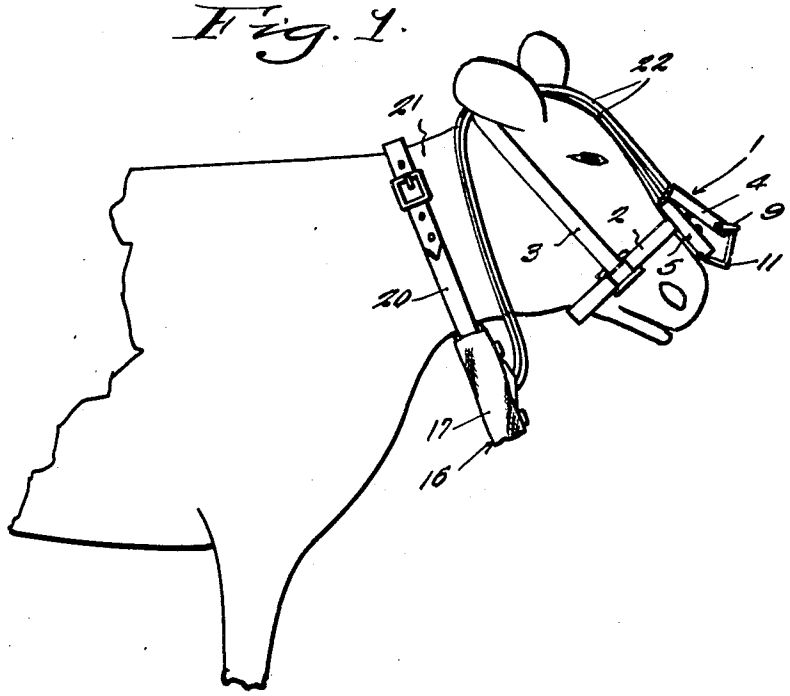
Aug. 20, 1940. P. H. KELLY 2,212,160

CALF WEANER

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Fig. 1.



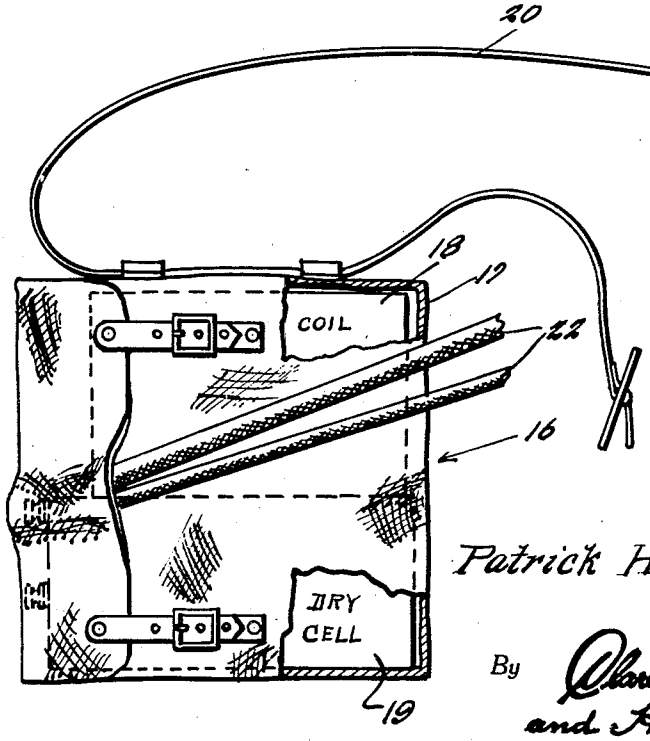


Fig. 2.

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CALF WEANER

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Fig. 3.

