

"Method and Apparatus for Producing Ions"

Preliminary Patent Application

August 15, 1978

Description:

The applicant's prior patents Nos. 2,949,550 and 3,518,462 describe method and means for producing a flow of air without moving parts. They may be termed "motorless" fans which are "noiseless." This is highly desirable where a circulation of air in a room is desired.

Ion generators (for the production of negative ions alleged to be beneficial to health) do not tend to circulate in the manner of an air flow but migrate outward from the generator largely in the form of a localized ion "cloud." Hence, ion generators in the existing art are seriously limited as to their effective range.

The purpose of the present invention is to combine air circulation with ion emission so as to improve range. To accomplish this, the present patent application proposes the addition of an electrostatically charged grid (ionizing electrode) to the motorless fan (as described above) to inject ions into the (effluent) air stream.

The present invention, therefore, is an extension of the aforementioned patents in combination with a (downstream) ion-emitting grid. As such it performs a new and useful function - that of emitting ions into a rapidly-moving airstream.

Two forms of air movers may be employed in the present invention. Both are described in the referenced patents, i.e., the diode (2 electrodes) No. 2,949,550 and the triode (3 electrodes) No. 3,518,462. The present invention consists in applying an emitter electrode (preferably but not limited to negative ions) downstream in the airflow.

The added electrode comprises a grid of fine wires, either in the form of parallel wires (approx. 1/2" apart) or an open mesh of fine wires. Tungsten wires are preferred but other materials such as platinum or even stainless steel may be used. The grid is insulated from its surroundings (points of support) and charged to a high dc potential (preferably but not necessarily negative). A high resistance is used to limit the current to the grid (for safety reasons).

Claims: (to be professionally worded)

1. The combination of the structure set forth in '550 with a third electrode to add ions in the (effluent) airstream.
2. As above, but in combination with '462.
3. Means to charge said electrode.
4. Application of a current limiting resistor for eliminating shock hazard.