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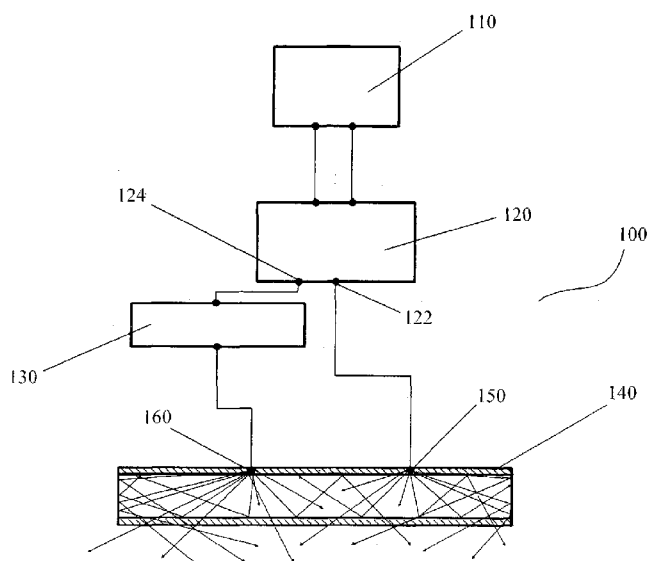


Fig. 2

(57) Abstract: The present invention provides a system for prevention of adhesion of organisms in water to a substrate in contact with the water, wherein the substrate and the water flowing around the substrate form together a treated region, comprising a generator for producing electromagnetic wave having a time varying frequency, said generator having at least two output terminals, one of which in electrical connection with a first excitation site of the treated region; an avalanche current suppressor with its one terminal in electrical connection with the other of the outputs of the generator and with its another terminal connected with a second excitation site of the treated region; and an electric power source connected to the generator for applying a selected voltage to the generator, wherein the voltage is applied such that the generator is triggered to produce the electromagnetic wave capable of inducing an avalanche current in the water and/or on a surface of the substrate to shock or kill the organisms. The invention also provides a method for prevention of adhesion of organisms in water to a substrate in contact with the water.