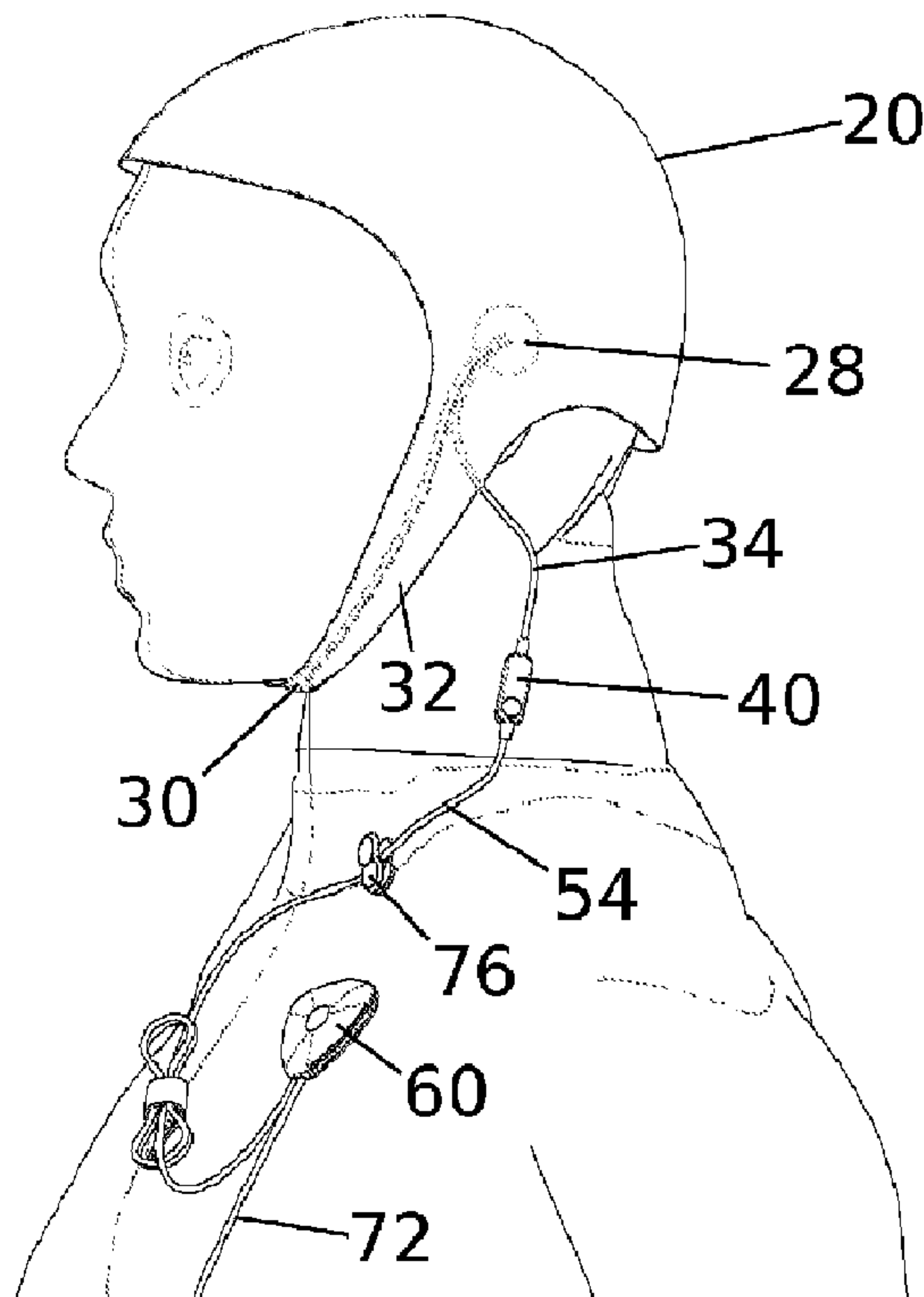




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 (54) Title: SPORTS MUSICOM HEADSET



**FIG. 1**

(57) **Abrégé/Abstract:**

A Sports MusiCom headset (10) adapted for use with cellular telephones comprises at least one speaker (28) and microphone (30) mounted within helmet liner (20). Speaker (28), microphone (30), and chin strap (32) are held in place by detachable fastening



(57) **Abrégé(suite)/Abstract(continued):**

means or stretchable fabric. Microphone (30) is contained within a pocket of chin strap (32) so as to rest microphone (30) against the wearer's throat. Slap switch (60) is a relatively large (ideally, four square inch) call answer button that allows easy answering of telephone calls. Breakaway connector (40) is provided between helmet liner (20) and slap switch (60). A further embodiment incorporates standard headphone and microphone connections (85, 86) for compatibility with a wearer's headset of choice, and which may also incorporate slap switch (60). "Patch" cables may be included to allow use of the headset device with different cellular telephone models.

