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(12) **United States Patent**  
**Hough et al.**

(10) **Patent No.:** **US 6,296,756 B1**  
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- (54) **HAND PORTABLE WATER PURIFICATION SYSTEM**
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- (73) Assignee: **H2O Technologies, Ltd.**, OR (US)
- (\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(57) **ABSTRACT**

A hand portable water purification system includes a portable electrolytic cell to increase the content of oxygen and chlorine in water to be purified. The electrolytic cell includes a housing and a set of electrodes. The housing provides physical support and spacing for the electrodes and protects the electrolytic cell from damage during handling and storage. The hand portable apparatus has a system control circuit that converts an external source of power to a direct current (DC) voltage to energize the electrolytic cell. The combination of the electrolytic cell and the system control circuit is small enough and light enough to be carried in a person's hand. In one embodiment, the portable electrolytic cell is mounted near the bottom of a container with one-half to five gallon capacity mounted either permanently or detachably.

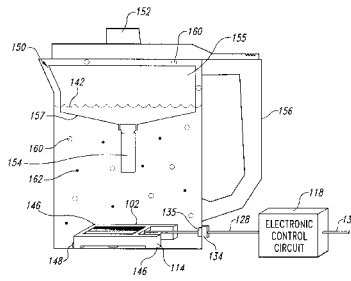
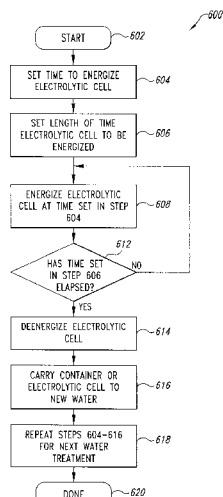
**29 Claims, 12 Drawing Sheets**

- (21) Appl. No.: **09/393,594**
- (22) Filed: **Sep. 9, 1999**
- (51) **Int. Cl.<sup>7</sup>** ..... **C02F 1/461**
- (52) **U.S. Cl.** ..... **205/744; 204/271**
- (58) **Field of Search** ..... **204/271; 205/744**

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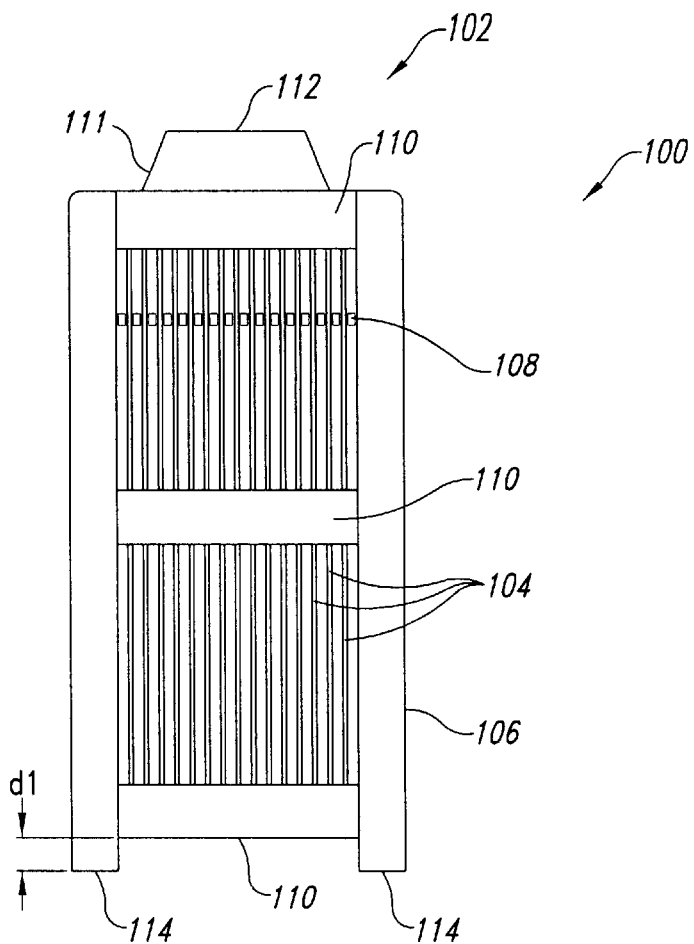


