

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

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(54) **INDUCTIVELY POWERED LAMP UNIT**
(75) Inventors: **John Talbot Boys; Andrew William Green**, both of Auckland (NZ)
(73) Assignee: **Auckland UniServices Limited**, Auckland (NZ)

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(*) 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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(21) Appl. No.: **09/780,517**

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Related U.S. Application Data

Primary Examiner—Michael B Shingleton
(74) *Attorney, Agent, or Firm*—Young & Thompson

(63) Continuation of application No. 08/793,303, filed as application No. PCT/NZ95/00061 on Jul. 11, 1995.

(57) **ABSTRACT**

(30) **Foreign Application Priority Data**

An inductively powered lamp unit **806** is fixed onto a substrate and over a position where a primary inductive loop **803** is spread apart (as at **807**). At such sites, a horizontal (or at least parallel to the surface of the substrate) component of alternating magnetic flux is available. The conductors of the loop **802-803** can be inserted in a slit **804** cut into the substrate. The spreading apart of the conductors may be ensured with a spreader **808**. A power supply **801** may be a resonant supply operating at 40 kHz. The lamp unit **806** does use a resonant pickup coil which can be shorted so as to minimize coupling, and provide supply regulation. The lamp unit can be controlled by signals transmitted over the primary loop. Applications include roadway markers and fire escape egress indicators, and underwater lighting.

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(51) **Int. Cl.**⁷ **H05B 37/00**

(52) **U.S. Cl.** **315/324; 315/349; 315/344; 315/236; 315/250**

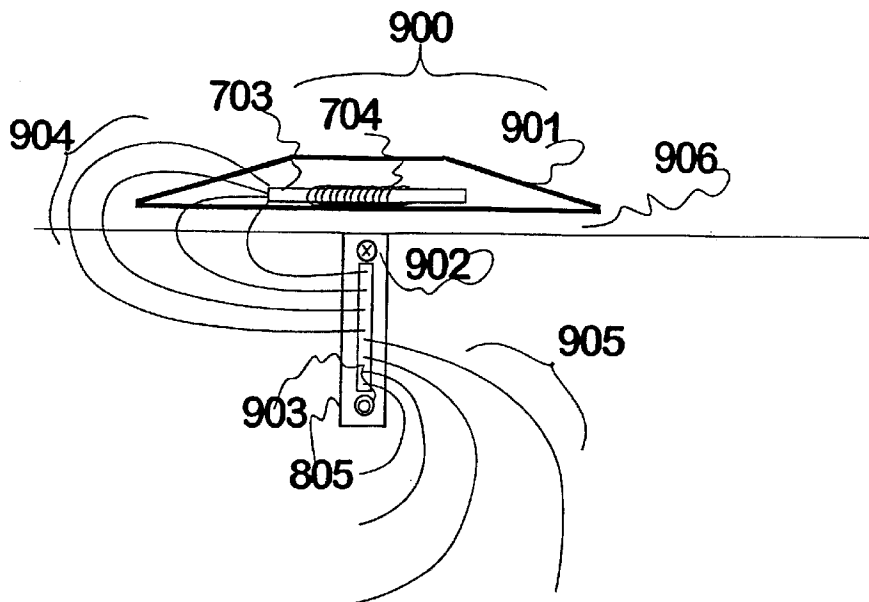
(58) **Field of Search** **315/324, 344, 315/346, 267, 276, 349, 236, 254, 255, 326, 250**

