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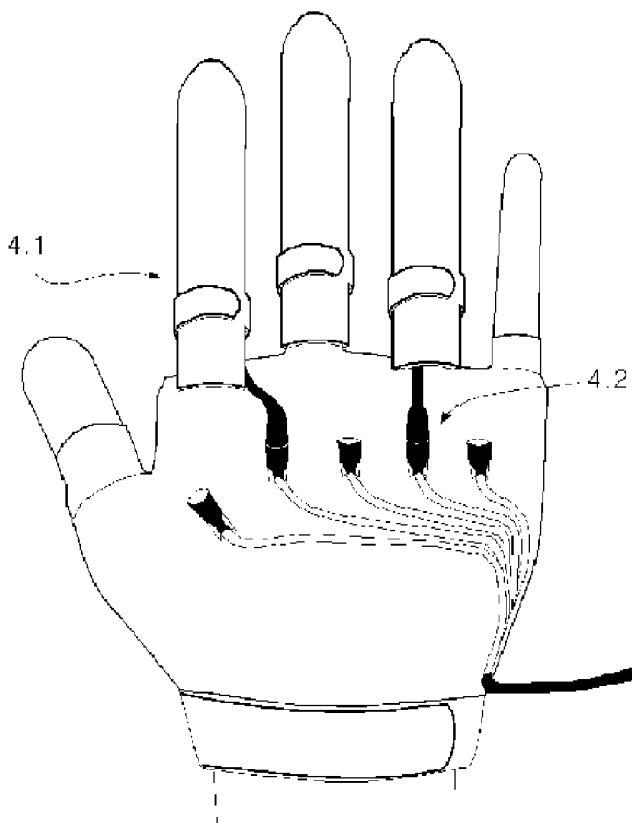
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(54) Title: FINGER PARTS, GLOVE PARTS, GLOVE MOUSE



(57) Abstract: A computer input device on a glove includes a finger part for information input and a flat of hand part. The finger part includes input device having a function of computer mouse on the end of the fingers. And the finger part is connected with the plat of hand part by a velcro on and in the center of the fingers.

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Description

FINGER PARTS, GLOVE PARTS, GLOVE MOUSE

Technical Field

- [1] Computer input device
[2]

Background Art

- [3] It uses the touch pad. Touch pad has been used as a tablet (for drawing) but as a mouse here.
[4]

Disclosure of Invention

Technical Problem

- [5] To build an input device to make direct input of coordinates using touch pad.
[6]

Technical Solution

- [7] Using glove type input device with the touch pad device to enable direct input of coordinates

Advantageous Effects

- [8] Convenient use of mouse

Brief Description of the Drawings

- [9] Fig. 1 is finger part.
[10] 1.1 functional device mount
[11] 1.2 connection part
[12] 1.3 fixation part
[13] 1.4 Velcro is places on the inner side of the connection part
[14] 1.5 Velcro is placed on the surface of the upper and lower
[15] 1.6 Connection of input plug
[16] 1.7 central part
[17]
[18] Fig. 2 is functional device.
[19] 2-1 coordinates input part
[20] 2.1 coordinates input device
[21] 2-2 click part
[22] 2.2 click device
[23] 2-3 coordinate click part
[24] 2.3 click device
[25] 2.4 coordinates input device

- [26] 2.5 support
- [27]
- [28] Fig. 3 is Palm Part of the Glove
- [29] 3.1 connecting the finger part
- [30] 3.2 Velcro on the surface
- [31] 3.3 connection part
- [32] 3.4 Velcro is placed on the surface of the connection part
- [33] 3.5 fixation part
- [34] 3.6 Velcro is placed on the inside of the fixation part
- [35] 3.7 connection outlet
- [36] 3.8 port
- [37]
- [38] Fig. 4 Additional versions of the glove mouse
- [39] 4.1 Connection of input plug and connection outlet
- [40] 4.2 Connection of finger parts and the palm part of the glove
- [41]
- [42] Fig. 5 is the description on both-side fixation part
- [43] 5.1 shows the both-side fixation part of the finger part
- [44] 5.2 shows the both-side fixation part of the palm part of the glove
- [45]
- [46] Fig. 6 Changeable appearance of the fixation part
- [47] 6.1~4 shows one-side fixation part, 5~6 shows both-side fixation part
- [48]
- [49] Fig. 7 Finger parts without fixation part
- [50]
- [51] Fig. 8 is the palm part of the glove without fixation part.
- [52]
- [53] Fig. 9 shows the drawing of overall shape of the glove mouse.
- [54] 9.1 is the input device, and
- [55] 9.2 is the touch pad device.
- [56] 9.3 is the touch pad, the input area of the touch pad device.
- [57] 9.4 is the connection port for the connection between the touch pad device and the computer.
- [58] 9.5 is the connection port connected to the glove mouse.
- [59] 9.6 is the touch pad device's power.
- [60]
- [61]

Mode for the Invention

[62]

[63] Glove mouse is an input device in the form of glove.

[64]

[65] Descriptions on the touch pad device are added for detailed description on the use of the glove mouse. Touch pad device has the touch pad and the data transmitter, and its shape and function are similar to those of tablet.

[66]

[67] The description is divided into the input device and the touch pad device.

[68]

[69]

[70] <Input Device>

[71] The coordinates input device to connect to the touch pad is the glove-type input device.

[72] The characteristic of this input device is that the finger parts and the palm part are separated. Ordinary gloves could not be used for precise input due to the differences in finger length. To supplement this, the input device is divided into the finger parts and the palm parts, and Velcro is used to connect these two parts. Velcro is used commonly for clothes and it can be easily mounted and detached. (Velcro is composed of the velvet and the crochet.)

[73] 'Velcro' was used as 'Velcro' here instead of 'Velvet' and Crochet.

[74]

[75] (Hereinafter, the part that worn as the glove on the palm is referred to as the 'Palm part of the glove' and the part worn by finger using Velcro, the 'Finger part')

[76]

[77]

[78] Glove mouse is divided into the finger parts and the palm part.

[79]

[80] [Finger Parts]

[81] Finger part is designed to be connected more easily than previous versions.

[82] The shape resembles the finger part of the ordinary gloves.

[83] It is worn by finger for use and is connected to the palm part of the glove.

[84]

[85] It is composed of the functional device mount, central part, connection part, and fixation part.

[86]

[87] The functional device mount (fig. 1.1) mounts the functional device to the bottom

to function.

[88] Some functional devices need cable connection, and they are equipped with the input plug (fig. 1.6) at the end of the cable that is connected to the connection outlet of the palm part of the glove.

[89] Central part (fig. 1.7) has no special functions, but easy to give changes in design.

