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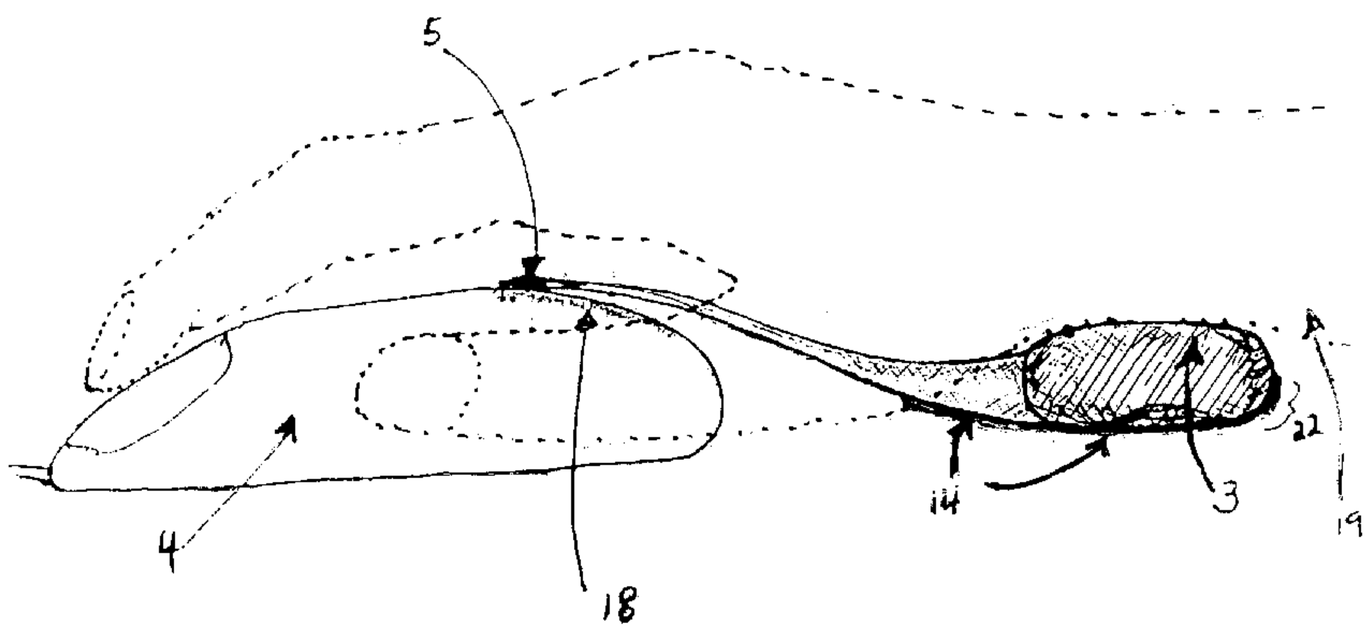
(12) (19) (CA) **Demande-Application**

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(54) **LE « WRISTTHOTIC CHARIOT »**
(54) **THE WRISTTHOTIC CHARIOT**



(57) The Wristthotic Chariot (also referred to as the invention) is a device designed to relieve the discomfort of Carpal Tunnel Syndrome and wrist/arm Repetitive Strain Injury (RSI) often caused by the utilization of the computer tracking device commonly referred to as the "mouse". When the mouse is use, it may, from time to time, cause the wrist to bend, stretch, receive pressure and experience repetitive motion. The invention enables the wrist to maintain a more neutral position to avoid such pronation, wrist extension and ulnar nerve deviation that may cause nerve irritation, tendon and muscle strain that often leads to RSI, the most common known as Carpal Tunnel Syndrome (CTS). The carpal tunnel is a small space in the wrist containing tendons, nerves and blood vessels which can become tingly and sore when stressed by repetitive finger use and extended (bent back) wrist posture. The invention is attached to an existing mouse's upper surface in the fashion similar to that of a chariot or buggy attached to a vehicle. The invention may be attached in two fashions: 1. Accessory: Via the use of a dome, suction cup or Velcro tm., so as to allow for the removal and adjustment of the invention as required or preferred by the user. 2. Mouse Extension: The invention can be fixed permanently to the mouse to create an elongated mouse that extends to the wrist area. The invention raises or elevates the wrist while the wrist is resting upon the invention's foam/plastic support which is elevated to a height of one half to 3 inches (1.5 to 8 centimeters). while laying on a flat surface or mouse pad While in this state of elevation the wrist is both supported and/or cushioned by the invention. Due to its attached nature, the invention moves with the mouse unlike prior art/conventional wrist rests/wrist bars that remain static. Such attachment of the invention to the mouse ensures the wrist remains in a more constant fixed position as the mouse is guided and maneuvered by the user.

APPARATUS THAT SUPPORTS AND CUSHIONS THE WRIST TO PREVENT AND RELIEVE REPETITIVE STRAIN INJURIES ASSOCIATED WITH COMPUTER MOUSE USAGE.

