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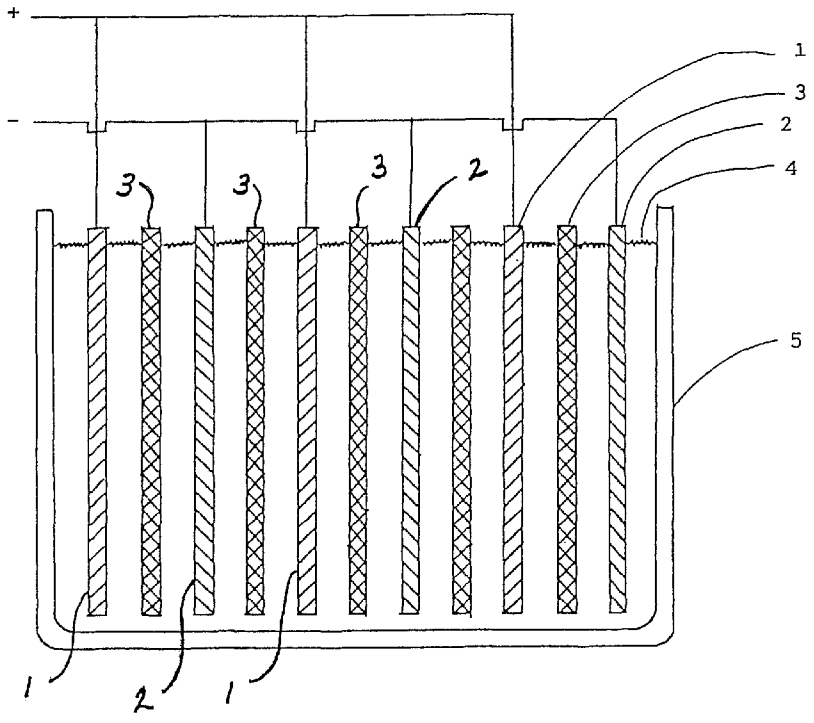
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(54) Title: LEAD-ALKALINE BATTERY



(57) Abstract: A rechargeable battery is provided such that the positive electrode comprises lead dioxide, the negative electrode zinc, iron, lead or cadmium, and the electrolyte is alkaline. Upon discharge, the lead dioxide is reduced to lead oxide, the metal is oxidized to an oxide, and the electrolyte remains unchanged. The reactions are reversed when the battery is charged.

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AMENDED CLAIMS
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1. A storage battery comprising:

a. a positive electrode that exists as lead dioxide in the charged condition and as lead oxide in the discharged condition;

b. a negative electrode;

c. an alkaline electrolyte; and

d. electrical leads attached to the electrodes.

2. A storage battery of claim 1 in which the negative electrode comprises a metal selected from the group consisting of iron, lead, zinc, cadmium, alloys of such metals and combinations of such metals and alloys.

3. A storage battery of claim 1 in which the alkaline electrolyte is an aqueous solution comprising the hydroxide of an alkali metal selected from the group consisting of lithium, sodium, potassium, and cesium.

4. A storage battery of claim 1 in which the alkaline electrolyte comprises an aqueous solution of tetramethyl ammonium hydroxide.

5. A storage battery of claim 1 in which the alkaline electrolyte contains a buffering agent selected from the group: carbonates, borates, silicates, phosphates, and sulfates.

6. A storage battery of claim 1 in which the alkaline electrolyte comprises an aqueous solution of ammonia.

STATEMENT UNDER ARTICLE 19(1)

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Sir:

By this amendment, claim 1 is amended, claims 2-5 are unchanged, and claim 6 is added.

The amendment to claim 1 is believed to clearly distinguish over the teachings of U.S. Patent 4,076,909 cited in the Notification of Transmittal of the International Search Report and the Written Opinion of the International Searching Authority. Specifically, new claim 1 requires a positive electrode which exists as lead oxide in the discharged condition. By contrast, the positive electrode in *Lindstrom* in its discharged condition comprises a difficultly soluble divalent lead compound formed by reaction of the electrode material with the anion in the electrolyte.

New claim 6 requires that the alkaline electrolyte comprise an aqueous solution of ammonia. This feature is not taught by the prior art.