[90]

[91] The connection part has upper and lower parts (fig. 1.2). Velcro is places on the inner side of the connection part (fig. 1.4), and this part is incorporated with the Velcro on the surface of the glove's connection part to connect finger parts with the glove's palm part.

[92] Velcro is placed on the surface of the upper and lower (fig. 1.5) to fix the fixation part.

[93]

[94] The fixation part (fig. 1.3) is placed either on the left or right of the connection part. The inner side (fig. 1.4) has Velcro, and the fixation part is wound around the connection part and fixed with the Velcro of the connection part.

[95]

[96] (Additional Descriptions)

[97] Fig. 1.4 represents the Velcro on the inner side of the connection part and the fixation part, and fig. 1.5 represents the Velcro on the surface of the connection part.

[98] (It is recommended to fit the size of the Velcro on the surface of the connection part to the size of the fixation part.)

[99] It is possible to give a few changes to the fixation part as described in detail later on.

[100] The difference in the lengths of fingers is accommodated by adjusting the length of the connection part. Users can cut to adjust the length of the connection part to her or his finger length.

[101]

[102] [Functional Device]

[103] Functional devices are mounted on the functional device mount in the finger part.

[104] Functional devices are the coordinates input part, click part, and the coordinate click part.

[105]

[106] To configure the coordinates input part, the coordinates input device (fig. 2.1) is attached to the bottom of functional device mount (fig. 1.1), has round ground tip, and is used with the touch pad.

[107]

[108] To configure the click part, the click device (fig. 2.2) is placed inside the functional

device mount, is connected with a cable with an input plug at the end (fig. 1.6).

[109]

[110] To configure the coordinates click part (fig. 2.3), the coordinates input device is placed on the bottom of the support (fig. 2.5), the click device (fig. 2.4) is placed on the top, the coordinates input device is placed on the bottom of the functional device mount, and the click device is placed inside the functional device mount. A cable with an input plug at the end is connected to the click device.

[111]

[112] [Palm Part of the Glove]

[113] The palm part of the glove is composed of the finger connection part, main body, and the glove fixation part fixing the glove.

[114]

[115] Finger connection part is placed in each finger's position of the glove and is used when connecting the finger part (fig. 3.1). Fig. 3.1 is one of the 5 connection parts. Other parts have the same structure as fig. 3.1. It has upper and lower parts, and the Velcro on the surface (fig. 3.2) is attached to the inner side of the finger part to fix the part.

[116]

[117] The main body takes the form of a glove with a connection outlet (fig. 3.7) on the back of the hand. A cable connects the outlet and the touch pad through the port (fig. 3.8).

[118] The glove's fixation part is located on the wrist and fixes the glove the same way the finger connection part fixes the finger parts.

[119]

[120] The glove is divided in to connection part and the fixation part.

[121] Velcro is placed on the surface (fig. 3.4) of the connection part (fig. 3.3) and on the inside (fig. 3.6) of the fixation part (fig. 3.5), and the fixation part is attached to the side of the connection part.

[122] Fixation part is wound and attached to the Velcro of the connection part, and a few changes can be made as described later on.

[123]

[124] Major function is to send the click signal to the touch pad device through the cable (input plug) of the finger part. The device is worn as a glove.

[125]

[126] [Glove Mouse]

[127]

[128] The finger parts and the palm part of the glove are connected as a whole to configure the glove mouse.

[129] Fig. 4 represents the connection of the finger parts and the palm part of the glove.

[130] Fig. 4.1 shows the finger part using one fixation part.

[131] Fig. 4.2 shows the connection of input plug and the connection outlet.

[132]

[133] Glove mouse uses the main body that has 5 connection outlets, and it basically has 2 finger parts configuring the coordinates click part. There are total 5 connection outlets so that the user can connect additional finger parts using remaining 3 outlets. User can separate or replace the fingers to her or his own taste or according to given circumstances, and the device is connected to the touch pad device through the port.

[134]

[135] The additional version of the glove mouse uses the touch pad on the touch pad device. The user enters coordinates by pressing the coordinates on the touch pad and clicks using the click device. The pointer moves when the user gently touches the pad and moves the finger without clicking, and the dragging is made by clicking while entering coordinates with a finger.

[136]

[137] The user can use additionally installed click or change the location of the click part through the configuration of the driver. (For reference, 5 different clicks are available such as the left click, right click, additional click 1, additional click 2, and additional click 3. additional click 1, additional click 2, and additional click 3 can be configured to perform the functions of the specific keys of the keyboard or other shortcut keys, and it is possible to set functions for each click or change the position of the click through the driver configuration. The driver part is not directly related to the technological part but the utilization part, and thus detailed descriptions are omitted.)

[138]

[139]

[140] [Fixation Part]

[141] Fixation part is used for the finger parts and the palm part of the glove and is divided into one-side fixation part and both-side fixation part.

[142] Fig. 1 and fig. 3 shows the use of one-side fixation part

[143] Fig. 5 shows both-sides fixation part

[144] Fig. 5.1 is the both-sides fixation part for finger part and fig. 5.2, for the palm part of the glove, and fig. 5.1 and fig. 5.2 show the both-sides fixation part.

[145]

[146] In the both-side fixation part, Velcro is place on both sides for one part and only on the inside for the other part. The part with the Velcro on both sides is would first and then the other part to fix.

[147] The Velcro on the surface of the connection part and the Velcro of the fixation part

are attached first and then the both-side Velcro and the one-side Velcro.

[148]

[149] Fig. 6 shows the changeable configurations of each fixation part.

[150] Fig. 6.1~4 show one-side fixation part, and the fixation part is attached to the left and right side of the upper portion or the left and right side of the lower portion.

[151] Fig. 6.5 and 6.6 show both-side fixation part, and the fixation part is placed on the upper and lower sides.

[152] The position of the both-side Velcro is also possible, but not represented in pictures as they are not so different in terms of appearance. (The changes of the fixation parts are applied to the fixation part of the fixation part of the glove.)

[153]

[154] Finally, there are products without fixation parts.

[155] Fig. 7 is the finger part without fixation part.

[156] Fig. 8 is the palm part of the glove without fixation part.

[157] Functions are the same as described above except the absence of the fixation part.

[158] These parts are connected by using the Velcro on the inside of the finger part and the Velcro on the surface of the connection part of the palm part of the glove.

[159]

[160] More fixation parts mean better stability, but it is recommended to reduce the fixation parts in order to reduce the production cost.

[161]

[162]

[163] <Touch Pad Device>

[164] Although not included in this design directly, added brief explanation for the part as it plays important role.