Fig. 1

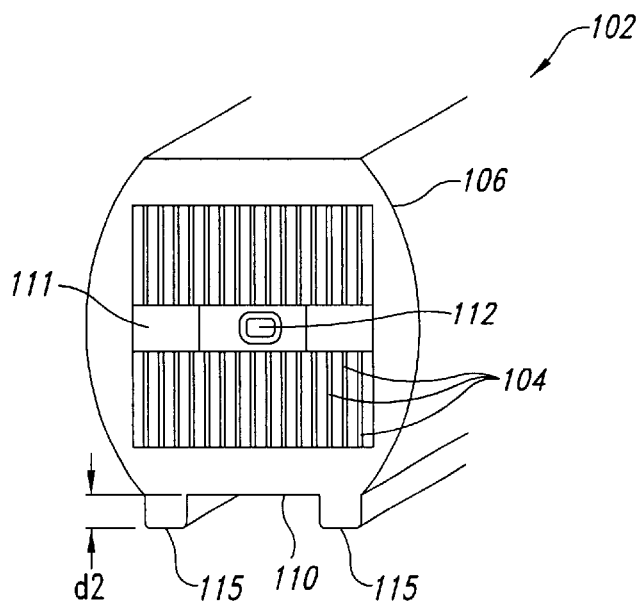


Fig. 2

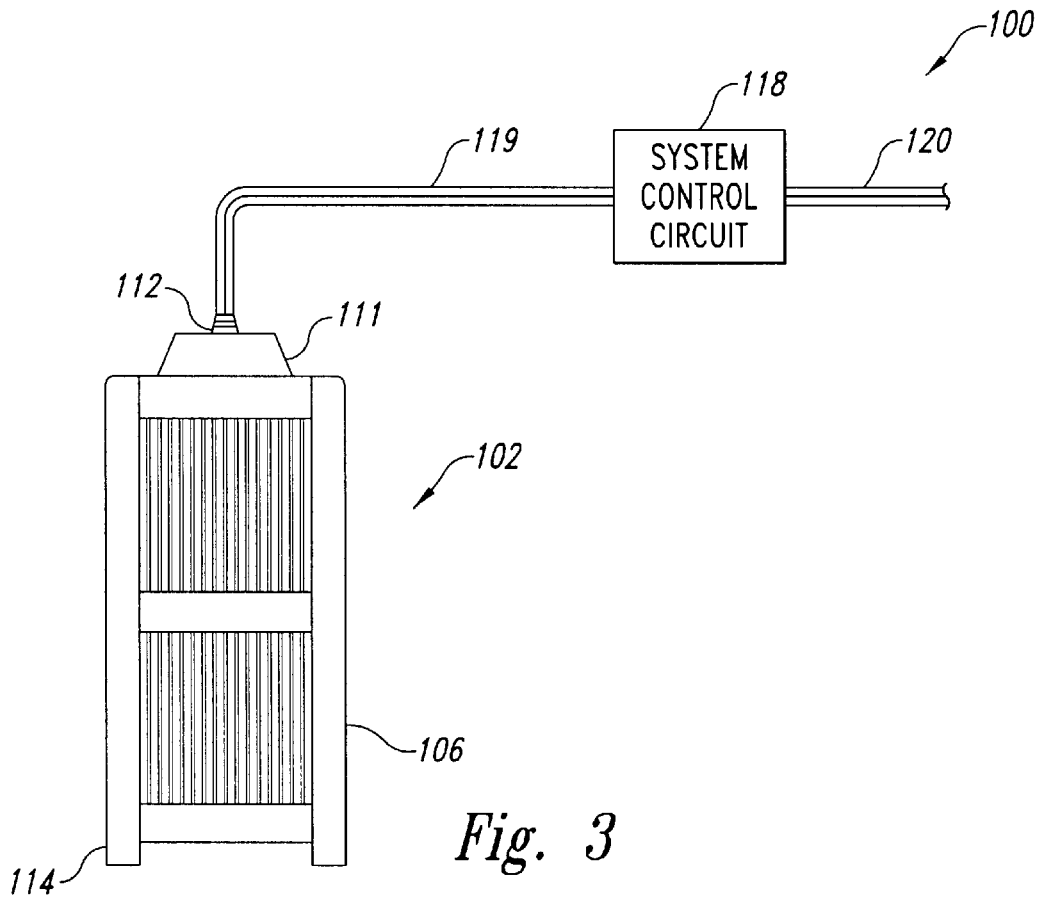


Fig. 3

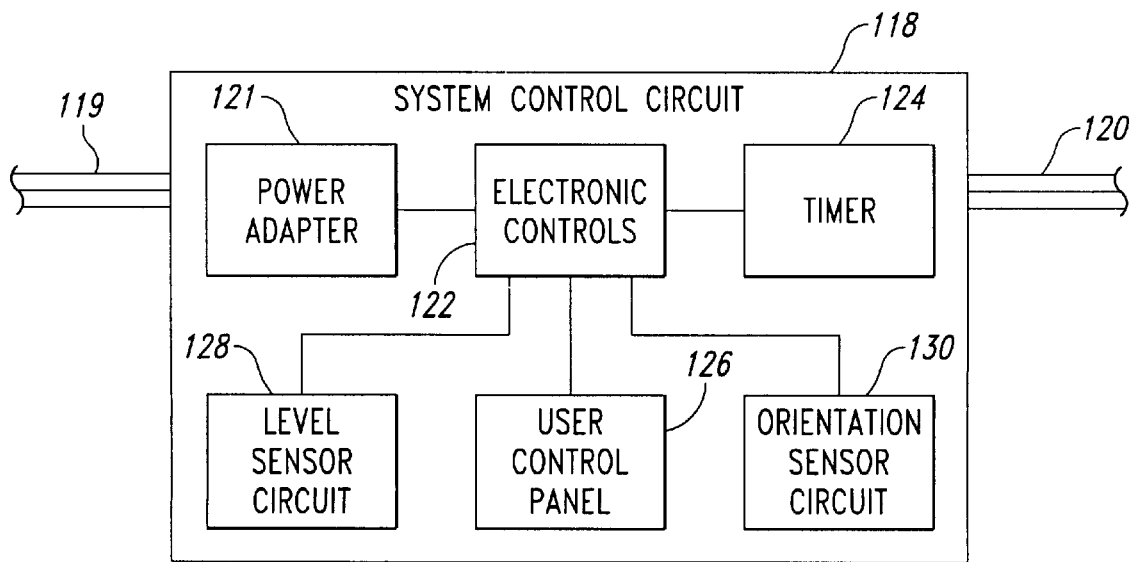


