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Azure

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[54] **COMPLEX FREQUENCY PULSED ELECTROMAGNETIC GENERATOR AND METHOD OF USE**

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[58] Field of Search 600/10, 11, 13, 600/14, 26, 27; 607/88, 90, 1, 103, 69-71; 361/230, 232, 229; 313/153, 154

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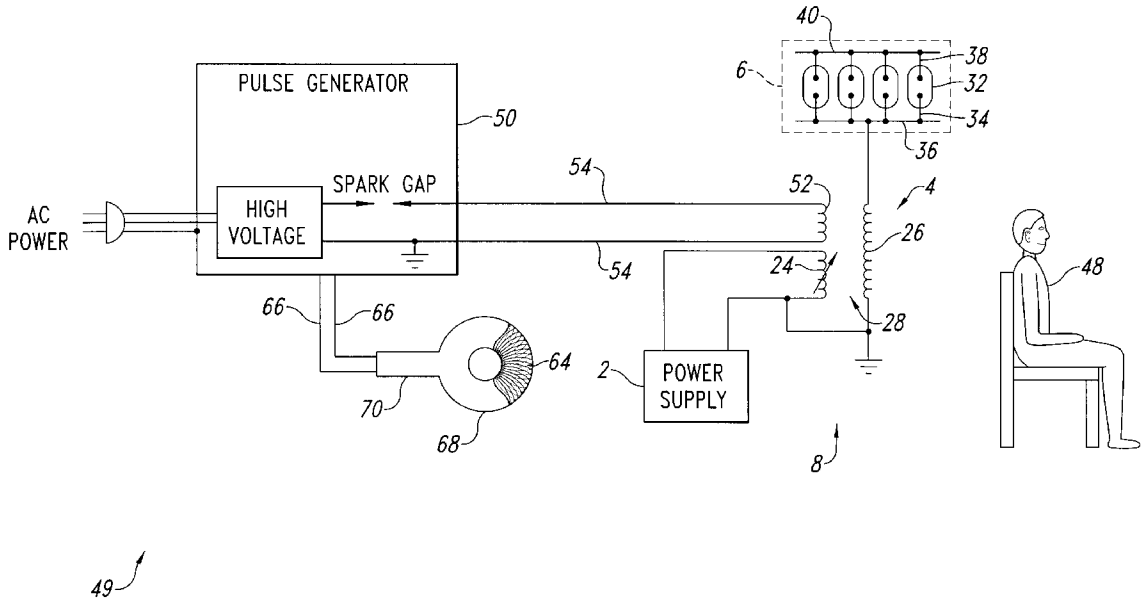
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[57] **ABSTRACT**

A pulsing electromagnetic field is generated by a tuned Tesla coil, and a plurality of pulsed signals having selected frequencies synchronously with the pulsing magnetic field. A patient is placed proximate to the Tesla coil to receive the pulsing electromagnetic field and the pulsed signals. A second pulsing magnetic field is generated to be applied to a selected portion of the patient. Methods for treating patients afflicted with a variety of conditions is also disclosed.