[165] The touch pad device is composed of the input detector made of the touch pad (fig. 5.3), glove mouse, the interface to connect with the computer, and the power unit.

[166]

[167] Touch pad device is designed to read the coordinates inputted on the touch pad and sends them to the computer with the click.

[168]

[169] It is recommended to use the input method suitable for the characteristics of the input device and maintain the proportion of the input detector (fig. 5.3) of the touch pad match the proportion as the monitor so that the user can intuitively find the location.

[170]

[171] When the pressure is applied to the coordinates input part, the input detector of the touch reads the coordinates in the corresponding part and sends the coordinates data,

and the touch pad device receives the click signal from the main unit (glove), converts it into click data and sends it to the computer with the coordinates data.

[172]

[173] (The most important thing is that it has to read the value inputted through the coordinates input device only. When the user clicks with the click part, it usually comes in contact with the touch pad, and it must be able to ignore the coordinates of the click part or any other object coming in contact with the touch pad. In other words, when the input of the coordinates input device can distinguish the input by other objects, it will allow the finger mounting area to change freely, but if not, the use of the coordinates input part and the click part will be limited.)

[174]

Industrial Applicability

[175]

[176] It can be used as a mouse.

[177]

[178]

[179]

Claims

- [1] The finger part takes the form of fingers and is wearable by hand. The finger part is composed of the functional part, central part, connection part, and fixation part. The functional part is located on the tip of the finger part. The central part is located in the middle of the finger. The connection part is located in the palm's direction, is made of the upper and lower parts, and has Velcro on the surface and the inner side. The fixation part is either one-sided or both-sided. The one-side-fixation part is located either on the upper left, upper right, bottom left, or bottom right of the connection part and has Velcro on the inner side. The both-side-fixation part is located either on the upper left, upper right, bottom left, or bottom right of the connection part and has Velcro on one side and that on the inner side for the other side.
- [2] The finger part without fixation part resembles the finger and is wearable by finger. The finger part is composed of the functional part, central part, and connection part. The functional part is located on the tip of the finger part. The central part is located in the middle of the finger. The connection part is located in the palm's direction, is made of the upper and lower parts, and has Velcro on the surface and the inner side.
- [3] The glove mouse's finger part resembles the finger and is wearable by finger. The finger part is composed of the functional part, central part, connection part, and fixation part. The functional part is located on the tip of the finger part, mounts one of three functional devices; coordinates input part, click part, and coordinates click part, and the click part has a cable connecting to the input plug when click part or the coordinates click part are mounted. The central part is located in the middle of the finger. The connection part is located in the palm's direction, is made of the upper and lower parts, and has Velcro on the surface and the inner side. The fixation part is either one-sided or both-sided. The one-side-fixation part is located either on the upper left, upper right, bottom left, or bottom right of the connection part and has Velcro on the inner side. The both-side-fixation part is located either on the upper left, upper right, bottom left, or bottom right of the connection part and has Velcro on one side and that on the inner side for the other side.
- [4] The glove mouse's finger part without fixation part resembles the finger and is wearable by finger. The finger part is composed of the functional part, central part, and connection part. The functional part is located on the tip of the finger part, mounts one of three functional devices; coordinates input part, click part, and coordinates click part, and the click part has a cable connecting to the input

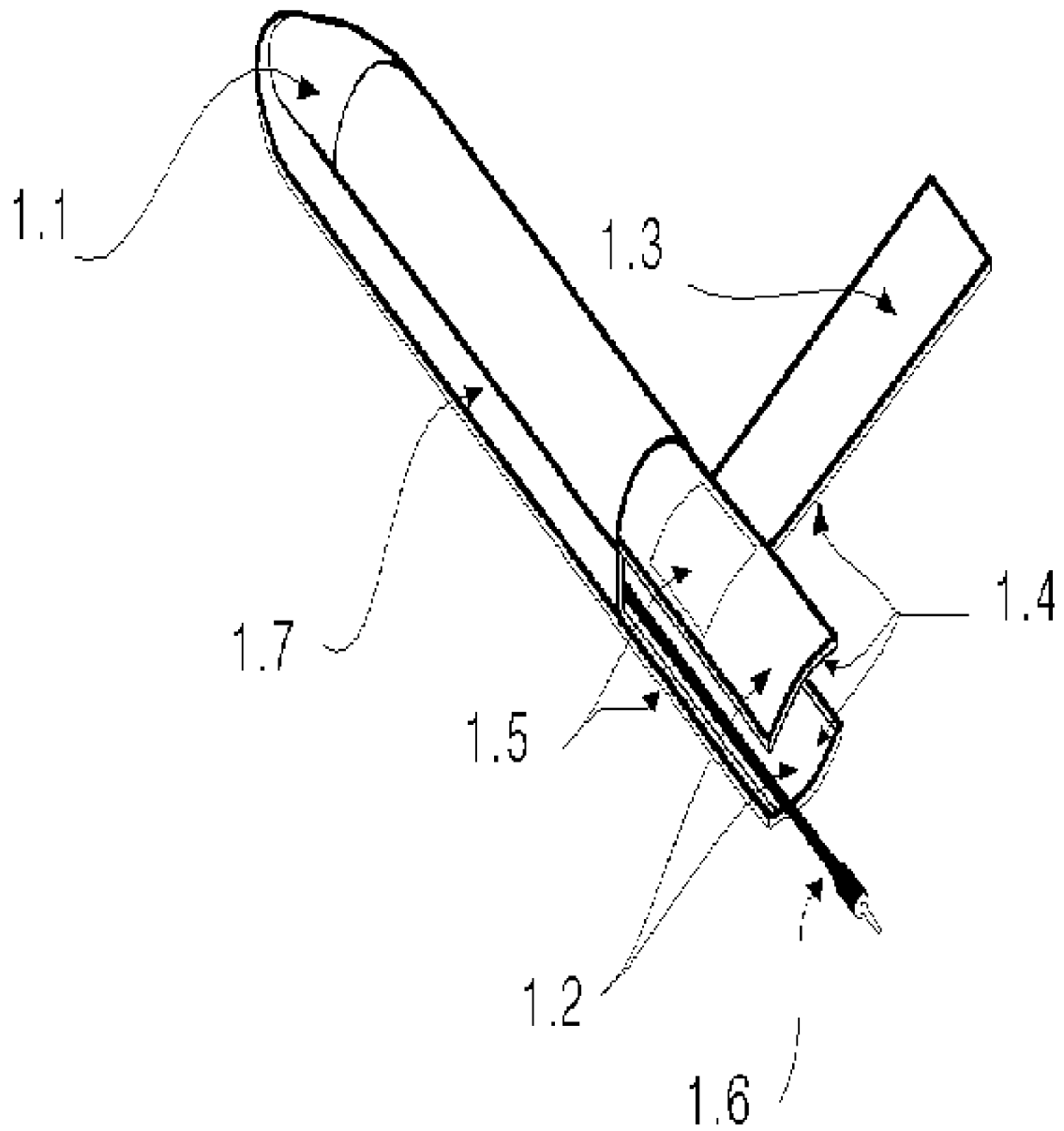
plug when click part or the coordinates click part are mounted. The central part is located in the middle of the finger. The connection part is located in the palm' direction, is made of the upper and lower parts, and has Velcro on the surface and the inner side.