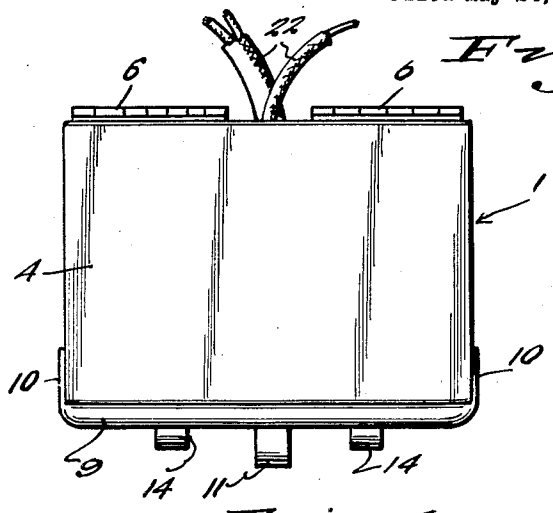
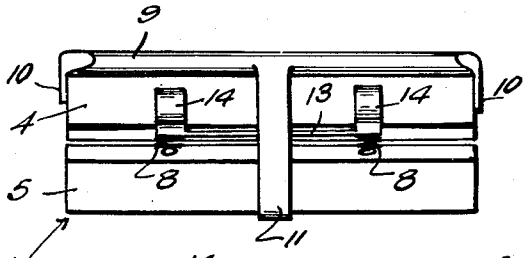


Fig. 4.



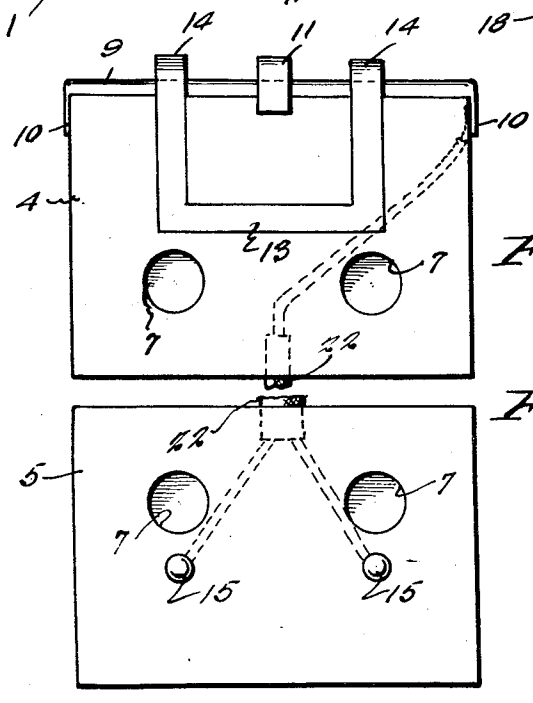
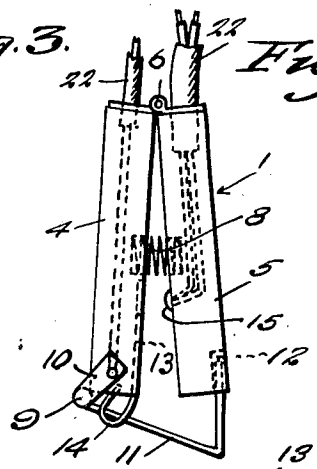


Fig. 7.

Fig. 5.



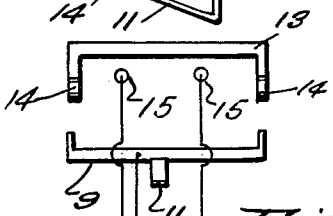


Fig. 8.

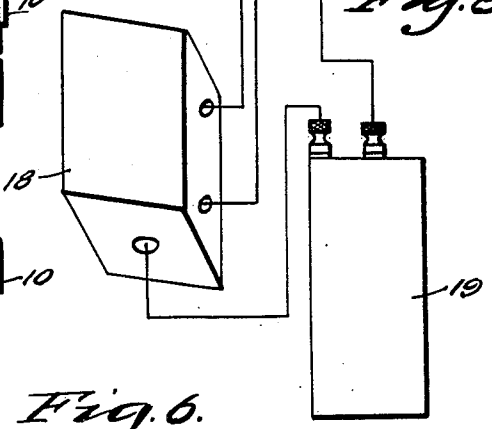


Fig. 6.

