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Burnett et al.

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(45) **Date of Patent: Mar. 2, 2004**

(54) **METHOD AND APPARATUS FOR ELECTROMAGNETIC STIMULATION OF NERVE, MUSCLE, AND BODY TISSUES**

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(51) **Int. Cl.**[7] **A61N 1/00**
(52) **U.S. Cl.** **607/2**; 607/149; 607/155
(58) **Field of Search** 600/9, 13–15; 607/2, 48, 50, 149, 155

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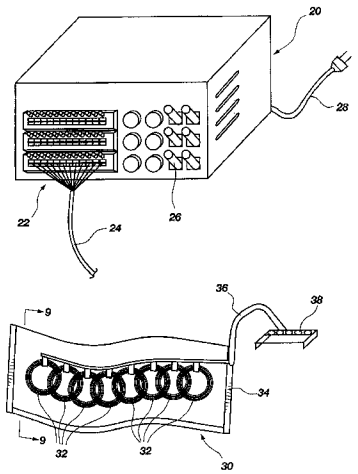
(57) **ABSTRACT**

An electromagnetic stimulation device which is comprised of a plurality of overlapping coils which are able to be independently energized in a predetermined sequence such that each coil will generate its own independent electromagnetic field and significantly increase the adjacent field. The coils are co-planar and are disposed in an ergonomic body wrap, which is properly marked to permit an unskilled patient to locate the body wrap, on a particular part of the body, of the patient so that the stimulation coils will maximize the electromagnetic stimulation on the selected nerves, muscles, and/or body tissues near the treated area. The device can be used to treat medical conditions including: muscular atrophy, neuropathic bladder and bowel, musculoskeletal pain, arthritis, as well as possible future applications in the prevention of deep vein thrombosis and weight reduction.

10 Claims, 3 Drawing Sheets



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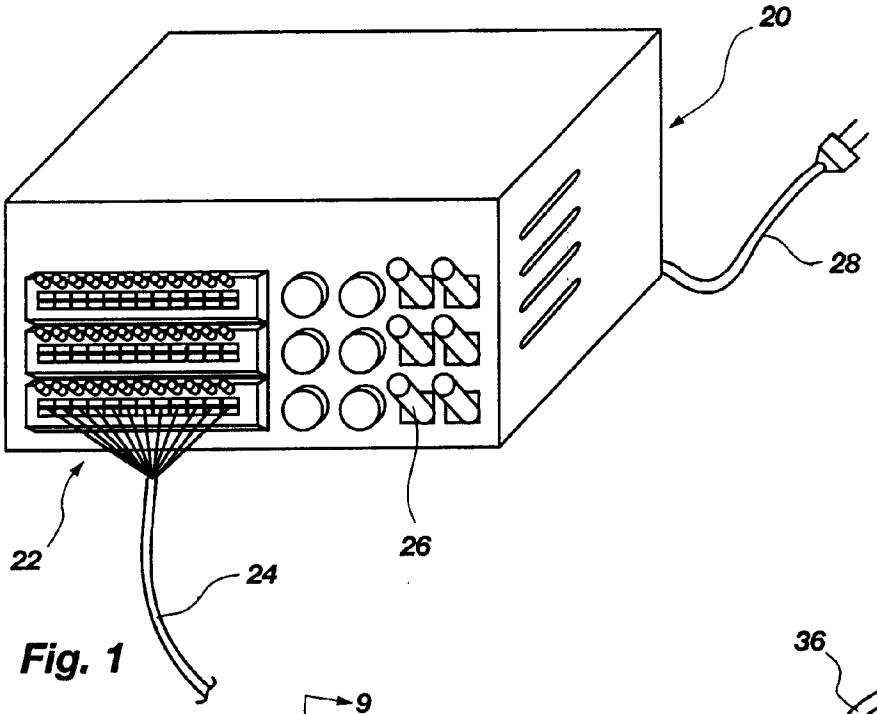