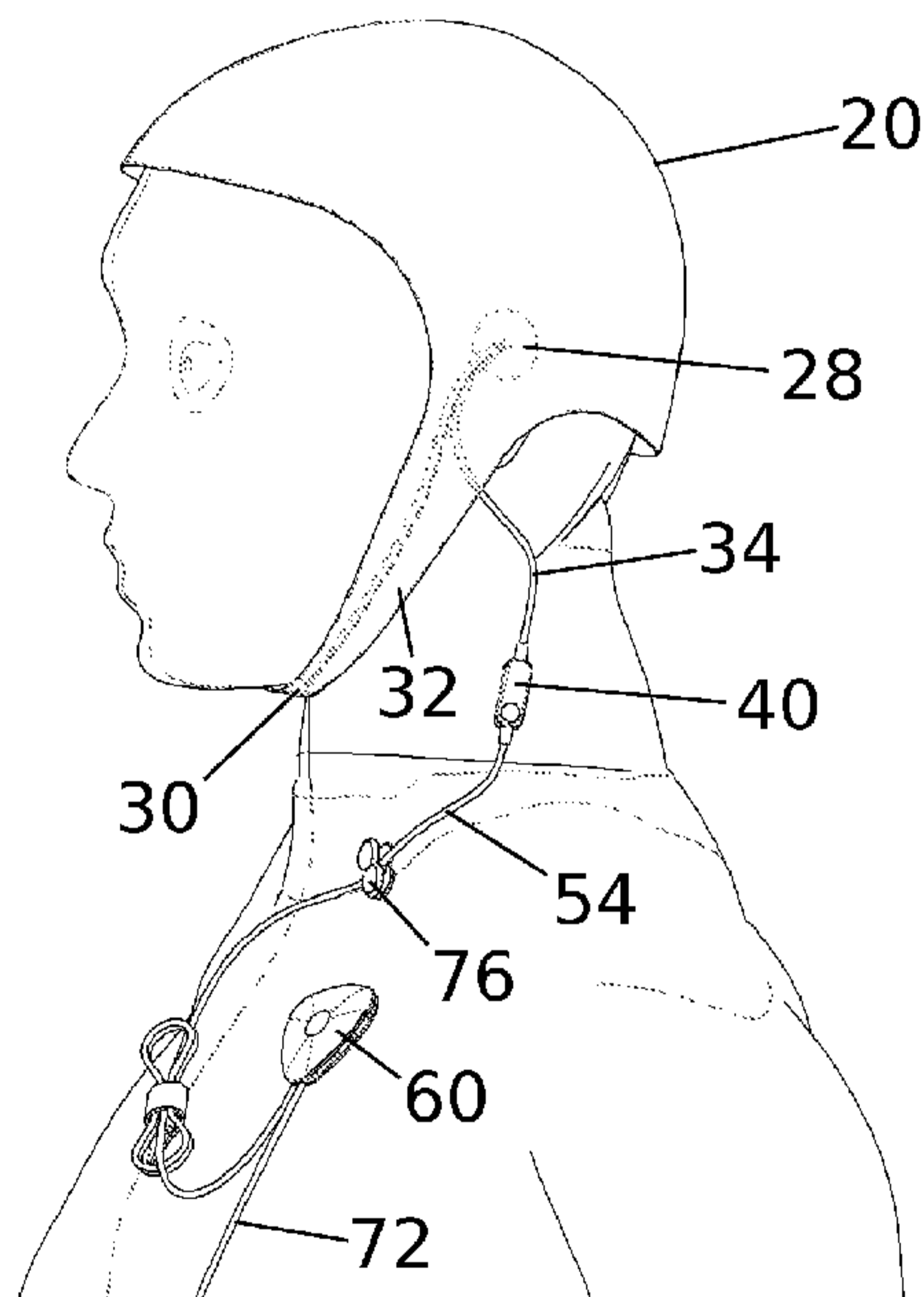
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[Continued on next page]

