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(54) **ANIMAL TRAINING DEVICE** (52) **U.S. Cl. .... 119/859**

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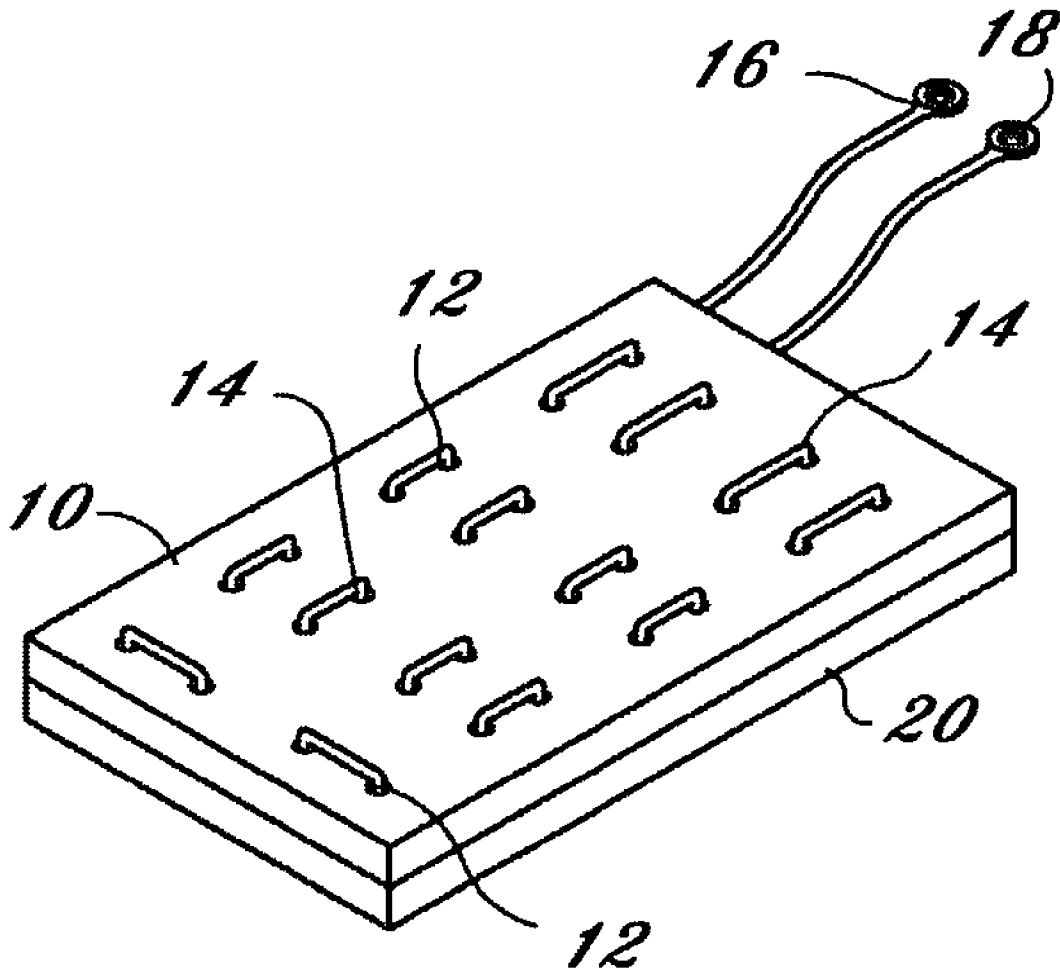
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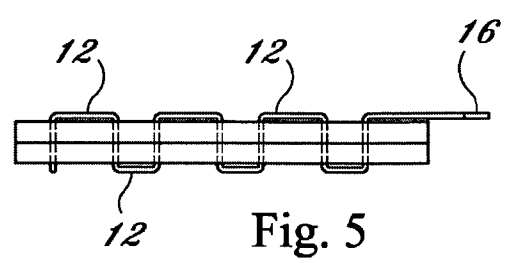
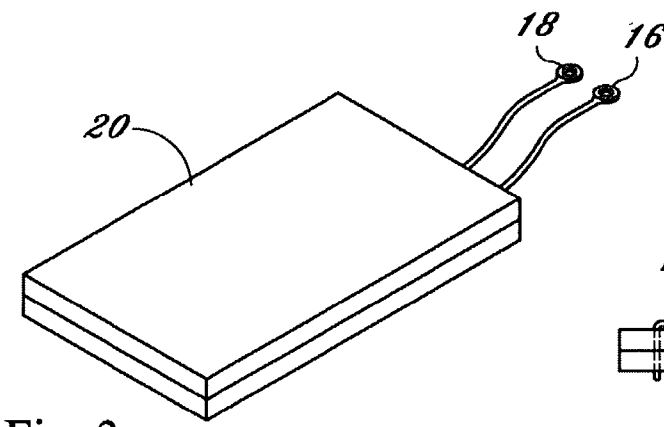
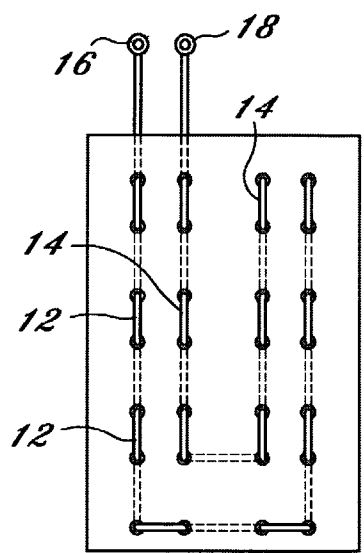
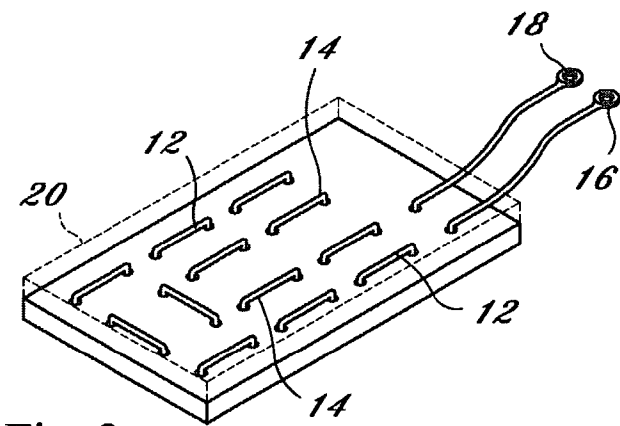
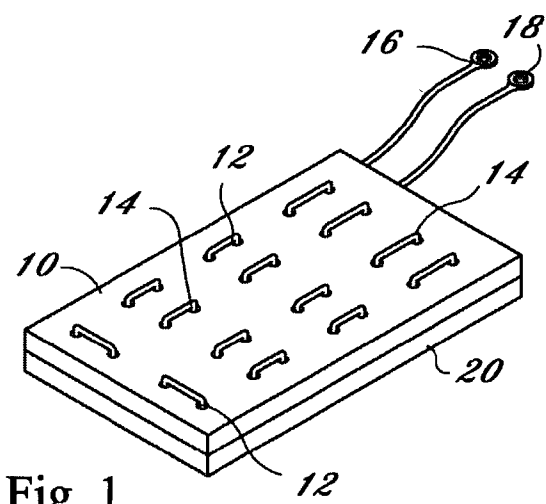
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(57) **ABSTRACT**