ABSTRACT OF THE WRISTTHOTIC CHARIOT

The Wristthotic Chariot (also referred to as the *invention)* is a device designed to relieve the discomfort of Carpal Tunnel Syndrome and wrist/arm Repetitive Strain Injury (RSI) often caused by the utilization of the computer tracking device commonly referred to as the "mouse" . When the mouse is use, it may, from time to time, cause the wrist to bend, stretch, receive pressure and experience repetitive motion. The *invention* enables the wrist to maintain a more neutral position to avoid such pronation, wrist extension and ulnar nerve deviation that may cause nerve irritation, tendon and muscle strain that often leads to RSI, the most common known as Carpal Tunnel Syndrome (CTS). The carpal tunnel is a small space in the wrist containing tendons, nerves and blood vessels which can become tingly and sore when stressed by repetitive finger use and extended (bent back) wrist posture.

The *invention* is attached to an existing mouse's upper surface in the fashion similar to that of a chariot or buggy attached to a vehicle. The *invention* may be attached in two fashions: 1. Accessory: Via the use of a dome, suction cup or Velcro tm., so as to allow for the removal and adjustment of the *invention* as required or preferred by the user. 2. Mouse Extension: The invention can be fixed permanently to the mouse to create an elongated mouse that extends to the wrist area.

The *invention* raises or elevates the wrist while the wrist is resting upon the *invention's* foam/plastic support which is elevated to a height of one half to 3 inches (1.5 to 8 centimeters). while laying on a flat surface or mouse pad While in this state of elevation the wrist is both supported and/or cushioned by the *invention*. Due to its attached nature, the *invention* moves with the mouse unlike prior art/conventional wrist rests/wrist bars that remain static. Such attachment of the *invention* to the mouse ensures the wrist remains in a more constant fixed position as the mouse is guided and maneuvered by the user.

SPECIFICATION

The *invention* relates to the requirement for additional support, elevation and cushioning for the wrist when persons use a device referred to as a computer mouse. The advent of Graphical User Interfaces (GUI) and the Internet have made mouse usage even more prevalent. When utilized, these mouse tracking devices require repetitive or abnormal movements and positions of the wrist which may cause various degrees of soreness and pain often manifesting in medical conditions such as Carpal Tunnel Syndrome (CTS), Repetitive Strain Injuries (RSI) and Cumulative Trauma Disorder (CTD). The lost human productivity attributed to RSI, CTS CTD is immense and will continue to multiply if attention to prevention and improved work place ergonomics is not practiced. The *invention* is one such ergonomic solution that can be employed as a means of prevention and relief of wrist soreness that may have resulted from mouse usage.

To combat such injuries, the ergonomics of the mouse and the workplace are often altered to reduce the repetitive strain on the wrist and other parts of the anatomy. Prior art consists of solutions such as static wrist rests, altered mouse pads, foam bars, wrist gloves that support the wrist, foam pads that attach to the wrist and often there are rigid splints that enable only very minimal restricted activity to be performed. If all else should fail then surgery is required to cure CTS, RSI and CTD.

The *invention* employs the principal of supporting the wrist upon a foam cradle that elevates the wrist height to effectuate a neutral wrist position of 180 degrees or 1/2 inch to 3 inches above a flat surface such as a desk top or mouse pad. To gain a constant neutral position, the *invention,* unlike prior art, is attached to the mouse in either a detachable/adjustable fashion or in a fixed fashion to create what could be described as an elongated mouse.

In addition to the elevation of the wrist, there is a lateral support quality of the *invention* that reduces the lateral, or side to side, movement of the wrist much like a orthopaedic orthotic (an insert for a shoe providing support for the foot), thus preventing excessive pronation or supination (left and right movements) of the wrist.

The *invention* is constructed with plastic or rubber materials such as, but not limited to, urethane films, polypropylenes, silicon and vinyles, and/or multicellular cushioning polyurethane foam, integral skin polyurethane foam, styrofoam , but not excluding elastomeric gels or pressurized air bags. Properties such as heat and cold retention will, from time to time, be an inherent property of those materials selected for the construction of the *invention.* The implanting of magnets, known for their medicinal properties for arthritis pain reduction, will be incorporated in some models of the invention. The *invention* can be either attached to the mouse so as to swivel, or when constructed of a rubber/urethane/neoprene, such flexible materials will allow the flexible maneuvering of the mouse without compromising the fixed wrist position. The bottom portion of the *invention* will glide upon the mouse or desk service via the use of low friction materials attached/affixed to the bottom of the *invention.* In all cases, the wrist is a constant distance from

the mouse because the *invention* becomes, or is, a permanent fixture to, or of, the mouse unlike prior art such as wrist rests or wrist bars that are static where wrist support, height and cushioning is never constant as the mouse is maneuvered about thus varying the wrist position upon these fixed support aids. The exception being permanent wrist bands

The *invention* therefore can be an integral part or extension of the mouse or can be packaged/ marketed as a mouse accessory. In the former situation the *invention* would be permanently attached to and marketed as part of the mouse with the option for removal or adjustment. The latter would be a separately marketed unit that could be attached to most existing mouse devices via a method such as double sided tap, suction cup or Velcro tm.

