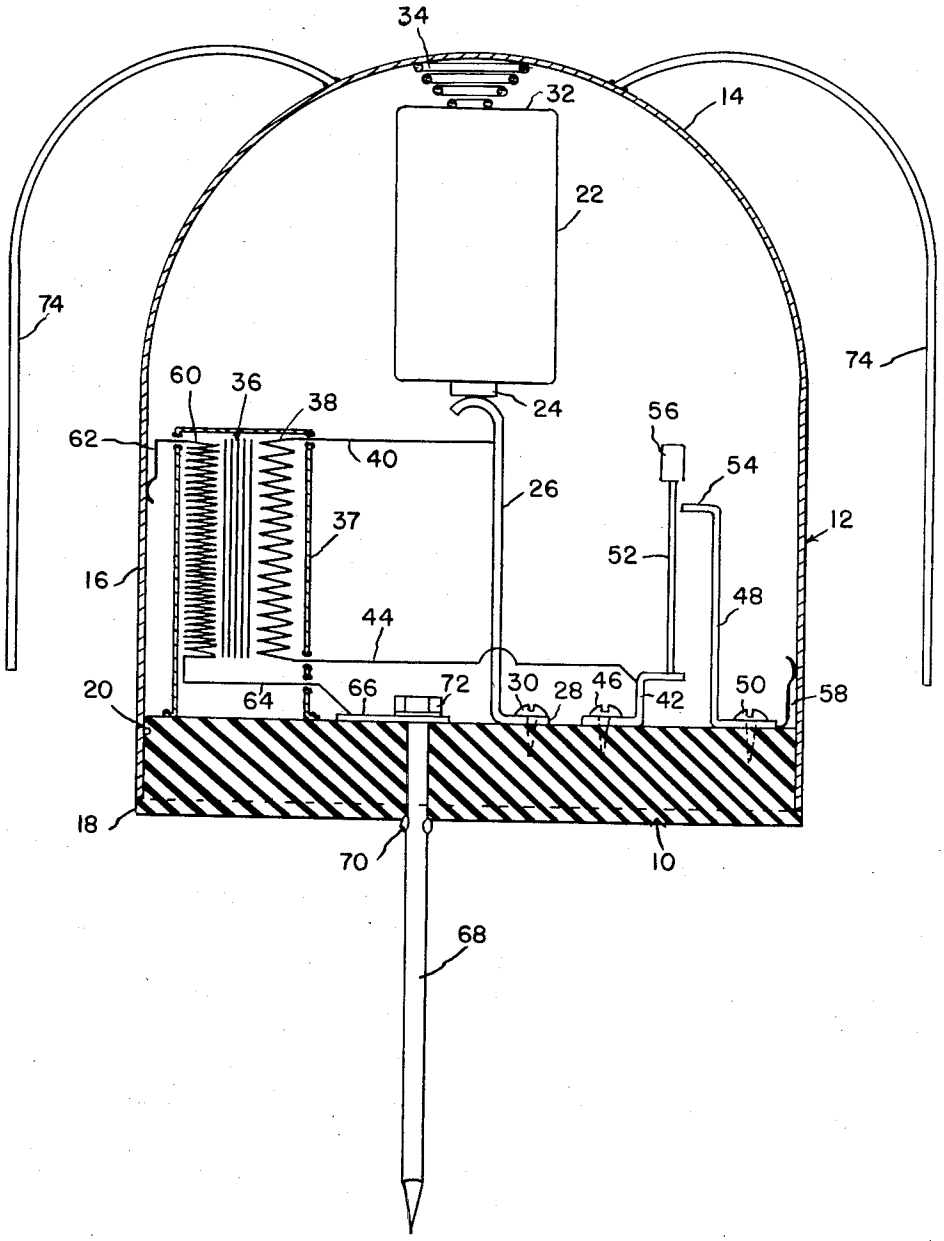
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ANIMAL SHOCKING DEVICE

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ANIMAL SHOCKING DEVICE

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This invention relates to a device for ridding certain designated areas of animals, and more particularly to an animal shocking device.

One object of this invention is to provide an animal shocking device, for keeping animals away from designated areas which may, for example, have shrubbery, flowers, etc., that might otherwise be damaged by such animals.

Another object of the invention is to provide an animal shocking device which is composed of a relatively few inexpensive parts, which is portable, durable and which will accomplish its intended function without physically harming the animal.

Other objects of the invention will become apparent as the following description proceeds, especially when taken in conjunction with the accompanying drawing wherein:

The single figure is a central vertical sectional view of an animal shocking device constructed in accordance with the present invention.