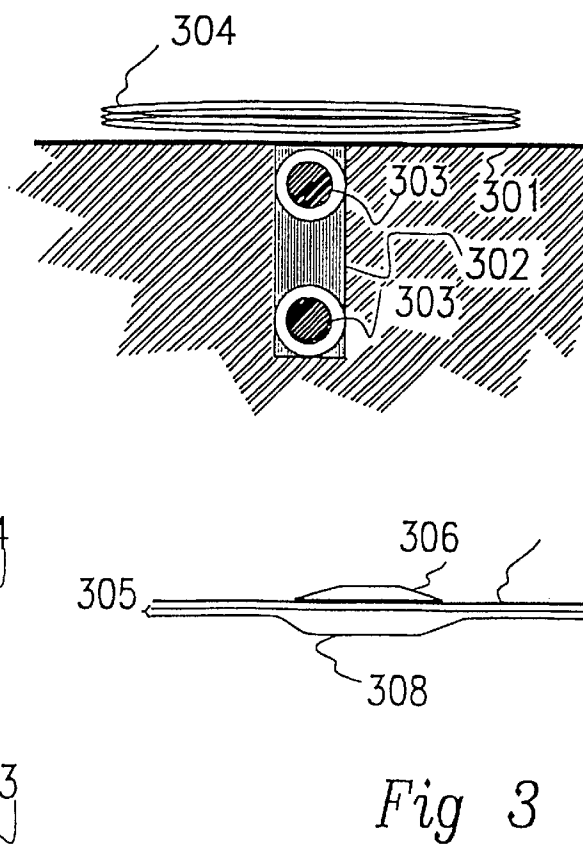
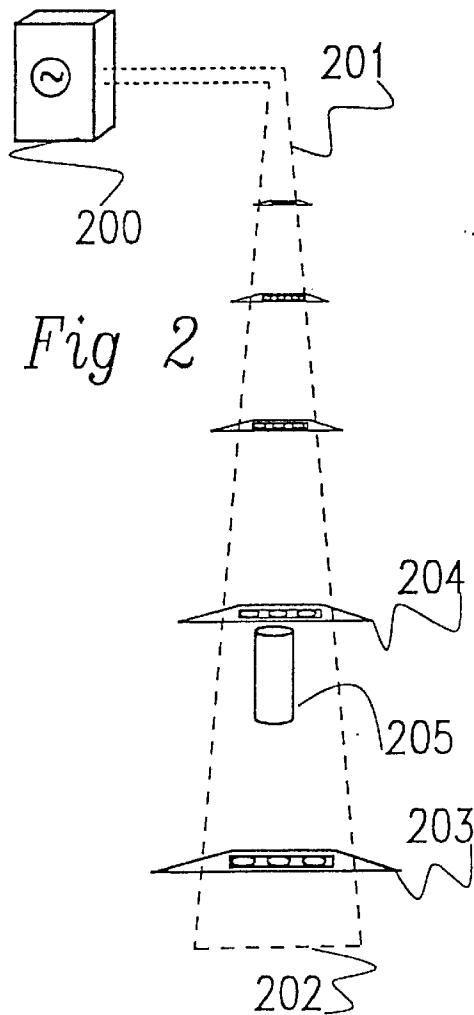
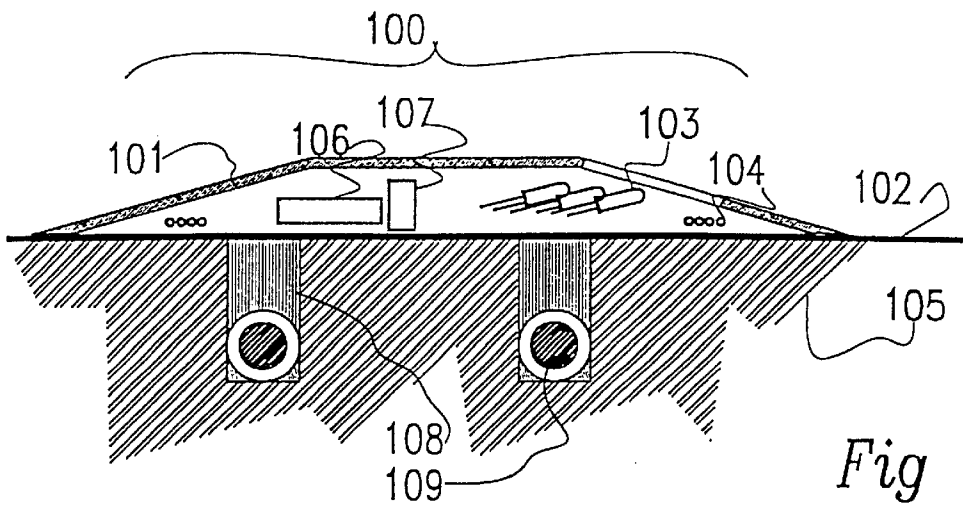
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7 Claims, 5 Drawing Sheets





