



TECHNOLOGY LICENSING OFFICE

4301 West Markham Street, #831

Little Rock, AR 72205

501.686.6696

email: nmgray@uams.edu

BV 2016-12 - *Securing Device for Intracranial Electrode*

APPLICATION: Securing an intracranial electrode for deep brain stimulation

SUMMARY: Currently, there are multiple devices for securing an intracranial electrode. One of the most common securing devices for the electrode is a plastic round structure that secures onto the skull using two 4mm screws. The electrode is then passed through the round structure. A small plastic insert is placed around the electrode and snaps into the securing device. A small limb then closes around the electrode to secure it in place. The electrode is then placed in the groove of the initial round structure and a small plastic cap pops on to secure the electrode. The device may sit approximately 4mm above the skull and is often a site of skin erosion. Other technologies include a silicone ring that fits inside the burr hole, where the electrode passes through a hole in a securing device and then a cap is placed. With placement of the cap the electrode is often advanced a couple of millimeters. Another technology uses mini dog bone plates to secure the electrode to the skull. These can rub the insulation off the electrode over time. Others may simply fill the burr hole with cement. This can cause dislodgement and makes removal of the electrode difficult.

The present invention provides a novel clamp design to secure the electrode in a way that prevents advancement of the electrode and erosion of the insulation. The design of the electrode also prevents skin erosion around the implantation site. Additionally, the securing device is designed to provide for easy repositioning or removal of the electrode.

Patent application pending.