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(12) **United States Patent**
Sabo

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(54) **ALIGNMENT INDEPENDENT AND SELF
ALIGNING INDUCTIVE POWER TRANSFER
SYSTEM**

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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 81 days.

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Related U.S. Application Data

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1999.

(51) **Int. Cl.**⁷ **H02J 7/00**

(52) **U.S. Cl.** **320/108; 307/104**

(58) **Field of Search** **320/108; 307/104,**
307/150; 336/40, 118, 119, 130, 131

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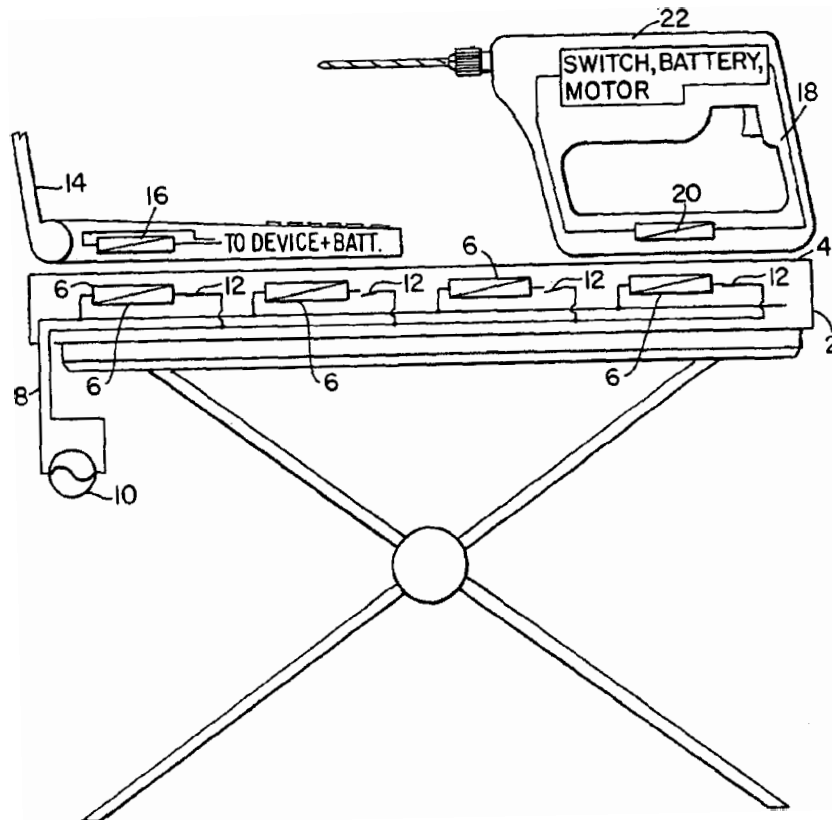
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(57) **ABSTRACT**

An inductive power transfer device is provided for recharging cordless appliances. The device includes a plurality of inductors arranged in an array and connected with a power supply via switches which are selectively operable to activate the respective inductors. The inductors serve as the primary coil of a transformer. The secondary coil of the transformer is arranged in the appliance. When the appliance is arranged proximate to the power transfer device with the respective coils in alignment, power is inductively transferred from the device to the appliance via the transformer.