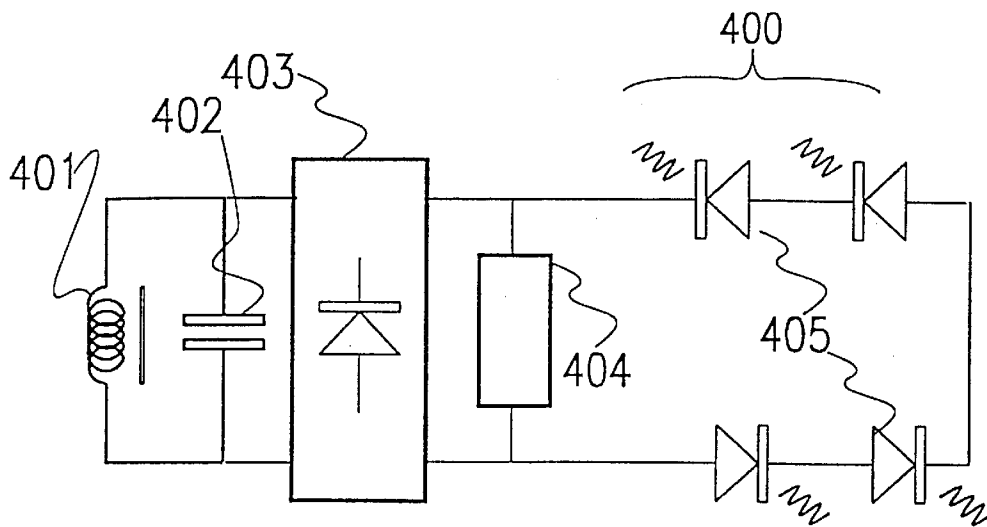


Fig 4

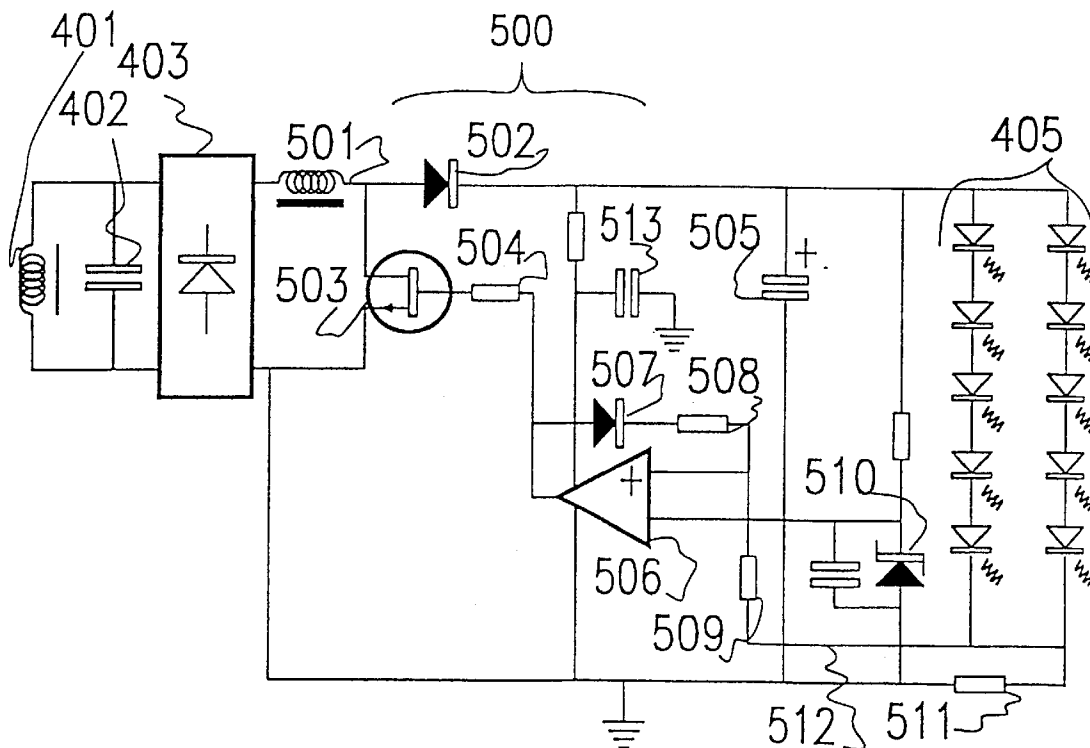


Fig 5

