

ABSTRACT:

The present invention relates to a system that extracts sand and dust from roads and dust formed from the wheels of automobiles while driving. The present invention is an attachment rather than a dust extraction vehicle and it can be attached in any automobile for dust extraction from road during driving.



B/K
REGISTRAR
VELS UNIVERSITY
(VISTAS)
Velan Nagar,
P.V. Vaithiyalingam Road,
Pallavaram, Chennai-600 117

CLAIMS:

1. The on road dust extraction system, comprises of
 - a mini turbine and an electric motor (2)
 - a dust collection container (3)
 - a funnel that is attached near the wheel of the automobile (4)
2. The on road dust extraction system of claim 1, wherein the custom vacuum pump comprises of
 - a mini turbine for creating the vacuum required
 - an electric motor for the rotation of the mini turbine
3. The on road dust extraction system of claim 1, wherein the dust collection container comprises of a 65 litre capacity dust bag, which is protected by a stainless steel container
4. The on road dust extraction system of claim 1, wherein
 - the dust is extracted by a funnel
 - the funnel is attached near the wheel of the automobile



BICL
REGISTRAR
VELS UNIVERSITY
(VISTAS)
Velan Nagar,
P.V. Vaithiyalingam Road,
Pallavaram, Chennai-600 117

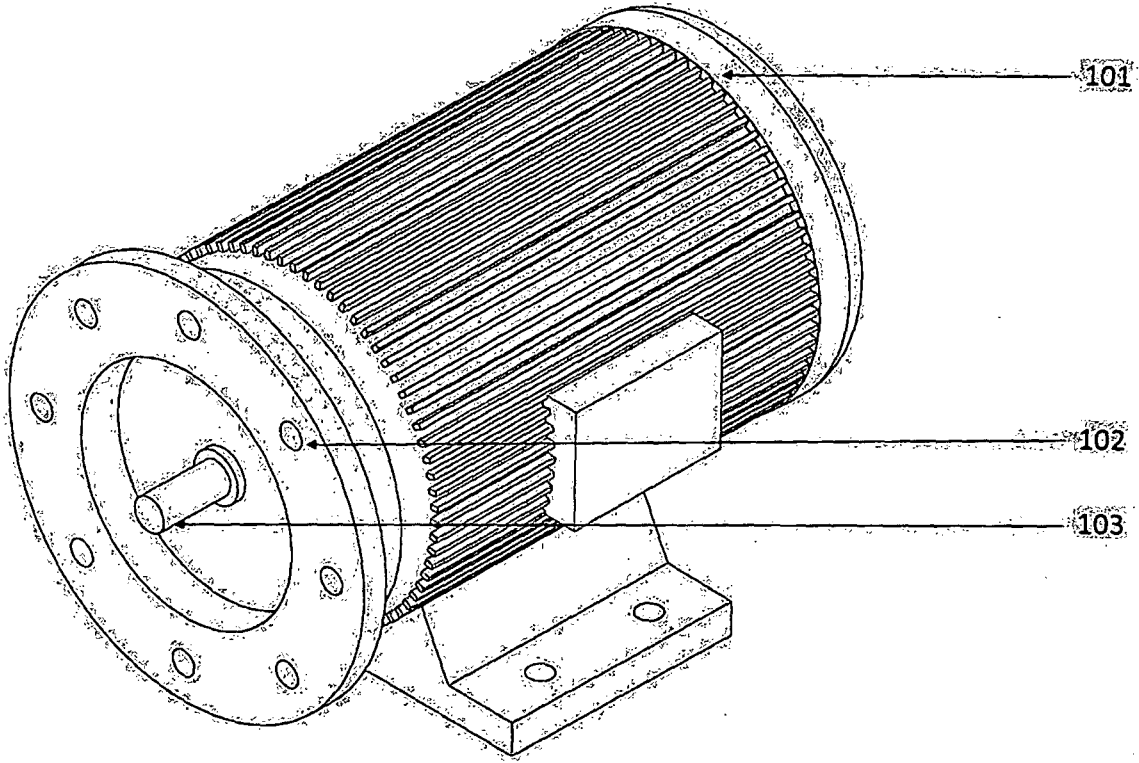


FIG - 1



B.K.
REGISTRAR
VELS UNIVERSITY
(VISTAS)
Velan Nagar,
P.V. Vaithiyalingam Road,
Pallavaram, Chennai-600 117

