Oct. 11, 1949. G. H. BARTEL 2,484,147

STOCK PROD

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FIG 1

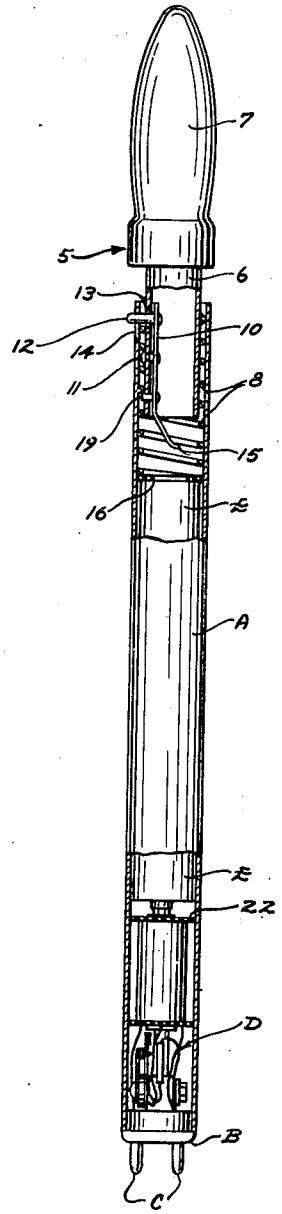


FIG 3

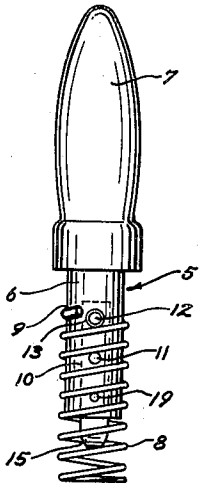
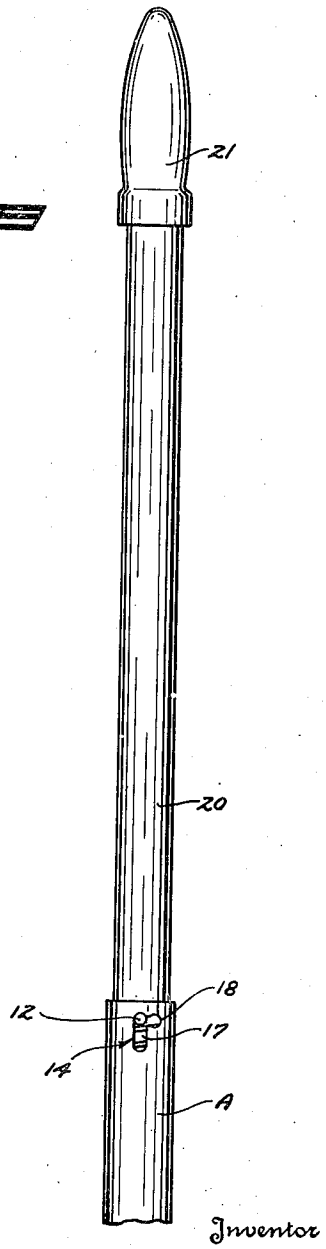


FIG 2



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STOCK PROD

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8 Claims. (Cl. 231—2)

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This invention relates to improvements in stock prods or goods of the type which operate electrically and are used to handle and load stock such as cows, pigs, etc.

The primary object of the invention is to provide an improved prod in which the handle portion is separable and may be readily interchanged for extension handles of different lengths, without the use of tools and practically in an instant. Thus the overall length of the prod may be changed and chosen according to the varying requirements of the work at hand. Another object is to provide an improved control switch arrangement for such prods and to generally improve their construction all as will be later detailed herein.

These and other more detailed and specific objects will be disclosed in the course of the following specification, reference being had to the accompanying drawings, in which—

Fig. 1 is an elevation, partially in section, of a stock prod according to my invention.

Fig. 2 is an elevation of an end portion of the prod of Fig. 1 but showing a longer handle added.

Fig. 3 is a detail elevation of the handle of Fig. 1 removed from the stock prod.

Referring now more particularly and by reference characters to the drawing, A designates generally the main section or barrel of a stock prod according to my invention, this part being tubular as shown and closed at one end by a plug B of insulating material in which is secured a pair of shocking prongs or points C. Within the barrel and adjacent the plug B is a transformer unit D including the usual coil and interrupter and excitation is provided by a series or stock of small batteries E which fit in the barrel. The arrangement is conventionally such that when the circuit is closed between the batteries and motor unit a high tension interrupted direct current potential will appear across the points C and when they are touched to the animal a quite powerful but harmless shock will be given it.