An animal training device utilizes high voltage pulses applied between spaced electrical conductors placed in close proximity to the skin of the animal to provide a stimulus useful in training the animal. The conductors are exposed and are substantially flat; and these spaced conductors may be placed side-by-side in a localized area, around the entire inner surface of a collar or strap on an animal's neck, or spaced on the body of the animal in different locations. Alternatively, the conductors may be located on the end of a livestock prod.





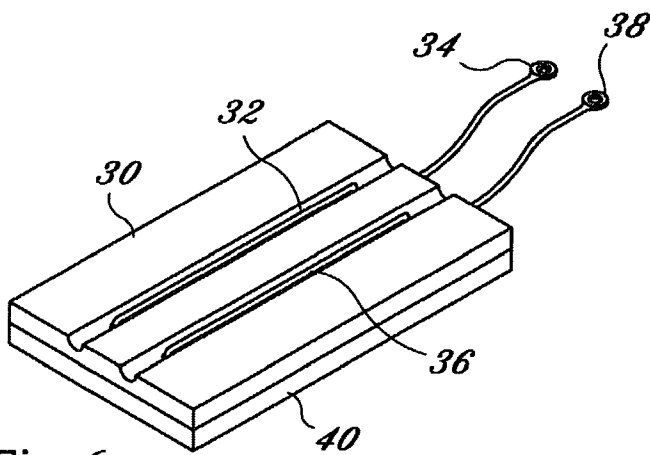


Fig. 6

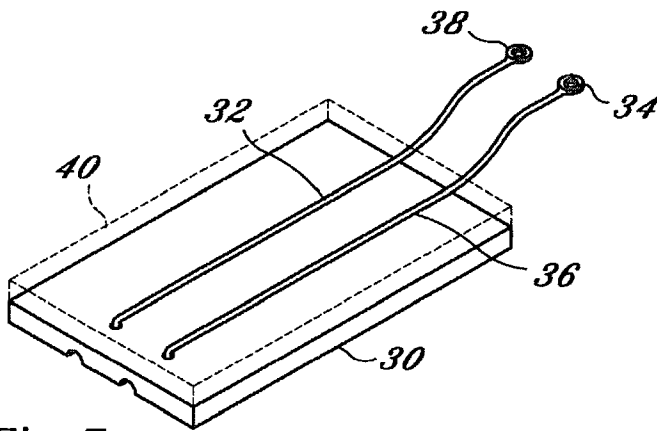


Fig. 7

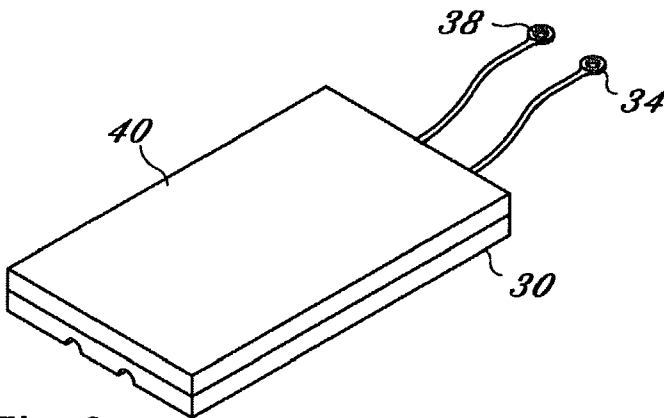


Fig. 8

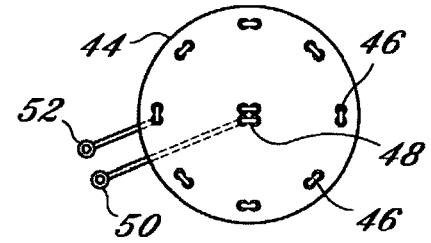


Fig. 9

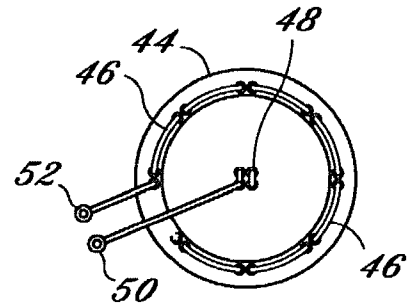


Fig. 10

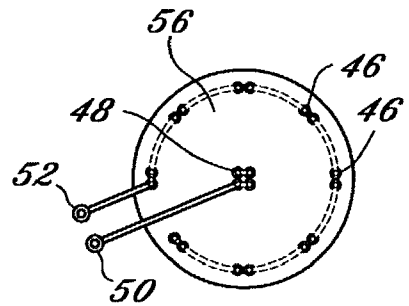