Referring now more particularly to the drawing, the animal shocking device there illustrated comprises a base or support 10 which is circular and constructed of electrically insulating material. The device also includes a housing 12 which is supported on the base and which cooperates with the latter to define a chamber for containing the various other elements of the device. The housing is dome-shaped and includes the upper hemispherical portion 14 which merges into the lower cylindrical portion 16, the lower margin of the cylindrical portion being supported by an annular lip 18 extending about the outer periphery of the base. Preferably the cylindrical portion of the housing is dimensioned to have a rather snug fritcional engagement with the annular outer surface or wall 20 of the base so that while normally the housing is firmly secured upon the base, the same may be manually separated therefrom without undue effort. Other securing means, preferably releasable, may, of source, be provided.

The housing is made of a suitable electrically conducting material, and supported within the housing is an ordinary dry cell battery 22. As will be seen in the drawing, the lower terminal 24 of the battery rests directly upon the upper curved end of the vertical post 26, the latter being formed of electrically conducting material and having a flange 28 at the lower end secured to the base by an ordinary screw 30.

Compressed between the upper terminal 32 of the battery and the top of the housing is a coil spring preferably of conical shape as shown. The concave surface of the housing engaged by the spring resists any tendency of the spring to slip laterally. It will be seen that the battery is thus firmly supported within the housing by the coopeartive action of the post 26 and the coil spring 34.

An induction coil 36 is also supported in the housing being carried by a casing 37 suitably fastened to the base 10. The induction coil includes a primary winding 38, one end of which is electrically connected to the post 26 by a lead 40, and the other end of which is electrically connected to a contact 42 by a lead 44. Contact 42 is secured to the base by an ordinary screw 46, and in spaced relation to the contact 42 is a second contact 48 which is also secured to the base by an ordinary screw 50. Terminal 54 of contact 48 is vertically spaced from contact 42.

An elongated resilient spring or switch member 52 has one end rigidly secured to contact 42 and the switch member 52 extends vertically therefrom close to but in laterally spaced relation to terminal 54 of contact 48. Preferably the upper end of switch member 52 carries a weighted mass 56 to amplify the vibrations of the switch member 52 when the device is jarred or bumped so that the switch member will momentarily contact the terminal 54 as it vibrates. Switch member 52 is a flat leaf spring capable of flexing in one direction only and is disposed for flexing toward and away from terminal 54. Contact 48 is electrically connected to the housing by a resilient member 58 secured to the contact.

The induction coil has a secondary winding 60 one end of which is electrically connected to the housing by a resilient member 62 and the other end of which is connected by a lead 64 to the plate 66. A metal nail or stake 68, having electrical contact with plate 66, extends through the base and projects downwardly therefrom for insertion into the ground. The stake may comprise the sole means for supporting the device on the ground, if desired. Embossments 70 are provided in angularly spaced relation about the stake to support the base from slipping down upon the stake, and a suitable nut 72 is threaded on the upper end of the stake and also serves to clamp plate 66 against the base, said plate having a suitable aperture for receiving the stake.

A circuit through the primary winding, herein referred to as the primary circuit, is completed whenever the switch member vibrates into contact with the terminal 54. The primary circuit extends from terminal 24 of the battery through post 26, lead 40, primary winding 38, lead 44, contact 42, switch member 52, contact 48, member 58, housing 12, and from the housing to terminal 32 of the battery through the coil spring 34. In order to close the primary circuit then, it is necessary to cause the switch member to swing against terminal 54, and in the operation of this device, this action of the switch member is obtained as the result of jarring of the device incident to an animal bumping thereagainst.

It will also be noted that feelers 74 are secured to the housing, these feelers being of electrically conducting material and projecting outwardly from the housing for contact with the body of an animal. The feelers are sufficiently rigid so that when bumped by an animal the entire device is shaken sufficiently to cause the switch member to vibrate with sufficient amplitude to close the primary circuit.

The making or breaking of the primary circuit sets up a current in the secondary winding 60 of the induction coil. The secondary winding is electrically connected to the housing at one end and to the stake 68 at the other end. Since the stake is placed in the ground and the animal which causes the vibration of the device is standing on the ground and touching the housing or a feeler, the secondary circuit through the secondary winding is thus completed through the animal's body.

The battery and induction coil are, of course, designed to produce an induced current of such magnitude as to cause the animal to flee, but without doing any physical harm. The battery may be readily replaced when necessary by merely removing the housing 12 from the base 10.

One or more of the devices described above may be placed in the ground in the area desired to be protected from animals. Any animal which bumps or brushes against the device and jars it to cause vibrations of the switch member of sufficient amplitude to close the primary circuit, will receive a shock from the secondary winding of the induction coil.

The drawings and the foregoing specification constitute a description of the improved animal shocking de-

vice in such full, clear, concise and exact terms as to enable anyone skilled in the art to practice the invention, the scope of which is indicated by the appended claims.

