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(54) Title: INTRAVAGINAL ELECTRICAL STIMULATION DEVICE FOR TREATING FEMALE PELVIC PAIN

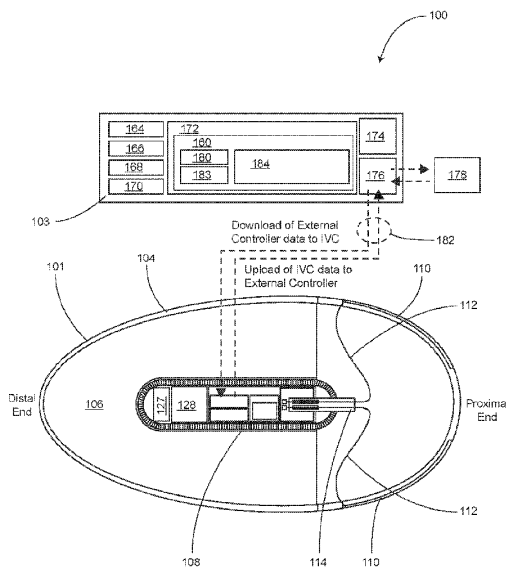


FIG. 24

(57) Abstract: An intravaginal electrical stimulation device for treating pelvic pain in a female patient comprises a set of intravaginal components and an external controller. The intravaginal components include a frame, at least one pair of paracervical electrodes embedded in the proximal portion of the frame, an intravaginal capsule, an electrode plug that plugs into a socket in the proximal end of the capsule, and connecting wires that electrically couple the electrode plug to the paracervical electrodes. The intravaginal components are designed to be inserted into the patient's vagina so that the paracervical electrodes are in direct contact with the vaginal epithelium in the lateral vaginal fornices. Electronics, including a microprocessor and an electrical stimulation generator, are configured to generate and transmit low-voltage electrical current to the paracervical electrodes to create an electrical field that neuromodulates the pelvic and paracervical nerves, the nerves that innervate the uterus, and other anatomical structures of the lower pelvis, which tends to reduce or eliminate pelvic pain. The set of intravaginal components are configured so that a woman can easily insert them into her vagina (with or without a medical practitioner being present). The external controller, which communicates with the intravaginal components over a wireless data communication channel, sends instructions to and receives status updates from the microprocessor inside the intravaginal capsule. The external controller may be operated by the female patient to control the electrical profile (e.g., frequency, amplitude and duration) of the electrical stimulation delivered to her body, and thereby cause the intravaginal components to deliver well-controlled, personalized, electrical stimulation to her pelvic and paracervical nerves when she is experiencing pain, or when she

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anticipates the onset of pelvic pain due to, for example, menstruation or sexual intercourse.