(54) Title: SPORTS MUSICOM HEADSET

**FIG. 1**

(57) **Abstract:** A Sports MusiCom headset (10) adapted for use with cellular telephones comprises at least one speaker (28) and microphone (30) mounted within helmet liner (20). Speaker (28), microphone (30), and chin strap (32) are held in place by detachable fastening means or stretchable fabric. Microphone (30) is contained within a pocket of chin strap (32) so as to rest microphone (30) against the wearer's throat. Slap switch (60) is a relatively large (ideally, four square inch) call answer button that allows easy answering of telephone calls. Breakaway connector (40) is provided between helmet liner (20) and slap switch (60). A further embodiment incorporates standard headphone and microphone connections (85, 86) for compatibility with a wearer's headset of choice, and which may also incorporate slap switch (60). "Patch" cables may be included to allow use of the headset device with different cellular telephone models.

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- *as to the identity of the inventor (Rule 4.17(i))*
- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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**DESCRIPTION****SPORTS MUSICOM HEADSET****Cross-reference To Related Application**

This application claims benefit of United States Provisional Application No. 61/386,114, entitled "Sports MusiCom Headset", filed September 24, 2010, which is hereby incorporated by reference in its entirety.

**Technical Field**

The present invention relates to stereophonic cellular telephone headset systems, specifically to systems adapted for use in conjunction with a variety of sports and recreational activities, and providing a means for connecting external speakers and microphones to cellular telephones.

**Background Art**

When communicating through a cellular telephone, it is often desirable, for convenience and safety purposes, to utilize external speakers and microphones. The external devices are connected to the cellular telephone either by wires or through wireless communication. These devices allow the user to communicate without having to hold the cellular telephone next to their ear, which would otherwise be necessary to allow the speaker and microphone to function properly. The user's hand, which would normally be used to hold the cellular telephone, is then free to be used for other tasks. It also prevents fatigue of the arm that can occur when holding a telephone for extended periods of time. Furthermore, it is safer because the user's coordination and focus are enhanced for alternative purposes. This is of particular concern when the user is performing sports or recreational activities that require the continuous use of both hands, e.g. snow skiing, biking, or motorcycle riding to name a few. Finally, there is concern over the safety of radio waves emitted by cellular

phones when the phones are in close proximity to the head of a user. Thus, the cellular telephone can be moved away from the user's head, thereby reducing the impact of such radiation.

For certain sports and recreational activities where the user is in motion, many of the available devices are problematic because the headsets may not be securely held in place, and free wires may snag on foreign objects such as tree branches in the vicinity of the user. In addition, microphone placement may be sub-optimal, even non-functional, due to excessive wind noise or muffling from the user's clothing blocking the microphone. Finally, while these devices are often equipped with remote buttons for answering incoming telephone calls, user interface with the button may be difficult due to the button's placement or configuration, especially if the user is wearing gloves or other clothing that may interfere with the operation. Answer buttons are typically very small, require a significant degree of dexterity to operate, and may even be difficult to locate in some circumstances. Due to operational difficulties, users of these devices may fail to answer incoming telephone calls that they wish to answer.

Certain devices adapted to specific sports or recreational activities have been developed to solve some of the above-mentioned issues. However, none of the presently known devices are universally adapted to a variety of non-related activities. For instance, cold weather hats for use with, e.g. snow skiing, such as that disclosed in U.S. Patent No. 4,892,451 to Graham, have been fitted with headphones and are connectable to portable music players. These hats are not, however, fitted with microphones and may not be connectable to cellular telephones for two-way communication. These hats are typically manufactured with heavy fabric well-suited for cold weather sports but ill-suited for warm weather activities.

Also in the prior art are helmet systems with integrated communications. U.S. Patent No. 6,101,256 to Steelman discloses a motorcycle helmet with a built-in speaker and microphone, whereby the rider and passenger may communicate with one



another. These devices are permanently mounted to the interior of the motorcycle helmet, and thus may not be adapted to uses that do not require use of the helmet.