Fig. 11

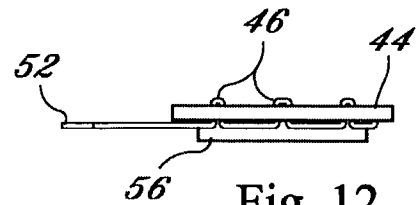


Fig. 12

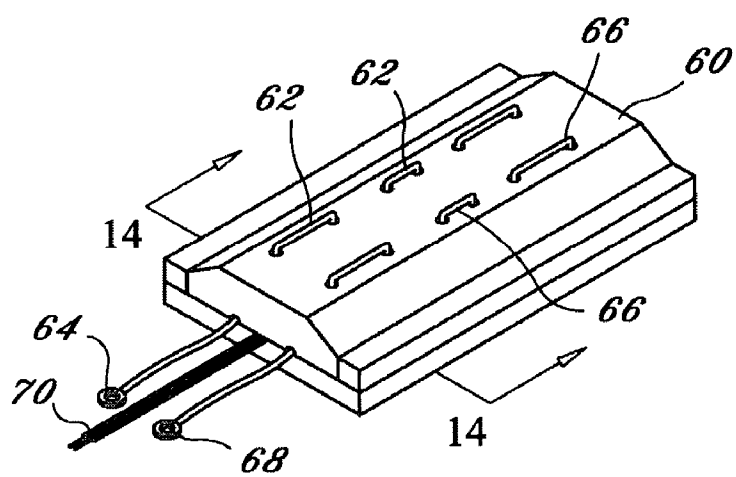


Fig. 13

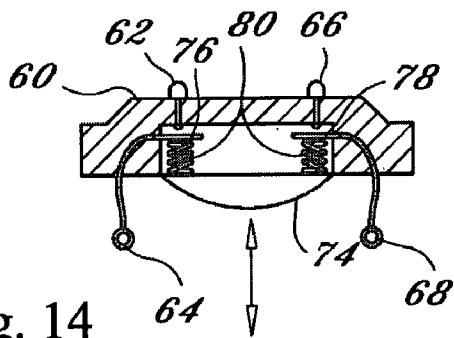


Fig. 14

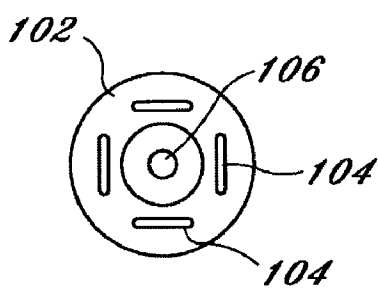


Fig. 16

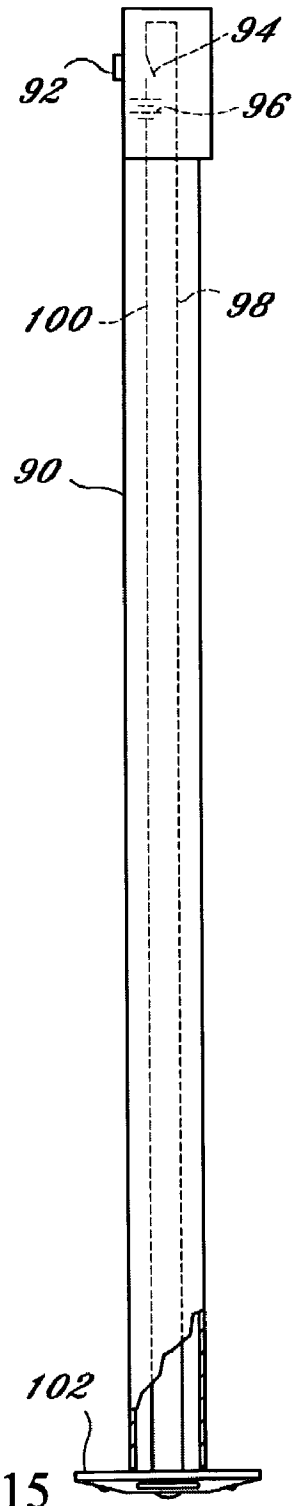


Fig. 15

## ANIMAL TRAINING DEVICE

### BACKGROUND

[0001] In the training of animals, such as dogs and horses, and in the handling of livestock, various techniques are employed by trainers for encouraging or discouraging various responses or behaviors of the animal. Particularly with respect to dogs, encouragement may be effected by means of a small tidbit of food as a reward for desired behavior or responses. For undesirable behavior or responses, for animals of various types, a loud disapproving voice, or a mild physical reprimand or other physical stimulus, often is employed.

