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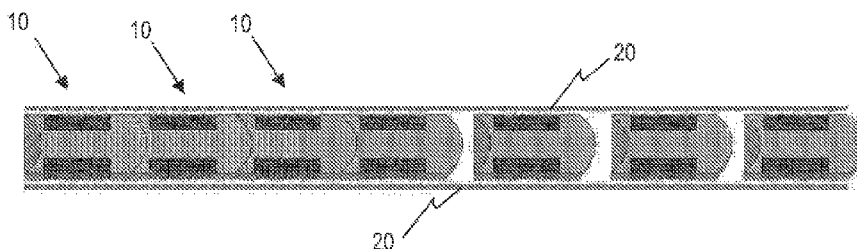


FIG. 5

(57) Abstract: The present invention provides an electromagnetic device comprising: a power circuit, and a contact initiated electro-magnet having an electrical coil in operable connection with the power circuit, wherein one end of the electrical coil is directly connected to the power circuit and the other is connected to the magnetic core of the electromagnet such that, in use, the magnetic core performs the dual purposes of (i) focusing the electromagnetic field created by the coil and (ii) forms part of the electrical circuit that energizes the magnetic core of the electromagnet. Multiple electromagnetic devices may be combined to form a kinetic device capable of creating an electrically-based movement device that mimics the form and function of the skeletal muscle through the use of multiple contact initiated electromagnets held within elastic tubes.