Other known devices may have wider application but present some operational difficulties for use with sports activities. U.S. Patent No. 6,069,964 to Yang discloses an earphone arrangement comprising a band traversing the back of the head to hold the speakers in place, and a boom microphone. This device may be less comfortable or secure than desired by a user performing sports or recreational activities, and the microphone will likely function inadequately in windy conditions.

There are no known existing solutions to address the difficulties of the present cellular telephone call answer buttons. "Walkie-talkie" type buttons, such as that depicted in International Patent Publication No. WO/2004/107787 of Bataillard, are typically mounted to the body of the transceiver or to a remote speaker/microphone device wired back to the transceiver. These devices are not ideally suited for sports and recreation activities. They are relatively bulky, heavy, and expensive to produce. Additionally, they would be more difficult to operate than the slap switch described herein.

Many cellular telephone headsets have been introduced to the market with modified ear bud assemblies or headphones, and sometimes relocated microphones. There are wired and wireless (Bluetooth®) combination speaker/microphone units, and some use a wired configuration containing an integral microphone with a headphone plug. This allows any standard headphone to be connected to the cellular telephone, but has the drawback of requiring the use of the supplied microphone. This microphone may be inconvenient to the user due to its location along the adapter cable (including possibility of picking up excessive background noise) or low quality. Thus, a significant disadvantage of the available adapter cables is that they do not allow the use of third-party wired combination speaker/microphone units with standard, independent speaker and headphone jacks.

These speaker/microphone units are widely available for use in, *inter alia*, communications via personal computer. Many users' preferred devices, however, cannot be connected to cellular telephones because the required connections are not available. No known adapters are available that provide standard female headphone jacks and microphone jacks to allow a standard combination speaker/microphone unit with independent male headphone and microphone plugs to be connected to a cellular telephone. This problem can be solved by supplying an adapter cable with the appropriate connections. Overall ease of use would be promoted by incorporating the novel slap switch described herein. This would provide some of the benefits of the present invention while also providing flexibility for users to incorporate their peripherals of choice. Finally, "patch" cables could be included to allow the adapter to mate with cellular telephones that have nonstandard audio input/output jacks.

What is needed, therefore, is a universal headset device functional for a variety of sports and recreational activities. The headset, speaker, and microphone should be securely held in place, even while the user is in motion. The microphone should be placed in a position that will enhance the pickup response while limiting the interference from, e.g. wind or clothing. A breakaway connector between the cellular telephone and headset would prevent potentially dangerous or destructive snags on foreign objects and further provide the user with the ability to disengage the headset portion from the remaining components of the device. The headset itself would secure the earphones and microphone in place on the wearer's head comfortably even while wearing a helmet or other headgear over it. Additionally, an answer button in the style of a "slap switch" should be included to facilitate its operation even while the user is wearing, e.g. heavy gloves. Ideally, this headset would be suitable for both cold and warm weather activities. Moreover, the headset could also be used to listen to music since many modern cellular telephones are also portable music players.

Additional functionality would be realized by incorporating an adapter cable that would allow the user to connect independent headphones and microphones of their choice to their cellular telephone. The slap switch may also be incorporated into



the adapter. A further benefit would be provided by supplying "patch" cables that allow the adapter to be connected to a variety of common cellular telephone models. In conclusion, insofar as I am aware, no cellular telephone headset system exists that meets the above design criteria, particularly in the configurations disclosed herein.

### **Summary of Invention**

It is an object of the present invention to provide a cellular telephone headset with at least one speaker (and preferable two speakers for stereophonic music reproduction) and a microphone mounted within a universal helmet-liner suitable for use in conjunction with a variety of sports and recreational helmets and hats. The speaker and microphone are held in place by, e.g. a hook and loop fastening system (i.e., Velcro®) or stretchable fabric, so they may be removed to wash the helmet-liner. The helmet-liner is ideally constructed of a breathable material, making it suitable for warm weather use without overheating the user. The microphone is ideally placed on or near the chinstrap for optimum clarity and minimal wind and clothing interference. A noise canceling microphone may be provided, which is built into the chin strap so as to rest the microphone against the user's throat, thereby minimizing disturbances from external sources, such as wind. Other headgear, such as a motorcycle helmet, bicycle helmet, or ski hat may be placed over the helmet-liner, as desired by the user.