[0002] Various devices have been designed for applying a stimulus for undesirable behavior in the form of an electrical stimulus to the neck of the dog undergoing training, or in the case of livestock handling, in the form of an electrical shock delivered through what is known as a "cattle-prod". With respect to dog training, many of these devices include radio signal receiver packs for responding to transmitted signals which trigger or initiate the electrical stimulation, as desired, under the control of the trainer operating a transmitter.

[0003] With respect to such training devices, particularly as used for dogs or similar animals, it has been typical to apply the electrical stimulation directly to the animal's skin. Since animals often carry a fairly large amount of coat over the skin, prior art devices generally use two spaced metal electrodes in the form of small rounded points protruding from the stimulator housing itself, or from the collar worn by the animal. These points are designed to come into contact with the skin of the animal. Devices of these types have been used for many years; and the design of the protruding electrodes is utilized in an effort to ensure that the stimulation is consistently received by the animal on its skin.

[0004] A number of disadvantages exist with respect to the prior art animal training stimulators, particularly of the type worn on the collar strap of the animal, such as a dog. Generally, the stimulator housing contains a battery and electrical circuitry to develop a high voltage charge to be applied across these metal electrodes when a switch (either radio activated or physically activated) is closed. The weight of the housing typically is from four ounces to twelve ounces; and it generally is installed onto a collar strap, which then is placed around the neck of the animal, in most cases. The tightness of the collar strap is extremely important, in order that the end result of the performance of the device is consistent and is as desired. If the collar strap is too loose, the animal does not feel the electrical stimulation consistently. This causes the animal to become confused and not appropriately responsive; or the user is led to believe that the device is faulty and then returns to the seller or discards it.

[0005] If the collar strap on the neck of the animal is too tight, the animal's skin can become irritated due to the rubbing action of the pointed protruding metal electrodes which extend through the coat and contact the skin. If this irritation is not visually observed by the trainer or the user, the irritation may cause open sores which require veterinary assistance.

[0006] Even if the collar strap initially is adjusted properly, during normal daily routines, animals move about causing the tightness to change. This also causes inconsis-

tent performance of the devices using protruding metal electrodes. The weight of the stimulator housing, which generally hangs down beneath the neck of the animal, amplifies the difficulty in attaining the proper tightness control as well.

[0007] Even though the metal electrodes are somewhat rounded on their ends where contact with the skin is made, the overall design of prior art devices still necessarily is a pointed protruding metal electrode subject to the disadvantages noted above. Over the years, various styles of metal electrodes have been attempted, by making them larger in diameter, shorter in length, plastic coated, and the like; but the underlying basic problem with protruding metal electrodes remains, even though such modifications have been attempted.

[0008] In addition, remote controlled electrical stimulation for training of animals has evolved over the years, to the point where lower and lower levels of electrical stimulation (lower voltage levels) are being used. In this manner, animal trainers are learning that less voltage, or less stimulation, is better for training purposes, keeping the animal motivated to perform the desired tasks. As the level of electrical stimulation has been decreased, however, over the years, the interface capability to the skin of the animal such as a dog, from the device, began to reduce or become unreliable. Consequently, this has caused trainers considerable difficulty during training sessions as a result of confusion in the animal undergoing training. In some cases, the stimulation perceived by the animal is at the proper level; whereas even in the same training session, or in a subsequent training session, because of insufficient contact with the skin, the stimulation level differs, even though the actual voltage level being applied to the electrodes may remain the same. Without consistency of stimulation at any desired level, proper training of the animal is rendered more difficult.

[0009] The United States patent to Powell U.S. Pat. No. 4,887,549 is directed to a dog training apparatus which utilizes stimulation electrodes. The patent does not provide a clear disclosure of the nature of the electrodes; but they appear to be in the form of button-like projections. Basically, however, these projections are of the general type described above in conjunction with the prior art in general. In Powell, however, it is stated that there is no need for the electrodes to touch the dog's skin directly; and this is done to eliminate the possibility of abrasions caused by a tight fitting collar with protruding electrodes. The solution in the system of Powell is to provide very high voltage, short duration pulses. By utilizing high voltage pulses, albeit of short duration, a problem still exists of inconsistent application of the desired stimulus, which can lead to confusion of the animal undergoing training. For example, if the electrodes actually do touch the skin, the stimulus will be very severe, and much greater than what will be applied when the electrodes are separated from the skin by a loose fitting collar. Consistency of application, once again, becomes difficult with the device of this patent.