28 Claims, 4 Drawing Sheets



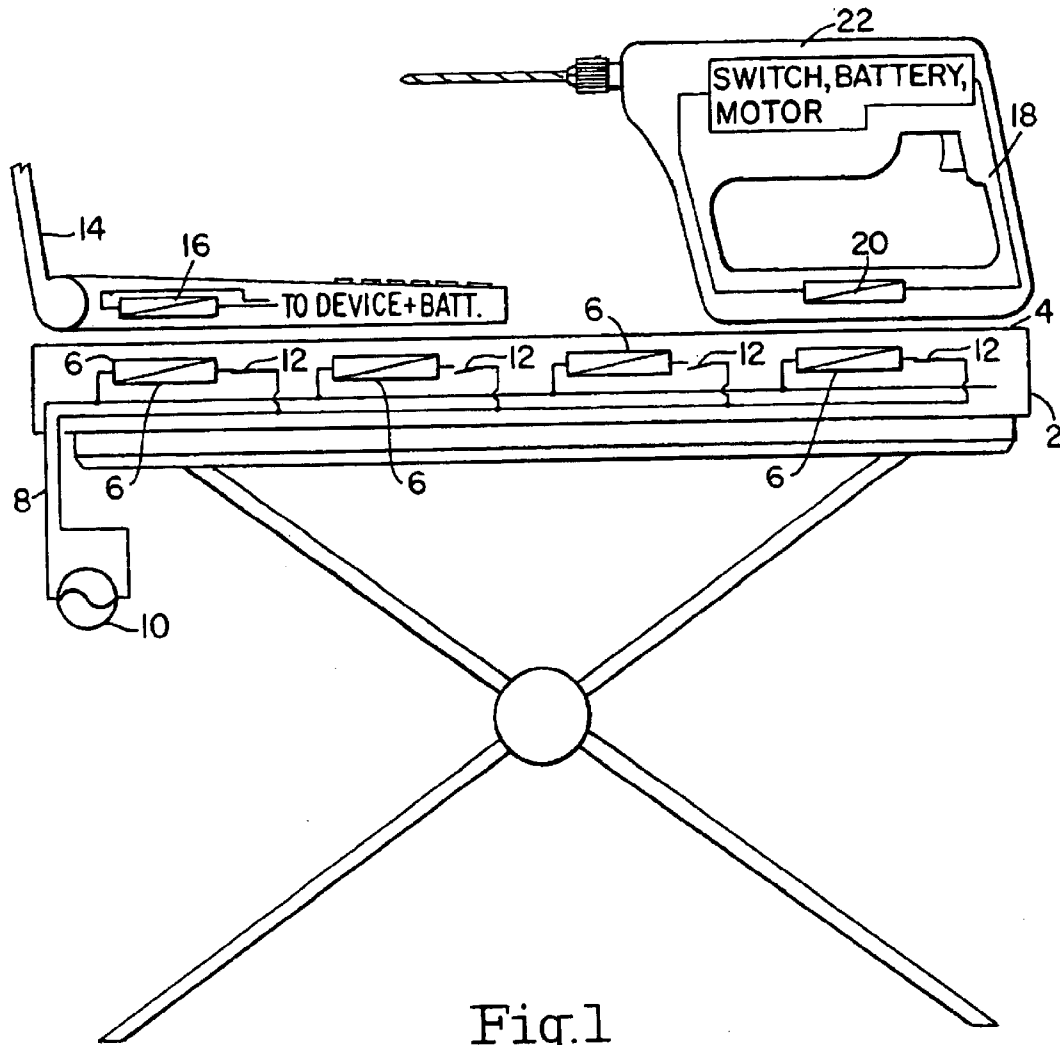


Fig.1

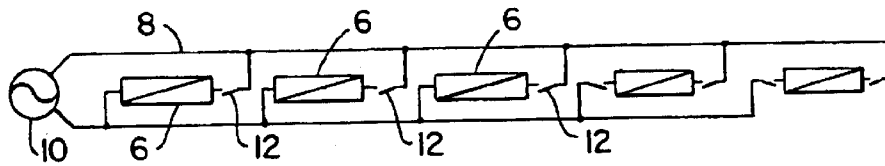


Fig.2

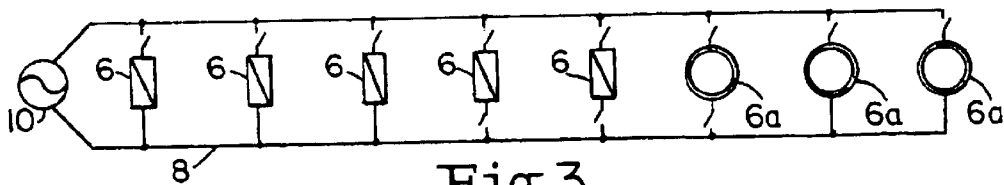


