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 ELECTRONIC WATER PURIFIER FOR
 AVOIDING INCRUSTATIONS
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Fig. 1

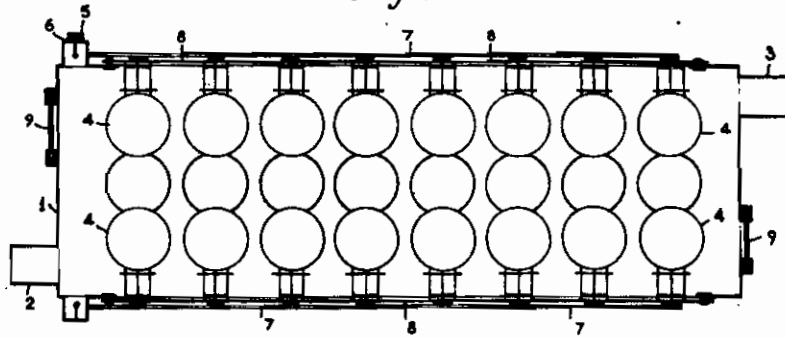


Fig. 3

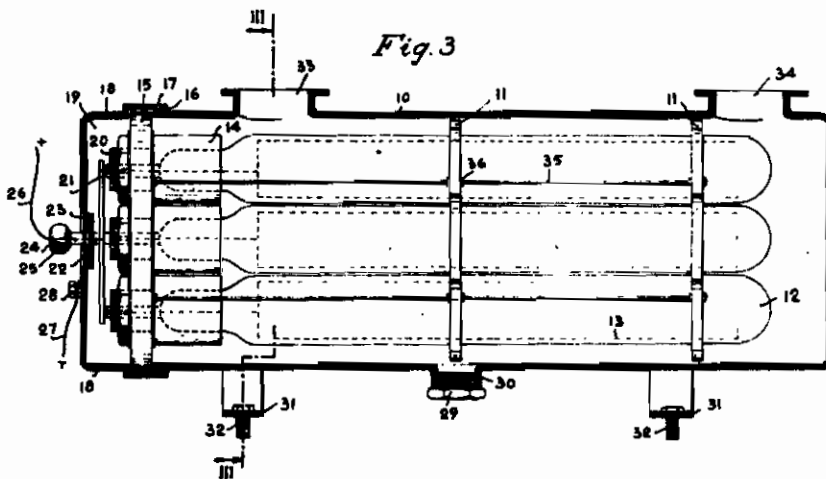


Fig. 2

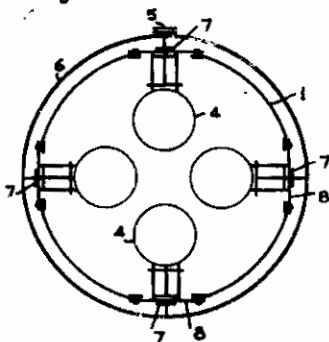
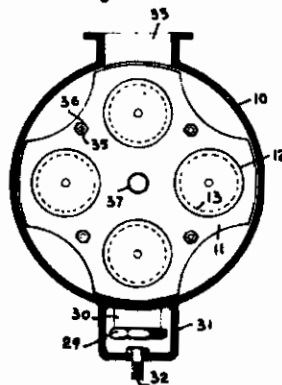


Fig. 4



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ELECTRONIC WATER PURIFIER FOR AVOIDING INCRUSTATIONS

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The invention relates to an electronic water purifier for avoiding incrustations, and is based on the observation that the water when treated with said purifier acquires the important property of not forming any incrustations because of the transformation of some of the salt's physical characteristics, so that when they are subjected to a high temperature they will precipitate as a non compact slime which it is easy to eliminate.

In the purifier the water circulates around one or more glass vessels of suitable form provided with electrodes. A sensible vacuum is created in these vessels, a small quantity of neon or of a mixture of other indifferent gases being then introduced into the same.

An embodiment of this idea may be obtained in practice by means of a container connected to earth and furnished with one or more electrode carrier vessels arranged so that the water to be purified circulates in a thin stratum between the vessels and is then subjected to the action of the electrical effluvium effected therein. The tension capable of producing discharge is reduced to about 70-80 volts by using iron electrodes and a filling gas for the tube consisting of a mixture of gas as above. Means for effecting modifications in the features of the water are thus available through an apparatus connected to the common electrical distribution net-work.

Preferably the operation of the purifier according to the invention requires only one pole of the current to be joined to the electrode, thus the electrical discharge must take place through the liquid stratum enveloping the electrode carrier tube. However, tubes carrying two electrodes may be also used with satisfactory results.

The annexed drawing illustrates two embodiments of the invention.

Fig. 1 shows a longitudinal section of the purifier.

Fig. 2 is a cross section of the same.

Fig. 3 is a longitudinal section of a second embodiment of the invention.

Fig. 4 is a cross section of Fig. 3 according to line III-III.

According to the drawing the illustrated ap-

paratus comprises a cylindrical container 1 provided with two connecting parts 2 and 3 for inlet and outlet of water. Electrode carrier tubes 4 are arranged inside said container and their position is chosen, as aforesaid, so that the water to be purified may circulate in a thin stratum between them. In the embodiment according to Figs. 1 and 2, said tubes are arranged in series of four and crossways with their glass bulbs facing the center of the container as may be clearly seen in Fig. 2.

The electrical current passes through the connection 5 and metal ring 6 placed at one end of container 1. Longitudinal conductors 7 run from said ring, tubes 4 being mounted on said conductors through insulating plates 8.

The earth connection is effected by the mass of water. Inspection glasses 9 are arranged at the ends of container 1.

The electrical effluvium effecting the above mentioned results is obtained by causing the water to be purified to cross container 1 and by applying the necessary tension to connection 5.

In another embodiment of the invention the series of four or more tubes are replaced by an equal number of tubes 12 arranged longitudinally throughout the whole length of container 10 (see Figs. 3 and 4). A conductor consisting of pivot 24 provided with a head 26 having flat surfaces 25 is screwed by screws 23 to cover 18 of container 10. The inside part 22 of the pivot is connected to plate 21 which carries the tension to cylindrical electrodes 13 contained in tube 12 by connections 20. The tubes are mounted on the end of disc 15 provided with cap 14 and inserted in the middle and at the end of bored plates 11. Disc 15 and plates 11 are connected by pivots 35, nuts 36 and tube 37. Cover 18, whose cavity 19 contains plate 21 and contacts 20, is connected to container 10 by joint 17 enveloping edge 16 of container 10. It also carries screw 27 and nut 28 for the earth connection of the container.

Flanges 33 and 34 of container 10 serves to introduce the water and plug 28 screwed into collar 30 effects the discharge of the container.

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