It is another object of the invention to enhance the ability of users to answer or end telephone calls while the user is in motion or wearing gloves that would render the use of conventional call answer buttons difficult or impossible. A telephone answer button in the style of a "slap switch" will avoid the need for the user to search for the button and fumble with the operation thereof. The call is answered by momentary shorting of the two wires leading to the microphone connection when the user slaps the switch. Ideally, the slap switch would be relatively large compared to prior art cellular telephone answer switches, but compact enough to avoid excessive bulkiness. An active area suitable for engaging the switch of at least one square inch is desired. Approximately four square inches is preferable, and the active area may

range in sizes of nine square inches or larger. This eliminates the need for precision, thus making the device suitable for use with sports and recreational activities. The slap switch may be clipped onto the users clothing or placed inside a pocket, as desired.

It is another object of the invention to provide a breakaway collar connector between the helmet-liner and the slap switch to prevent snags. The breakaway connector comprises two "halves" containing a plurality of electrical contact elements and one or more magnets to hold the halves in place during normal operation. One half of the breakaway connector is wired to the slap switch and then from the slap switch to a cellular telephone connector tip. The other half of the breakaway connector is wired to the speakers and microphone of the headset.

It is another object of the present invention to provide an adapter comprising a standard (3.5-mm) female phone jack, with a cellular telephone audio input/output jack on the opposite end, which will allow operation with a standard headset of the user's choice. A slap switch may also be incorporated into the adapter. This will allow use of the slap switch with a user's preferred headset, in the case that the user selects a headset other than the head liner system described herein. Two independent connections are therefore provided: one standard headphone connector, and one standard microphone connector. These independent connections can be located adjacent to one another in a duplex arrangement or on separate wires branching off of the cellular telephone connection in a simplex arrangement.

It is yet another object of the present invention to provide "patch" cables to allow use of the headset device with different cellular telephone models, which may contain nonstandard audio input/output connections.

It is envisioned that the present invention could be configured to be adaptable to portable music players. An additional configuration of the device is for use with two-way portable radio communications. Law enforcement personnel, for instance, may find this embodiment to be particularly useful. Without limitation, these and



other embodiments may be incorporated without departing from the spirit and scope of the present invention.

### **Brief Description of Drawings**

These and other features and advantages of this invention will be more readily understood from the following detailed description of the various aspects of the invention taken in conjunction with the accompanying drawings in which:

FIGURE 1 is a perspective view of an embodiment of the present invention showing the Sports MusiCom headset worn by a user.

FIGURE 2 is a perspective view of an embodiment of the present invention showing the Sports MusiCom headset worn by a user underneath a helmet.

FIGURE 3 is a perspective view of an embodiment of the present invention showing use of the present invention in conjunction with a standard headset.

FIGURE 4 is a perspective view of the breakaway connector, the slap switch, and the duplex female phone jack.

FIGURE 5 is a perspective view showing the male half of the breakaway connector.

FIGURE 6 is a side view of the slap switch.

FIGURE 7 is a schematic wiring diagram of the embodiment depicted in FIG. 1.

FIGURE 8 is a schematic diagram of the embodiment depicted in FIG. 3.

FIGURE 9 is a schematic wiring diagram of the embodiment depicted in FIG. 3 utilizing a duplex-type speaker and microphone connection.

FIGURE 10 is a schematic wiring diagram of the embodiment depicted in FIG. 3 utilizing two simplex-type speaker and microphone connections.

It is noted that the drawings of the invention are not to scale. The drawings are merely schematic representations, not intended to portray specific parameters of the invention. The drawings are intended to depict only typical embodiments of the invention, and therefore should not be considered as limiting the scope of the



invention. In the drawings, like numbering represents like elements among the drawings. In other words, for the sake of clarity and brevity, like elements and components of each embodiment bear the same designations throughout the description.

### **Best Mode**

The best mode identified for the present invention involves the use of a speaker and microphone mounted within a head liner and chin strap, with a slap switch and breakaway connector. This allows for the speaker and microphone to be securely held in place with the versatile head liner, thereby facilitating a variety of sports and recreational activities while minimizing microphone interference. Calls can be easily answered by activating the slap switch, and the head liner components are detachable from the remaining components of the device. This significant advance over the available prior art devices is described in more detail below.