- [5] The palm part of the glove takes the form of a glove without finger parts. The palm part of the glove is composed of the finger connection part, the main body, and the glove fixation part. The finger connection part is located in the place of the fingers, has upper and lower parts, and has Velcro on the surface. The main body is located in the place of the palm. The fixation part is either one-sided or both-sided. The one-side-fixation part is located either on the upper left, upper right, bottom left, or bottom right of the connection part and has Velcro on the inner side. The both-side-fixation part is located either on the upper left, upper right, bottom left, or bottom right of the connection part and has Velcro on one side and that on the inner side for the other side.
- [6] The palm part of the glove without fixation part takes the form of a glove without finger parts. The palm part of the glove is composed of the finger connection part, and the main body. The finger connection part is located in the place of the fingers, has upper and lower parts, and has Velcro on the surface. The main body is located in the place of the palm.
- [7] The palm part of the glove without the fixation part of the glove mouse takes the form of a glove without finger parts. The palm part of the glove is composed of the finger connection part, and the main body. The finger connection part is located in the place of the fingers, has upper and lower parts, and has Velcro on the surface. All five finger connection parts are located on the palm part. The main body is located in the place of the palm, has 5 connection outlets, and is connected to the port through the cable.
- [8] The palm part of the glove takes the form of a glove without finger parts, and it is composed of the finger connection part, the main body, and the glove fixation part. The finger connection part is located in the place of the fingers, has upper and lower parts, and has Velcro on the surface, and total 5 finger connection parts are located on the palm part. The main body is located in the place of the palm, has 5 connection outlets, and is connected to the port through the cable. The connection part is placed on the wrist, is divided into connector and fixer, has Velcro on the surface, and is comprised of upper and lower parts. The glove fixation part is either one-sided or both-sided. The one-side-fixation part is located either on the upper left, upper right, bottom left, or bottom right of the connection part and has Velcro on the inner side. The both-side-fixation part is located either on the upper left, upper right, bottom left, or bottom right of the

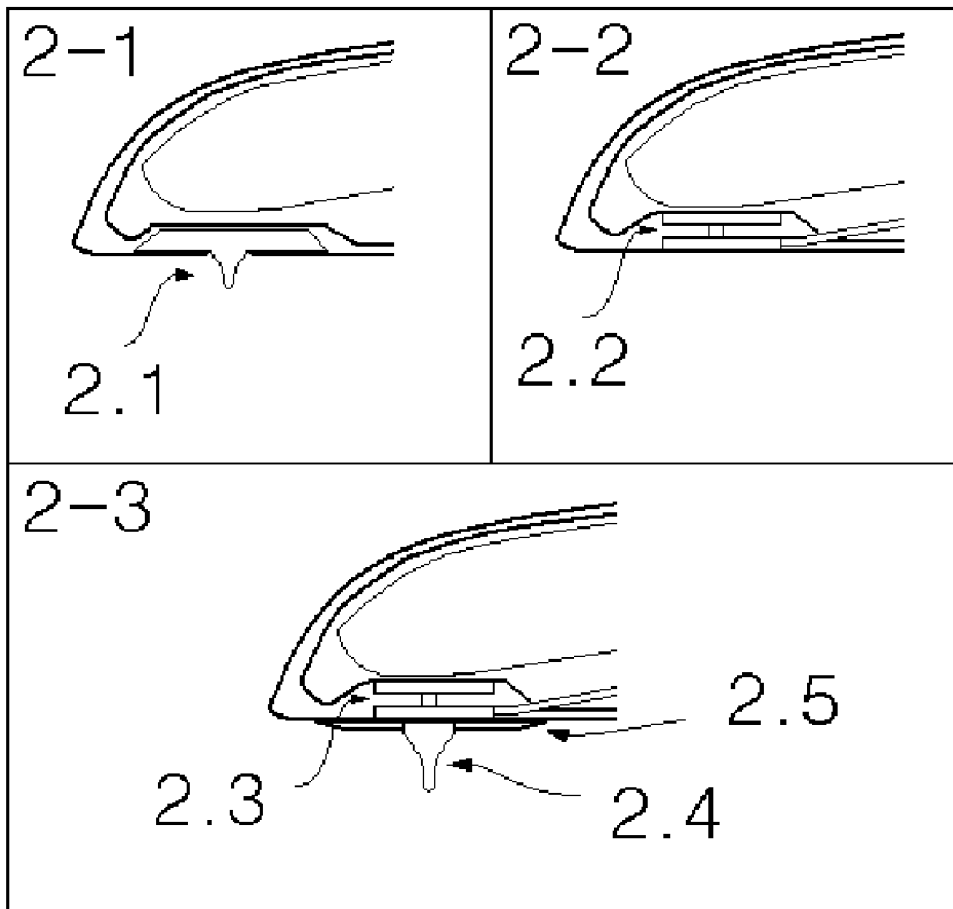
connection part and has Velcro on one side and that on the inner side for the other side.

- [9] The one point glove mouse takes the form of 3 finger parts of Claim 3 incorporated with the palm part of Claim 8. A finger part of Claim 3 is the functional part used for making the input of coordinates, and two other fingers are used for clicking. The palm part of Claim 8 can be connected to the finger parts.
- [10] The two point glove mouse takes the form of 2 finger parts of Claim 3 incorporated with the palm part of Claim 8. 2 finger parts of Claim 3 are the functional part used for making the input of coordinates. The palm part of Claim 8 can be connected to the finger parts.

