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Jones et al.

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(54) **METHOD AND SYSTEM FOR MULTI-MODE
COVERAGE FOR AN AUTONOMOUS
ROBOT**

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U.S.C. 154(b) by 0 days.

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Related U.S. Application Data

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(51) **Int. Cl.**⁷ **B25J 5/00**

(52) **U.S. Cl.** **318/568.12**; 318/568.16;
318/568.17; 700/245

(58) **Field of Search** 318/568.12, 568.16,
318/568.17; 700/245

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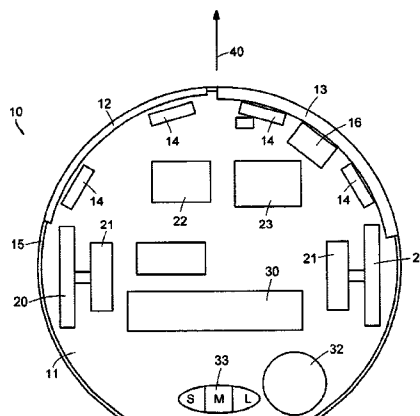
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(57) **ABSTRACT**

A control system for a mobile robot (10) is provided to
effectively cover a given area by operating in a plurality of
modes, including an obstacle following mode (51) and
a random bounce mode (49). In other embodiments, spot
coverage, such as spiraling (45), or other modes are also
used to increase effectiveness. In addition, a behavior based
architecture is used to implement the control system, and
various escape behaviors are used to ensure full coverage.

42 Claims, 16 Drawing Sheets



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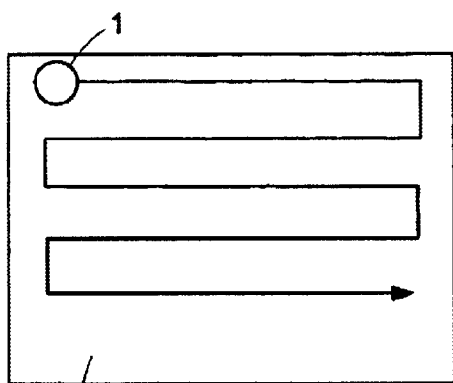