DESCRIPTION OF THE MANNER IN WHICH THE *INVENTION* WILL BE PUT INTO OPERATION

FIG. **1** is a side plan view of the *invention* lying flat upon a desk surface attached to a mouse
FIG. **2** is a side view of unattached unit
FIG. **3** is a perspective with wrist supported by the *invention*
FIG. **4** is a perspective of a permanently attached unit of polyurethane foam: Longmouse
FIG. **5** is a perspective top view
FIG. **6** is perspective showing the flexibility of the unit during maneuvering

The *invention* will bear the weight of the wrist and support same, thus preventing the wrist from experiencing exaggerated lateral movement. The height of the foam/plastic support **3** will elevate the wrist 1/2 inch to 3 inches in height above a flat firm surface such as a desk surface or mouse pad to allow for the wrist to attain a more neutral position FIG **3&4** thus preventing the back of the hand to extend too greatly, for such hyper-extension can cause the above mentioned medical conditions referred to as CTS/ RSI.

The *invention* is attached to the mouse upper surface **4** via a plastic/metal rivet **5** that allows for the unit to swivel and enable the mouse to be maneuvered from side to side. The *invention* can be either permanently fixed to the mouse device **5** or made detachable via Velcro tm **16,** suction cup **18** or dome fastener devices **17.** The Velcro tm/suction cup method of attachment will afford a greater amount of flexibility as to the placement/adjustment of the *invention* upon the mouse **20**

The *invention*, when constructed of flexible rubber/urethane/silicone materials, can attain enhanced swivel and compression characteristics FIG **6-12.** thus enabling the user to maneuver the mouse while keeping the wrist in a constant state of support FIG **3&4 - 19**

The *invention* is constructed of flexible plastic or polyurethane foam **1** with a foam pad **3** or a molded plastic that can be molded to support or cradle the wrist in the fashion of the foam support **3**. FIG **5** pictures a molded plastic/polyurethane or die cut neoprene flexible rubber single piece. The bottom surface of the *invention* that slides/glides upon the mouse pad or desk surface is comprised of low friction materials such a Teflon tm , smooth plastics or small wheels FIG **1, 2, 3, 6-14**

SPECIFIC CLAIMS for WRISTTHOTIC CHARIOT

The embodiments of the Wristthotic Chariot, hereafter referred to as the *invention,* in which an exclusive property or privilege is claimed are defined as follows:

1. A method of supporting a user's wrist and forearm, and the carpals and ulnar nerves of that wrist, to aid in the prevention, relieve and treatment of wrist soreness commonly referred to as Carpal Tunnel Syndrome or Repetitive Strain Injury by providing said user or person with an apparatus, the *invention*, embodied with a foam/gel/air cushioned support **(Fig 1 #3)** under the wrist and forearm area, that attaches to a computer input/tracking device commonly called the mouse **(Fig 1 #4).**
2. The method of **claim 1** wherein the said cushioned support **(Fig 1-7 #3)** will enable the attainment of a wrist/forearm height above a desk or "mouse pad" surface of at least one eighth inch and no more than four inches in height **(Fig 3, 4, 7 #19).**
3. The method of **claim 2** wherein the wrist/forearm attains a neutral position **(Fig 3, 4,7 #19)** that avoids the hyper-extension of the wrist or bending backward, that is believed to be the cause of wrist soreness or discomfort often referred to as Carpal Tunnel Syndrome or Repetitive Strain Injury.
4. The *invention's* said cushioned support of **claim 1** wherein is attached, much like a trailer hitch to a vehicle or a chariot/wagon to a horse, along the back spine, or top median portion of the mouse **(Fig 6 #20)** via permanent rivet, bonding or detachable method such Velcro, suction cups or domes **(Fig 5 #5, #17, # 16 #18) (Fig 8 #5, #17).**
5. The method of **claim 4** wherein the user's wrist remains in a fixed height position of one eighth (1/8) to four (4) inches **(Fig 3 #19)**, yet the distance between the mouse and the wrist may be altered by contracting the fingers upon the mouse, **(Fig 7 #1)** or shifting the wrist, in a manner that enables the mouse to be maneuvered in all directions upon the mouse pad or desk surface as the wrist remains fixed or supported in position upon the cushioned support **(Fig 1 #3)** due to the flexible and contractable neck of the invention **(Fig 7&8 #1).**
6. The method of **claim 4** wherein is adjustable as to the position of the *invention* upon the mouse's spine or median section **(Fig 6 #20)** via a strip of a hook and loop Velcro one eighth inch (1/8") to three inches (3") long and no more than one inch in width that is permanently fixed to the spine or median **(Fig 3 & 8 #18).**
7. The *invention's* said cushioned support of **claim 1** wherein may be fashioned in a donut shape **(Fig 5 #21)** or with a hole in the middle of the cushioned portion **(Fig 1-7 #3)** of approximately one half inch to two inches in diameter that reduces pressure by surrounding, but not touching the median nerve area of the underside, or palm side of the wrist/forearm, thus dispersing the pressure or contact of the *invention* to the lateral or outer wrist surface areas to reduce the advent of various wrist soreness, such as Carpal Tunnel Syndrome, often caused by such pressure in the median area.
8. The *invention's* said cushioned support of **claim 1** wherein may contain some heat containment or retention properties that provide a soothing warmth for the wrist that may produce medicinal results.