Fig. 4

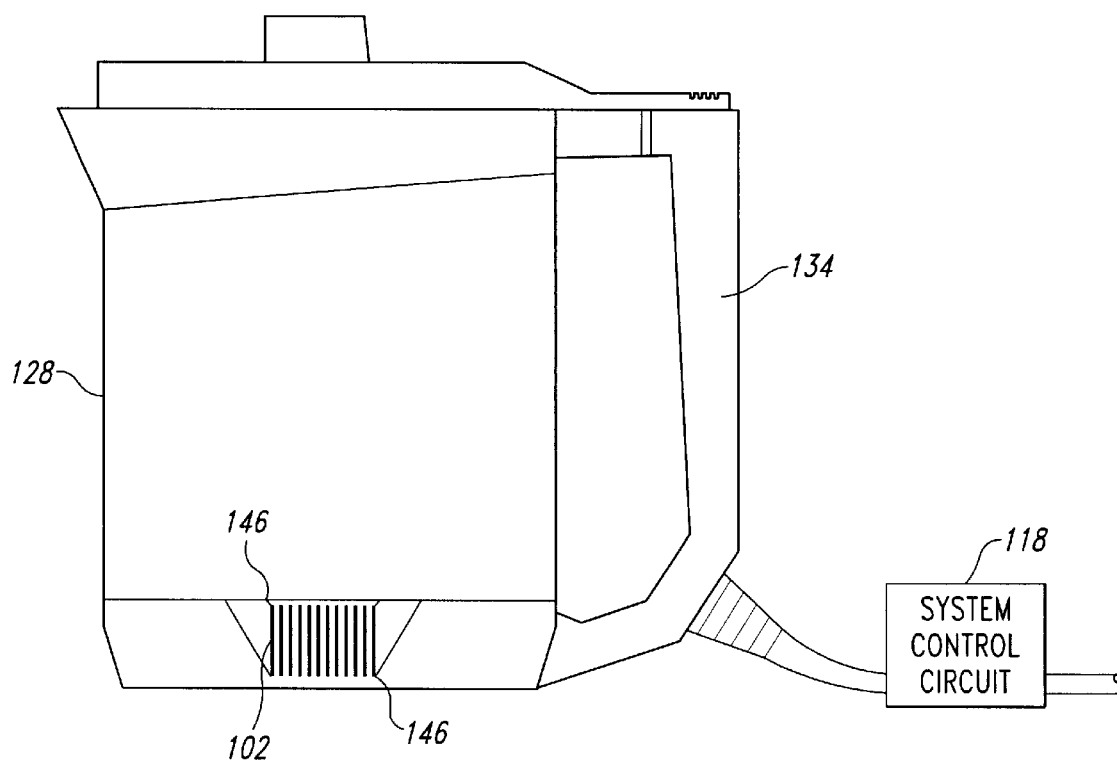


Fig. 5

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