Fig. 1

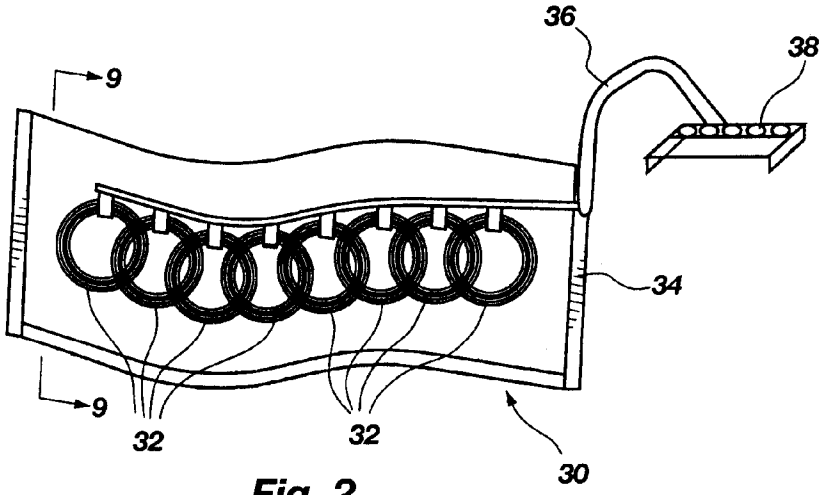

Fig. 2

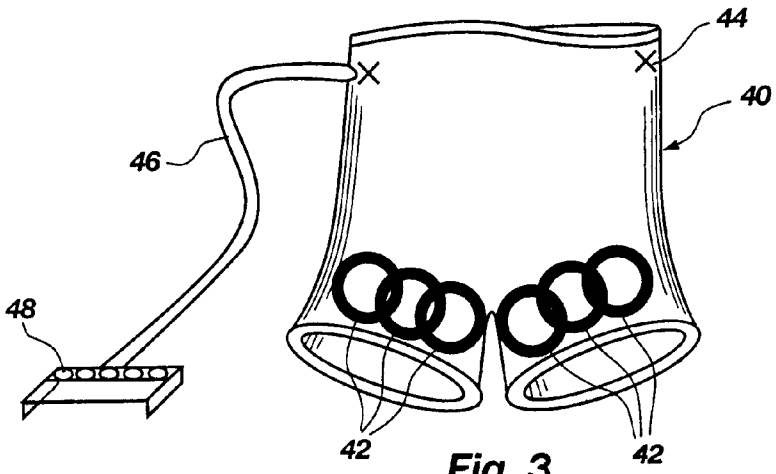

Fig. 3

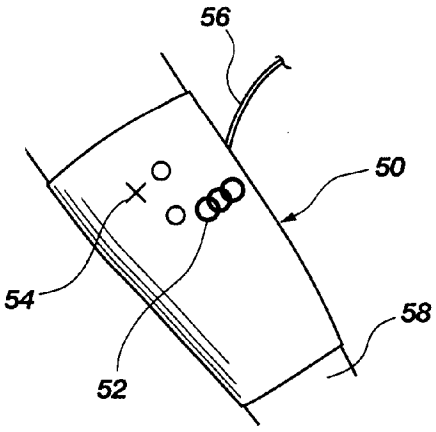

Fig. 4

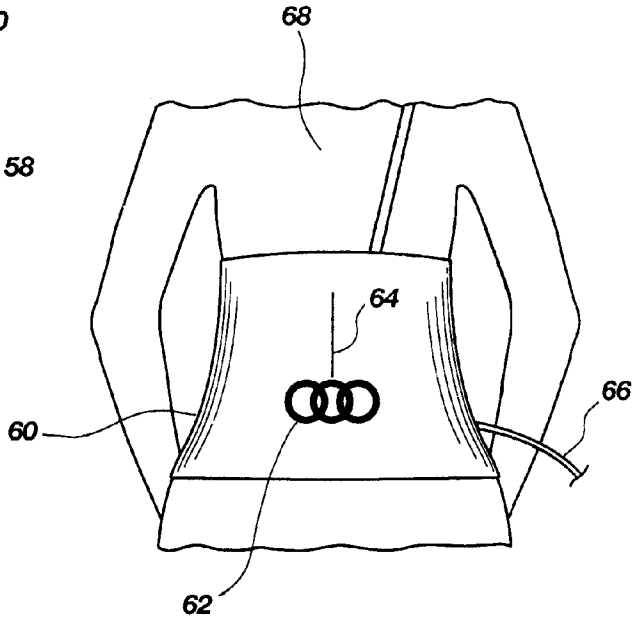

Fig. 5

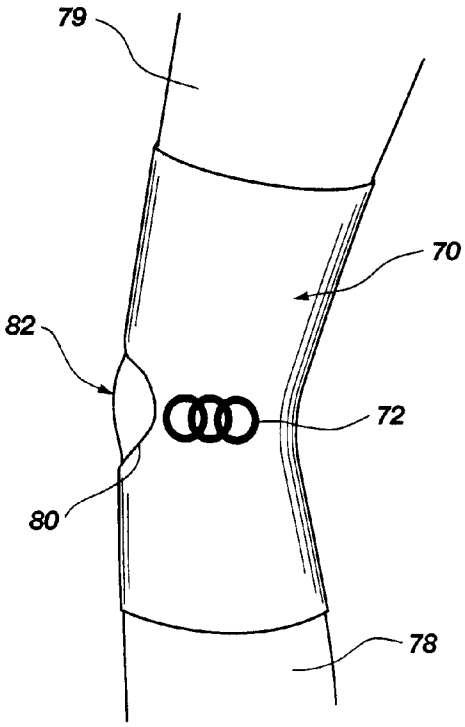