9. The *invention's* said cushioned support of **claim 1** wherein may contain some cold containment or retention properties that provide a soothing cooling for the wrist that may produce medicinal results.
10.The *invention's* said cushioned support of **claim 1** wherein may contain some magnetic properties that provide a relief for the wrist, especially arthritic problems, that may produce medicinal results.
11. The *invention's* said cushioned support of **claim 1** wherein may contain some copper that provides a relief for the wrist, especially arthritic problems, that may produce medicinal results.
12.The *invention's* said additional properties of **claims 8-11** are not limited to those properties and will, as research proves that other properties, such as copper, may sooth, relieve or perhaps cure some ailments of the wrist or arm, be open to additional properties either in combination or by themselves.
13. The *invention's* said additional properties may contain specific scents/smells that are designed to provide aromatherapy.
14. The *invention's* said cushioned support of **claim 1** shall contain low friction qualities at the bottom portion contacting the desk /working surface **(Fig 1,2,3 #14)** that will enable the *invention* to slide upon the desk/mouse working surface.
15. The *invention's* said sliding quality of **claim 14** where the low friction bottom surface **(Fig 1,2,3,4,7,8 #14)** is beveled or angles at approximately 45 degrees **(Fig 1 #22)** to enable the foam pad **(Fig 1 #3)** to sit, or be seated inside it, and to enable the *invention* to slide over any elevated items on the desk working surface such as the height of the mouse pad unit.
16. The *invention's* said **claim 1** wherein may be shaped as a cradle to afford a lateral support or reduce the twisting of the user's wrist and prevent the wrist from slipping off the cushioned portion.
17. The *invention* of **claim 1** wherein the material is selected from plastic, silicon, leather, nylon, rubber and cloths such as polyester and cotton that may have hypo-allergenic properties.
18. The *invention* of **claim 1** wherein the processes for manufacturing are injection molding, vacuum forming, die cutting with the extensive use of adhesives to bond materials.
19. The *invention* of **claim 1** wherein the user's hand and wrist do not contact the working surface and due to the sliding factor of **claims 14 and 15** the maneuverability of the mouse device is enhanced.

