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**GHEORGHE ASACHI TECHNICAL UNIVERSITY OF IASI**

# DEVICE FOR CONTINUOUS GENERATION OF BIOACTIVE SOLIONS

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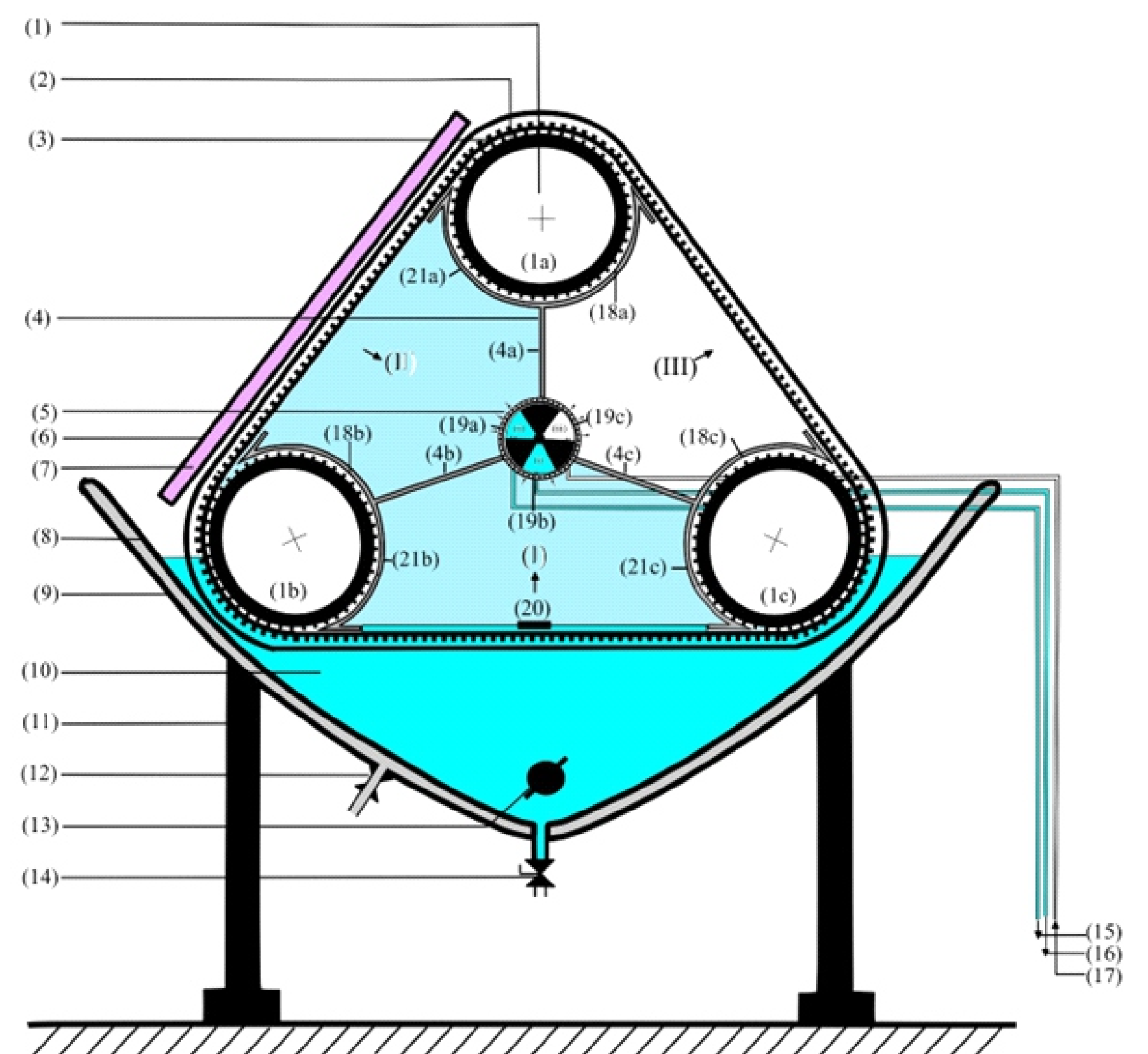
The invention refers to a device for the continuous generation of saline nanoaerosols of the Aitken type, which is based on the principle of operation of the filter with a wide conveyor belt in a closed circuit, framing three sectors in the form of an equilateral triangle, with sequentially differentiated distribution on three processes distinct: impregnation by light sorption from the supersaturated solution of halo-salts, extraction by vacuuming, with suction of dry air from the halochamber, dispersion by purging with hot and humid air in the halochamber. This device allows the achievement of optimal levels of bioactive solions (hydrated saline aerosols) for halocameras with multiple uses, such as: eliminating or stopping the formation of biofilms through microbiological contamination (virotic, bacterial, fungal, etc.) of prostheses during the manufacturing period, storage and implantation of bones and teeth, prevention and treatment of cardio-respiratory, osteo-muscular and psycho-motor conditions, as well as for improving the physical performance of children, the elderly and people who work under conditions of high effort or performance athletes. In order to achieve the optimal level of salt concentration in the halo chamber, the device's operating mode is automatically regulated by two sensors, one that determines the salinity and the other for vacuum regulation.



Used for artificial hallochambers - for respiratory and cardio- health related issues.

## Patent Application RO135921(A2)

**NOVELTY** - The device has three horizontal cylinders, with different notation in the direction opposite to the sense of rotation, an upper cylinder and a lower cylinder driven into clockwise rotation. The three cylinders are placed in the apices of an equilateral triangle, delimiting the three cells, tightly sealed from one another by a partition wall with different notations, which exhibits in its central zone a circular distributing drum with three radial cells. The entire generating system is located in a tank which has a heating jacket and contains a halo-salt supersaturated solution. The jacket of the tank is coupled to a system for thermostat heating to 70-75°C. The tank also has a stirrer centrally positioned at the base of the tank and a tap for filling with or discharging the saturated halo-salt solution. The cylinder is differentially connected to a system located in the exterior, on one of the encapsulation caps.



Horizontal cylinders (1), gears (2), textile conveyor belt (3), partition wall (4), circular distributor drum (5), thin parallelepiped diaphragm with a rectangular section (6), filled with silica gel (7). The entire generating system is placed in the tank (8), which has a heating jacket (9) and which contains a supersaturated solution of halo-salts (10). The support system (11), has thermostats (12), a stirrer (13), and a cup or valve (14) for filling/evacuating the solution saturated with halo-salts.

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