Magnetic Resonant Storage for Energy Transmission

A Research and Development to Product Proposal

In the current technological age, energy generation, storage, and transfer present core engineering problems to an increasingly dependent society upon such media. This proposal will briefly discuss a method and means of resonant storage and transmission of electrical currents applied to solving real world problems while enhancing the customer experience.

Regarded more generally under the principle of wireless energy transfer, this is a specific type of highly-efficient electrical energy distribution so as to give the user the ability to transmit electrical power transparently at a distance. Enough electrical power can be transmitted so that typical consumer appliances, mobile devices, and robotic care-givers can operate normally without batteries and without wires. Contrastingly, minute quantities of power can be used to cast a net of grid-coordinate power over a body containing cybernetic and other medical implant devices. Alternatively, the emitted energy can be conformed to artistic displays of color and light perhaps leading to active holography. What is key about this type of transfer is that it can be tailor-made to fit those intellectual scenarios which are plausible. Since the system is based on the laws of induction, energy can only transfer when there is a need for it to.

Wireless lighting is a new form of technological expression which has been achieved by private companies as well as device recharging by near-field induction. Energy storage is a completely new technological field perceived to benefit high-density magnetic field containment of energetic reactions such as those in a nuclear fission and fusion. Wireless power generally can be used anywhere where the desire for ridding one's environment of electrical connecting wires is worth the cost of investing. Such a cost would involve the purchase of a 5 kg boxed set of electrical apparatus.

This product operates in a mid-range resonant coupling TEM mode with the cavity tuned to resonate electrical energy at a broadcast wavelength of 6 meters. Typical embodiments are paired sets of fixtures in a home or office where one is tied to a power source such as an outlet while the others are free to be placed about the room or building with an expected range of 10 meters. This range can be extended with transponder units placed at intervals. This particular design emits standing waves wherein a RF signal energizes a field resulting from the arrangement wherein voltage magnifications of 25x have been observed across the cavity. This raised potential allows quantities of electrical current to be smoothly transported from one transmitter to multiple receivers.

Many embodiments of this model exist, too lengthy for this description.

Some of the markets this system could compete in include but are not limited to: energy control and distribution, green, consumer home, consumer electronic, medical, power to roaming devices such as netbooks, tablets and pads, residential and commercial lighting, public transportation, industrial distribution, science-fiction, and high energy containment. These many scenarios exemplify the flexibility of the scheme. Much is known of the principle, as discussed by MIT in 2007 and Intel in 2008 of the present form as well as near-field standardization, Qi, in 2010. These are but a tiny fraction of the application of this work left to be explored in this truly new technological paradigm.

I propose a start-up company, Cartheur Technology Research, investigate and define the scope, application, and reliability of such technology by taking my proof-of-concept model to the prototype phase demonstrating a proposed series of products in cleverly-advertised showings engineered to instill a mental image of its application in a quasi-futuristic, if not altogether utopian setting. I would lead the company and direct its research and development operations. I have a vested interest in the success of this project for career reasons including the completion of my dissertation on the subject. My work has led me to believe that such technology has lain vastly dormant over the history of electrical engineering which could dramatically improve the lives of many people across many economic groups within a reasonably short period of time.

I have filed a non-provisional utility patent in the United States and have priority established through the patent cooperation treaty (PCT) over any like patents filed in the UK, EU, Australia, and Japan. I can offer portions of the intellectual property to be shared with an investor. The investment will fund the research and development of prototypes where meeting roundtables will decide which application is best to market pending further investment to manufacture the full product.

This opportunity is new and potentially vast considering the involvement of the members of the Wireless Power Consortium. By the momentum generated, it is reasonable to assume a mass-consumer market can be created given the tone of public demonstrations and intelligent product lines of modest cost. A similar strategy to Apple products seems compatible given the seemingly mythical properties assigned to wireless power in the public imagination.

Going wireless has always been cool. Let's take it to the next level.

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