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Patented Aug. 20, 1940

2,212,160

UNITED STATES PATENT OFFICE

2,212,160

CALF WEANER

Patrick H. Kelly, Anatone, Wash., assignor of one-half to Clifford L. Benedict, Anatone, Wash.

Application May 24, 1939, Serial No. 275,517

4 Claims. (Cl. 119—142)

The present invention relates to new and useful improvements in calf or cow weaners and has for its primary object to provide, in a manner as hereinafter set forth, a self contained electrical apparatus of this character which is carried by the animal and which, should sucking be attempted, will subject both animals to an electric shock.

Another very important object of the invention is to provide an electric calf or cow weaning apparatus of the aforementioned character comprising switch means of a novel construction and arrangement for controlling the flow of current.

Other objects of the invention are to provide an electric weaner of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, light in weight and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in side elevation, showing an electrical weaning apparatus constructed in accordance with the present invention mounted in position for use.

Figure 2 is a view in elevation of the battery and coil unit, a portion of the case being broken away in section.

Figure 3 is a view in front elevation of the switch unit.

Figure 4 is a bottom plan view of the switch unit.

Figure 5 is a view in side elevation of the switch unit.

Figure 6 is a view in rear elevation of the front plate of the switch unit.

Figure 7 is a view in front elevation of the rear plate of the switch unit.

Figure 8 is a diagrammatic view, illustrating the electric circuit.

Referring now to the drawings in detail, it will be seen that the embodiment of the apparatus which has been illustrated comprises a switch unit which is designated generally by the reference numeral 1. The switch unit 1 is adapted to be secured in any suitable manner on the nose band 2 of a conventional halter or the like 3.

The unit 1 comprises a pair of complemental plates 4 and 5 of suitable insulating material which are hingedly connected at their upper edges, as at 6. Thus, the plates 4 and 5 are adapted to swing toward and away from each other. Formed in the opposed faces of the plates 4 and 5 are sockets 7 for the reception of coil springs 8 which yieldingly urge said plates apart.

Extending across the lower front portion of the plate 4 is a conductor bar 9 of suitable metal having its end portions secured to the sides of said plate 4, as at 10. Fixed at an intermediate point on the conductor bar 9 is a contact 11. The contact 11 is in the form of a resilient, angular hook or latch which is engageable with the plate 5 in the manner shown to advantage in Fig. 5 of the drawings, a recess or groove 12 being provided in said plate 5 for the reception of the free end portion of said contact. Thus, the coil springs 8 are prevented from swinging the plates 4 and 5 too far apart.

Embedded in the inner face of the plate 4 is a flat, substantially U-shaped conductor 13. The conductor 13 terminates, at its ends, in loops 14 constituting contacts which project from the lower end of the plate 4, the free ends of said contacts 14 being embedded in said plate. This is also shown to advantage in Fig. 5 of the drawings. The reference numeral 15 designates contact points which are mounted on the inner face of the plate 5 and which are engageable with the conductor 13.

In Figs. 1 and 2 of the drawings, the reference numeral 16 designates generally what may be referred to as the electric power unit. The unit 16 includes a case 17 of suitable material for the reception of a coil 18 and a dry cell battery 19. A supporting strap 20 is connected to the case 17 for suspending the unit 16 from the neck of the animal, as at 21.