[0010] The United States patent to Walker U.S. Pat. No. 4,945,860 is directed to a stock handling device, and is illustrated as showing an electrical stimulation or shock unit attached to the head of a cow or similar animal. Soft contact pads with large surface areas are used for the electrodes. One of them is placed on the forehead of the animal; and the other

is placed within a collar strap around the neck of the animal. The stimulation pulses are applied between these contact pads and obviously cause the stimulation to move through the head of the animal.

[0011] In all of the devices discussed above, the basic concept of providing a relatively high voltage pulse generator, worn by the animal, is common to all of them. This pulse generator is turned on or triggered to apply a voltage pulse across a pair of spaced, protruding metal electrodes, either through a direct action of the animal (such as barking, muscle movement of the type effected by digging), or under control of the trainer providing commands to the animal. The operation of all of these devices is substantially the same. All of them (with the exception of Walker) are subject to the common disadvantage which is set forth above.

[0012] It is desirable to provide an animal training device using electrical stimulation which overcomes the disadvantages of the prior art, which is consistent in its effect during operation, which does not lose interface connection at any level, and which reduces the irritation to the animal in a simple, effective, easy to manufacture configuration.

#### SUMMARY OF THE INVENTION

[0013] It is an object of this invention to provide an improved animal training device.

[0014] It is another object of this invention to provide an improved electrical animal training device.

[0015] It is an additional object of this invention to provide an improved animal training device for applying stimuli to an animal without direct contact to the skin of the animal.

[0016] It is a further object of this invention to provide an animal training device employing a substantially flat non-conductive housing on which spaced conductors for delivering voltage pulses are placed, wherein the housing is designed to be placed in close proximity to the skin of the animal.

[0017] In accordance with a preferred embodiment of the invention, an animal training device is designed for delivering high voltage pulses between spaced exposed electrical conductors, or conductor segments, secured on the surface of a substantially flat, nonconductive housing designed to be placed in close proximity to the skin of the animal. A provision is made for applying voltage pulses across the spaced conductors to deliver consistently the desired stimulation, regardless of the level selected.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0018] FIG. 1 is a top perspective view of a preferred embodiment of the invention;

[0019] FIG. 2 is a bottom perspective view, with a portion removed, of the embodiment shown in FIG. 1;

[0020] FIG. 3 is a bottom perspective view of the embodiment shown in FIG. 1;

[0021] FIG. 4 is a top view of the embodiment shown in FIG. 1;

[0022] FIG. 5 is a side view of the portion of the embodiment shown in FIG. 2;

[0023] FIG. 6 is a top perspective view of another embodiment of the invention;

[0024] FIG. 7 is a bottom perspective view of a portion of the embodiment shown in FIG. 6;

[0025] FIG. 8 is a bottom perspective view of the embodiment shown in FIG. 6;

[0026] FIG. 9 is a top view of another embodiment of the invention;

[0027] FIG. 10 is a bottom view of a portion of the embodiment shown in FIG. 9;

[0028] FIG. 11 is a bottom view of the embodiment shown in FIG. 9;

[0029] FIG. 12 is a side view of the embodiment shown in FIG. 9;

[0030] FIG. 13 is a top perspective view of another embodiment of the invention;

[0031] FIG. 14 is a cross section taken along the line 14-14 of FIG. 13;

[0032] FIG. 15 is a partially cut-away side view of another embodiment of the invention; and

[0033] FIG. 16 is a bottom view of the embodiment of the invention shown in FIG. 15.

#### DETAILED DESCRIPTION

[0034] As used herein, the term "housing" also means any surface having the general configuration of the various embodiments shown in the drawing, including the interior of a collar strap, or surface of a harness, halter or other device to be worn by or attached to an animal. It also should be noted that the various embodiments of the invention, which are shown in the different figures of the drawings, all may be supplied with voltage pulses by any of a number of commercially available devices presently being used for providing pulses through spaced protruding electrodes in animal training or animal handling applications. For that reason, such power supplies (whether activated manually, or operated in response to radio signals) are not shown in the drawings, since they are well known and are not important to an understanding of the invention. Such devices typically have a pair of output terminals on them; and the various connecting leads which are shown in the different embodiments described hereinafter may be connected to those output terminals for receiving voltage pulses to operate the different embodiments in place of the standard protruding electrodes.

[0035] Reference now should be made to FIGS. 1 through 5, which illustrate a preferred embodiment of applicant's invention. In the device shown in these figures, the animal training device is constructed in the form of a generally flat, non-conductive plastic housing or circuit board (which may be rigid or flexible) having a portion 10 with a number of spaced holes through it for accommodating a pair of spaced conductive leads 12 and 14, which are threaded through the holes to provide exposed spaced surfaces of each of these conductive leads or wires in the form of conductor sections as clearly shown in FIGS. 1, 4 and 5.

[0036] The exposed portions of the two leads or wires 12 and 14, forming the conductors, are substantially parallel to

one another, as is most clearly shown in **FIG. 4**, and essentially comprise elongated flat sections of wire closely following the generally flat surface of the portion **10** of the housing. This is the portion, namely the surface **10**, shown facing upwardly in **FIG. 1**, which is placed adjacent the coat of the animal in the area where the stimulation is desired. The device is shown in its partially cut-away configuration in **FIG. 2** to illustrate the zig-zag threading of the conductor wires **12** and **14** through the surface **10**, in the manner shown most clearly in **FIG. 5**.