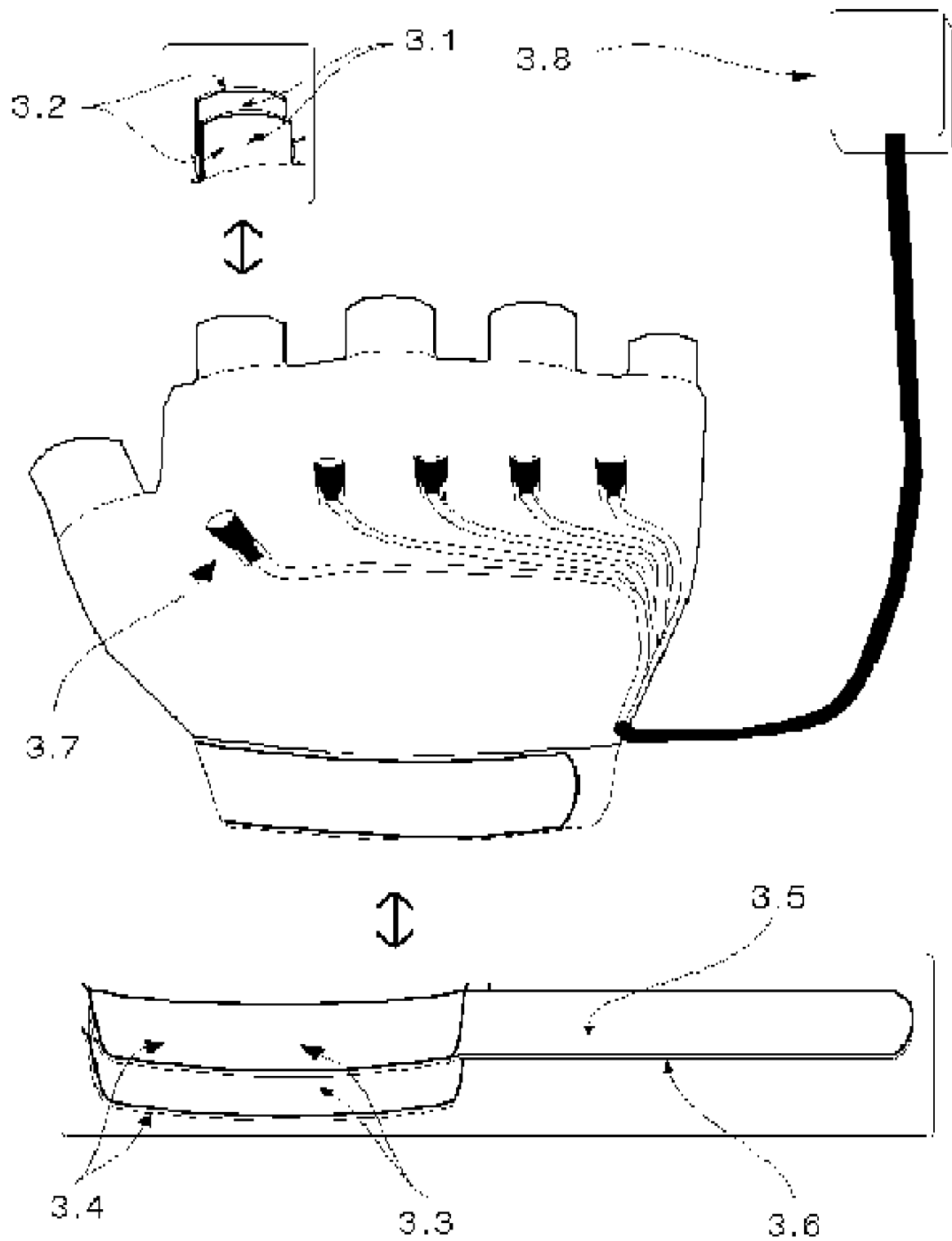
[Fig. 1]



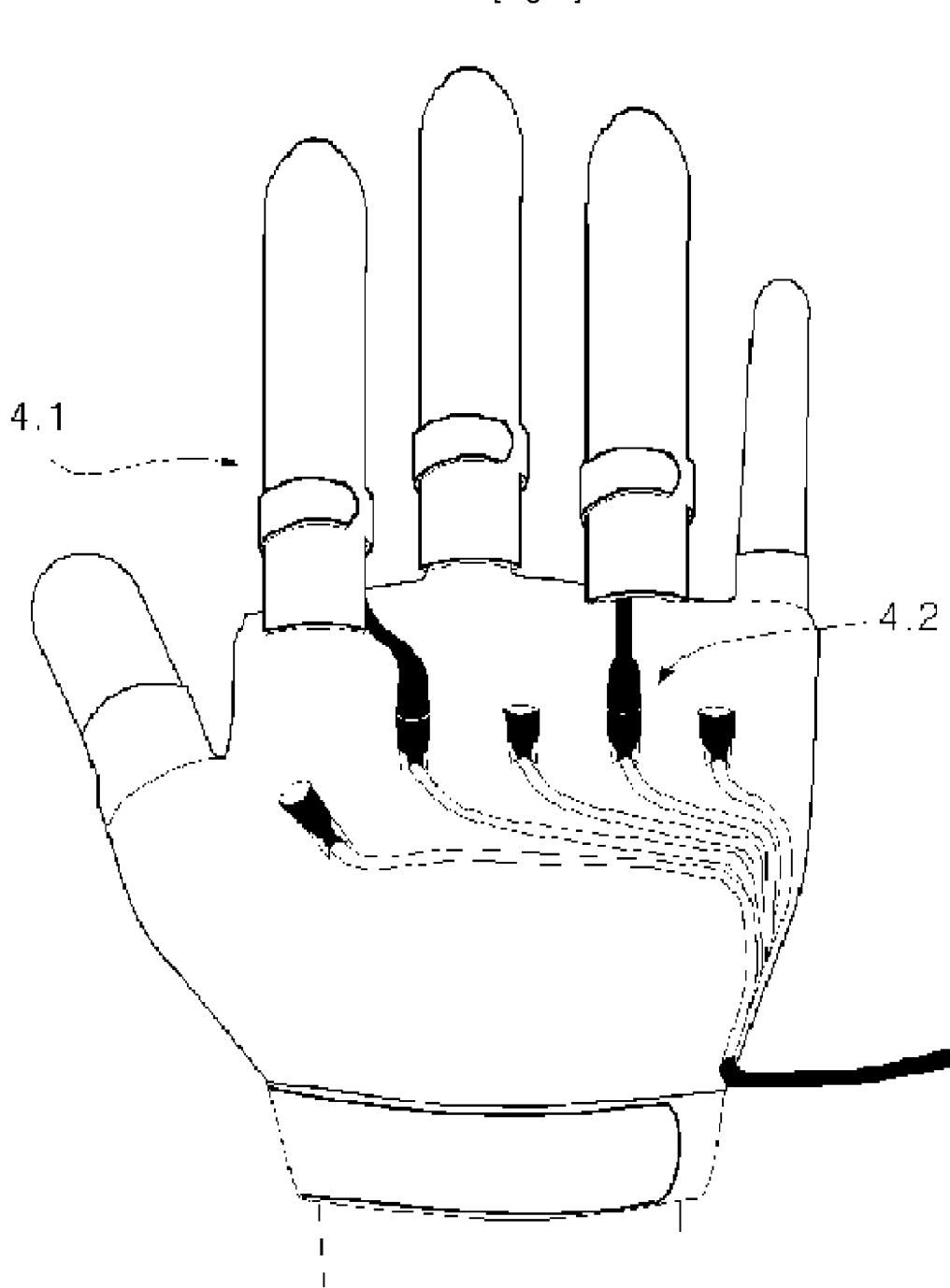
[Fig. 2]