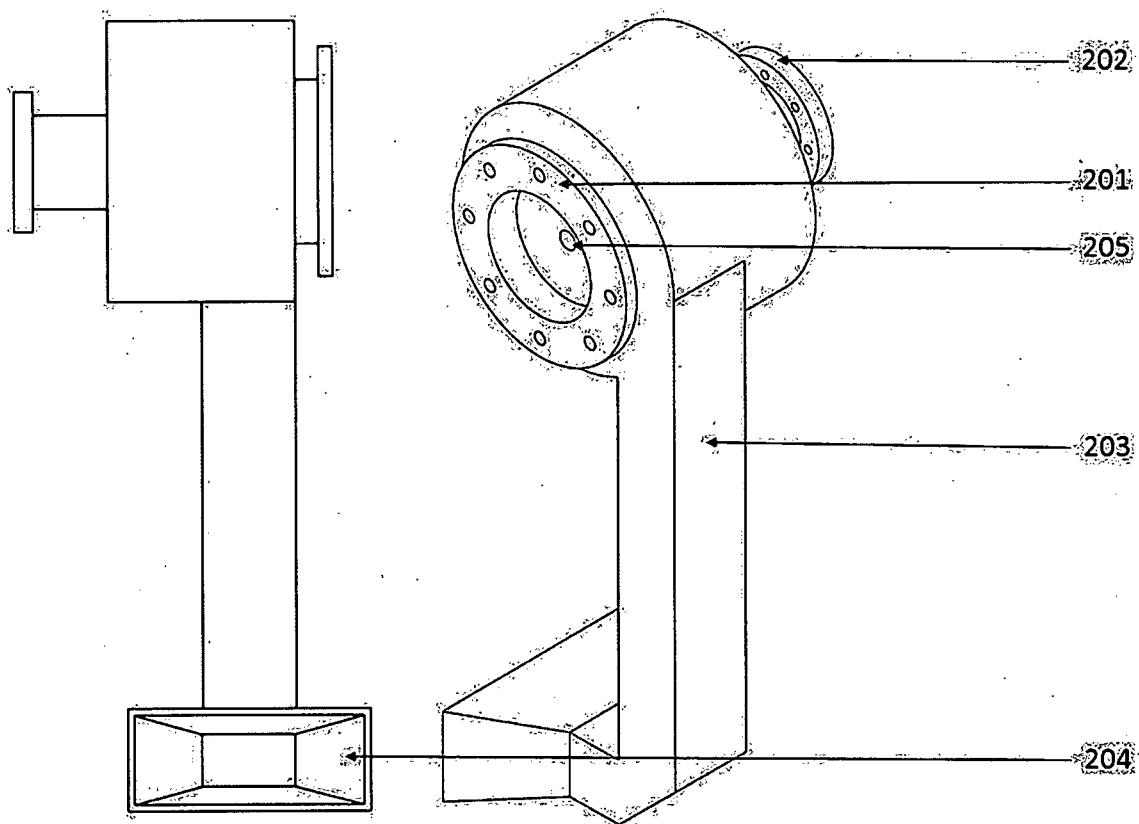


FIG - 2

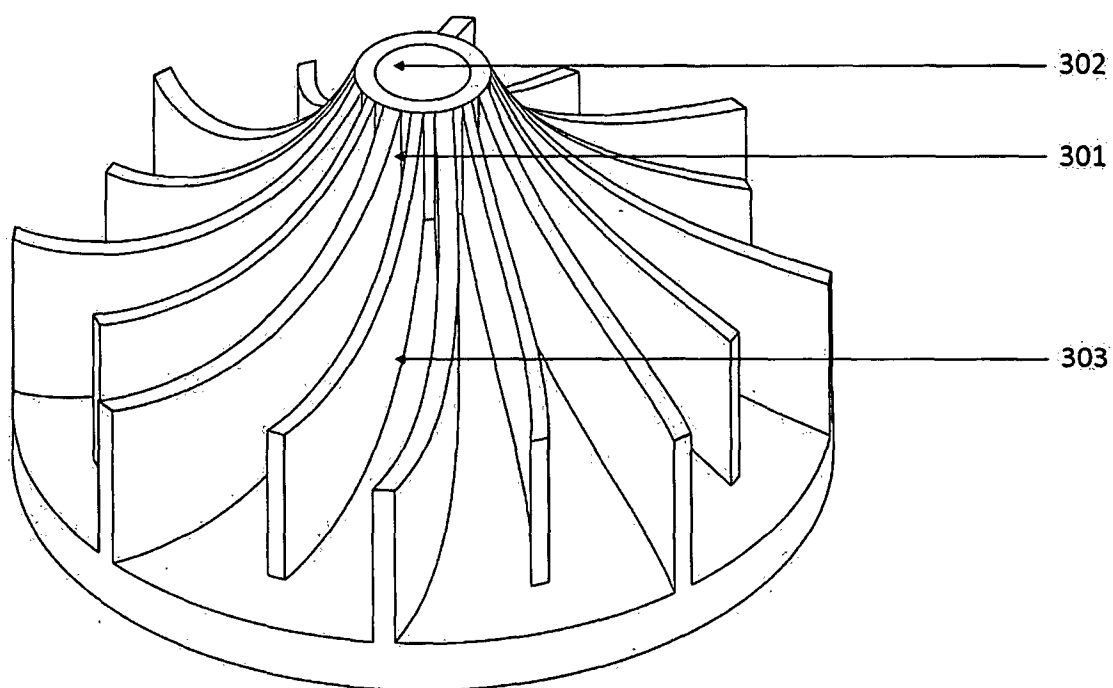


FIG - 3

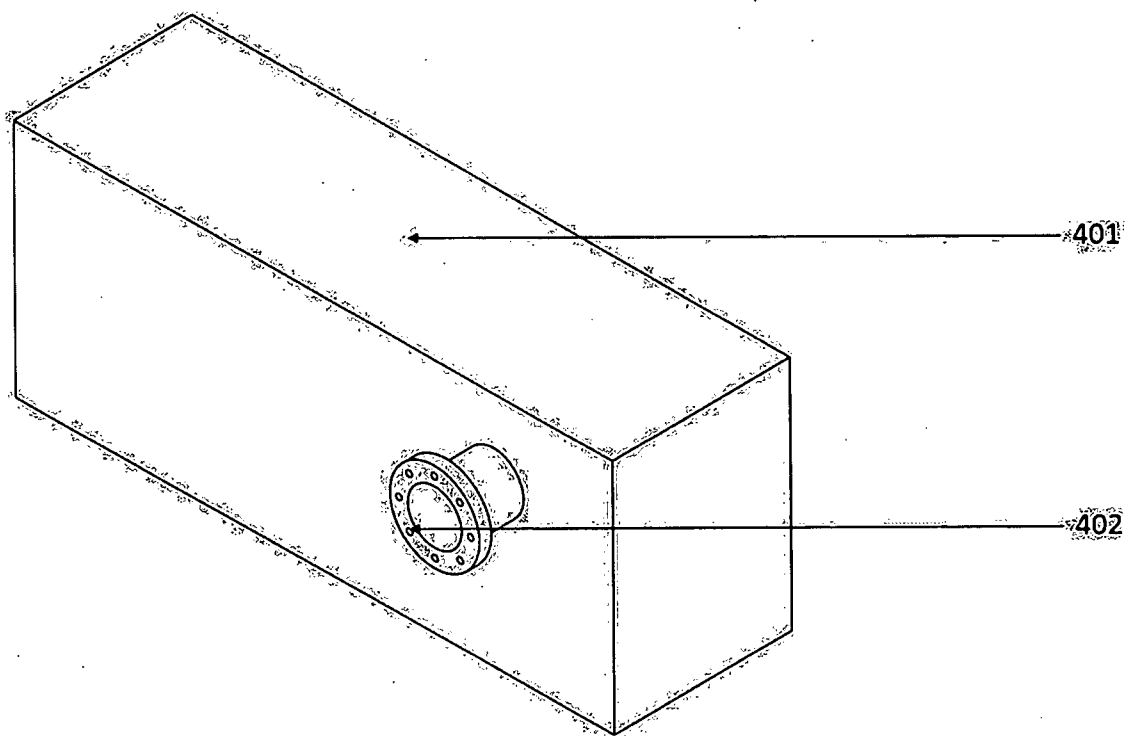


FIG - 4

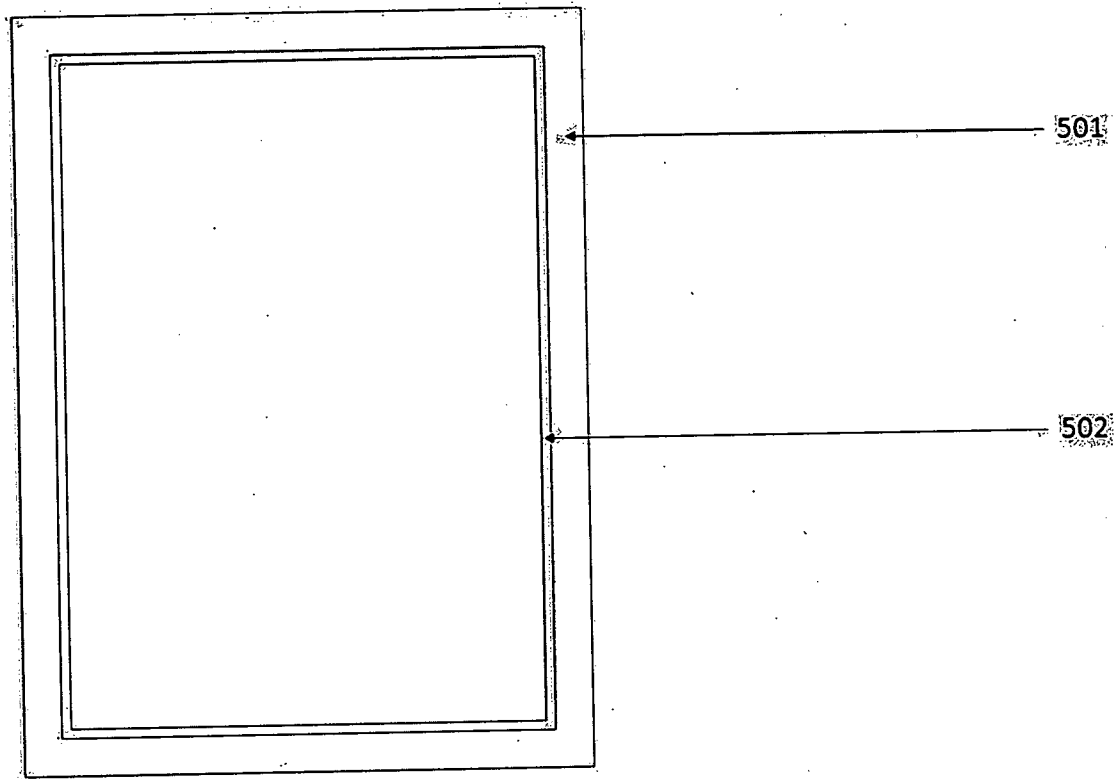


FIG - 5

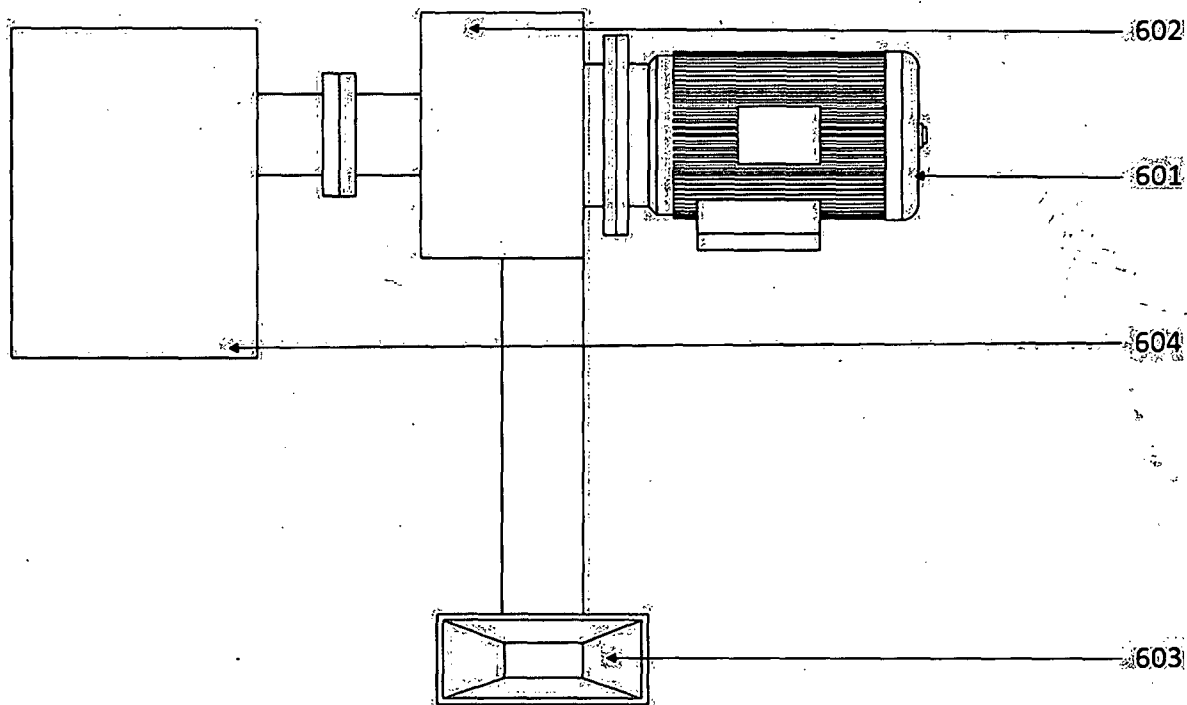


FIG - 6

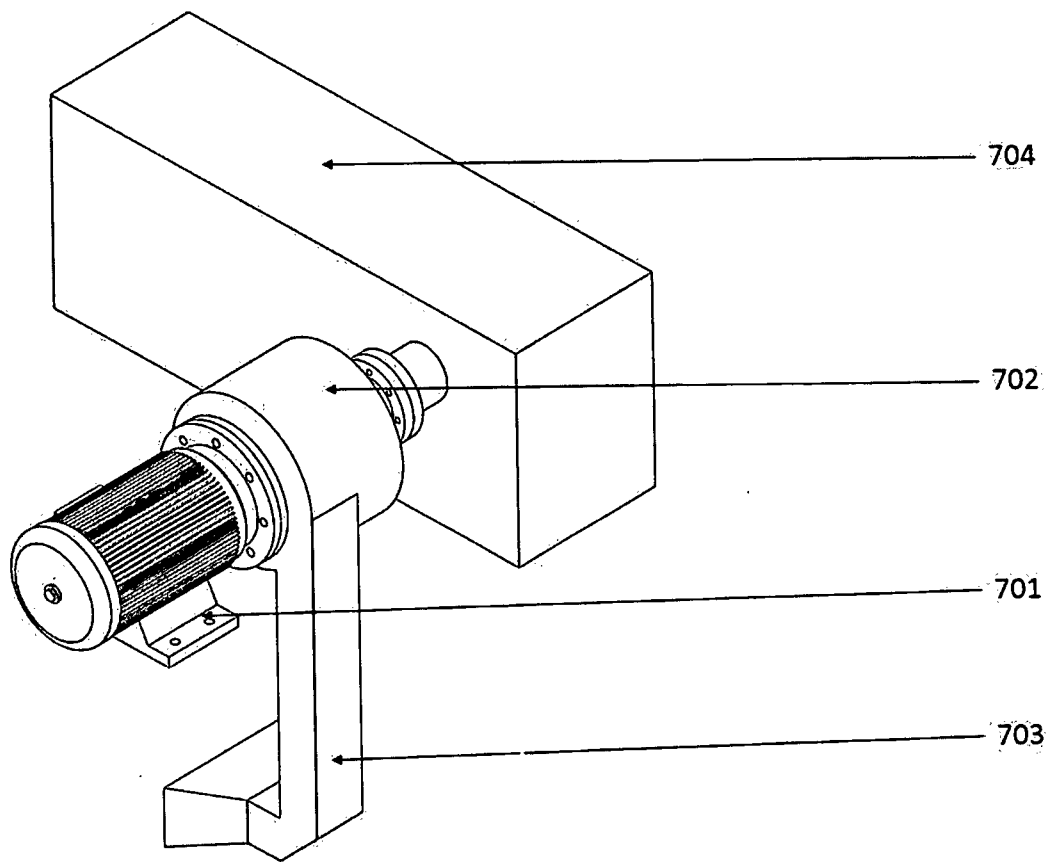


FIG - 7

ON ROAD DUST EXTRACTION SYSTEM

FIELD OF THE INVENTION

The present invention relates to a dust extraction system. Particularly the invention refers to a device which is an attachment that extracts