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EQUESTRIAN ELECTRIC SPUR

Filed July 26, 1967

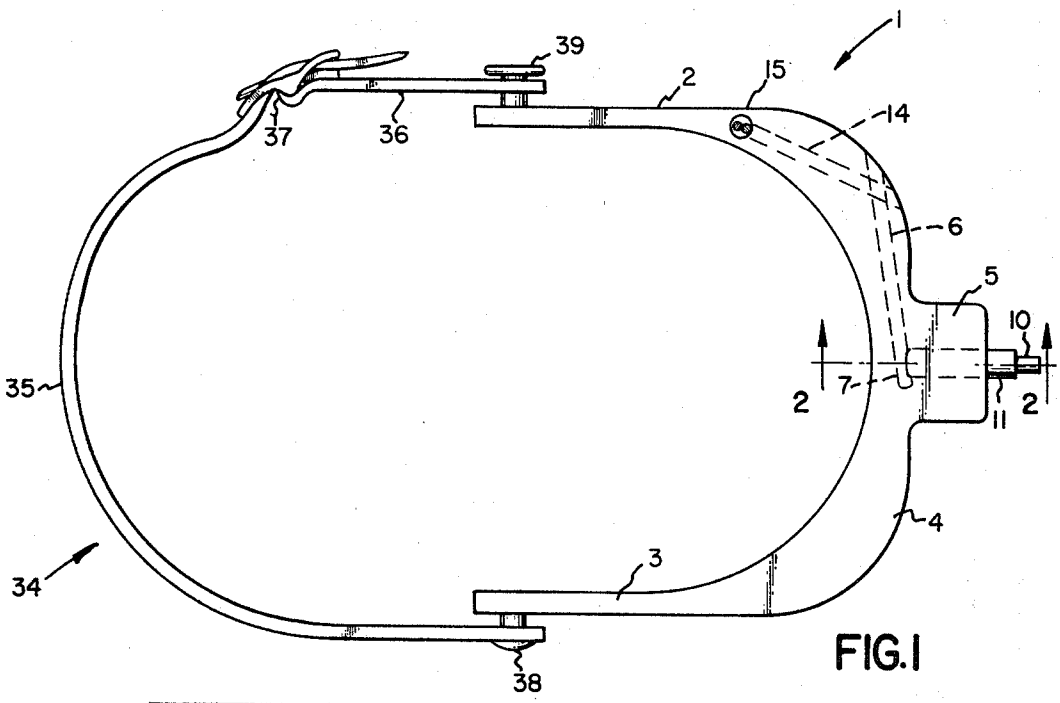


FIG. 1

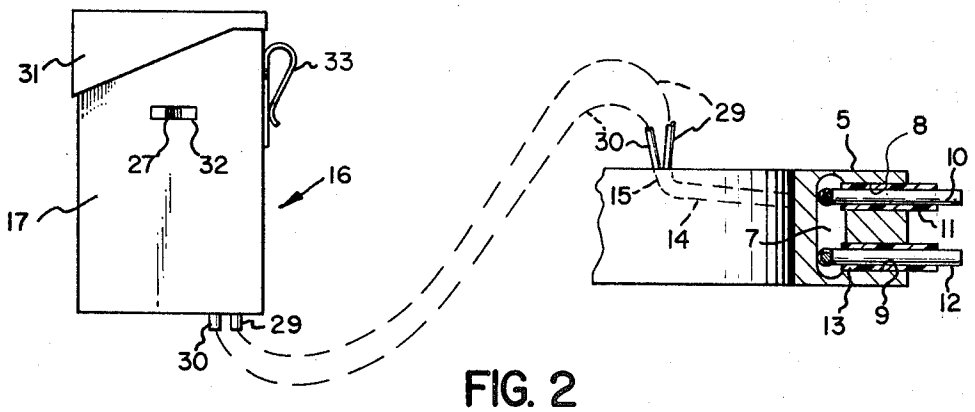


FIG. 2

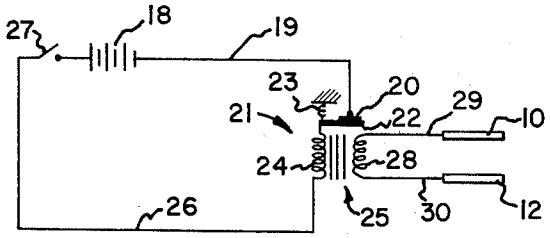


FIG. 3

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EQUESTRIAN ELECTRIC SPUR

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ABSTRACT OF THE DISCLOSURE

An electric spur construction having a support adapted for mounting on the foot of a person and including two spaced apart electrodes to which a voltage is applied whereby engagement of the electrodes with the flank of a horse will cause a mild electrical shock to be transmitted to the horse.

The invention herein disclosed relates to a horseman's spur construction of the kind especially adapted for use in the training or competitive riding of horses and more particularly to a spur construction having means by which mild electrical shocks can be transmitted to the horse when desired so as to enable the achievement of the desired performance of the horse without injuring or defacing the horse.

In the training of horses and in the competitive riding of horses, such as in rodeos, for example, it frequently is necessary to force a horse to react in a predetermined manner. To accomplish this objective, it is quite common for the rider to wear a spur on each foot and to apply the spurs to the flanks or shoulders of the horse. Many of the spurs currently in use have sharpened tips or rowels which, applied to the horse, produce the desired reaction, but frequently break or wound the horse's skin. Such wounds not only can be painful to the horse but also risk infection. In addition, such wounds, when healed, frequently present an unsightly appearance.

An object of this invention is to provide a spur construction which is capable of producing a desired reaction of a horse, but which overcomes the disadvantages of conventional spurs.

Another object of the invention is to provide a spur construction including electrical means operable to transmit to a horse mild electrical shocks under the control of the rider.