**[0037]** When the device is completed by threading the conductor leads or wires **12** and **14** in the manner shown in **FIGS. 1, 2, 4** and **5**, it typically is potted or enclosed so that the non-exposed surfaces are covered by another plastic layer or sheet **20**, as shown in **FIG. 3**. Typically, the plastic parts **10** and **20** are thermoplastic and are bonded together in a conventional manner to form the housing, with the exposed segments **12** and **14** for use in conjunction with a collar, halter, or other training device. Power for applying voltage pulses to the conductor leads or wires **12** and **14** is applied through corresponding input terminals **16** and **18**. The interconnections of the terminals **16** and **18** to the conductor wires **12** and **14** is clearly shown in **FIGS. 4** and **5**.

**[0038]** The overall structure which results in the device which is illustrated in **FIGS. 1 through 5** (and which also is shown in the various other embodiments, to be described subsequently) is that of a device employing a relatively thin conductor (or pair of conductors) with many possible points of contact. This configuration replaces the traditional pair of long, protruding, rounded metal electrodes currently used on existing products, which provide only two points of contact. In addition, the flat configuration of the housing and the conductors allows for a snug fit of the device over the coat or fur of the animal, without causing irritation to the skin of the animal. The surface conductors may be attached to the collar in a variety of ways; or the housing for the surface conductors may be used separately from a collar strap or halter itself. For example, the overall configuration shown in **FIGS. 1 through 5** may be employed by placing both the positive and negative surface conductors **12** and **14** in a single surface housing, such as the surface housing **10/20** in a variety of locations on the animal while the terminals **16** and **18** are connected to a suitable output from the stimulator.

**[0039]** Another orientation of the embodiment shown in **FIGS. 1 through 5** may involve using both the positive and negative surface conductors **12** and **14** contained in a single surface housing which surrounds the entire surface of the neck of an animal, or the leg or chest, nose, tail, girth, etc. of the animal while the terminals **16** and **18** are connected to a suitable output from a voltage generator of the type described previously. Alternatively, a number of housings of the type shown as the housing **10/20** in **FIGS. 1 through 5** may be placed in different locations on the body of the animal, and connected to the output of a stimulator unit (voltage source) by means of an extender hard-wired strap, or by remote controlled devices, with each of the different housings being controlled simultaneously, independently, or sequentially, as desired.

**[0040]** **FIGS. 6, 7** and **8** are top, partially cut-away bottom, and full bottom perspective views, respectively, which are

similar to those of **FIGS. 1, 2** and **3**, but which utilize a different conductor structure. In the embodiment of **FIG. 6**, the top surface **30** of the housing has a pair of elongated grooves in it, in which a pair of elongated conductor wires **32** and **36** are located. The conductor wires **32** and **36** are parallel to one another throughout their length; and power is supplied to them through a pair of input terminals **34** and **38**. The wires **32** and **36** extend along the enclosed bottom of the device and pass through holes at the left end, as shown in **FIGS. 6** and **7**, where the wire electrodes **32** and **36** then are bent back to lie in shallow grooves on the surface of the housing **30**, as illustrated.

**[0041]** It should be noted that voltage pulses for animal training purposes are applied to the terminals **34** and **38**, and provide the desired stimulus across the conductor wires **32** and **36** for effecting the desired training operation. It also should be noted that in conjunction with the devices shown in both **FIGS. 1 through 5** and in **FIGS. 6 through 8**, it is not necessary for the conductor wires **12** and **14** or **32** and **36** to contact the skin of the animal. It has been found that when the arrangement which is shown in both of these embodiments is employed, the animal receives stimulation even though the conductors are not in actual contact with the skin of the animal. The overall grid arrangement has been found, in actual tests, to clearly convey the desired stimulus to the animal undergoing training.

**[0042]** It should be noted, particularly with respect to the embodiment shown in **FIGS. 6 through 8**, that the elongated conductor wires **32** and **36** may be configured by placing them around the entire interior surface of a collar worn on the animals neck. The stimulus then takes place around the entire neck of the animal, rather than just in a localized region. Such an arrangement also is generally effective in conjunction with the embodiment shown in **FIG. 1**, where it is readily apparent that the area of stimulation is greater than is achieved by the spaced protruding prongs of the various prior art devices discussed above.

**[0043]** **FIGS. 9 through 12** illustrate another configuration employing the same basic operating principles of the embodiments shown in **FIGS. 1 through 5** and **6 through 8**. In the embodiment shown in **FIGS. 9 through 12**, the overall configuration of the housing is in the form of a flat circular non-conductive plastic plate **44**; and a pair of spaced conductor wires **46** and **48** are employed and threaded in a fashion similar to that shown in **FIGS. 1 through 5** to form a central conductor pair **48** at substantially the center of the circular plate or housing **44** surrounded by segments **46** of the other wire conductor generally spaced close to the circumference of the non-conductive circular housing **44**. **FIG. 9** is a top view; and the connections to the center conductor are through the terminal **50** into the outer conductor wire through the terminal **52**, much in the same manner as described above in conjunction with the previous embodiments.

