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(71) Applicant: **Astolfoni Fossi, Matteo**  
**00060 Riano (RM) (IT)**

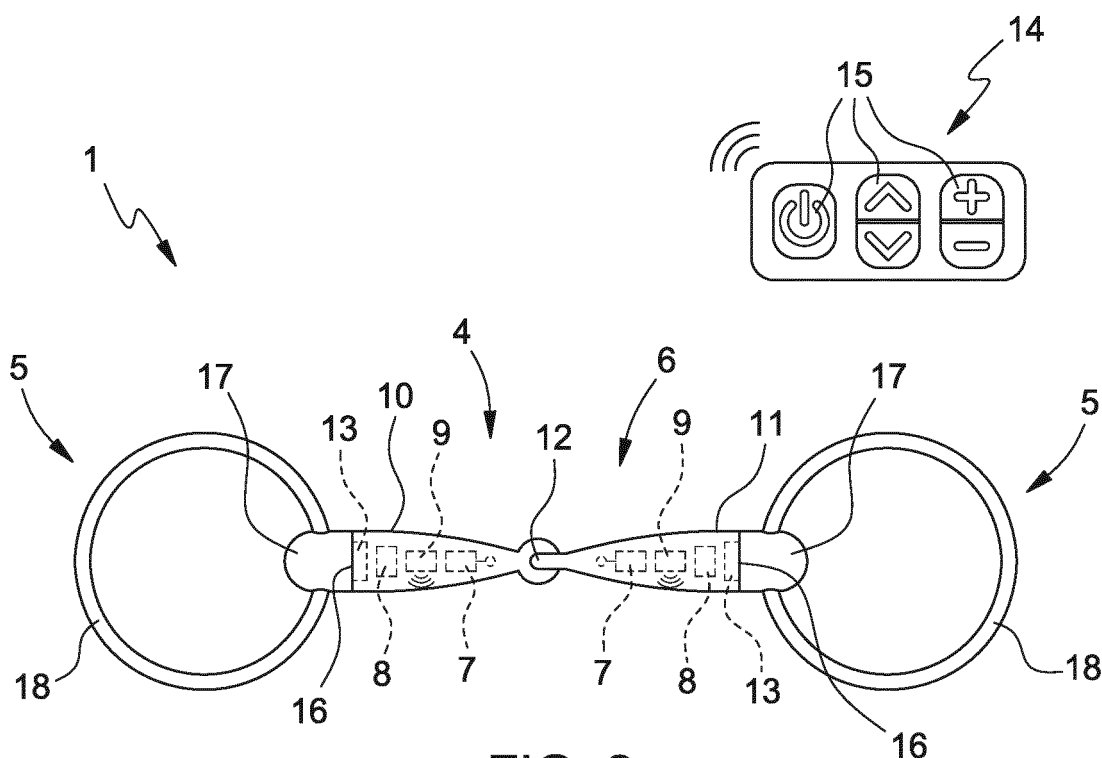
(72) Inventor: **Astolfoni Fossi, Matteo**  
**00060 Riano (RM) (IT)**

(74) Representative: **Sordini, Lorenzo et al**  
**Studio Torta S.p.A.**  
**Via Viotti, 9**  
**10121 Torino (IT)**

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(54) **VIBRATING DEVICE FOR A HORSE-RIDING MOUTHPIECE; HORSE MOUTHPIECE COMPRISING SAID VIBRATING DEVICE; METHOD TO FACILITATE THE PUTTING ON THE BIT OF A HORSE; USE OF A VIBRATING DEVICE**

(57) A vibrating device for a horse-riding mouthpiece; the vibrating device (4) being integrable/applicable in/to said mouthpiece (1) and being configured to be placed in the mouth (2) of a horse (3).



**FIG. 2**

## Description

### CROSS-REFERENCE TO RELATED APPLICATIONS

**[0001]** This patent application claims priority from Italian patent application no. 102020000015364 filed on 25/06/2020.

### TECHNICAL FIELD

**[0002]** The present invention relates to a vibrating device for a horse-riding mouthpiece, a mouthpiece comprising said vibrating device, a method to facilitate the putting on the bit of a horse and a use of said vibrating device.

**[0003]** In particular, the present invention relates to a vibrating device for a mouthpiece used for breaking in horses, for working with horses and for managing horses on the bit, for example for clippings, shoeing interventions or veterinary visits.

