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Description



159159

Title of the Invention

Odourless System.



G00001

Field of the Invention

This is a consumer product. It is a device installed to the water closet to eliminate unpleasant odour during excretion. The patent applicant is convinced that the benefit offered by this product will eventually be a standard feature in all toilets especially in luxurious apartments, commercial buildings and hotels. It will revolutionize washroom standard and bring us to the next level of quality lifestyle.

Background

The patent applicant used to be a smoker who had the habit of smoking while in the toilet. The smoke from the cigarette helped reduce the unpleasant odour within the toilet space during excretion and the patent applicant was accustomed to this less unpleasant environment. However, approximately one year ago, the patent applicant quit smoking. Without the smoke from the cigarette the patent applicant found the environment unbearable and was determined to find a solution to the problem. This had eventually led to the development of the Odourless System, which effectively eliminates the unpleasant odour while a person is performing the toilet ritual. An improvised unit was constructed and installed in the patent applicant's home. This improvised unit is constructed out of loose components readily available from the market and with some salvaged parts. Although not at its best performance compared to one using a specially moulded casing, the improvised unit has proven to be highly effective. Photographs of this improvised unit are enclosed in this application.

Brief Description of the Prior Art

The Odourless System is a complete system based on the principle of extracting the unpleasant odour directly from within the toilet bowl. It primarily consists of a suction hose (or pipe), an air extraction unit and a discharge hose (or pipe). One end of the suction hose is connected to the vent of a traditional toilet bowl (sitting type) while the other end is connected to the suction side of the air extraction unit. One end of the discharge hose is connected to the discharge side of the air extraction unit while the other end exit through the toilet's ventilation opening or it can be connected to a common WC vent. A complete drawing of the system (Drawing number MT-

DWG-OS-001) is enclosed in section 3b of this application. Details of how it works are as follows:

Unpleasant odour in the toilet bowl is sucked by the powerful air extraction unit into the water tank through passage within the toilet bowl (This is the same passage where the water travels from the water tank into the toilet bowl during flushing). The odour then travels through the vent of the water tank (a standard feature in all toilet bowls) into the suction hose and then into the air extraction unit before eventually being discharged to the atmosphere through the toilet ventilation opening. Alternatively, the odour may be discharged into a common WC vent. The WC vent is common in all HDB apartment, private estates, buildings and hotels.

The air extraction unit is a powerful air suction device consisting of an impeller rotating at high speed commonly used in vacuum cleaners. The driver is an electric motor and could either be a DC motor or an AC motor.

To enhance the effectiveness of the Odourless System, it may be necessary to do air sealing at the top cover of the water tank. Also, the toilet sit cover has to match the toilet sit profile to minimize leakage otherwise some modification or air sealing would be necessary.

The patent applicant wish to emphasize the fact that the Odourless System is entirely different from the traditional exhaust fan concept where an exhaust fan is fitted at the ventilation opening of a toilet. This is because the traditional configuration allows the odour to rise out of the toilet bowl and passes by the person's nostril before being displaced outside the toilet space. Similar negative effect applies to toilets in buildings and hotels, which make use of ventilation trunks. With the Odourless System, the odour in the toilet bowl does not rise out of the toilet bowl but instead, is sucked into the toilet bowl due to the lower pressure in the toilet bowl.

Depending on the environment, the air extraction unit may be mounted outside the toilet to reduce noise level. Also, the air extraction unit may be integrated to the toilet bowl assembly to form a complete system.

The Claim

The claim is a system of extracting unpleasant odour from within the toilet bowl through a powerful air extraction unit and discharging it to a more appropriate location such as but not limited to a ventilation opening or a common WC vent. The air extraction unit comprises of an air acceleration device driven by an electric motor. The air acceleration device may be of an "impeller" type of design or other design capable of air acceleration such as but not limited to a propeller (fan) design, turbine design, diaphragm or screw design. The driver may be either a DC motor or an AC motor. The air extraction unit may also be integrated to the toilet bowl assembly to form a complete system.