dust from roadsides by means of a vacuum pump. More particularly the invention refers to a vacuum pump that uses a turbine to create the vacuum required to extract the dust from roadsides.

BACKGROUND OF INVENTION

This invention relates to a vacuum system that is used as an attachment for dust extraction. A typical dust extraction system is a whole vehicle which is used for the dust extraction from road sides. These vehicles are costly to buy and requires high maintenance. These dust extraction vehicles can be used in larger cities and road but not in rural areas.

The present invention solves these problems by being just an attachment device that can be custom designed and be fitted in any automobile for the purpose of dust extraction. It's cheaper to make and maintain.

U.S. Pat. No. 2014/0048635 filed by inventors Edward Lee Cutler and Glenn Meinders discloses a local dust extraction system for an excavation machine which extracts dust as the vehicle cleans the rocks on the road. This patent also does not appear to disclose a dust extraction system that can be used as an attachment in automobiles.

U.S. Pat. No. 8407969 filed by inventor Nicholas R. Myszak discloses a pharmaceutical dust extraction system and method that is used in pharmaceuticals. This patent also does not appear to disclose a dust extraction system that can be used as an attachment in automobiles.

U.S. Pat. No. 7571596 filed by discloses a vacuum system for membrane fuel stabilization unit. Here a two stage vacuum pump is used. This patent also does not appear to disclose a dust extraction system that can be used as an attachment in automobiles.

OBJECTIVE OF THE INVENTION

The main objective of this invention is to introduce a novel concept of attaching a vacuum pump on automobiles, for the purpose of dust extraction from road while driving. This novel concept eliminates the need for a dust extraction vehicle as this invention is a dust extraction system that can be attached in any automobile for the purpose of dust extraction from roads.