Fig.3

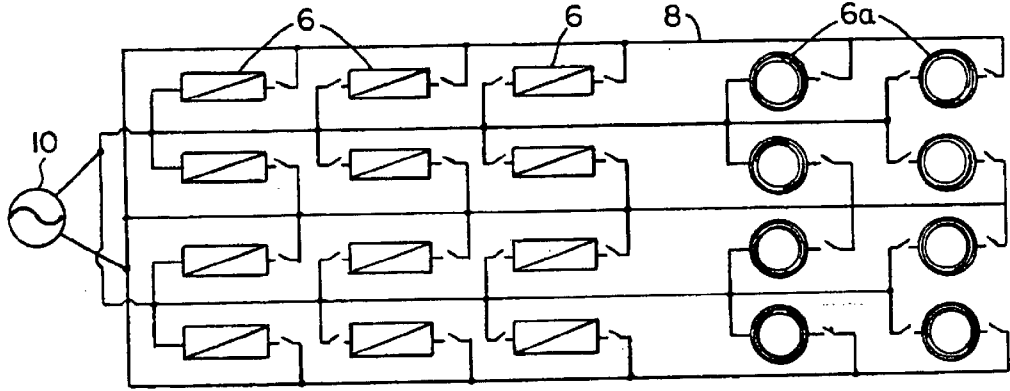


Fig. 4

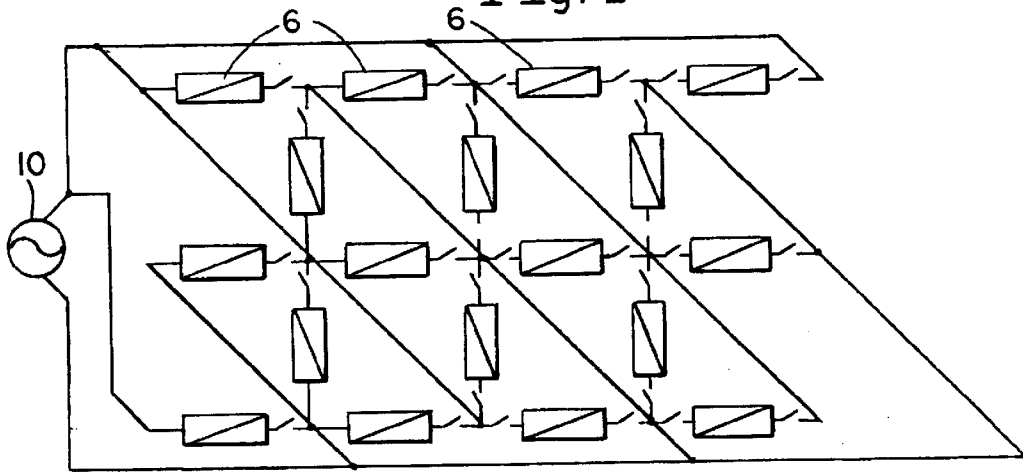


Fig. 5

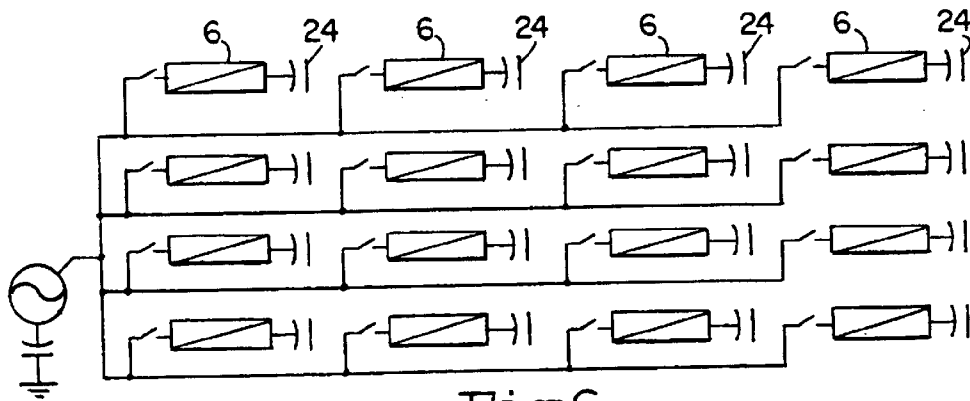


Fig. 6