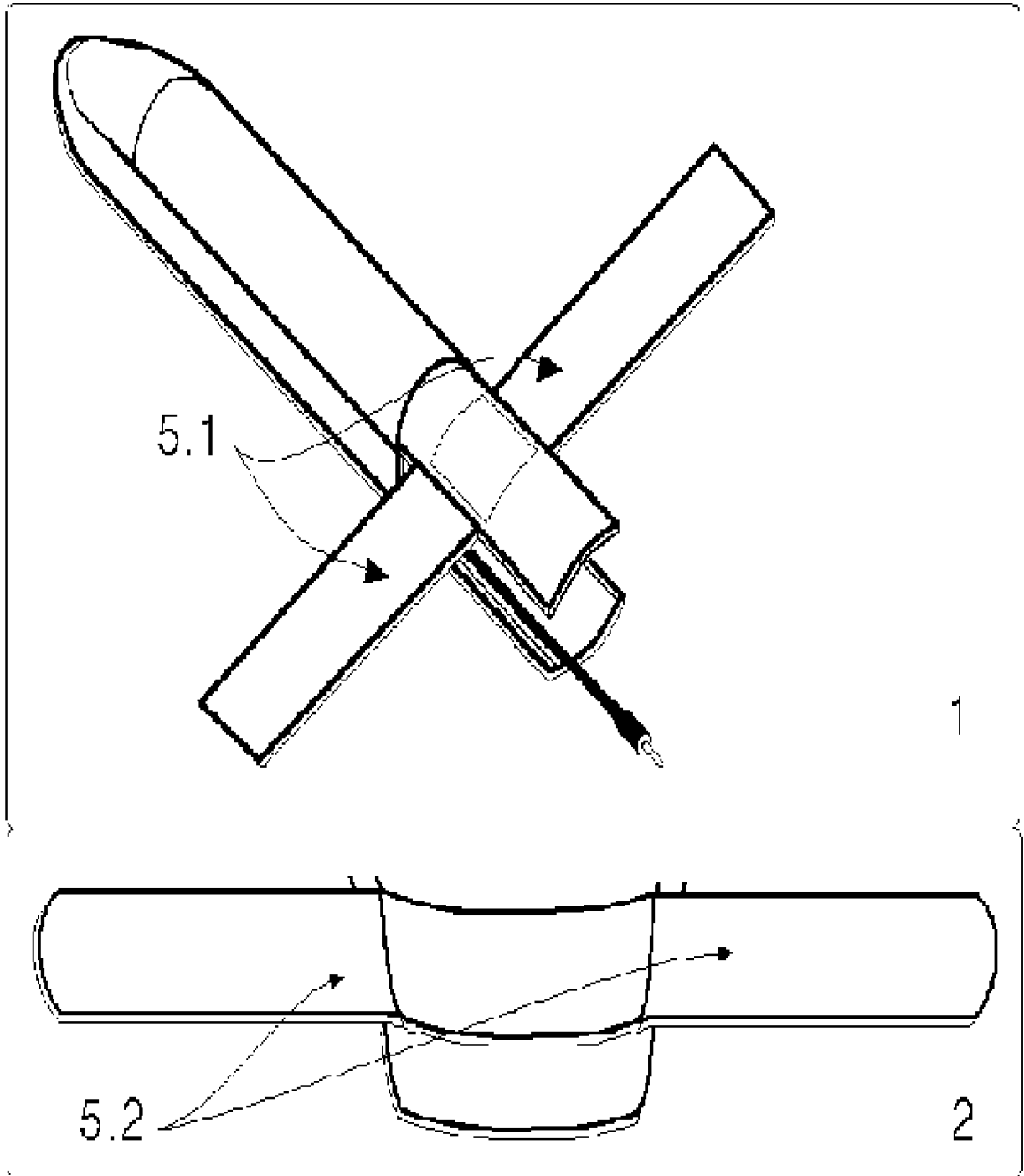
[Fig. 3]



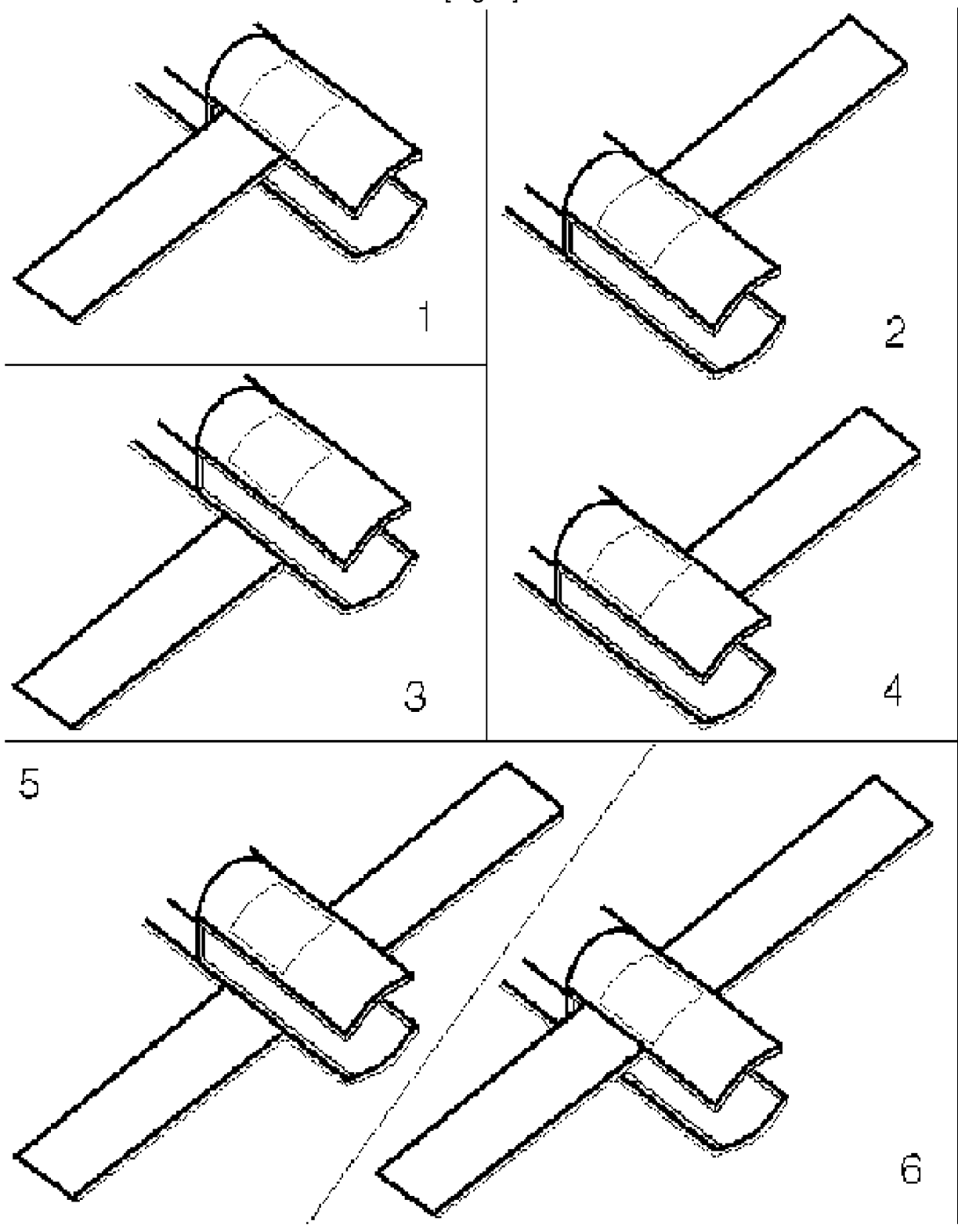
[Fig. 4]



