

Electrostatic Precipitator
(with disposable collector plates)

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San Francisco, California

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Quite honestly, Mr. K., in preparing the subject application I have no idea how to proceed. The application is not scientific or technical as my other applications have been. There are other considerations which may make it necessary for you to prepare the entire application from the beginning in your own words.

In my patent No. 2,949,550 entitled "Electrokinetic Apparatus," the claims are directed to the use of an assembly of fine wires and plates to produce a flow of air (or other fluid dielectric). In Bennett patent No. _____ (please research to find number) the specification teaches the use of essentially the same physical structure although it was indicated the apparatus was not useful in "dirty" air. The Bennett specification shows a structure consisting of fine wires to serve as an ionizer and flat plate or plates toward which the field was projected.

We have at the laboratory in Philadelphia a model of the Bennett device obtained from the Franklin Institute. It operates from the standard 110 volt outlet, produces only a limited air flow (compared to our units) and a very loud hum. The Bennett system uses a high voltage transformer with no rectifiers as in my system. A certain amount of rectification occurs in the Bennett system by the rectifying action of the point discharges. The circuit is designed to use, as far as possible, this rectification, so that what is actually conducted to the electrode structure is heavily pulsating DC and this, of course, creates a loud AC hum.

In my patent No. 2,949,550 a specific reference is made to its effectiveness as an electrostatic precipitator. This use was discovered after the patent application was filed. Now, it appears the principle utility of the device is in this area, i.e., as a self-propelling (fanless or motorless) electrostatic precipitator.

There seems to be a possibility (notwithstanding the fact that my patent was duly examined and claims granted) that the Bennett patent was not discovered or known to the Examiner and that my patent may have passed to issue in error. If such is the case, my patent No. 2,949,550 may be found to be invalid.

The present application, therefore, should include claims directed to the use of cleanable (washable) or disposable precipitator plates, instead of fixed plates, to cure this dilemma. The apparatus to be patented is physically similar to patent No. 2,949,550 but includes now the fine wires and precipitator electrodes specifically adapted to be removed for cleaning or replacement.

Hence, if it is subsequently determined that patent 2,949,550 is invalid and in the public domain because of the Bennett prior teaching, the addition of the removable electrode feature, as a patentable and useful device, should restore protection. The present application not only should stand on "its own feet" as a patent, but should eliminate the Bennett difficulty.

I am at a loss to know which drawings should be included in this application. In one of our models, which was shown to you in your office, the plates were removed vertically like "toast out of an electric toaster." It is quite obvious that there are other methods, such as removing the plates horizontally from the side of the device.

While it is not necessary to remove the fine wires for cleaning (since they do not normally become dirty) the fine wires do occasionally collect lint and this sometime streams toward the plates creating a hissing sound which can be objectionable.

It is desirable therefore, to provide that both plates and fine wires be removable and disposable either separately or together.

My experience with these precipitators would indicate that an ideal arrangement would consist of disposable plates with the fine wires attached thereto. If the plates become dirty in use or if the wires should break for any reason the entire section could be withdrawn from the precipitator and replaced.

This patent application should cover and claim removable plates or wires or both together. The structure of the disposable section could be vacuum-formed thin plastic sheets, partly metallized, shaped like a washboard with grooves cut-out, and with edges holding the fine wires. This disposable section might be quantity-produced by automated machines and sell for a few cents each. These sections could be commercially produced, could be constructed in a range of sizes and fit into appropriate frames attached to a base containing the power supply.

In conclusion, the purpose of the above application is:

- 1) to cure the difficulty of similarity with the Bennett patent.
- 2) to provide coverage for removable and/or disposable electrodes.

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