DRAWINGS OF THE WRISTTHOTIC CHARIOT

FIG. 1

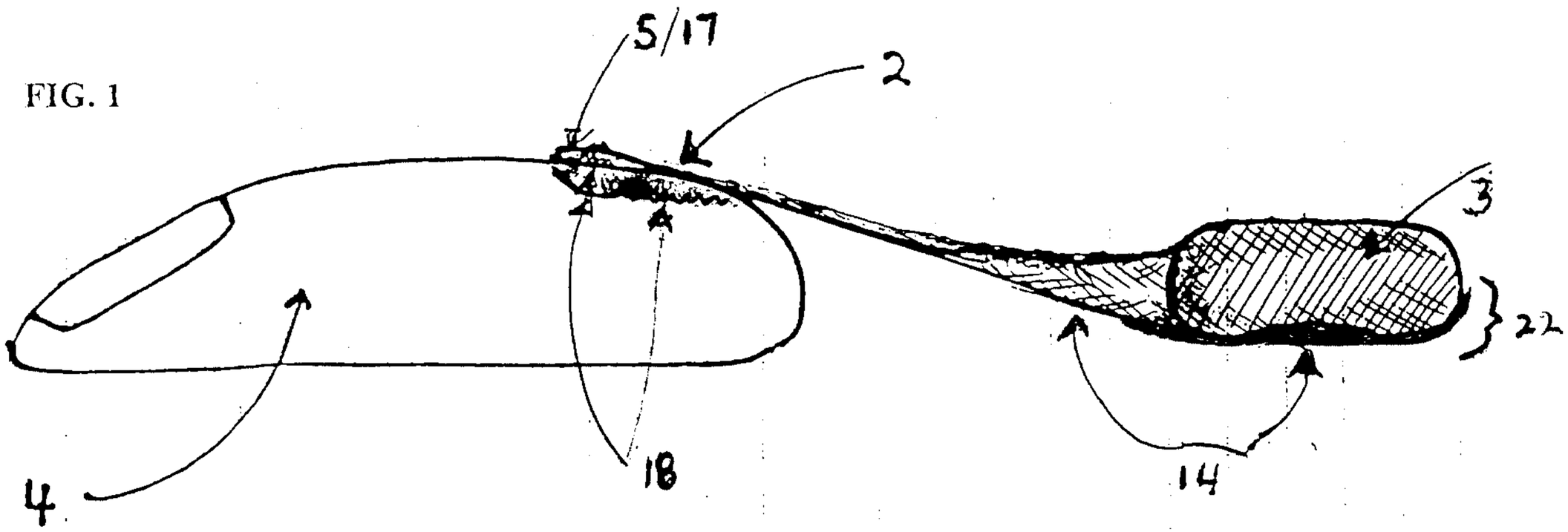


FIG. 2

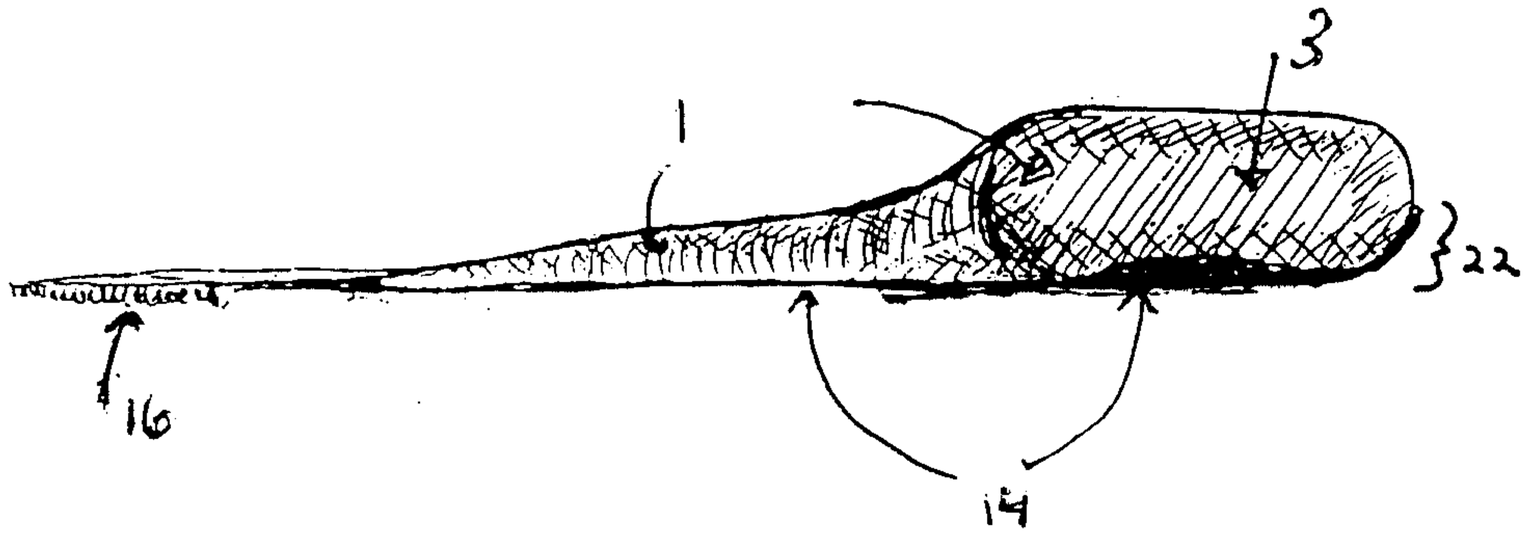