FIG. 1A

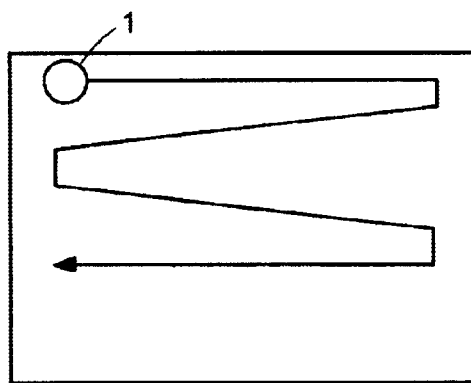


FIG. 1B

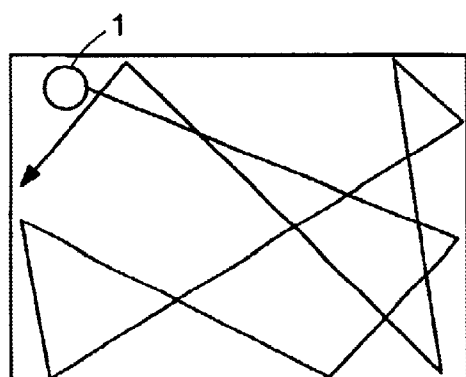


FIG. 1C

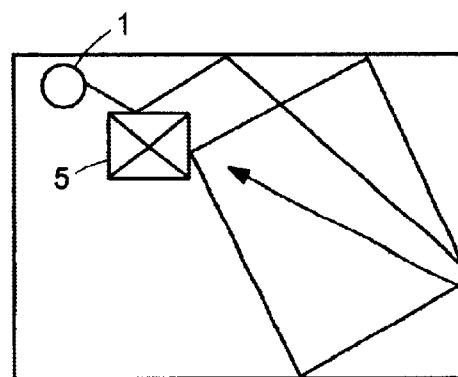