### BACKGROUND ART

**[0004]** Horse-riding mouthpieces have been known since man started to tame horses to use them, for example, as means of transport or to carry out farm work.

**[0005]** Over time, many types of different mouthpieces have been developed, so as to satisfy the different needs for controlling the horse.

**[0006]** Typically, mouthpieces for horses are used for controlling the horse so as to make it move in the desired direction, at a desired speed and with the desired gait, for example walk, trot or gallop.

**[0007]** Generally, a horse-riding mouthpiece comprises an elongated element, which is configured to be placed transversely in the mouth of a horse above the tongue of the horse and can be formed by one single body or by two articulated bodies; and two ring assemblies of different shape, each of which is connected in a jointed manner to a respective end of the elongated element and is configured to hook to a headboard and to reins, which from the outside of the mouth of the horse converge in the hand of the rider.

**[0008]** The mouthpiece converts the tension applied by a rider on the reins in a more or less intense pressure exerted inside the mouth of the horse, precisely on the bars, multiplying by various times the lever action of the reins, so as to give specific control signals to the horse.

**[0009]** Before being able to control the horse by means of the mouthpiece, it is necessary to carry out the so-called "putting on the bit" operation of the horse. Said operation provides for the relaxation of the muscles of the jaw of the horse, in particular of the masseter muscles, which stimulate the mastication of the horse. Said mastication indicates a general relaxation of the horse and is fundamental for the acceptance of the mouthpiece by the horse. In the presence of said signals indicative of the relaxation, the horse is docile and collaborative in

the work and the putting on the bit operation of the horse is to be considered successfully concluded.

**[0010]** A drawback of the currently known mouthpieces lies in the fact that, for the correct completion of the putting on the bit operation of the horse, a long training of the horse is necessary since the currently known mouthpieces are often rejected by the horse. In such case, besides expressly manifesting its agitation, the horse does not respond to the control signals given by the rider. Said drawback is particularly widespread among the young or inexperienced horses.

**[0011]** Furthermore, even if the known mouthpieces are accepted by the horse, said mouthpieces are not capable of totally focusing the attention of the horse on the signals given by the rider and on the tasks to carry out. In such circumstances, elements of distraction can agitate the horse and make it nervous causing it to be little collaborative and, in some cases, dangerous for the safety of the rider.

### DISCLOSURE OF INVENTION

**[0012]** A purpose of the present invention is to provide a vibrating device for a horse-riding mouthpiece which considerably facilitates the acceptance of the mouthpiece by the horse.

**[0013]** In accordance with the present invention a vibrating device for a horse-riding mouthpiece is provided; the vibrating device being integrable/applicable in/to said mouthpiece and being configured to be placed in the mouth of a horse.

**[0014]** Thanks to the present invention, it is possible to stimulate the mastication and the relaxation of the masseter muscles of the horse, indispensable for a correct decontraction of the horse, determining the relaxation and a greater collaboration at work of the horse.

**[0015]** In this manner, the putting on the bit operation of the horse is strongly facilitated. In other words, the mouthpiece is immediately accepted by the horse, which is instantly and lastingly collaborative. Furthermore, the vibration of the vibrating device totally focuses the attention of the horse on the signals given by the rider and any distractions become less important, thus allowing a complete concentration of the horse on the tasks to carry out and reducing the risks of refusals from the horse to the requests of the rider.

**[0016]** The vibrating device can also be used for giving, by means of the control of the vibrations of the vibrating device, remote control signals to the horse (for example in lungeing), without the need to directly apply a tension on the reins. The present vibrating device can be advantageously used both for breaking in and for training young horses, for working with expert horses, and also for managing horses on the bit, for example for clippings, shoeing interventions or veterinary visits.

**[0017]** Such aforementioned advantages are even more apparent when the vibrating device is used with a young or inexperienced horse, or when the horse is con-

trolled by a beginner rider.

**[0018]** A further purpose of the present invention is to provide a mouthpiece for horses which reduces at least in part the drawbacks of the prior art highlighted herein.

**[0019]** In accordance with the present invention, a mouthpiece for horses is provided; the mouthpiece comprising the vibrating device as previously described and two ring assemblies, each of which is coupled to a respective end of the vibrating device and is configured to couple with a headboard and with reins.

