIG. 6 is a cross-sectional view of four tanks plan view according to the present invention.

20 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention relates to an engine that runs on natural air pressure, more particularly to a method and apparatus for operating a vehicle engine on

natural air pressure in order to alleviate problem of pollution. Reference will now be made in detail to the present embodiments of the invention, examples of which are illustrated in the accompanying drawings.

5 As shown in Figure 1 to Figure 6, the present invention provides an engine (10) which runs with the help of High pressure of the air. Due to the pressure of the air, the motor starts to move and with the help of the said movement of the motor, the engine gets started which itself acts as a compressor.

10 The air is mainly placed in the air tank (12) wherein about 310 pounds of air is filled. In the initial stage, the Motor (14) starts to move and at the same time this force helps to start the engine. The compressor (16) absorbs the air from the outside atmosphere and sends the required volume of air back into the tank (18) in order to fulfill the appropriate air storage and pressure in said air tank
15 (18),

In one of the embodiment of the present invention about 300 Pounds of air is filled tightly in the air tank (18). One connection of the air tank (18) is joined with the air motor (14) and one valve (20) connection is pro coupled into the
20 Steering (22), Clutch (24), Break (26) and Accelerator (28). When the locks (30) are opened, the air from the tank (18) passes into the Motor (14), hence, starting the air motor and engine.

Further, four connections are provided from the engine (32) Head to the air Tank (18). These connections help in the transfer of air quantity, balancing the continuous Increase and reduction of air supply and air compressor engine provides the quantity of the air into the air tank (18).

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Irreversible valves (34) are fixed to air tank (18) which prevents the inner air of the tank from going out; hence balancing the air consumption of about 300 pounds is maintained such that even though this amount of air has been utilized, there still remains about 300 pounds of air in the tank.

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In said air-tank, one side of the valve (20) is arranged in a manner so that the air is passed from air tank (18) to the air motor (14) further, in said air tank, one sided valve is fixed which helps in the release of the additional air towards the outside and when the quantity of air increases than the required quantity, this said valve helps in releasing the additional air so as to avoid any breakage in the tank.

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Yet another embodiment of the present invention provides head working compressor (16) which is useful in the engine (32) which enables air cooling and connected by eight valves wherein, four towards the left and remaining towards the right. The four valves of the Head (36) are meant to absorb air while another four valves are used to throw the inner air outside. In the said

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head (36), six holes (38) for six connections have been given so as to help in joining the engine's body (32) with its Head (36).

In yet another embodiment of the present invention there is provided and
5 engine body (32) having four cylinders (40) also known as liners. Four brass caps (42) have been added in the body of engine (32), which helps the crank shaft (44) to get grips. In the said engine, along with the crank shaft, there are another four connecting rods (46).

10 Along with four connecting rods, four pieces of piston (48) have also been given as joints. These four pistons (48) of the engine are used to absorb the air. They are designed in such a way that, when the piston stroke goes down, the outer air enters the engine and when the piston stroke (48) goes up, deposited air goes out. In these four pistons, there are four logs which functions as per the
15 diameters. An oil pump (50) has been provided in the body of said engine. The oil pump supplies (50) the oil to all the circuits of the engine, due to this, all parts of the engine gets greased, which in turn helps in overcoming the problem of locking of parts and also helps in longer life of the parts.

20 In order to avoid the problem of loading, along with the crank shaft (44) in the engine, loading wheels (52) have also been provided. These in turn also helps in maintaining the R.P.M. of said engine (32). This crank shaft (44) is also coupled with said air motor (14) and on the rear side of the engine, there is provided a

clutch Plate (24), further on the upper side of the Loading Wheels; a diameter Ring Gryers have also been given which are connected to the alternator (54). This alternator is useful as it enables to keep the battery charged. The Battery (56) is used for the Lighting purpose therefore said engine doesn't need any
5 external power supply.

In yet another embodiment of the present invention is provided and air motor (14) which is coupled with crank shaft (44) and at the upper part of air engine (32) there is provided an air valve which enables starting of motor. One
10 connection of said air motor is given to the downside which throws the additional air towards the outside which in turn helps in keeping the engine cool and able to run at about the speed of 0 to 100. As this engine runs on air, it doesn't affect the atmosphere; it does not require plug, silencer, bush rod, tepitiya, battery, radiator and carburetor.

15 The principles of preferred embodiments of the present invention have been described in the foregoing specification. However, the invention which is intended to be protected is not to be construed as limited to the particular embodiments disclosed. The embodiments are to be regarded as illustrative
20 rather than restrictive. Variations and changes may be made by others without departing from the spirit of the invention. Accordingly, it is expressly intended that all such variations and changes which fall within the spirit and the scope

of the present invention as defined in the appended claims be embraced
thereby.

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CLAIMS:

1. A method and apparatus for operating a vehicle engine on natural air wherein,
5 the air is placed in the air tank of air motor wherein about 310 pounds of air is filled wherein, in the initial stage, the motor starts to move and at the same time this force helps to start the engine followed by absorption of air by the compressor form the outside atmosphere and sends the required volume of air back into the tank in order to fulfill the appropriate air storage and pressure in
10 said air tank.
2. A method and apparatus as claimed in claim 1, wherein one connection of the air tank is joined with the air motor and one valve connection is pro coupled into the Steering, Clutch, Break and Accelerator, wherein when the locks are
15 opened, the air from the tank passes into the Motor, hence, starting the air motor and engine.
3. A method and apparatus as claimed in claim 1, wherein four connections are provided from the engine head to the air tank helping in the transfer of air
20 quantity, balancing the continuous Increase and reduction of air supply and air compressor engine provides the quantity of the air into the air tank.

4. A method and apparatus as claimed in claim 1, wherein Irreversible valves are fixed to air tank which prevents the inner air of the tank from going out; hence balancing the air consumption of about 300 pounds is maintained such that even though this amount of air has been utilized, there still remains about 300 pounds of air in the tank.
5. A method and apparatus as claimed in claim 1, wherein in said air-tank, one side of the valve is arranged in a manner such that the air is passed from air tank to the air motor further, in said air tank, one sided valve is fixed which helps in the release of the additional air towards the outside and when the quantity of air increases than the required quantity, said valve helps in releasing the additional air in order to avoid any breakage in the tank.
6. A method and apparatus as claimed in claim 1, wherein head working compressor enables air cooling, which is connected by eight valves whereby four are meant to absorb air while another four valves are used to throw the inner air outside.
7. A method and apparatus as claimed in claim 1, wherein engine body is having four cylinders, four connecting rods, four pieces of piston have also been given as joints whereby these four pistons of the engine absorbs the air enabling in such a way that, when the piston stroke goes down, the outer air enters the engine and when the piston stroke goes up, deposited air goes out.

8. A method and apparatus as claimed in claim 1, wherein, an oil pump is provided in the body of said engine for supplying the oil to all the circuits of the engine, due to this, all parts of the engine gets greased, which in turn helps in overcoming the problem of locking of parts and also helps in longer life of the parts.

9. A method and apparatus as claimed in claim 1, wherein, an air motor which is coupled with crank shaft further there is provided an air valve which enables starting of said motor whereby, one connection of said air motor is given to the downside which throws the additional air towards the outside which in turn helps in keeping the engine cool and able to run at about the speed of 0 to 100.