**[0044]** **FIG. 10** is a bottom view illustrating the manner in which the conductor wires **48** and **46** extend on the bottom of the device. **FIG. 11** shows the bottom of the device, where it is closed with suitable plastic which is bonded, thermoset, or injection molded to cover the conductor wires on the bottom; so that only the conductor wires on the top surface of the portion **44** are exposed for placement in proximity with the skin of the animal. **FIG. 12** is a side view which

illustrates the relative arrangement and threading of the outer conductor wire 46 around a circular extension or bottom 56 formed as a part of, or attached to, the portion 44, to illustrate the manner in which the segments of the conductor wires 46 are formed on the surface of the portion 44.

[0045] The embodiments shown in FIGS. 9 through 12 also may be constructed by forming the outer conductor segments 46, which are exposed on the top or upper surface of the housing 44, in the form of pins with a rounded top extending just slightly beyond the upper surface of the housing 44, in the same manner as the loops of wire 46 are shown in FIG. 12. The pins, however, may then be firmly molded into the top of the housing and interconnected by a conductive wire at a portion extending below the top surface 44, again, much in the same manner as such an interconnecting wire is illustrated in FIG. 12.

[0046] Similarly, the conductor may be in the form of a rounded end pin or button extending through the housing and connected to the terminal 50 in the same manner shown in FIG. 10. It should be noted, that whether this configuration is used or the one which is illustrated in FIGS. 9 through 12 is used, the projecting portion of the conductors which is on the surface of the housing 44 does not include any sharp projections, and basically is at the surface of the housing 44, or only slightly extending beyond that surface.

[0047] FIGS. 13 and 14 are directed to a variation of the embodiment shown in FIG. 1. The conductor pairs consist of wire segments 62 for one conductor and wire segments 66 of a separate wire comprising the other conductor. These segments are alternately threaded on the surface of a housing 60 made of nonconductive plastic material, which may be molded plastic material or thermoset plastic material, as desired.

[0048] The device of FIGS. 13 and 14, however, may be utilized as an electrical "spur" by horse trainers. It is designed to be worn on the outside of the portion of the boot of a rider which faces the animal, with the exposed conductor wires 62 and 66 being capable of being placed into contact with the animal by the rider. A strap (not shown) may attach the body 14 (back plate) to the boot of the rider in any suitable fashion. Terminals 64 and 68 are used to apply voltage pulses, respectively, to the wire conductors 62 and 66.

[0049] As diagrammatically illustrated in the cross-sectional view of FIG. 14, the side of the device including the housing 60, which faces the boot of the rider, includes a switch actuator 74, which may be a pressure activated switch, or which may be a micro-switch, or any other suitable type of switch to close a circuit path between the terminals 64 and 68 and the wire conductors 62 and 66. As diagrammatically illustrated in FIG. 14, the switch actuator 74 may operate against a pair of springs 80 to close switches 76 and 78 to complete the circuit path from the terminals 64 and 68 for activating the electrode wire segments 62 and 66. FIG. 14 is simply showing the diagrammatic concept which is involved in order to activate the "spur", as desired, when the rider wishes to apply the desired stimulation to the horse. Clearly, the spread-out, non-protruding conductors of the device shown in FIGS. 13 and 14 are a much more humane way of applying a stimulus to a horse than the conventional sharp pointed spurs normally used for training such animals.

[0050] FIGS. 15 and 16 illustrate another application of applicant's invention. In FIG. 16, a conductor arrangement which is similar to that shown in the embodiment of FIGS. 9 through 12 is employed on a generally flat, circular housing 102. A central conductor, in the form of a relatively flat round protrusion 106, is located on the upper surface of the housing 102; and four stitched or spaced conductor wire segments 104 encircle the central conductor, much in the same manner as for the embodiment shown in FIGS. 9 through 12. For that reason, additional details of this configuration are not given in FIGS. 15 and 16.

[0051] In the device of FIGS. 15 and 16, however, the conductor housing or base 102 is carried on one end of an elongated nonconductive hollow rod 90. The rod includes a pair of elongated wires 98 and 100 connected, respectively, to the conductors 106 and 104 for applying voltage pulses to these conductors upon operation of a push button switch 92. This closes an internal switch 94 to apply power to the elongated wire conductors 98 and 100 from a suitable power source, diagrammatically illustrated in the form of a battery 96 in FIG. 15. Of course it is to be understood that a simple battery connection normally is not employed, but that a circuit for generating a high voltage pulse is employed. The battery simply provides the basic power for the voltage producing circuit. Since such power supplies, however, are well known, and a variety of commercial power supplies can be utilized, only a diagrammatic representation of such a power supply is illustrated in the embodiment of FIG. 15.

[0052] The overall length of the rod 90 typically is between two and four feet; and the switch activator 92 is conveniently located to allow easy use of the prod as an animal prod or a cattle prod in a conventional manner. To use the device, the housing 102 is pressed against the hide of the animal and the switch 92 is activated to close the internal switch 94. In the alternative, a pressure actuated switch of the type shown in conjunction with the embodiments of FIGS. 13 and 14 may be employed. Then the manual push button switch activator 92 can be eliminated. The operation of the device is the same, either way.

[0053] In the various embodiments which have been described above, various types of materials may be used to construct the surface conductors. For example, copper, aluminum, stainless or coated brass wires may be employed, all of which are electrically conductive and which can be used in each of the various embodiments. The wires may be made of solid, braided or woven material, which will function equally as well, and the choice of which is a design consideration for the particular application being made. Alternatively, conductive polymers may be employed for the various surface conductors. The surface conductors may be in the form of rounded metal pins, as described above in conjunction with an alternative embodiment for the one shown in FIGS. 9 through 12, or may be beaded, raised, stamped or extruded of the various materials described above for solid wire. The conductors also may be printed, etched or plated on the surface of rigid or flexible circuit boards. The reference to conductors throughout the specification is intended to include any conductive material and processes which may be employed to form surface conductors across which the voltage stimulation pulses may be applied.