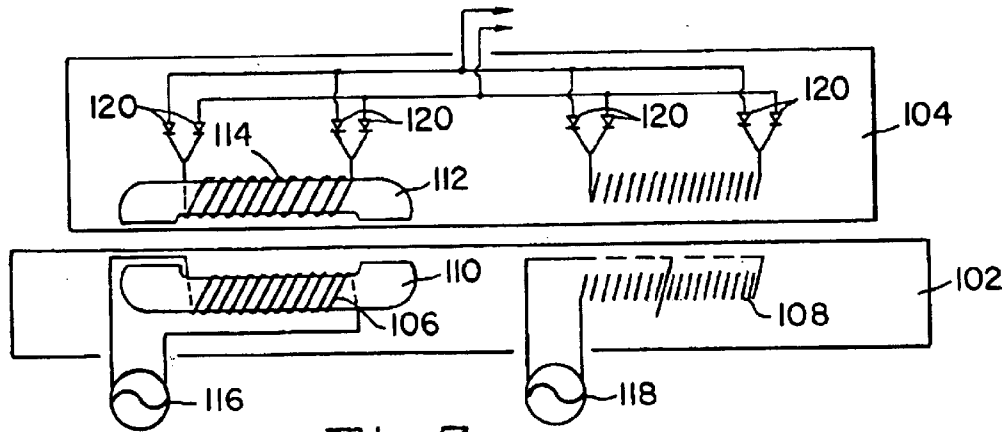


Fig.7

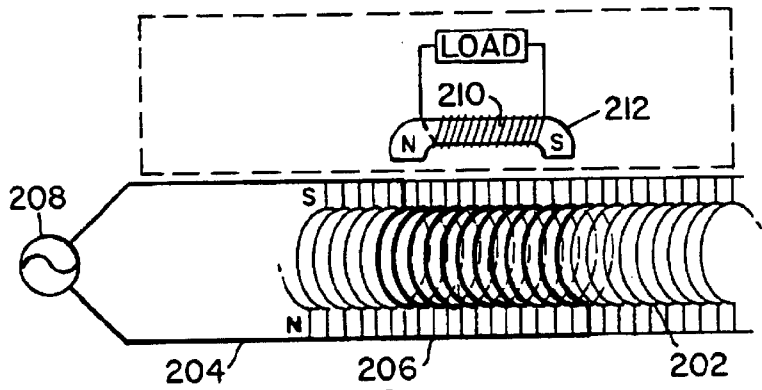


Fig.8

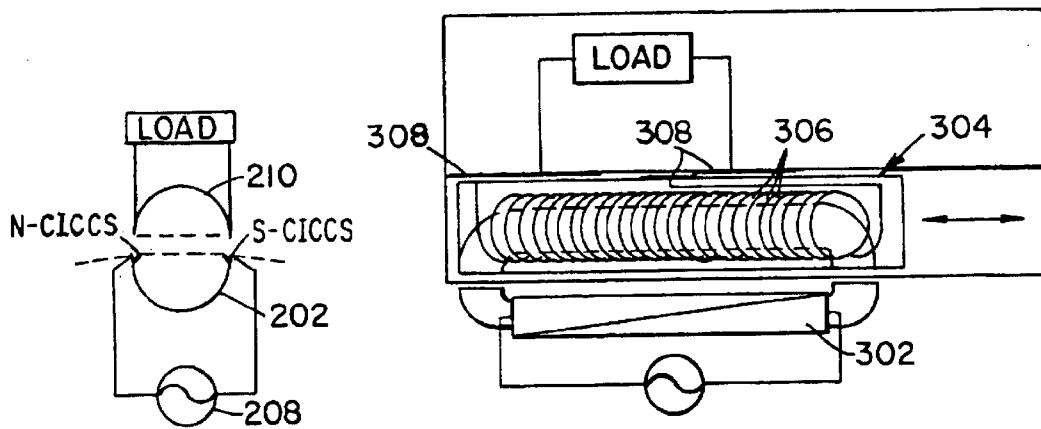
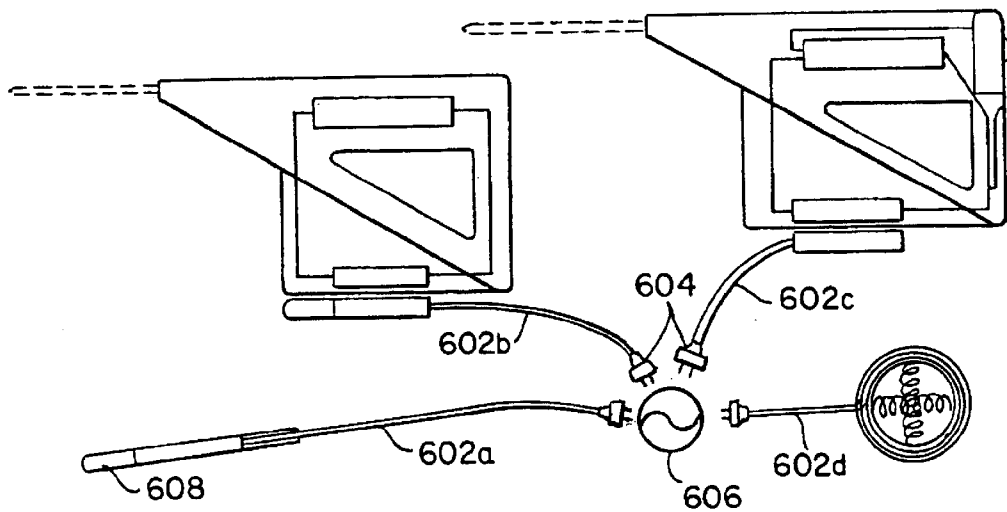