Fig. 6

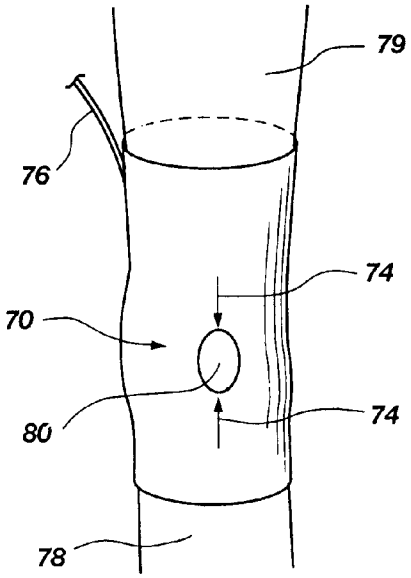

Fig. 7

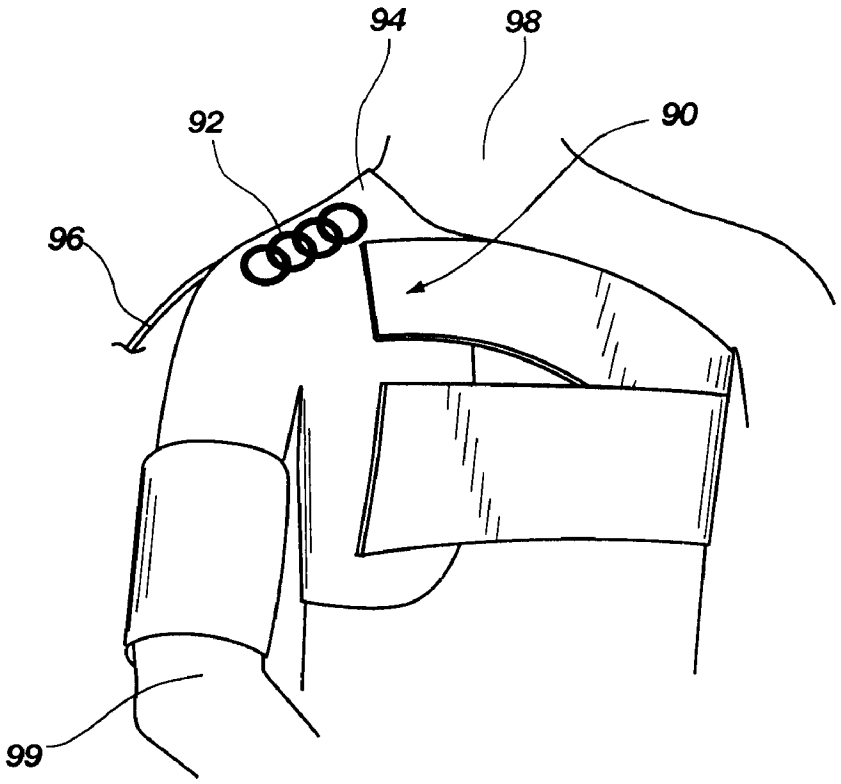

Fig. 8

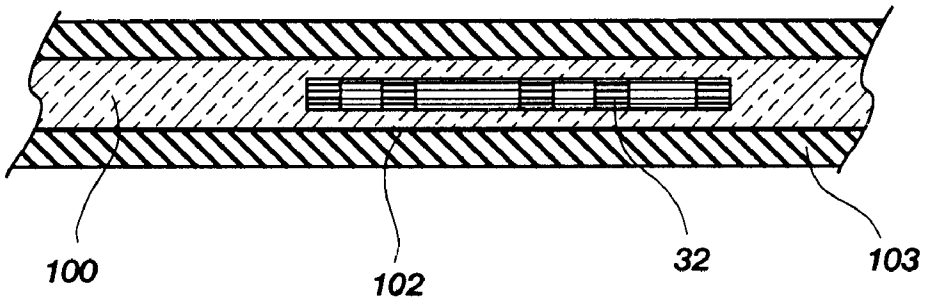

Fig. 9

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