[0054] It should be noted that the size and length of the surface conductors is not limited to any particular arrange-

ment. This is readily apparent from the variety of embodiments which have been described above. It is apparent that the conductors may be arranged in parallel straight line, in a matrix, a square or rectangle, a circle, or positioned around a cone. These different variations allow for consistent operation when the conductors are used to contact areas of the body of an animal other than the neck. The concept of employing surface conductors, as described in conjunction with the above embodiments, is best suited for stimulators which provide a high voltage, low current output. With such devices, the animal senses a change in the perceived level of the output, irrespective of whether the device's levels are changed using a manual adjustment, or are remotely controlled. Any number of commonly available plastics may be used to make the housings for the surface conductors, as well as any type of non-conductive material which is suitable for any particular application. The manner of attachment of the conductor housing to collars, harnesses, halters and the like also may utilize a wide variety of materials.

**[0055]** The foregoing description of the preferred embodiments of the invention is to be considered as illustrative and not as limiting. Various embodiments have been shown in order to illustrate the relatively wide variety of forms which may be taken by the invention. Various other changes and modifications will occur to those skilled in the art for performing substantially the same function, in substantially the same way, to achieve substantially the same result without departing from the true scope of the invention as defined in the appended claims.

What is claimed is:

1. An animal training device of the type delivering high voltage pulses between a pair of spaced electrical conductors placed in close proximity to the skin of the animal including in combination:

a substantially flat, non-conductive conductor housing member having a first surface designed to be placed in close proximity to the skin of an animal;

first and second spaced exposed electrical conductors on the first surface of the housing; and

means for applying voltage pulses across the first and second spaced electrical conductors.

2. The animal training device according to claim 1 wherein the first and second spaced electrical conductors comprise elongated wires overlying the first surface of the housing and spaced a predetermined distance apart.

3. The animal training device according to claim 2 wherein the first and second spaced electrical conductors comprise elongated sections of electrical conductors parallel to one another on the first surface of the housing.

4. The animal training device according to claim 3 wherein the means for applying voltage pulses across the first and second spaced electrical conductors includes a switch connected between a voltage supply and the first and second spaced electrical conductors for selectively applying voltage pulses across the first and second electrical conductors.

5. An animal training device according to claim 4 wherein the non-conductive housing member is made of plastic material.

6. The animal training device according to claim 5 wherein the plastic material is molded plastic material.

7. The animal training device according to claim 1 wherein the substantially flat, non-conductive housing member is configured with the first surface thereof having a substantially circular shape and the first and second exposed electrical conductors comprise a first conductor located substantially at the center of the circular first surface and alternating spaced exposed portions of a second conductor arranged in a circular pattern about the first conductor.

8. An animal training device according to claim 7 wherein the non-conductive housing member is made of plastic material.

9. The animal training device according to claim 8 wherein the plastic material is molded plastic material.

10. An animal training device according to claim 1 wherein the means for applying voltage pulses across the first and second spaced conductors includes a pressure actuated switch.

11. The animal training device according to claim 1 wherein the first and second spaced electrical conductors comprise elongated sections of electrical conductors parallel to one another on the first surface of the housing.

12. The animal training device according to claim 1 wherein the means for applying voltage pulses across the first and second spaced electrical conductors includes a switch connected between a voltage supply and the first and second spaced electrical conductors for selectively applying voltage pulses across the first and second electrical conductors.

13. An animal training device of the type producing high voltage pulses between a pair of spaced electrical conductors placed in close proximity to the skin of the animal, an improvement including in combination:

a generally circular, flat non-conductive conductor base member having a first surface designed to be placed in close proximity to the skin of an animal;

first and second spaced exposed electrical conductors secured on the first surface of the base member;

an elongated rod having first and second ends, with the first end secured to and supporting the base member and the second end supporting a voltage supply unit; and

first and second conductive wires connected between the first and second exposed electrical conductors and a normally open switch connected to the voltage supply unit, whereupon closure of the switch applies voltage through the first and second conductive wires to the first and second spaced exposed electrical conductors to provide a stimulation to an animal when the base member is placed in close proximity to the skin of the animal.

14. The animal training device according to claim 13 wherein the voltage supply is a battery operated voltage supply.

15. The animal training device according to claim 14 wherein the switch is a manually operated switch.

16. The animal training device according to claim 15 wherein the non-conductive base member is made of plastic material.

**17.** The animal training device according to claim 16 wherein the plastic material is molded plastic material.

**18.** The animal training device according to claim 17 wherein the first exposed electrical conductor is located substantially at the center of the circular base member and the second exposed conductor includes a plurality of conductive segments arranged in a pattern around the first exposed electrical conductor.

**19.** The animal training device according to claim 13 wherein the switch is a manually operated switch.

**20.** The animal training device according to claim 13 wherein the first exposed electrical conductor is located substantially at the center of the circular base member and the second exposed conductor includes a plurality of conductive segments arranged in a pattern around the first exposed electrical conductor.

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