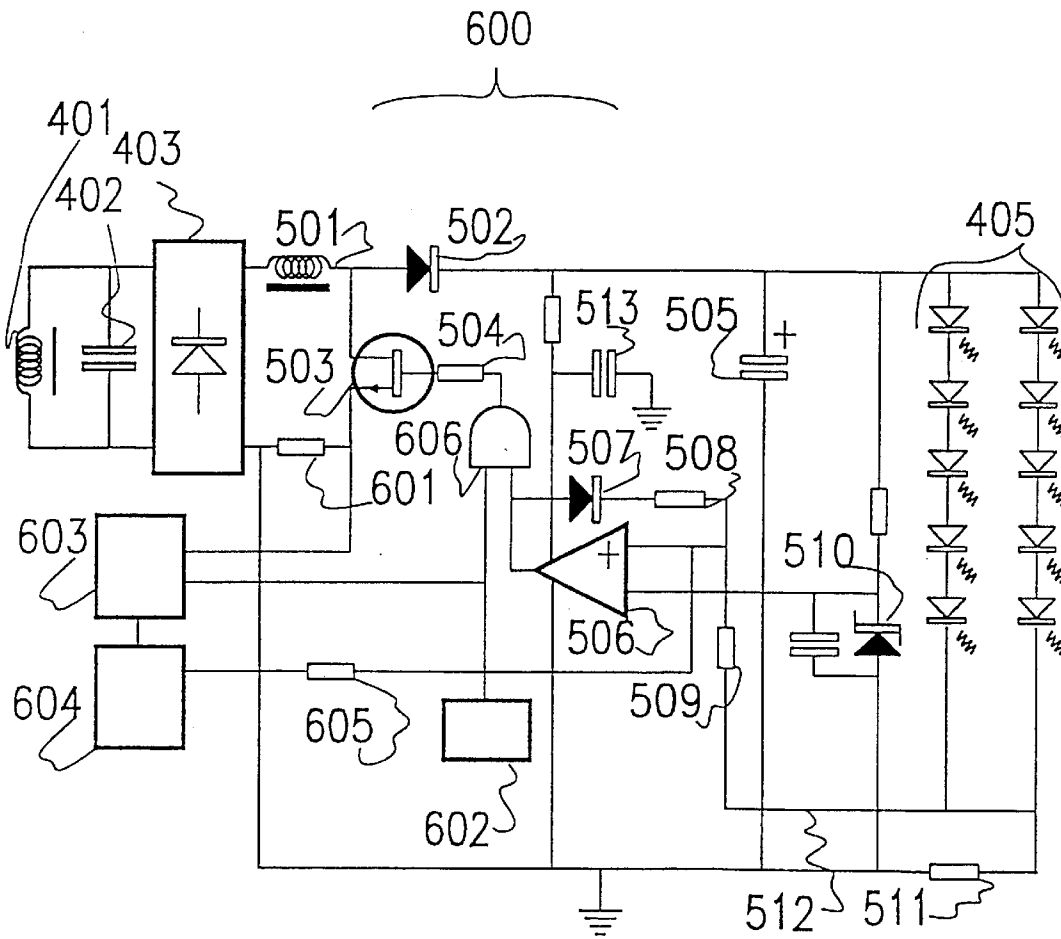


Fig 6

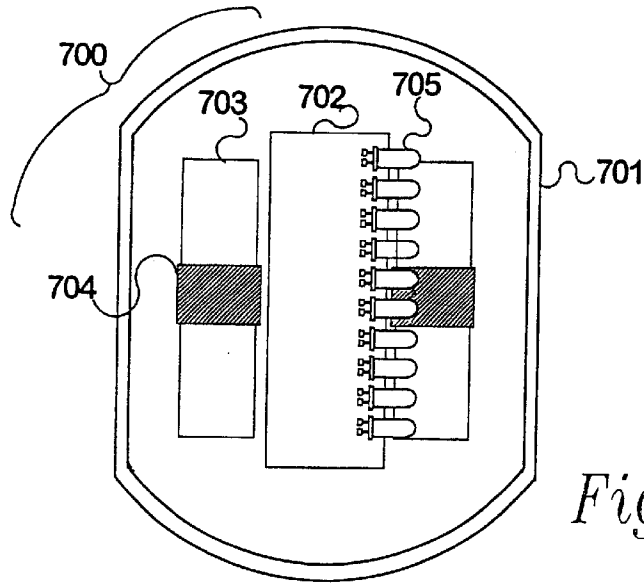


Fig 7

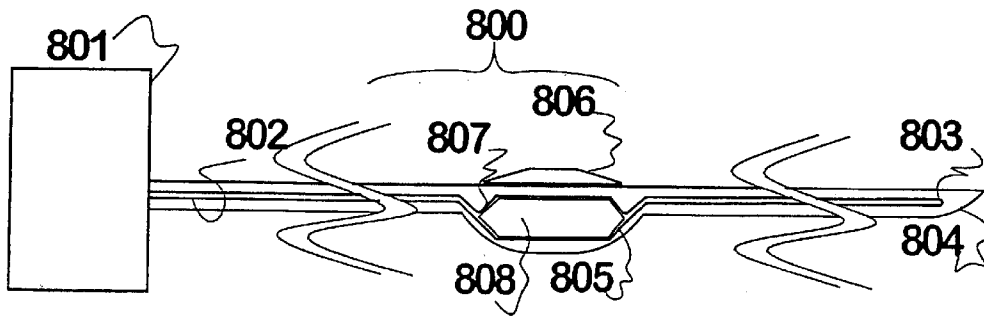


