

ABSTRACT**IONIZER COMPRISING ION DETECTOR**

The invention provides an ionizer including an ionization chamber, an air inlet coupled to the ionization chamber, and an ionization electrode having a tip portion positioned within the ionization chamber. The ionizer further includes a high voltage generator in electrical connection with the ionization electrode, the high voltage generator being operative to apply an ionization voltage to the tip portion to generate ions. The ionizer also includes an output nozzle coupled to the ionization chamber, and an ion detector that is operative to detect the ions generated in the ionization chamber.

FIG. 2