FIG. 3

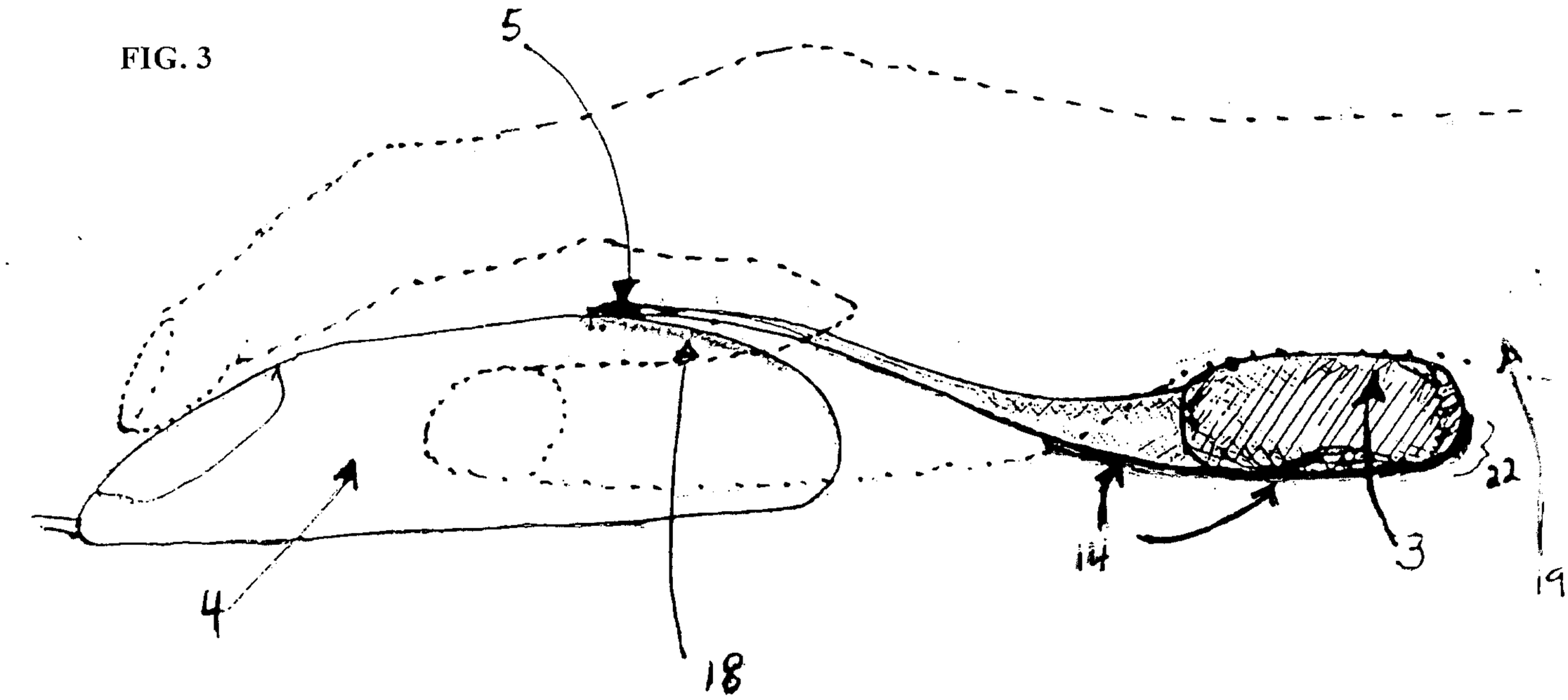


FIG. 4

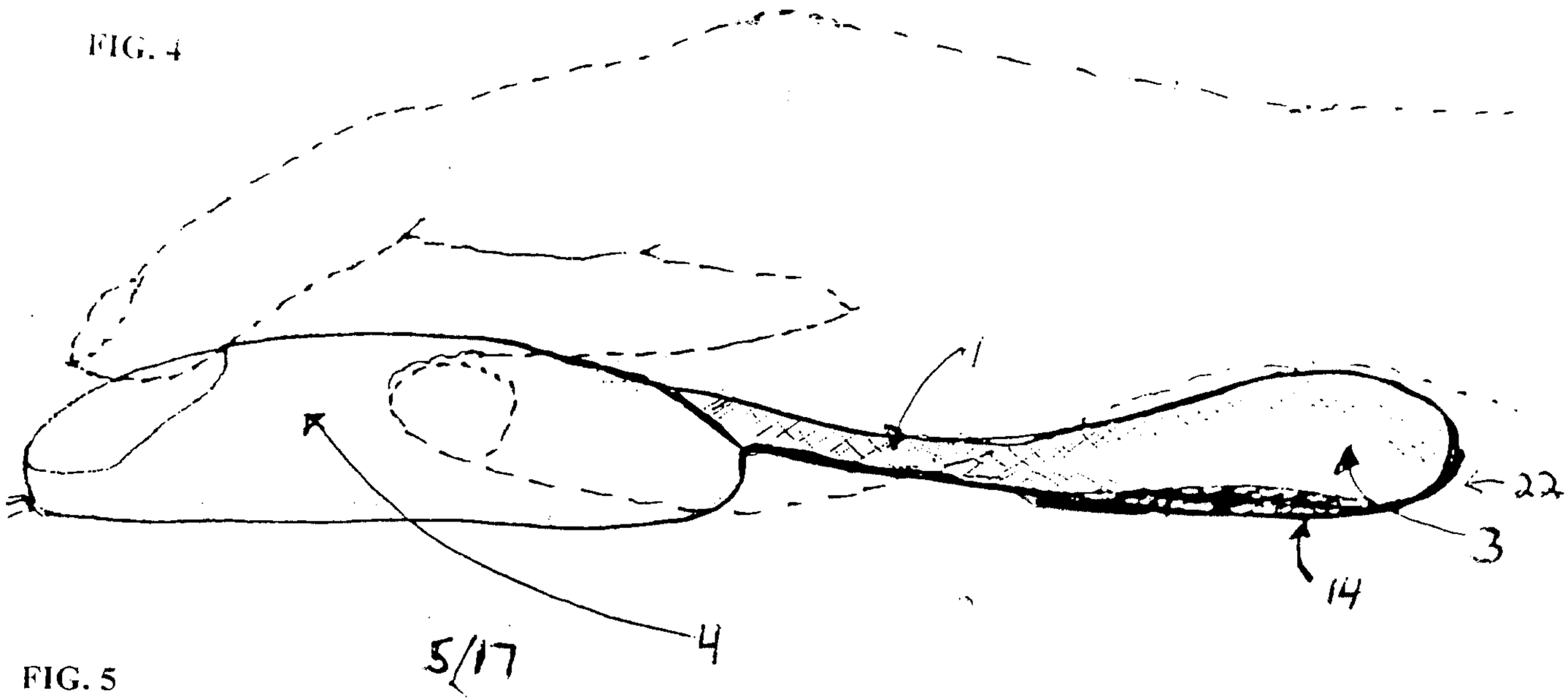


