Figure 7 is a schematic representation of a part of the device of Figure 4,

Figure 8 is a schematic representation of a part of the device of Figure 6,

Figure 9 is a schematic representation of a detail of the device of Figure 6, and

Figure 10A and 10B ~~is a~~ are schematic representation of the variants of the device of Figure 6.

To facilitate understanding, identical reference numerals have been used, when possible, to designate identical elements that are common to the Figures. The drawings are not to scale and the relative dimensions of various elements in the drawings are depicted schematically and not to scale. The electrochemically regenerable ion-exchange material always consists of beads of substantially the same diameter.

Figure 1, which is a schematic representation of a typical prior art deionization device, has been described above.

Figure 2 is a schematic representation of a first implementation of a deionization device 32 according to the invention.

The device 32 can be used for the removal of anions or for the removal of cations. It will be described here as a device 32 used to remove anions from water, e.g. to replace salt anions by OH^- and/or remove acids present in dissociated or non-dissociated form.

The device 32 comprises a housing 21, for example of cylindrical or other shape, containing inside: an anode 4, a cathode 5 and an anion-exchange material 2 between the electrodes. The housing 21 defines one compartment and forms an electrochemical cell. The housing 21 has an inlet 7 for aqueous feed solution flow 10, an outlet 8 for anode rinse stream 12 and an outlet 9 for the product stream free of salt anions 11.

The feed 10 enters the cell through the inlet 7 located close to the anode 4 end. The inlet 7 and the anode 4 are located at one end, which is the