# APPARATUS AND METHOD FOR IMPROVING UNIFORMITY AND CHARGE DECAY TIME PERFORMANCE OF AN AIR IONIZER BLOWER


## ABSTRACT OF THE DISCLOSURE

An air ionizer blower includes a voltage source, an air inlet, an air outlet, an air mover, at least one electrode and a straightening vane. The air mover is configured to cause air to flow into the air inlet and out of the air outlet, thereby creating an air flow. The electrode is disposed in the flow path of the air and is electrically connected to the voltage source. The electrode is configured to generate either or both of positive and negative polarity ions. The straightening vane is disposed in the air flow and attenuates loss-causing air flow patterns by redirecting the loss-causing air flow toward a single output direction and redirects portions of the air flow having other trajectories toward the single output direction. The straightening vane has a plurality of uniformly distributed apertures, each having a depth that is a function of the open area of the aperture.