FIG. 5

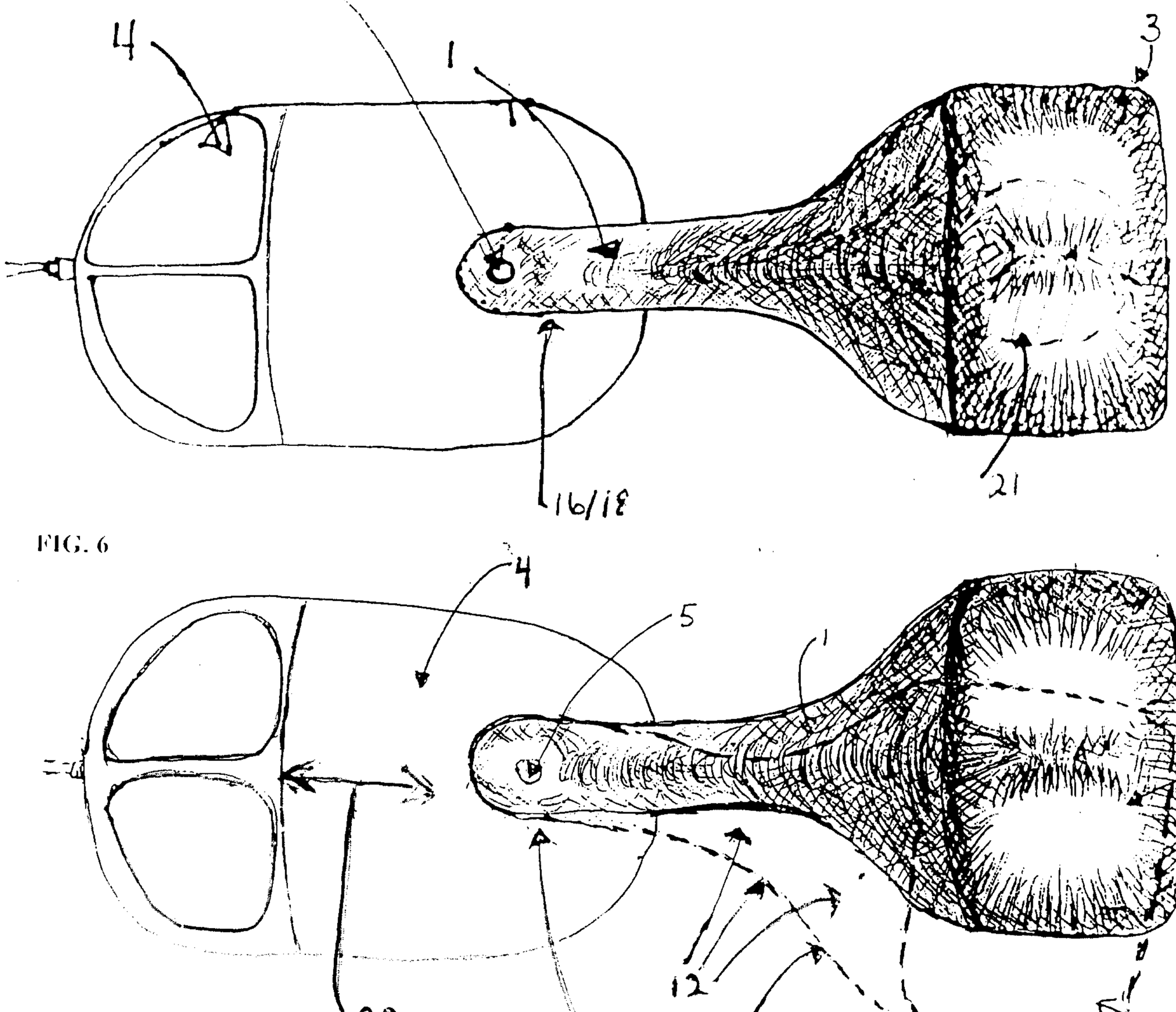


FIG. 6

FIG. 7

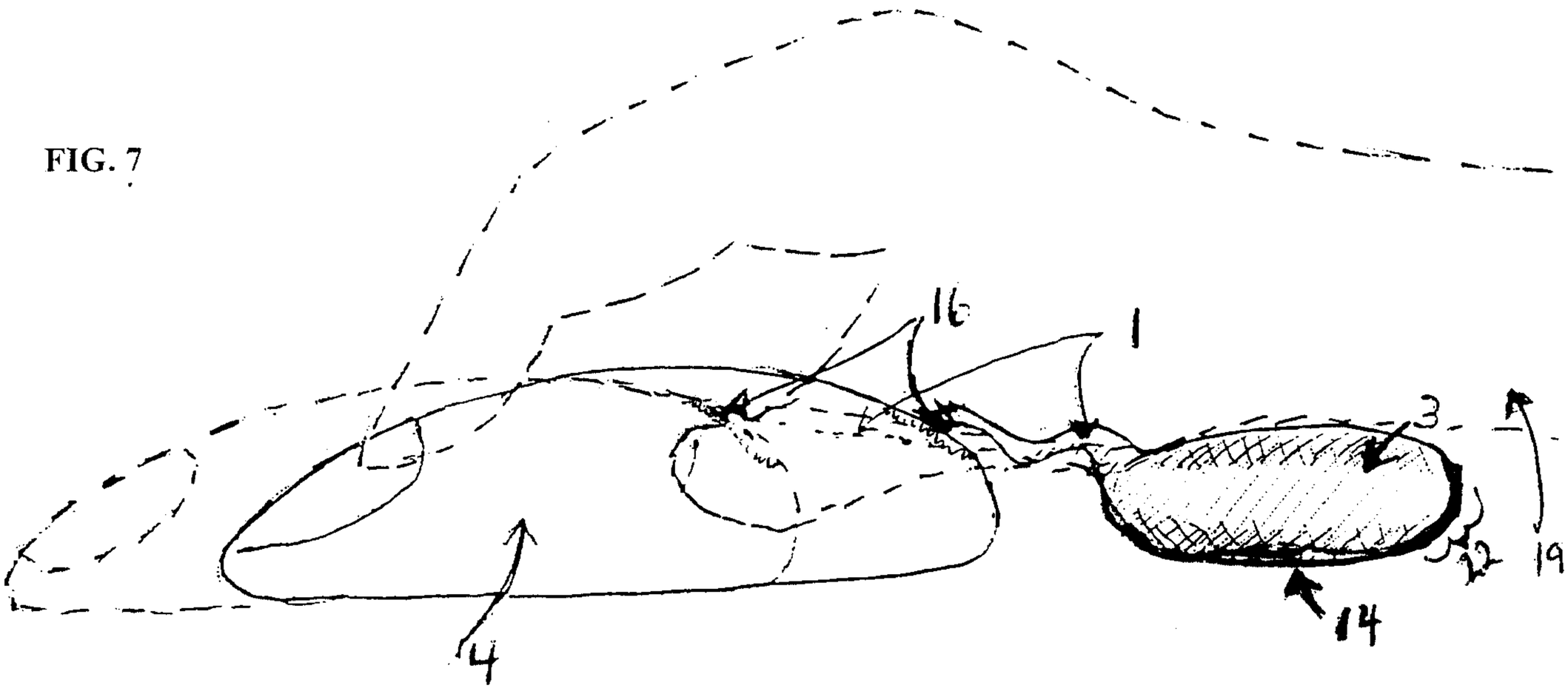