### **Description of Embodiments**

FIG. 1 depicts helmet-liner 20 secured to a user's head, preferably through the use of a hook and loop fastener (i.e., Velcro®) connector on chin strap 32 or other suitable means known in the art, such as stretchable fabric. Left and right speakers 28 are mounted within helmet-liner 20 in position next to the user's ears. (Only the left speaker is shown in FIG. 1). Microphone 30 is mounted within chin strap 32 near the user's chin. Connecting wires (not shown) for speakers 28 and microphone 30 are preferably contained within helmet-liner 20 and chin strap 32. Wire 34 connects speaker 28 and microphone 30 to breakaway connector 40. In a preferred embodiment, speakers 28, microphone 30, and connecting wires are contained in secure pockets of helmet-liner 20 but are removable by the user to facilitate washing of helmet-liner 20.

Breakaway connector 40 is designed to release wire 34 from wire 54 in the event that excessive tension is placed on the line (e.g., from a snag) or if the user

desires to separate helmet-liner 20 and associated components from the remaining components of headset 10. Slap switch 60 is used to answer or hang up telephone calls and to start and stop music, and has the advantage of being easy to operate when the user is participating in sports or recreational activities, especially where the particular activity would render it difficult or impossible to toggle a micro switch. Slap switch 60 is connected to cellular telephone plug 74 by wire 72.

FIG. 2 depicts Sports MusiCom headset 10 secured to a user, with a sports helmet (not part of the present invention) worn over top of helmet-liner 20. Headset 10 comprises helmet-liner 20, breakaway connector 40, wire clip 76, slap switch 60, and cellular telephone plug 74. Use of the sports helmet is optional. Helmet-liner 20 may also be worn independently, if desired. An optional carrying case 82 (also not part of the present invention) encapsulates the cellular telephone.

FIG. 3 depicts another embodiment of the present invention. Again, an optional carrying case 82 is shown. Female duplex plug 80 comprises standard (3.5-mm) headphone and microphone connections. Female duplex plug 80 may alternatively be comprised of two simplex plugs. User-selected headset 84 (not part of the present invention) is worn by the user and connected to female duplex plug 80. Not depicted in FIG. 3, but contained within a pouch that is part of optional carrying case 82, is slap switch 60. Slap switch 60 may also be attached to a user's clothing as shown in FIG. 2. A breakaway connector may also be provided with this arrangement. Similarly, standard 3.5-mm speaker and microphone connections, as shown in FIG. 3, may be incorporated into the headset system of FIG. 2. The resulting system would, therefore, be compatible both with helmet-liner 20 and a standard headset selected by the user, thereby allowing the user to select the most suitable headset arrangement for a given situation.

FIG. 4 shows a perspective view of breakaway connector 40, slap switch 60, and female duplex plug 80. Breakaway connector 40 comprises male connector 42 and female connector 43 with internal electrical contacts and retaining magnets. Slap switch 60 is shown in a substantially triangular shape, although one skilled in the art



can appreciate that a variety of shapes are possible. Female duplex plug 80 comprises speaker plug 85 and microphone plug 86. An alternative embodiment employs two female simplex plugs in place of female duplex plug 80.

FIG. 5 shows male connector 42 of breakaway connector 40. Male connector 42 comprises magnets 46 and electrical prongs 50A, 50B, 50C, and 50D. Female connector 43 (not shown) is configured to mate with male connector 42, and contains magnets or metallic plates that correspond in position to magnets 46 to hold both connector halves in place during normal operation. Also, electrical recesses are included to mate with male prongs 50A, 50B, 50C, and 50D to close the electrical connections between mating segments of breakaway connector 40.

FIG. 6 depicts an embodiment of slap switch 60. Electrically parallel switches 68, positioned between base 62 and slap pad 64, are functional for answering or hanging up cellular telephone calls when depressed, or for starting, stopping, and resuming music. The location of switches 68 near the perimeter of slap pad 64 facilitates their operation when force is applied to slap pad 64 at irregular positions or angles. Switches 68 are normally held open by, e.g. springs or elastomeric materials of construction that apply a force opposing the internal electrical switch contacts (not pictured). Support guides 66 and 70 hold base 62 and slap pad 64 together and allow for a limited degree of swiveling to close one or more electrical switches 68 when slap switch 60 is activated by the user. Wires 54 and 72 (not shown on FIG. 6) are attached to base 62.