What I claim as my invention is:

1. An animal shocking device comprising a housing of electrically conducting material, a battery supported within said housing, means providing an electrical connection between said housing and one terminal of said battery, an induction coil supported within said housing and including a primary winding, means electrically connecting one end of said primary winding to the other terminal of said battery, means providing an electrical connection between the other end of said primary winding and said housing including a switch having a pair of spaced contacts normally maintaining said circuit open and being rigid with said housing, an elongated resilient electrically conductive switch member rigidly secured at one end to one of said contacts and normally spaced from the other contact to maintain said circuit open but engageable with said other contact when flexed as a result of an animal bumping against said housing to close said circuit, said induction coil including a secondary winding having one end electrically connected to said housing, and a stake of electrically conducting material projecting beneath said housing for insertion in the ground being electrically insulated from said housing and electrically connected to the other end of said secondary coil, the closing of said circuit energizing said primary winding and producing a current in said secondary winding by induction.

2. A device as defined in claim 1 in which said switch member is weighted at the free end.

3. A device as defined in claim 1 in which the means providing an electrical connection between said housing and one terminal of said battery comprises a coil spring compressed therebetween.

4. A device as defined in claim 1 including feelers of electrically conducting material electrically connected to said housing and projecting outwardly therefrom for contact with the body of an animal.

5. An animal shocking device comprising a housing of electrically conducting material, a battery supported within said housing, means providing an electrical connection between said housing and one terminal of said battery, an induction coil supported within said housing and including a primary winding, means electrically connecting one end of said primary winding to the other terminal of said battery, means providing an electrical connection between the other end of said primary winding and said housing including a switch having a pair of vertically spaced contacts normally maintaining said circuit opening and being rigid with said housing, an elongated resilient electrically conductive switch member having one end secured to one of said contacts and extending vertically therefrom in normally laterally spaced relation to the other of said contacts to maintain said circuit open but engageable with said other contact when flexed as a result of an animal bumping against said housing to close said circuit, said induction coil including a secondary winding having one end electrically connected to said housing, and a stake of electrically conducting material projecting beneath said housing for insertion in the ground being electrically insulated from said housing and electrically connected to the other end of said secondary coil, the closing of said circuit energizing said primary winding and producing a current in said secondary winding by induction.

6. A device as defined in claim 5 in which said switch member is a flat leaf spring capable of flexing in one plane only and being disposed so that flexing thereof is in a direction toward and away from said other contact.

7. A device as defined in claim 6 in which said switch member is weighted at the free end, and in which feelers of electrically conducting material are electrically connected to said housing and project laterally outwardly therefrom for contact with the body of an animal.

8. An animal shocking device comprising a housing of electrically conducting material, a source of electromotive force supported within said housing, and means for electrically connecting said housing to said source of electromotive force to impress the output of said source of electromotive force upon said housing comprising a normally open switch within said housing having spaced contacts and an electrically conductive resilient switch member adapted to vibrate and momentarily bridge said contacts to close said switch in response to the impact of an animal brushing against said housing, said contacts being vertically spaced and said switch member having one end secured to one contact and extending vertically therefrom in normally laterally spaced relation to the other contact, said switch member being a flat leaf spring capable of flexing in one plane only and being disposed so that flexing thereof is in a direction toward and away from said other contact, and feelers of electrically conducting material projecting laterally outwardly from said housing and electrically connected to the latter.

9. An animal shocking device comprising a support of electrically insulating material, an induction coil mounted on said support and having primary and secondary windings, a first member of electrically conducting material projecting from said support adapted for contact with the body of an animal, a second member of electrically conducting material carried by said support for contact with the ground, means electrically connecting opposite ends of said secondary winding to said respective first and second members, a primary circuit including in series a battery mounted on said support, said primary winding, and an electrical switch, said switch having a pair of contents mounted on said support in spaced relation, and an electrically conductive resilient switch member secured to one of said contacts and normally spaced from the other contact to maintain said primary circuit open but engageable with said other contact when flexed as a result of an animal bumping against said first member and jarring said support to close said circuit, the closing of said primary circuit energizing said primary winding and producing a current in said secondary winding by induction, said second member comprising a stake insertable into the ground and constituting the sole means for supporting said device.

10. An animal shocking device comprising a housing of electrically conducting material, a source of electromotive force supported within said housing, and means for electrically connecting said housing to said source of electromotive force to impress the output of said source of electromotive force upon said housing comprising a normally open switch within said housing having spaced contacts and an electrically conductive resilient switch member adapted to be jarred to vibration and rapidly, successively bridge said contacts to close said switch in response to the single impact of an animal brushing against said housing, said contacts being vertically spaced, said switch member having one end secured to one contact and extending vertically therefrom in normally laterally spaced relation to the other contact, and said switch member being a flat leaf spring capable of flexing in one plane only and being disposed so that flexing thereof is in a direction toward and away from said other contact.

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