B.V.
REGISTRAR
VELS UNIVERSITY
(VISTAS)
Velan Nagar,
P.V. Vaithiyalingam Road,
Pallavaram, Chennai-600 117

SUMMARY OF INVENTION

In view of the foregoing, it is the primary objective of the present invention to provide an on road dust extraction system.

Still another object of this invention is to use a turbine powered by an electric motor for the process of creation of vacuum that sucks in the dust materials from roads through the funnel.

Yet another object of this invention is to create a dust extraction system that can be used as an attachment in any automobile or any system for the purpose of dust extraction.

BRIEF DESCRIPTION OF THE DRAWINGS

A clear understanding of the key features of the invention summarized above may be had by reference to the appended drawings, which illustrates the method and system of the invention, although it will be understood that such drawings depict preferred embodiments of the invention and therefore, are not to be considered as limiting its scope with regard to other embodiments which the invention is capable of contemplating. Accordingly:

FIG – 1 is an illustration of the motor used in the present invention.

FIG – 2 is an illustration of the end view and isometric view of the turbine system used in the present invention.

FIG – 3 is an illustration of the isometric view of the turbine fan used in the turbine system of the present invention.

FIG – 4 is an illustration of the dust collection container which consists of the dust bag.

FIG – 5 is an illustration of the cross sectional view of the dust collection container.

FIG – 6 is an illustration of the end view of the present invention which is the on road dust extraction system.

FIG – 7 is an illustration of the isometric view of the present invention which is the on road dust extraction system.

DETAILED DESCRIPTION OF THE INVENTION

The best mode for carrying out the invention is presented in terms of its preferred embodiment, herein depicted within FIGS. 1 through 7. However, the invention is not limited to the described embodiment and a person skilled in the art will appreciate that many other embodiments of the invention are possible without deviating from the basic concept of the invention, and that any such work around will also fall under scope of this invention. It is envisioned that other styles and configurations of the present invention can be easily incorporated into the teachings of the present

invention, and only one particular configuration shall be shown and described for purposes of clarity and disclosure and not by way of limitation of scope.

The terms "a" and "an" herein do not denote a limitation of quantity, but rather denote the presence of at least one of the referenced items.

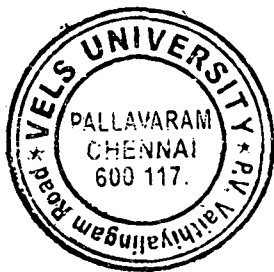
The present invention describes an on road dust extraction system which uses a motor 101 to rotate the fan 301 in the turbine 702, which produces vacuum that sucks in dust materials through the funnel 603 through the tube 703. The sucked dust is collected in the dust bag 502 which is kept inside a stainless steel container 704.

Referring now to FIG -1, is an embodiment of the motor 601 used to run the turbine 602. The motor consists of an external attachment 102 that is used to attach the motor to the turbine 602 at the power inlet part 201. The shaft 103 is connected to the turbine fan 301 through the hole 205 on the turbine 602.

Referring now to FIG -2, is an embodiment of the turbine 702 used in the present invention. Turbine 702 consists of a custom design of the funnel 204 for the suction of dust from road. The dust is sucked through the funnel 204 through the tube 203 by means of rotating the turbine fan 301 using the motor 601. The dust is transferred to the dust bag 502 through an external part 202 in the turbine and the external part 402 in the dust collection container 401.

Referring now to FIG -4, is an embodiment of the dust collection container 401. The dust collection container 401 consists of an industrial grade dust bag 502 for the storage of dust that is collected from the turbine.

Referring now to FIG -7, is an embodiment of the on road dust extraction system showing the motor 701 attached to the turbine 702 attached to the dust collection container 704. The design of the system can be modified to fit the required needs of the user, so that this present invention can be attached in any automobile or system for the purpose of dust extraction.



B.V.
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