**[0020]** Thanks to the present invention, it is possible to ensure the immediate acceptance of the mouthpiece by the horse and to effectively control the horse, totally focusing the attention of the horse on the signals given by the rider.

**[0021]** A further purpose of the present invention is to provide a method for the putting on the bit of a horse which reduces at least in part the drawbacks of the prior art.

**[0022]** In accordance with the present invention, a method to facilitate the putting on the bit of a horse is provided; the method comprising the steps of:

- integrating/applying a vibrating device in/to a horse-riding mouthpiece;
- placing the mouthpiece in the mouth of a horse; and
- operating a vibration of the mouthpiece by means of the vibrating device.

**[0023]** Thanks to the present method, it is possible to considerably facilitate the putting on the bit of a horse, reducing the training time of the horse.

**[0024]** In other words, it is possible to make the horse immediately relaxed and collaborative. A further purpose of the present invention is to provide a use of a vibrating device which reduces at least in part the drawbacks of the prior art.

**[0025]** In accordance with the present invention, a use of a vibrating device for operating a vibration of a horse-riding mouthpiece is provided, so as to achieve the advantages indicated above in a simple and cost-effective manner.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0026]** Further characteristics and advantages of the present invention will be apparent from the following description of a non-limiting example embodiment, with reference to the accompanying Figures, wherein:

- Figure 1 is a perspective view, with parts removed for clarity and parts schematised, of a muzzle of a horse coupled to a horse-riding mouthpiece manufactured in accordance with a first embodiment of the present invention;
- Figure 2 is a plan view, with parts schematised, of the mouthpiece of Figure 1; and
- Figure 3 is a plan view, with parts schematised, of

the mouthpiece of Figure 1 manufactured in accordance with a second embodiment.

#### BEST MODE FOR CARRYING OUT THE INVENTION

**[0027]** With reference to Figure 1, reference numeral 1 indicates, as a whole, a horse-riding mouthpiece, which finds particular application for breaking in horses, for working with horses and for managing horses on the bit, for example for clippings, shoeing interventions or veterinary visits, without thereby limiting the wide range of possible uses thereof.

**[0028]** The mouthpiece 1 is configured to be placed transversely in the mouth 2 of a horse 3, above the tongue of the horse 3, and is connectable to bridles, not shown in the accompanying Figures, so as to control the movements of the horse 3.

**[0029]** With reference to Figure 2, a first embodiment of the present invention is shown, wherein the mouthpiece 1 comprises a vibrating device 4, which is integrable in the mouthpiece 1 and is configured to be placed in the mouth 2 of a horse 3 (Figure 1), and two ring assemblies 5, each of which is coupled to a respective end of the vibrating device 4 and is configured to couple with one or more bridles, not shown in the accompanying Figures.

**[0030]** More specifically, the vibrating device 4 comprises: an elongated element 6, which is configured to be placed in the mouth 2 of a horse 3 (Figure 1); two vibrating means 7, each of which is configured to operate a vibration of the elongated element 6; two batteries 8, each of which is configured to supply the respective vibrating means 7; and two wireless receiving means 9, each of which is configured to receive remote control signals and to control the respective vibrating means 7 as a function of said signals.

**[0031]** Each vibrating means 7, each battery 8 and each wireless receiving means 9 is carried by the elongated element 6.

**[0032]** In the case described and illustrated herein, the elongated element 6 comprises a body 10 and a body 11 coupled together by means of a central hinge 12. In particular, the central hinge 12 is configured to allow the relative rotation between the bodies 10 and 11 along a plurality of different rotation axes passing through the central hinge 12.

**[0033]** Specifically, each body 10, 11 is tubular in shape and carries, preferably inside therein, a respective vibrating means 7, a respective battery 8, and a respective wireless receiving means 9.

**[0034]** The number of the vibrating means 7, of the batteries 8 and of the wireless receiving means 9 described and illustrated herein is merely exemplifying and is not to be understood as limiting the scope of protection of the present invention.

**[0035]** Furthermore, the elongated element 6 comprises a socket 13 for the connection to a charging device, not shown in the accompanying Figures, for charging the

batteries 8. In particular, the elongated element 6 comprises a socket 13 for each body 10, 11, preferably of the USB type.

**[0036]** In accordance with a non-limiting embodiment of the present invention, each vibrating means 7 is configured to operate a vibration of the respective body 10, 11 and comprises an electric motor and/or a piezoelectric actuator and/or a magnetostrictive actuator.