FIG. 1D

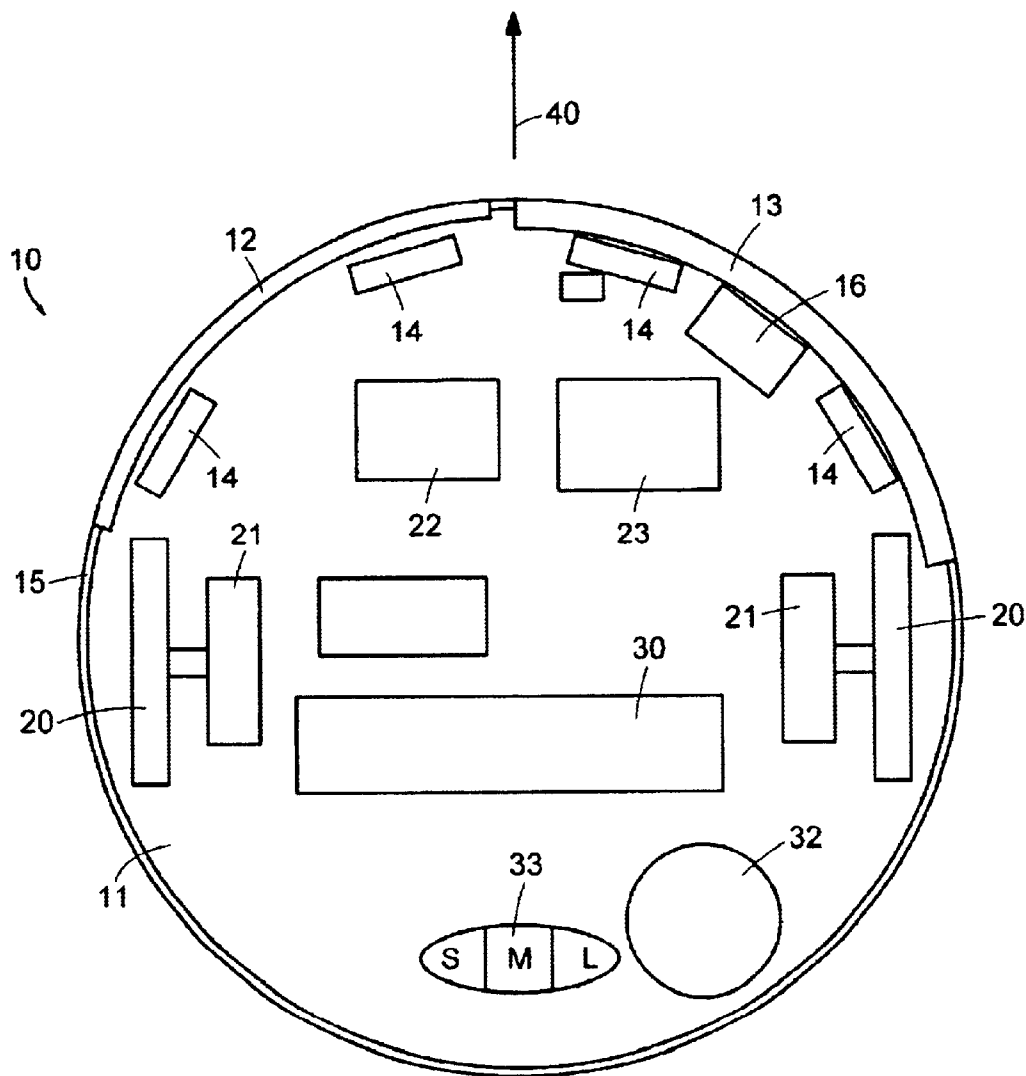


FIG. 2

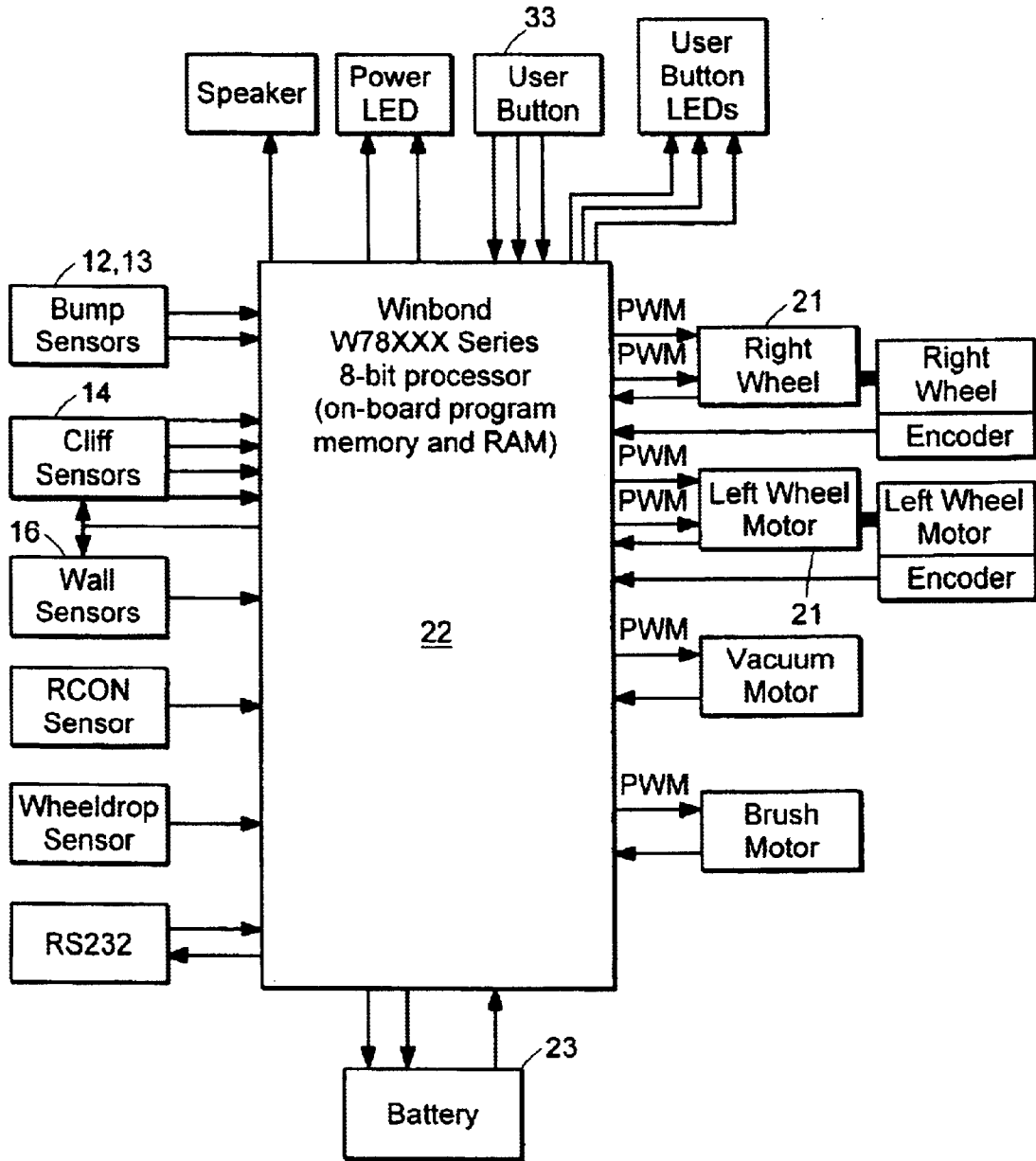


FIG. 3

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