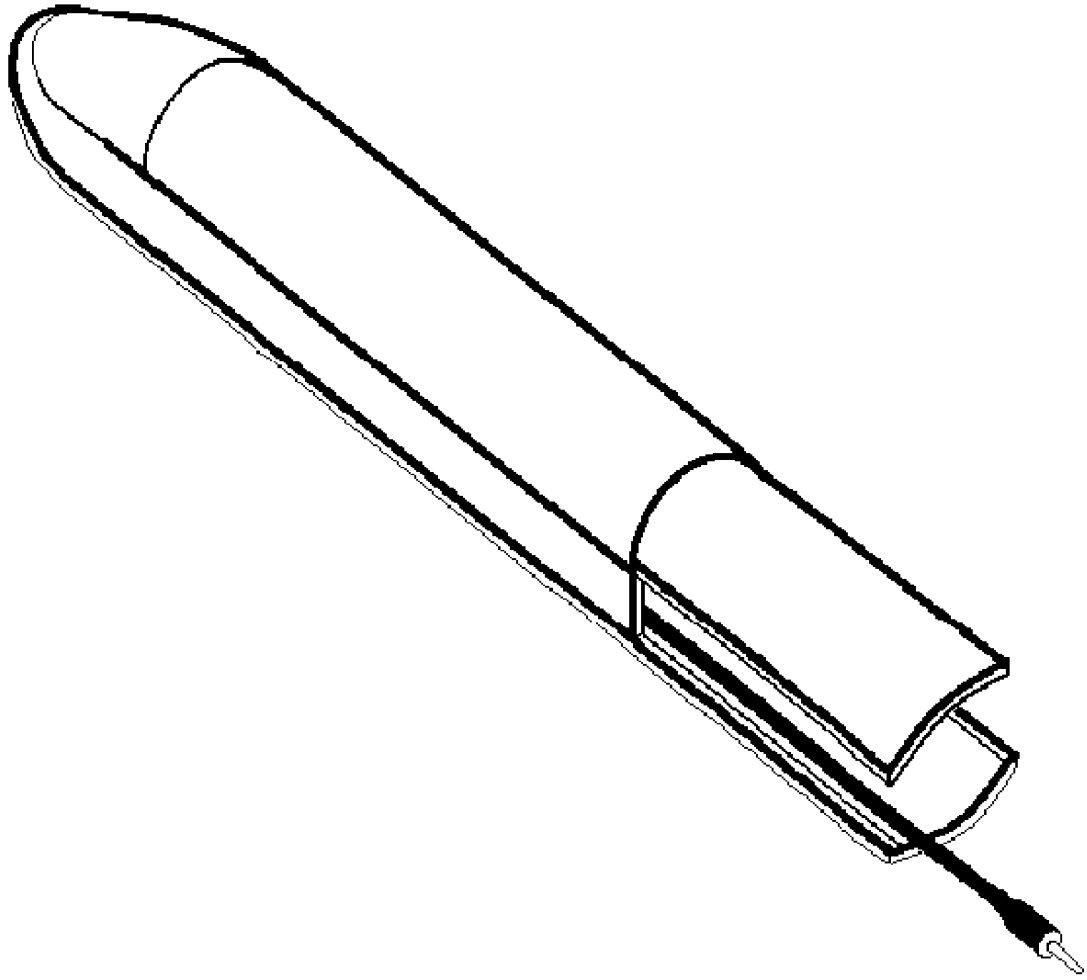
[Fig. 5]