**[0037]** More specifically, each vibrating means 7 is configured to vibrate at a frequency, with an intensity and with a vibration pattern remotely adjustable by means of a control device 14, such as for example a remote control, or a smartphone/tablet/smartwatch (not shown in the accompanying Figures) on which a software application (so-called "app") is conveniently installed for the remote control of the vibrating means 7.

**[0038]** In the non-limiting case of the present invention described and illustrated herein, the control device 14 is a remote control provided with push buttons 15 for activating the vibrating device 4 and adjusting the intensity, the frequency and the vibration pattern of the vibrating device 4.

**[0039]** In accordance with an embodiment, each vibrating means 7 is remotely controllable by means of vibration programmes preset and stored in the control device 14. In particular, said vibration programs can be preset and stored as a function of the peculiarities of a specific specimen of horse or as a function of the particular operating needs requested from the horse, for example as a function of a breaking in work or of a daily work.

**[0040]** In accordance with a non-limiting embodiment of the present invention, each wireless receiving means 9 is configured to receive radiofrequency signals from the control device 14, in particular signals of Bluetooth or Wi-Fi type.

**[0041]** In the case described and illustrated herein, each end of the elongated element 6 is coupled in a releasable manner to the respective ring assembly 5 by means of a respective bayonet coupling 16, which allows removing the respective ring assembly 5 and replacing it with a further ring assembly 5. In particular, each ring assembly 5 comprises a coupling portion 17, configured to couple to the vibrating device 4 by means of the bayonet coupling 16; and a ring 18, which is coupled in a jointed manner to the coupling portion 17 and to which reins and headboard are buckled, not shown in the accompanying Figures.

**[0042]** In accordance with variants of the present invention, not shown in the accompanying figures, each ring assembly 5 can take shapes different from the shape shown in the accompanying Figures. In particular, each ring assembly 5 can take the shape of any type of mouthpiece currently in commerce. By way of example, each ring assembly 5 can be of the rod or pessoa or pelham type.

**[0043]** With reference to Figure 3, a second embodiment of the mouthpiece 1 is shown, wherein the elongat-

ed element 6 comprises one single body 19 shaped so as to extend across the mouth 2 of a horse 3 (Figure 1) when in use.

**[0044]** The vibrating device 4, in accordance with the second embodiment, comprises two vibrating means 7, two batteries 8 and a wireless receiving means 9.

**[0045]** In accordance with variants of the second embodiment, not shown in the accompanying Figures, the vibrating device 4 comprises a different number of vibrating means 7, a different number of batteries 8 and a different number of wireless receiving means 9. In particular, the vibrating device 4 can comprise only one vibrating means 7, only one battery 8 and only one wireless receiving means 9.

**[0046]** In use and with reference to Figures 2 and 3, the vibrating device 4 is integrated in the mouthpiece 1. In particular, each end of the elongated element 6 is coupled, by means of the respective bayonet coupling 16, to the coupling portion 17 of the respective ring assembly 5.

**[0047]** In accordance with a variant of the present invention, not shown in the accompanying Figures, one or more vibrating means 7 are applied in a releasable manner (for example by means of one or more elastic bands, adhesive means, etc.) to a bit of a known mouthpiece.

**[0048]** Subsequently, with reference to Figure 1, bridles, not shown in the accompanying Figures, are coupled to the ring assemblies 5 and the mouthpiece 1 is placed transversely in the mouth 2 of the horse 3.

**[0049]** At this point, with reference to Figures 2 and 3, each vibrating means 7 is activated remotely, operating the vibration of the vibrating device 4. Said vibration is remotely modulated by means of the push buttons 15 of the control device 14, which sends control signals of each vibrating means 7 to the respective wireless receiving means 9.

**[0050]** In particular, by means of the control device 14, the frequency, the intensity and the vibration pattern of the vibrating device 4 are adjusted remotely.

**[0051]** In accordance with an embodiment, each vibrating means 7 is remotely controlled by means of vibration programmes preset and stored in the control device 14.

**[0052]** Once finished the work with the horse 3 (Figure 1) or when the batteries 8 are exhausted, the vibrating device 4 is removed from the ring assemblies 5 and the batteries 8 are charged for a following use of the vibrating device 4 by means of a charging device, not shown in the accompanying Figures, which is connected to the sockets 13.