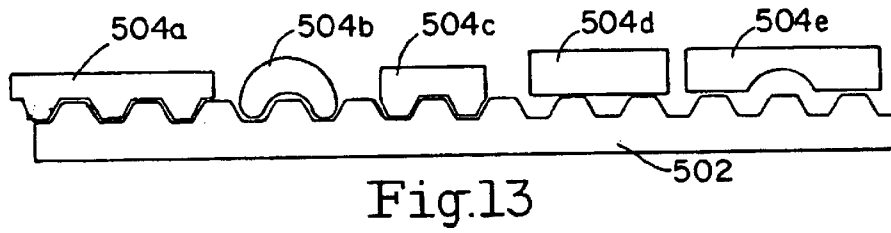
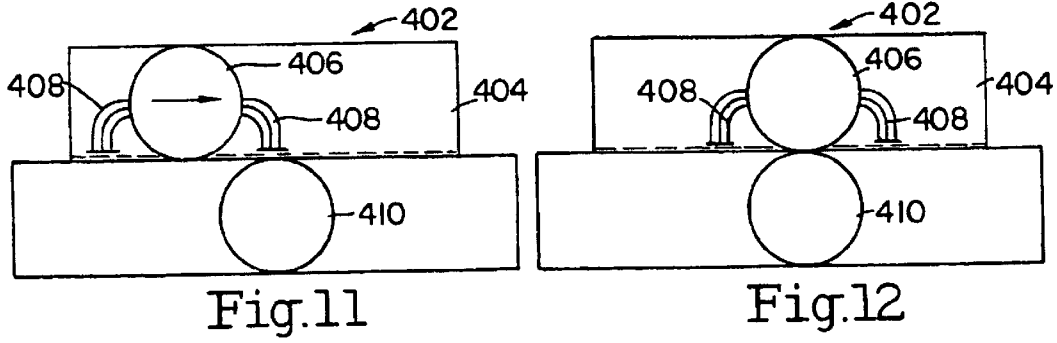


Fig.9

Fig.10



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