It is thought that the operation of the invention will be readily apparent from a consideration of the foregoing. Briefly, the contacts 15 are held out of engagement with the conductor 13 by the coil springs 8. Of course, the conductor bar 9 and the contacts 15 are in circuit with the battery 19 and the coil 18 of the unit 16, as seen in Figure 8 of the drawings. The conductors 22 which electrically connect the units 1 and 16 pass upwardly from said unit 1 over the head of the animal between the ears where they may be secured in any suitable manner to the head strap of the halter 3 and then downwardly to said unit 16. Should sucking be attempted, the bar 9 is engaged with the cow and sufficient pressure is exerted to swing the block 4 rearwardly toward the block 5 against the tension of the coil springs 8, thus engaging the conductor 13 with the con-

tacts 15. This forms a main circuit from the battery 19, right hand wire of Figure 8, parts 15 and 13, the left hand wire, member 18 and the lowest wire back to the battery and a second circuit is formed from the cow's body through parts 14 and 13, the left hand contact 15, the left hand wire, part 18, the center wire, the part 9 through the cow's body back to the parts 14 and 13. As the part 11 is in contact with the calf's nose the touching of the cow by the calf will cause part of the current to flow through the calf as well as the cow.

It is believed that the many advantages of an electric calf weaner constructed in accordance with the present invention will be readily understood and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. An electric weaning device of the character described comprising a switch unit adapted to be mounted on an animal's nose, said unit including a pair of hingedly connected plates, resilient means yieldingly urging said plates apart, opposed contacts on the plates engageable with each other when the plates are pressed toward each other, a source of electric current closed when said opposed contacts engage each other, said source including an induction coil located in the circuit, a metal member projecting from one plate and connected with the contact on said plate and adapted to engage an animal, a second animal engaging member projecting from said one plate and electrically connected with the coil and a projection carried by said second animal engaging member for engaging a part of the first mentioned animal.

2. An electric weaning device of the character described comprising a switch unit adapted to be mounted on the nose of an animal, said unit including a pair of plates of insulating material hingedly connected to each other, a conductor bar mounted on one of the plates and adapted to engage another animal, a contact on said conductor bar electrically engageable with the first animal, said contact being in the form of an angular, resilient hook engageable with the other plate for limiting the swinging movement of the plates away from each other, springs mounted between the plates for opening said plates, a second contact mounted on said one plate and having a projecting part for engaging said second animal, contacts mounted on said other plate and bridged by the second contact when the plates are closed and means for electrically connecting the contacts mounted on said other plate and the conductor bar with a source of electric current.

3. An electric weaning device of the character described comprising a switch unit adapted to be mounted on the nose of an animal, said unit including a pair of plates of insulating material hingedly connected to each other, a conductor bar mounted on one of the plates and adapted to engage another animal, a contact on said conductor bar electrically engageable with the first animal, said contact being in the form of an angular, resilient hook engageable with the other plate for limiting the swinging movement of the plates away from each other, springs mounted between the plates for opening said plates, a second contact mounted on said one plate and being substantially U-shaped and having its limbs terminating in loops projecting beyond one of the marginal edges of said one plate for contacting said second animal, contacts mounted on said other plate and bridged by a part of the second contact when the plates are closed and means for connecting the contacts mounted on said other plate and the conductor bar with a source of electric current.

4. An electric weaning device of the character described comprising a switch unit adapted to be mounted on the nose of an animal, said unit including a pair of opposed, hingedly connected plates of insulating material, said plates having opposed sockets in their inner faces, coil springs engaged in the sockets for yieldingly urging the plates apart, contacts mounted on one of the plates, a substantially U-shaped contact mounted on the other plate, said substantially U-shaped contact terminating, at its ends, in loops projecting beyond one of the edges of said other plate, a conductor bar mounted transversely on said other plate and engageable with another animal, a contact mounted on said conductor bar and engageable with the first named animal, the third named contact being electrically connectible with the loops of the substantially U-shaped contact by said other animal, said third named contact comprising a resilient hook engageable with said one plate for limiting the swinging movement of the plates away from each other under the influence of the coil springs, and means for electrically connecting the contacts with a source of electric current.

PATRICK H. KELLY.