**[0053]** It is apparent that variants can be made to the present invention without thereby departing from the scope of protection of the appended claims.

## Claims

1. A vibrating device for a horse-riding mouthpiece; the

vibrating device (4) being integrable/applicable in/to said mouthpiece (1) and being configured to be placed in the mouth (2) of a horse (3).

2. The vibrating device as claimed in claim 1, and comprising an elongated element (6), configured to be placed in the mouth (2) of a horse (3); and at least one vibrating means (7), which is carried by the elongated element (6) and is configured to operate a vibration of the elongated element (6). 5
3. The vibrating device as claimed in claim 2, and comprising at least one battery (8), which is carried by the elongated element (6) and is configured to supply the at least one vibrating means (7). 10
4. The vibrating device as claimed in claim 3, wherein the elongated element (6) comprises at least one socket (13) for the connection to a charging device of the at least one battery (8). 15
5. The vibrating device as claimed in any one of claims 2 to 4, and comprising at least one wireless receiving means (9), which is carried by the elongated element (6) and is configured to receive remote control signals and to control the at least one vibrating means (7) as a function of said signals. 20
6. The vibrating device as claimed in any one of claims 2 to 5, wherein the elongated element (6) is tubular in shape and is configured to be placed transversely in the mouth (2) of the horse (3) above the tongue of the horse (3); the at least one vibrating means (7) being placed inside the elongated element (6). 25
7. The vibrating device as claimed in any one of claims 2 to 6, wherein the elongated element (6) comprises a first body (19) shaped so as to extend across the mouth (2) of the horse (3) when in use. 30
8. The vibrating device as claimed in any one of claims 2 to 6, wherein the elongated element (6) comprises a second body (10) and a third body (11) coupled together by means of a central hinge (12). 35
9. The vibrating device as claimed in claim 8, wherein each body (10, 11) carries a respective vibrating means (7). 40
10. The vibrating device as claimed in any one of claims 2 to 9, wherein each vibrating means (7) comprises an electric motor and/or a piezoelectric actuator and/or a magnetostrictive actuator. 45
11. The vibrating device as claimed in any one of claims 2 to 10, wherein each vibrating means (7) is configured to vibrate at a frequency, with an intensity and with a vibration pattern; the frequency and/or the in-

tensity and/or the vibration pattern of each vibrating means (7) are remotely adjustable by means of a control device (14), preferably by means of a remote control or a smartphone or a tablet.

12. A horse mouthpiece; the mouthpiece (1) comprising the vibrating device (4) as claimed in any one of the foregoing claims and two ring assemblies (5), each of which is coupled to a respective end of the vibrating device (4) and is configured to couple with a headboard and reins.
13. The mouthpiece as claimed in claim 12, wherein the vibrating device (4) is coupled in a releasable manner to the two ring assemblies (5), preferably by means of respective bayonet couplings (16).
14. The mouthpiece as claimed in claim 12 or 13, wherein each ring assembly (5) is of the ring or rod or pessa or pelham type.
15. A method to facilitate the putting on the bit of a horse; the method comprising the steps of:
  - integrating/applying a vibrating device (4) in/to a horse-riding mouthpiece (1);
  - placing the mouthpiece (1) in the mouth (2) of the horse (3); and
  - operating a vibration of the mouthpiece (1) by means of the vibrating device (4).
16. The method as claimed in claim 15, and comprising the step of remote controlling the vibration of the vibrating device (4).
17. Use of a vibrating device (4) to operate a vibration of a horse-riding mouthpiece (1).