A further object of the invention is to provide a spur construction of the character described which is self-contained and operable or inoperable at the will of the rider.

A further object of the invention is to provide an electrified spur construction which is economical to manufacture, easy to operate, and rugged and durable in use.

Other objects and advantages of the invention will be pointed out specifically or will become apparent from the following description when it is considered in conjunction with the appended claims and the accompanying drawings, in which:

FIG. 1 is a top plan view of a spur constructed in accordance with the invention;

FIG. 2 is a somewhat diagrammatic, partly sectional view, the section being taken on line 2—2 of FIG. 1; and

FIG. 3 is a simplified, schematic wiring diagram.

Apparatus constructed in accordance with the invention comprises an arcuate or generally U-shaped support member **1** formed preferably of steel or some other suitable material and having a pair of substantially parallel arms **2** and **3** that are adapted to straddle the heel of a person's foot. The arms are joined at corresponding ends by a web **4**. Substantially midway between its ends the web **4** is provided with a rearwardly extending projection

5. The web **4** is provided with an elongated opening **6** which extends from the arm **2** toward and terminates in a cavity **7** within the projection **5**. In communication with the cavity **7** is a pair of parallel, vertically spaced apart passages **8** and **9**. Accommodated in the passage **8** is an electrode **10** which is insulated from the member **5** by an insulating sleeve **11** formed of nonconductive material. A similar electrode **12** is mounted in the passage **9** and is insulated from the body **1** by a similar insulating sleeve **13**.

Extending from the web **4** toward the arm **2** is a passage **14** which intersects the passage **6** and terminates in a vertical passage **15**. Preferably, the ends of the passages **6** and **14** adjacent their point of intersection are closed by suitable plugs (not shown).

