

CLAIMS

What is claimed is:

1. An electrode for a conducted electrical weapon (“CEW”), the electrode for providing a current through a human or animal target to impede locomotion of the target, the electrode comprising:
 - a body, the body includes a front wall, a rear wall, and a cavity therein, the rear wall includes an opening;
 - a spear, the spear coupled to the front wall, the spear for coupling the electrode to the target;
 - a filament, the filament is wound in a winding, the winding positioned in the cavity, a first end portion of the filament extends from the cavity via the opening in the rear wall, the first end portion of the filament for coupling to a signal generator to provide the current, the filament for deploying from the cavity via the opening;
 - a pad having a hole therethrough, the pad coupled to the front wall, the spear positioned in the hole of the pad, the pad for decreasing a force of impact of the electrode against the target; and
 - a tensioner having a bore therethrough, the tensioner positioned proximate to the opening, the first end portion of the filament positioned through the bore, an interior surface of the bore contacts the filament thereby applying a force on the filament during deployment of the filament.
2. The electrode of claim 1 wherein the tensioner couples to the rear wall.
3. The electrode of claim 1 wherein the tensioner is positioned with the opening of the rear wall.
4. The electrode of claim 1 wherein a central axis of the bore of the tensioner aligns with a central axis of the opening of the rear wall.
5. The electrode of claim 1 wherein:
 - a diameter of the filament is about 0.015 inches; and
 - a diameter of the bore is about 0.02 inches.
6. The electrode of claim 1 further comprising a wad, wherein:
 - the wad couples to the rear wall; and
 - the tensioner is positioned between the rear wall and the wad.

7. The electrode of claim 6 wherein a hole the wad is positioned axially with the opening.
8. An electrode for a conducted electrical weapon ("CEW"), the electrode for providing a current through a human or animal target to impede locomotion of the target, the electrode comprising:
 - a body, the body includes a front wall, a rear wall, and a cavity therein, the rear wall includes an opening;
 - a spear, the spear coupled to the front wall, the spear for coupling the electrode to the target;
 - a filament stowed in the cavity and deployable via the opening, the filament for receiving the current from a signal generator for providing the current through the target; and
 - a tensioner having a bore therethrough, the tensioner positioned proximate to the opening, the filament deploys via the bore, an interior surface of the bore contacts the filament thereby applying a force on the filament during deployment.
9. The electrode of claim 8 wherein the tensioner couples to the rear wall.
10. The electrode of claim 8 wherein the tensioner is positioned axially with the opening of the rear wall.
11. The electrode of claim 8 wherein a central axis of the bore of the tensioner aligns with a central axis of the opening of the rear wall.
12. The electrode of claim 8 wherein:
 - a diameter of the filament is about 0.015 inches; and
 - a diameter of the bore is about 0.02 inches.
13. The electrode of claim 8 wherein further comprising a wad, wherein:
 - the wad couples to the rear wall;
 - the tensioner is positioned between the rear wall and the wad; and
 - the wad expands to direct a force of a rapidly expanding gas against the body.
14. The electrode of claim 8 wherein the force applied by the tensioner on the filament increases a force of drag on the electrode there by stabilizing flight of the electrode.
15. A deployment unit for cooperating with a provided handle of a conducted electrical

weapon (“CEW”) to provide a current through the target to impede locomotion of the target, the deployment unit comprising:

- a bore having a front-end portion, a rear-end portion, and a central axis;
- a filament having a first end portion and a second end portion;
- an electrode, prior to launch, the electrode is positioned in the bore;
- a propulsion system, the propulsion system for launching the electrode from the bore;
- a guide; wherein:

- the first end portion of the filament extends from the electrode through the front-end portion of the bore, through the guide at the rear-end portion of the bore, and couples to the deployment unit;

- the second end portion of the filament is coupled to the electrode; and
 - the electrode provides the current through the target via the filament; and
 - during and after launch:

- the guide positions the filament proximate to the central axis.

16. The deployment unit of claim 15 wherein the guide positions the filament proximate to at least an initial trajectory of the electrode thereby reducing a force applied by the filament on the electrode that pulls the electrode away from the initial trajectory.

17. The deployment unit of claim 15 wherein:

- the guide is positioned at the rear-end portion of the bore proximate to an opening in the rear-end portion of the bore;

- the opening in fluid communication with the propulsion system, the propulsion system provides a rapidly expanding gas for launching the electrode from the bore; and

- the guide does not impede a flow of the rapidly expanding gas.

18. The deployment unit of claim 15 wherein:

- the guide includes a notch;

- the first end portion of the filament is positioned in the notch; and

- the filament passes through the guide and through the notch to couple to the deployment unit.