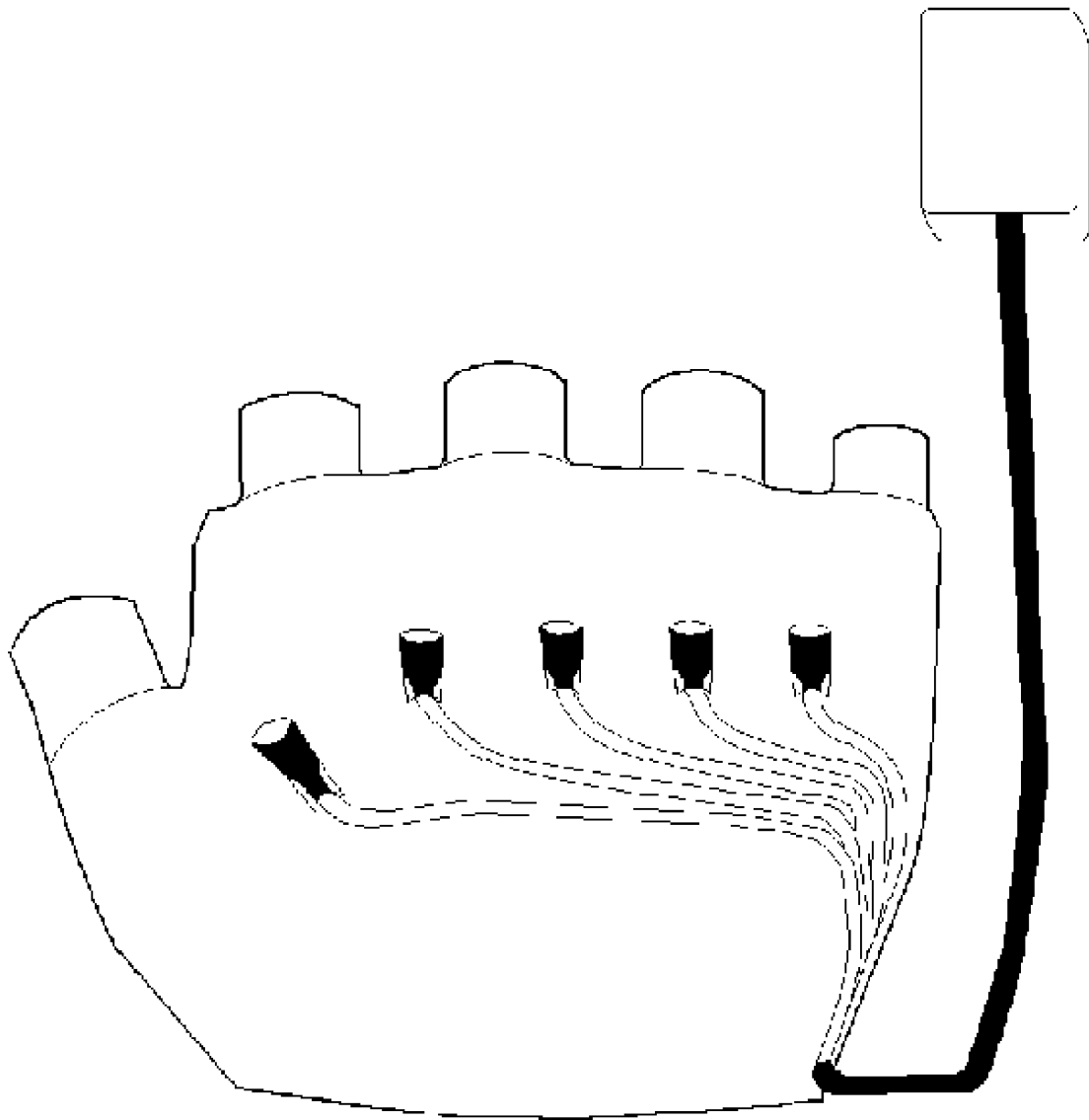
[Fig. 6]



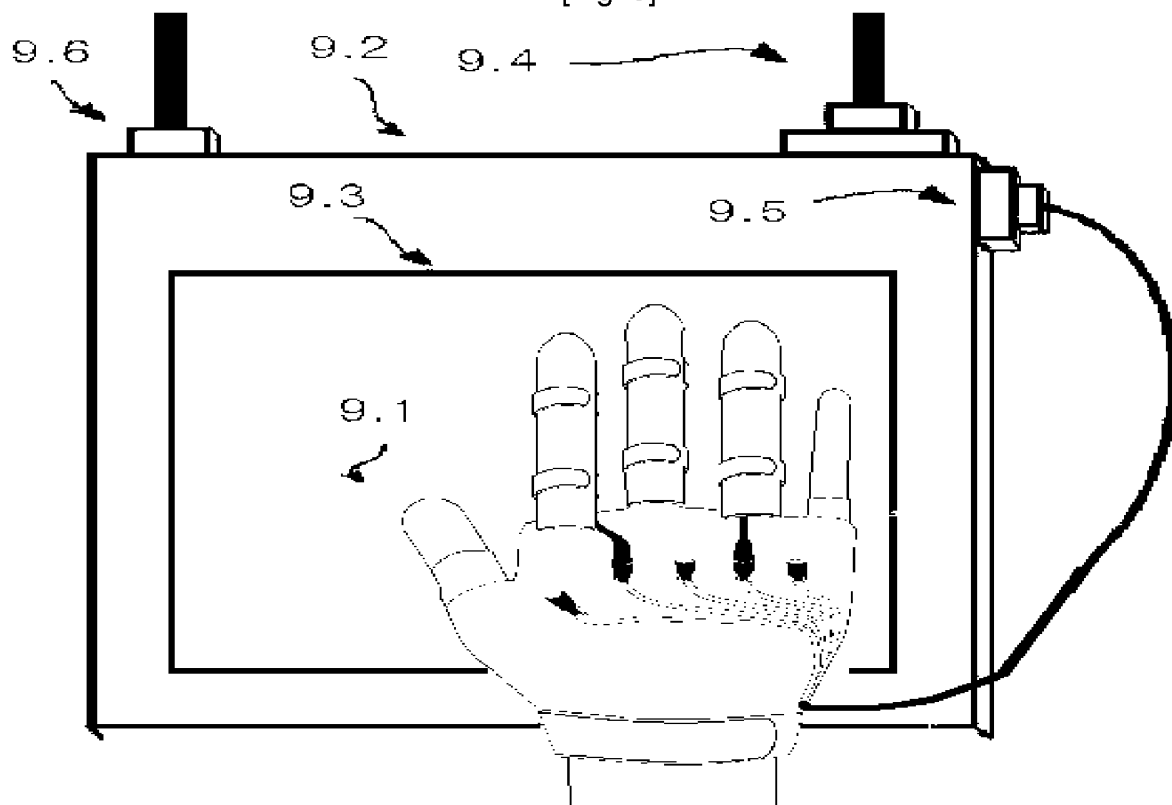
[Fig. 7]



[Fig. 8]



[Fig. 9]



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2005/002122

A. CLASSIFICATION OF SUBJECT MATTER**IPC7 G06F 3/033**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F 3/00; 3/033; A41D 19/00;

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models since 1975
Japanese Utility models and application for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, ESPASNET, INSPECT, IEE/IEEE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 2003-0011406 A (SIN JONG CO., LTD.) 11 Feb 2003 See the abstract and Figure 1	1-10
A	KR 0260281 Y1 (MMB CO., LTD.) 10 Jan 2002 See the abstract and Figure 1	1-10
A	KR 2002-0096807 A (SAMSUNG CO., LTD.) 31 Dec 2002 See the abstract and Figure 1	1-10
A	KR 2001-0088943 A (CHA, BONG-KYUNG) 19 Aug 2001 See the abstract and figures	1-10
A	KR 1998-0076358 A (SAMSUNG ELECTRONICS CO., LTD.) 16 Nov 1998 See the abstract	1-10
A	US 5,581,484 A (KAVIN R. PRINCE) 3 Dec 1996 See the abstract and figures	1-10
A	JP 01-136225 A (HITACHI LTD.) 29 May 1989 See the abstract and figures	1-10

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