Means designated generally by the reference character **16** is provided for applying a voltage to the electrodes **10** and **12** and comprises a case **17** formed of insulating material in which is mounted a battery **18** that is connected by a wire **19** to one terminal **20** of a vibrator **21**. The other terminal **22** normally is held against the terminal **20** by means of a spring **23** and is electrically connected to the primary winding **24** of a step-up, iron-core transformer **25**. The primary winding **24** is connected by a wire **26** to the battery **18** via a manually operable switch **27**. The secondary winding **28** of the transformer **25** is connected by wires **29** and **30** to the electrodes **10** and **12**, respectively. Portions of the wires **29** and **30** are acccommodated in the passages **6**, **14** and **15** of the body **1**.

The case **17** preferably has a cover **31** and an opening **32** through which the switch **27** projects so as to enable its operation from outside the case. It also is preferred that the case have a spring clip **33** or similar attaching device secured thereto by means of which the apparatus may be attached to some portion of a person's clothing such as a belt or boot.

Means **34** is provided for mounting the member **1** on the foot of a person and comprises a pair of straps **35** and **36**, one of which is provided with a buckle **37** at one end that is adapted to receive and secure the adjacent end of the corresponding strap. The strap **35** may be secured by a rivet **38** to the arm **3** and the strap **36** may be secured by another rivet **39** to the arm **2**.

In the operation of the apparatus, the body **1** may be strapped to one foot of the rider so that the projection **5** extends rearwardly of the rider's foot. The case **17** may be supported on the rider's boot by means of the clip **33**. The construction may be used as a conventional spur, if desired, but when the rider wishes to use the spur electrically he may close the switch **27**, whereupon a current pulse will pass through the transformer primary winding **24** via the contacts **20** and **22**. This will effect magnetization of the transformer core so as to retract the terminal **22** and break the circuit to the battery **18**, whereupon the spring **23** will restore the terminal **22** into engagement with the contact **20** so as to initiate another current pulse. The making and breaking of the contacts **20** will cause a series of voltage pulses to be induced in the secondary winding **28** which will be applied to the electrodes **10** and **12**. Whenever the rider engages the electrodes **10** and **12** with the horse, mild electrical shocks will be transmitted to the horse thereby causing the latter to react in a manner desired by the rider. Thus, it is not necessary to apply any significant spur pressure to the horse and consequently the likelihood of wounding the horse is remote.

It will be understood, although only one spur is illustrated, two similar spurs are intended to be used, one for each foot of the rider. Thus, all of the apparatus disclosed in the drawings may be duplicated for the second spur or, if desired, a second set of wires similar to the wires **29** and **30** may extend from the transformer to the

second spur. In this case, the case 17 would be supported on the rider's belt with the two sets of wires extending therefrom to the two spurs.

The disclosed embodiment is representative of a presently preferred form of the invention but is intended to be illustrative rather than definitive thereof.

I claim:

1. An electric spur construction adapted to be mounted on a foot of a person, said construction comprising a generally U-shaped heel engaging support member; releasable means on said support member for mounting the latter on a person's foot; a pair of spaced apart electrodes carried by an intermediate portion of said support and extending externally thereof in a direction outwardly of the U, said electrodes being located one above the other when said support member is mounted on a person's foot; electrical means in circuit with said electrodes for applying a voltage thereto; and switch means forming part of said circuit selectively operable to disable the application of voltage to said electrodes and to enable the continuous application of voltage to said electrodes.

2. The construction set forth in claim 1 wherein said support member comprises an arcuate member adapted to straddle the heel of a person's foot.

3. The construction set forth in claim 1 wherein said electrodes extend from said arcuate member substantially midway between its ends.

4. The construction set forth in claim 1 including a container for said electrical means and adapted to be carried by a person.

5. The construction set forth in claim 4 wherein said container includes attaching means for removably attaching said container to an article of clothing.

6. The construction set forth in claim 1 wherein said electrical means includes a transformer.

7. The construction set forth in claim 6 wherein said electrical means includes a source of direct current and a vibrator.

8. The construction set forth in claim 1 wherein said support member is formed of electrically conductive material and wherein said electrodes are insulated from said support member but not from each other.

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