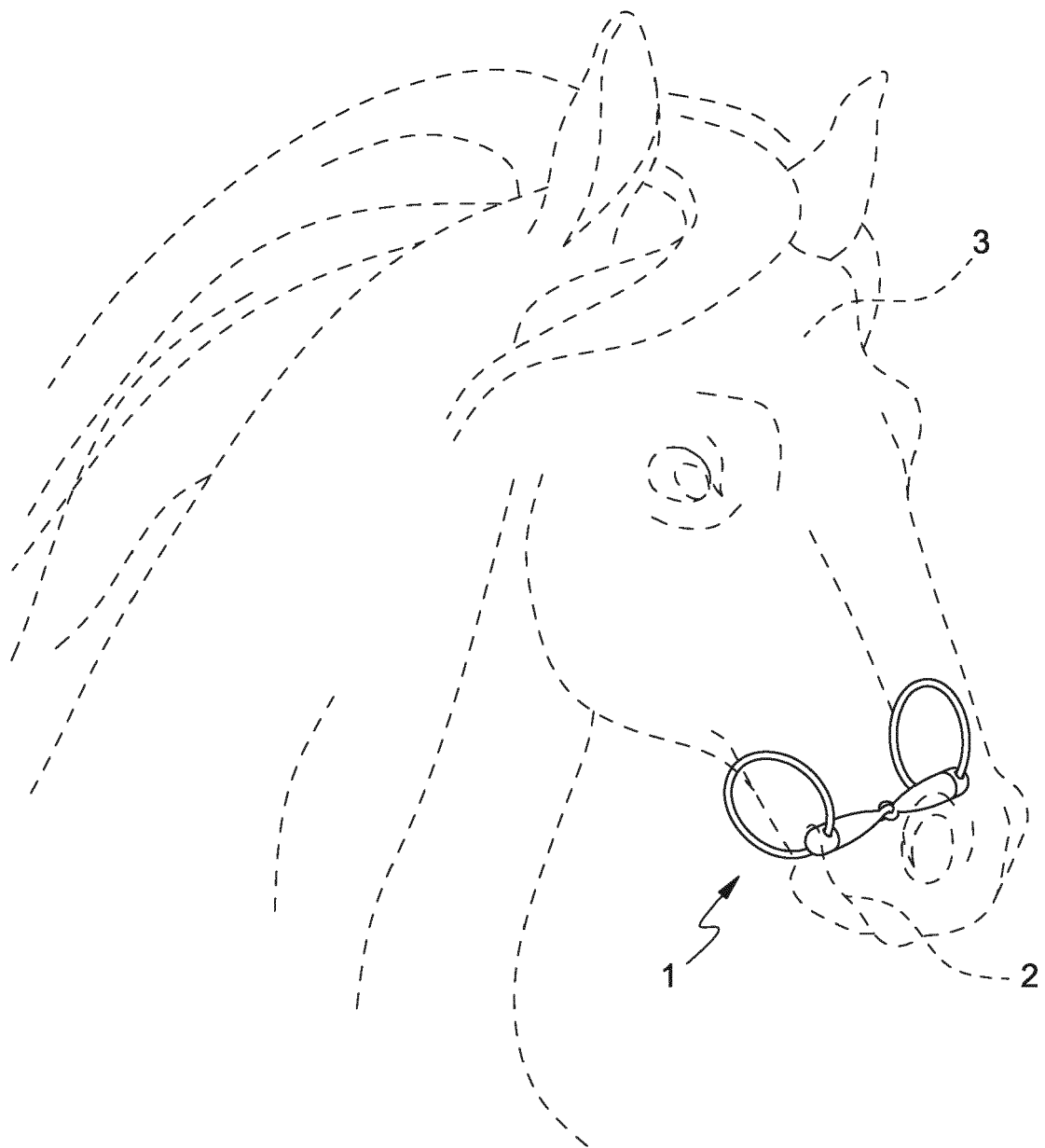
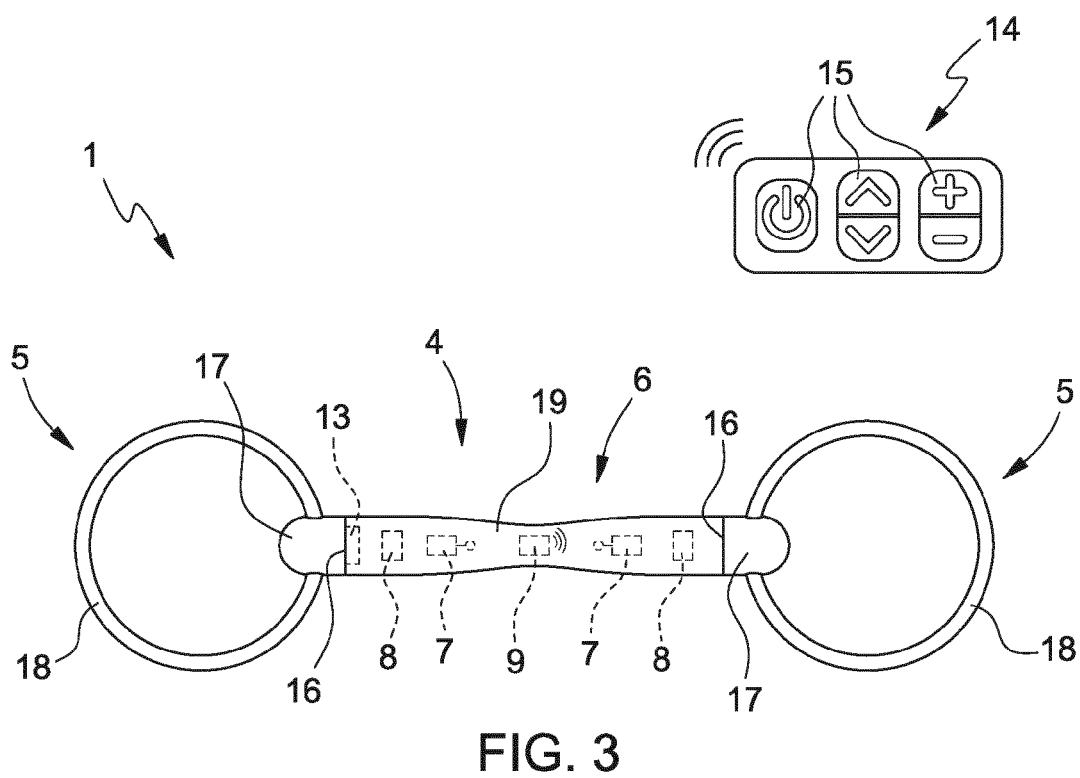
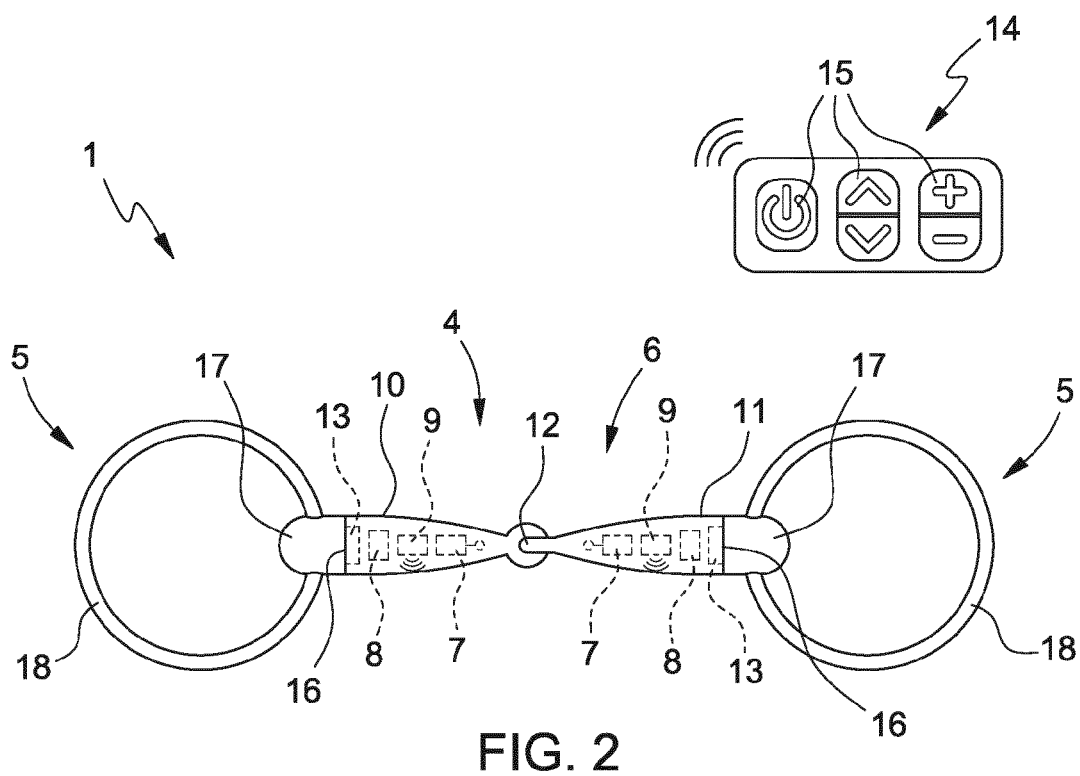


FIG. 1





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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 27 September 2021	Examiner Espeel, Els
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**REFERENCES CITED IN THE DESCRIPTION**

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