17 Claims, 3 Drawing Sheets



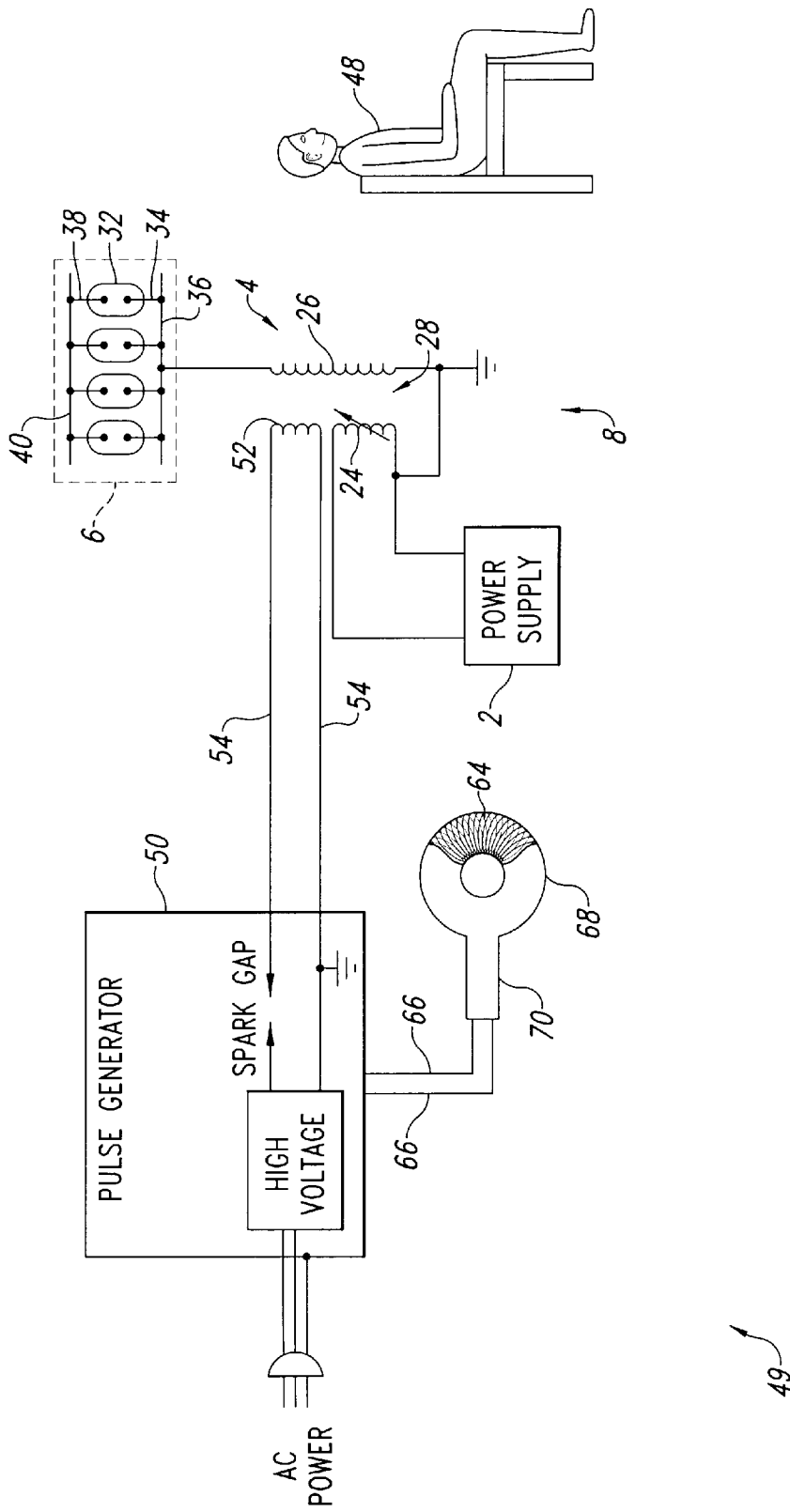


Fig. 1

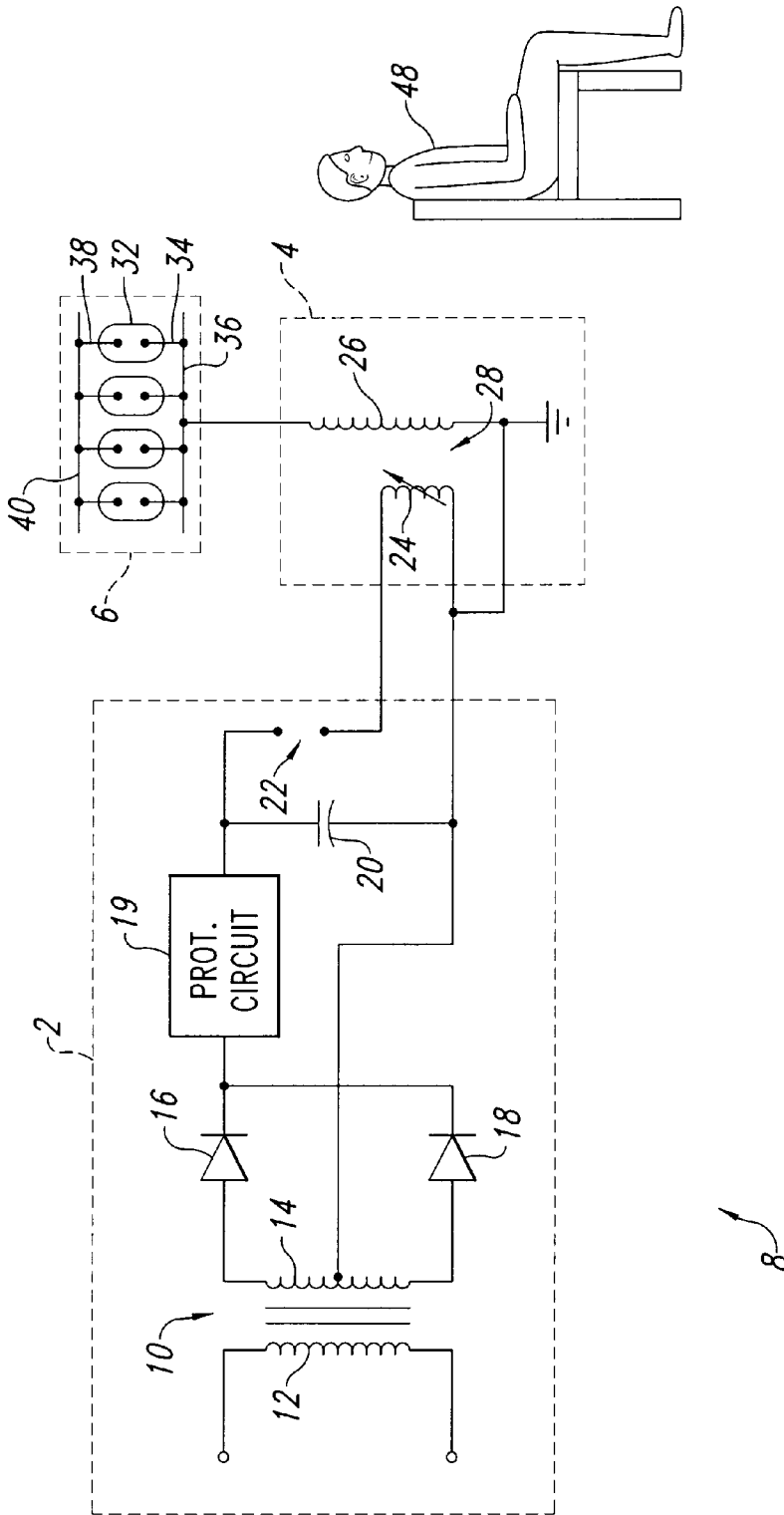


Fig. 2

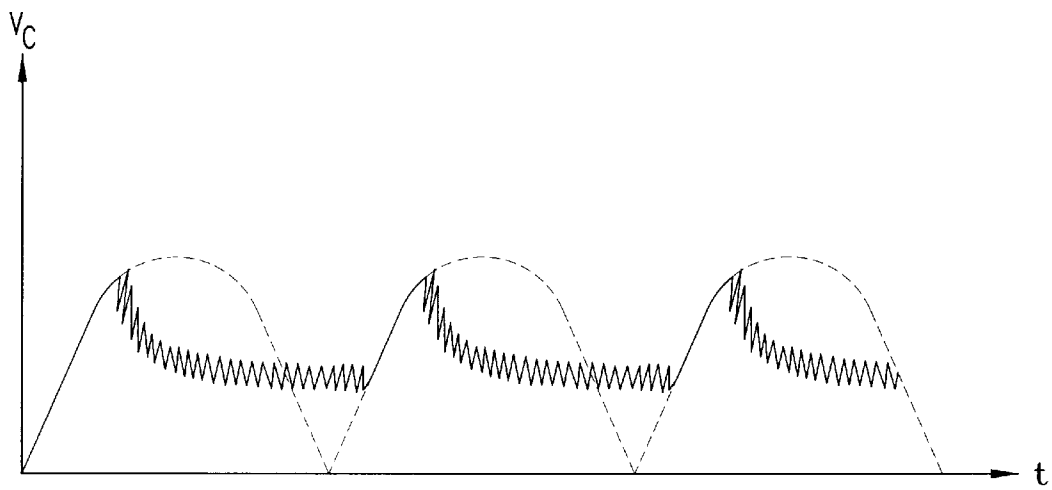


Fig. 3

COMPLEX FREQUENCY PULSED ELECTROMAGNETIC GENERATOR AND METHOD OF USE

TECHNICAL FIELD

This invention relates to pulsed electromagnetic fields, and more particularly, to a system and method for the treatment of various diseases, including AIDS-related illnesses using complex frequency pulsed electromagnetic fields.

BACKGROUND OF THE INVENTION

Individual cells in a patient are electrochemical units having a metabolic chemistry with both electrical and chemical properties. Each cell is surrounded by a membrane which acts a "battery" that is continually recharged by the metabolic chemistry of the cell. The cell supports an electrical potential across the membrane, called a transmembrane potential (TMP), which varies in a healthy cell from about 70 to 100 millivolts.