At the end opposite the points C the prod has a handle section and control switch unit designated generally at 5 and comprising a tubular sleeve 6 on which is fitted a rubber hand grip 7. The sleeve 6 is smaller than the barrel A and a barrel A and a coil spring 8 is fitted over the sleeve and secured at one end, as by solder at 9, to the sleeve. The opposite end of the spring extends some distance beyond the handle sleeve and the outside diameter of the spring is such as to just nicely and slidably fit into the end of the barrel A. Within the handle sleeve 6 is positioned a leaf

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spring or contact spring 10 anchored intermediate its ends by a rivet 11 to the inside of the sleeve wall. The innermost end of the spring 10 has riveted thereto a pin 12 which extends loosely outward in a radial direction through an opening 13 in the sleeve wall. The barrel A has a bayonet slot 14 in its wall adjacent its end for the accommodation of this pin 12. The opposite end of the spring 10 projects from the open end of the handle sleeve 6 and is tapered and bent toward the center or axis of the sleeve forming a contact point 15.

In use the handle is inserted into the barrel A until the pin 12 strikes the barrel end and this pin is then pressed in with the thumb until it may slip into the barrel. As the pin 12 then registers with the slot 14 the spring 10 will snap the pin out again so that the handle will not come off. The handle may, however, be readily removed by again pushing in the pin 12 and pulling outward on the handle. As the pin registers with and enters the slot 14, the end of the coil spring 8 will bear with yieldable pressure on the endmost battery E and it will be noted (Fig. 1) that a washer or ring 16 of insulating material is placed between the spring and battery to hold them out of electrical contact. The contact end 15 of the spring 10 will normally stand clear of the battery but the slot 14 has a longitudinally extending portion 17 which will permit the handle to be pushed in against the tension of the spring 8, moving the handle endwise relative to the barrel, until the contact spring end 15 strikes the battery. This action closes the circuit to the motor unit D and it will thus be seen that, merely by pushing the prod against the animal, the desired action will result. When not in use the handle is twisted to move the pin 12 into the lateral extension 18 of the slot to prevent the just described endwise movement of the handle.

To hold the spring 10 against twisting it preferably has a second rivet 19, spaced from rivet 11, but the outer end of the rivet 19 is not upset so that greater flexibility is provided at the contact end of the spring to prevent possible breakage, or even puncturing of the battery end.

The handle is, of course, removable for replacement of the batteries E, but primarily it is so removable, merely by pressing the pin 12 and without use of tools, so that it may be replaced with a longer handle, when a prod of greater overall length is required. Such a handle is shown in Fig. 2 and comprises a much longer handle sleeve 20 with a hand grip 21 at one end. At the other end the sleeve 20 will, of course, have springs 8

and 10 and a pin 12 exactly as previously described. Thus it is possible for the user to have several handles of different lengths and to almost instantly change them as required, without duplication of the more expensive main section, batteries etc. of the prod.

It will be noted that the springs 8 and 10 are completely enclosed by the structure I provide so that the action will not be hampered by dirt and the like.

Embodied in connection with the transformer unit D is a rubber washer 22 which seals against the interior of the barrel A between the transformer compartment and the battery compartment. Inasmuch as the plug B closes the opposite end of the transformer compartment it follows that the transformer unit itself is sealed in and permanently protected from the weather.

It is understood that suitable modifications may be made in the structure as disclosed, provided such modifications come within the spirit and scope of the appended claims. Having now therefore fully illustrated and described my invention, what I claim to be new and desire to protect by Letters Patent is:

1. A stock prod of the character described having a main section with a barrel open at one end, energizable points at the other end of the barrel, a detachable and replaceable handle having a sleeve portion loosely mounted in the open end of the barrel, a coil spring mounted around the sleeve portion and fastened thereto and positioned in the barrel, a spring mounted, radially projecting pin in the sleeve portion, the said barrel having a slot accommodating the pin, a contact extension on said pin-mounting spring, and the barrel containing batteries insulatingly engaged with the coil spring and in circuit with said points, and for energization of the prod when the handle and sleeve are moved inwardly of the barrel for moving said contact extension into engagement with the adjacent battery.

2. A stock prod having a barrel with points at one end and containing batteries and a transformer for developing a shocking potential across the points, the opposite end of the barrel being open for receiving the batteries and having a bayonet slot, a removable handle and control switch assembly having a sleeve loosely mounted in the open end of the barrel, a coil spring attached to the sleeve to slidably fit into the barrel against the batteries therein and to yieldably urge the handle outwardly from the barrel, electrical insulating means between the spring and batteries, a radially projecting, spring urged pin in the sleeve adapted to releasably enter the slot in the barrel and hold the handle to the barrel, the said slot having a portion permitting endwise movement of the pin and of the sleeve toward the batteries, and a contact point carried by the sleeve for engaging the batteries to close a circuit to the said transformer when the sleeve is moved toward the batteries.