Fig 8

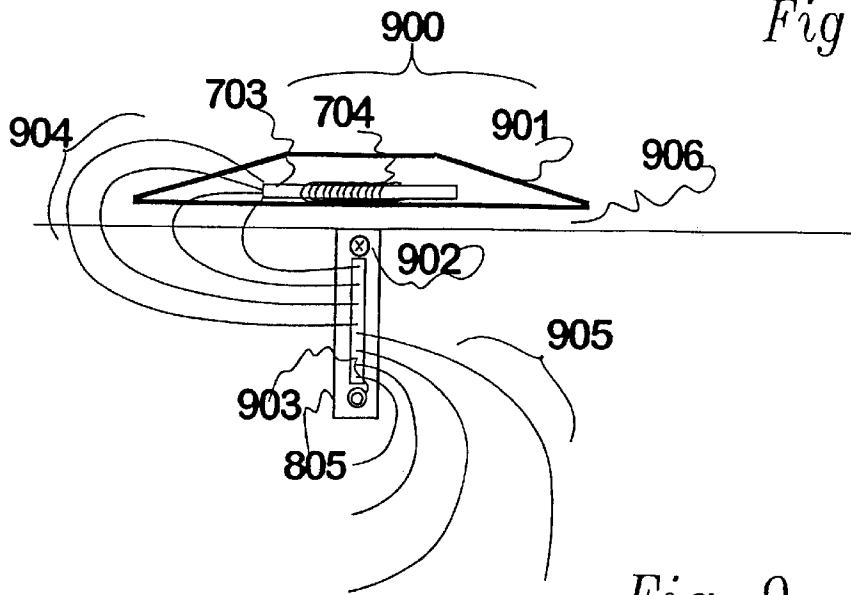


Fig 9

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