When the energy level (bioenergy) of a "sick" cell is reduced by trauma, disease, parasitic infection such as HIV or malnutrition, the TMP falls along with the biochemical metabolism, especially production of adenosine triphosphate (ATP), until the cell either recovers, undergoes mitosis or dies.

Harmless irradiation of the body by exogenic, non-ionizing pulsed electromagnetic fields (PEMFs) for short periods (i.e., minutes) at long intervals (i.e., days or weeks) has been shown to be highly effective in relieving pain, healing trauma and clearing or controlling infections.

The healing of diseased or damaged cells is enhanced by the application of electrical current directly to an area of the body, or by exposing an area of the body to an electromagnetic field to induce an electrical current in the diseased or damaged cells. The added current aids healing by raising the TMP and restoring energy to the cells. The electrical current supports the exchange of potassium and sodium ions, and facilitates the production of adenosine triphosphate (ATP). Normal healthy cells are not adversely affected by the added current because a membrane with a normal TMP will not accept additional charge.

Electromagnetic fields have been applied to treat a number of diseases. For example, cancer cells have been exposed to electromagnetic fields. It is believed that, as a typical cancer cell grows, its TMP falls. The growing cancer cell will undergo mitosis when its TMP falls below a threshold. The application of an electromagnetic field can maintain the TMP of a cancer cell above the threshold to prevent the mitosis from occurring. As a result, the cancer cell grows too large for its membrane and cannot absorb sufficient nutrients to survive. Eventually, the cancer cell dies. Electromagnetic fields have also been applied to treat bacterial infections, relieve pain, and to eliminate tapeworm and hookworm infestations.

The reaction of various species of sick cells is frequency dependent. However, the frequencies required by specific cells is not readily determined. Accordingly, there is a need in the art for a system and method for treating individuals with complex frequency PEMFs. The present invention provides this, and other advantages as will be apparent from the following figures and accompanying detailed description.

SUMMARY OF THE INVENTION

In one embodiment, the present invention is directed to an apparatus for generating pulsed electromagnetic fields. The

apparatus includes a signal generator circuit generating first voltage pulses. A resonant circuit having a first coil is coupled to the pulse generator circuit and receives the first voltage pulses. The resonant circuit generates a first pulsing electromagnetic field in response to the first voltage pulses. The apparatus also includes a second coil coupled to the pulse generator circuit to receive the first voltage pulses. The second coil generates a second pulsing electromagnetic field in response to the first voltage pulses. The first and second pulsing electromagnetic fields are time-synchronized with each other by the first voltage pulses.

The pulse generator circuit may comprise a plasma discharge circuit. Alternatively, the pulse generator may comprise first and second electrodes spaced apart from each other at a variable distance and generating a short duration plasma discharge between the first and second electrodes at a predetermined time interval. In an exemplary embodiment, the pulse generator generates the first voltage pulses at variable time intervals. Alternatively, the pulses may be generated at a predetermined fixed time interval. The pulse generator is inductively coupled to the resonant circuit by a third coil. The first pulsing electromagnetic field encompasses frequencies in the radio frequency spectrum.

The system may also include a light emitting system including at least a first translucent gas-filled tube. The light emitting system emits an electromagnetic signal having one or more selected frequencies in response to the first pulsing electromagnetic field. The light emitting system may include a plurality of translucent gas-filled tubes, each containing a selected gas to emit light at a wavelength corresponding to the selected gas.

The apparatus of this invention may be used for the therapeutic treatment of a patient wherein the patient is positioned in proximity with the resonant circuit so as to be generally subjected to the first pulsing electromagnetic field throughout the whole body. The second coil is positionable in proximity with a selected portion of the patient to subject the selected portion of the patient's body to the second pulsing electromagnetic signal.

In another embodiment, a method is disclosed for treating AIDS in a patient in need thereof by use of a bio-electric light simulating unit. In the inventive method, the patient is seated in proximity with a bio-electric stimulator unit and generally exposed to pulsing electromagnetic fields. The method may also include the generation of electromagnetic signals having wavelengths in the visible light region. The patient is exposed generally to the pulsing electromagnetic field and the pulsing light emissions for a period of time necessary to treat the individual patient.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic diagram of an apparatus for generating several electromagnetic fields according to an embodiment of the invention.

FIG. 2 is a schematic diagram of a bio-electrical light stimulator unit used in a treatment method of the present invention.

FIG. 3 is a waveform automatically generated by the system of FIG. 2.

DETAILED DESCRIPTION OF THE INVENTION

Electromagnetic fields are increasingly being used to treat diseases in both human and animal patients. Individual cells in a patient function in an electrical environment which