3. A stock prod having a barrel with points at one end and containing batteries and a transformer for developing a shocking potential across the points, the opposite end of the barrel being open for receiving the batteries and having a bayonet slot, a removable handle and control switch assembly having a sleeve loosely mounted in the open end of the barrel, a coil spring attached to the sleeve to slidably fit into the barrel against the batteries therein and to yieldably urge the handle outwardly from the barrel, electrical insulating means between the spring and batteries, a leaf spring mounted in the sleeve and extending at one end therefrom toward the batteries, and a pin carried by the spring and extending radially from the sleeve to enter the slot in the barrel, and the said slot having a portion permitting movement of the sleeve toward the batteries against the tension of the coil spring to bring the extended end of the leaf spring into electrical engagement with the batteries.

4. A stock prod having a barrel with points at one end and containing batteries and a transformer for developing a shocking potential across the points, the opposite end of the barrel being open for receiving the batteries and having a bayonet slot, a removable handle and control switch assembly having a sleeve loosely mounted in the open end of the barrel, a coil spring attached to the sleeve to slidably fit into the barrel against the batteries therein and to yieldably urge the handle outwardly from the barrel, electrical insulating means between the spring and batteries, a leaf spring mounted in the sleeve and extending at one end therefrom toward the batteries, and a pin carried by the spring and extending radially from the sleeve to enter the slot in the barrel, and the said slot having a portion permitting movement of the sleeve toward the batteries against the tension of the coil spring to bring the extended end of the leaf spring into electrical engagement with the batteries, and said slot also having a lateral extension into which the pin may be moved by twisting the handle to lock the end of the leaf spring out of contact with the batteries.

5. A stock prod having a barrel with points at one end and containing batteries and a transformer for developing a shocking potential across the points, the opposite end of the barrel being open for receiving the batteries and having a bayonet slot, a removable handle and control switch assembly having a sleeve loosely mounted in the open end of the barrel, a coil spring attached to the sleeve to slidably fit into the barrel against the batteries therein and to yieldably urge the handle outwardly from the barrel, electrical insulating means between the spring and batteries, a radially projecting, spring urged pin in the sleeve adapted to releasably enter the slot in the barrel and hold the handle to the barrel, the said slot having a position permitting endwise movement of the pin and of the sleeve toward the batteries, and a contact point carried by the sleeve for engaging the batteries to close a circuit to the said transformer, the said spring being so mounted on the sleeve as to extend entirely into and be enclosed by the barrel when the handle is in place.

6. A stock prod having a barrel and an electrically energized shocking device therein, said device including a pair of spaced electrode pins rigidly mounted in one end of the barrel, a removable handle construction comprising a handle having a sleeve portion mounted in the other end of the barrel, a yieldably supported, radially projecting pin in said sleeve portion, the barrel having a bayonet slot to receive the pin and having a portion extending lengthwise of the barrel so that endwise movement of the handle relative to the barrel is permitted, and switch means controlling said shocking device operative by such endwise movement of the handle, and the said slot having also a circumferentially extending portion into which the pin may be moved by twisting the handle relative to the barrel to there-

by lock the switch means in an inoperative condition.

7. A stock prod comprising an elongated barrel, a pair of spaced electrodes rigidly secured to and extending from one end of the barrel, battery means within the barrel and connected in circuit with said electrodes for producing a shocking potential across the points, a handle attached to the end of the barrel remote from the electrodes and having freedom for limited sliding movement axially with respect to the barrel, spring means urging the handle in the direction away from the barrel, and a switch adapted to be closed by movement of the handle into the barrel for closing the circuit to the electrodes.

8. A stock prod of the character described having a main section with a barrel open at one end, energizable points at the other end of the barrel, a detachable and replaceable handle having a sleeve portion loosely mounted in the open end of the barrel, a coil spring mounted around the sleeve portion and fastened thereto and positioned in the barrel, a spring-mounted, radially projecting pin in the sleeve portion, the said barrel

having a slot to accommodate the pin, and a contact extending from the lower end of said sleeve, the barrel containing batteries insulatingly engaged with the coil spring and in circuit with said points for energization of the prod when the handle and sleeve are moved inwardly of the barrel for moving said contact with engagement with the adjacent battery.

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