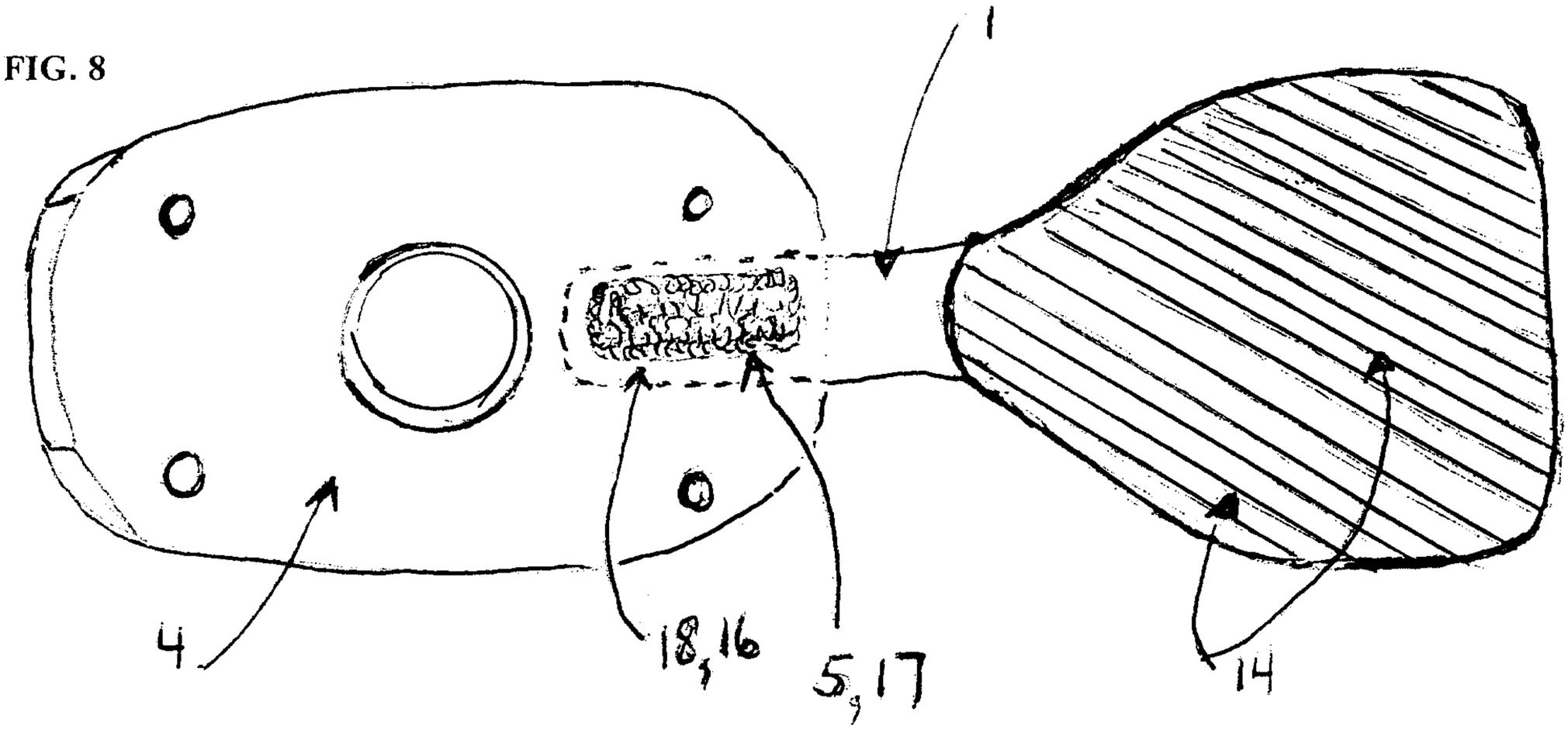


FIG. 8



The *WristThotic*
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