CLAIMS

1. A tissue electrical stimulation electrode comprising:

- a first conductive plate; and
- a second conductive plate surrounding the first conductive plate, wherein the first conductive plate and the second conductive plate are separated from each other,

the tissue electrical stimulation electrode is characterized by:

- an electric potential barrier established by the second conductive plate;

wherein the electric potential barrier corresponds to a region of tissue with an electric field intensity formed by an electric potential applied by the second conductive plate, which opposes the passage of electrically charged particles, in a direction that depends on an electric charge signal with respect to the first conductive plate.

2. The electrode of Claim 1, wherein at least one of the conductive plates is made of sponge.

3. The electrode of Claim 1, wherein there is at least one additional conductive plate in addition to the second conductive plate.

4. The electrode of Claim 1, wherein between the first conductive plate and the second conductive plate there is a sponge.

5. The electrode of Claim 4, wherein the sponge contains an ionically charged substance.

6. The electrode of Claim 1, wherein the first and second conductive plates consist of a conductive layer with a sponge layer.

7. The electrode of Claim 1, further comprising a layer of insulating material supporting the first conductive plate and the second conductive plate.

8. The electrode of Claim 1, wherein the first conductive plate and the second conductive plate are coated with an insulating material.

9. The electrode of Claim 1, wherein around the second conductive plate there is at least one additional conductive plate, which surrounds the second conductive plate, in a concentric manner.

10. The electrode of Claim 1, for use in a tissue electrical stimulation machine.

11. The electrode of Claim 1, where at least one of the conductive plates is made of a sponge containing an ionically charged substance.

12. The electrode of Claim 11, where the ionically charged substance is a medicine.