FIG. 7 shows the schematic wiring of the embodiment presented in FIG. 1 and FIG. 2. Slap switch 60 is shown with three parallel electrical switches, which may be appropriate for a triangular-shaped slap switch. This is not to be construed as limiting the present invention, as any reasonable number of parallel switches, or a single switch, may be used with this device. Cellular telephone plug 74 comprises electrical contacts 90A, 90B, 90C, and 90D that mate with internal electrical contacts of a cellular telephone. The contacts 90A-D are electrically connected to speakers 28 and microphone 30 via insulated conductors in the manner shown. Slap switch 60 is a



resilient switch that remains in the open position, as shown, when not pressed by the user to activate. When slap switch 60 is pressed, at least one of parallel electrical switches 68 close to complete an electrical circuit and short out the leads across microphone 30. This activates functions on the cellular telephone. Specifically, it answers and hangs up telephone calls, or starts, stops, and resumes music play. Use of slap switch 60 may also activate other functions on the phone, such as starting and stopping the streaming of music to speakers 28.

FIG. 8 depicts adapter 73 with a standard 3.5-mm, four-connector, male plug for insertion into many cellular telephone models. At the opposite end of adapter 73 is female duplex plug 80 (or, alternatively, two female simplex plugs) for connection to a variety of standard headsets. Slap switch 60 is included to facilitate starting, stopping, and resuming music play, and answering and ending cellular telephone calls.

FIG. 9 depicts the wiring system for connection of a cellular telephone to a standard headset, or alternatively to one or more speakers and a microphone with standard 3.5-mm male plugs. Cellular telephone plug 74 is electrically connected to speaker plug 85 and microphone plug 86 via insulated conductors 92, in the manner shown. Female duplex plug 80 comprises speaker plug 85 and microphone plug 86, which are both standard 3.5-mm female jacks. Slap switch 60 may be activated to momentarily short the leads across the microphone terminals, as described herein.

FIG. 10 shows an electrically equivalent arrangement as that depicted in FIG. 9, but with speaker plug 85 and microphone plug 86 arranged in a simplex configuration. Cellular telephone plug 74 is electrically connected to speaker plug 85 via insulator conductor 94, and to microphone plug 86 via insulated conductor 96.

### **Operation of Invention**

In operation, cellular telephone plug 74 is inserted into a cellular telephone female audio input/output connection. Alternatively, a patch cable may be used to

translate a nonstandard cellular telephone connection to a standard 3.5-mm plug, and cellular telephone plug 74 may then be inserted into a female plug of the patch cable. Helmet-liner 20 is worn over the user's head, and male segment 42 is engaged with female segment 43 of breakaway connector 40. Many modern cellular telephones can send an audio (i.e., music) signal to speakers 28. Generally, an audible signal will be transmitted on top of the audio signal when the user receives an incoming telephone call. The user may then momentarily activate slap switch 60 to answer the call, and active it again to hang up. Alternatively, when the cellular telephone is being utilized as a portable music player, slap switch 60 is used to start, stop, and resume music play.

Operation for the configuration depicted in FIG. 2 is similar. Male speaker and microphone plugs are inserted into female speaker plug 85 and microphone plug 86, respectively. The operation of slap switch 60 is as described above.

Since other modifications and changes to the novel Sports MusiCom headset will be apparent to those skilled in the art, the invention is not considered limited to the description above for purposes of disclosure, and covers all changes and modifications which do not constitute departures from the true spirit and scope of this invention.

Having thus described the invention, what is desired to be protected by Letters Patent is presented in the subsequently appended claims.

## Reference Signs List

10	Headset
20	Helmet liner
28	Speakers
30	Microphone
32	Chin strap
34	Wire
40	Breakaway connector
42	Male connector
43	Female connector
46	Magnets
50A-D	Male prongs
54	Wire
60	Slap switch
62	Base
64	Slap pad
66	Support guides
68	Electrical switches
70	Support guides
72	Wire
73	Adapter
74	Cellular telephone plug
76	Wire clip
80	Female duplex plug
82	Carrying case
84	User-selected headset
85	Speaker plug
86	Microphone plug
90A-D	Electrical contacts
92	Insulated conductors



94	Insulated conductors
96	Insulated conductors

## 2.54 CLAIMS

Claim 1. A Sports MusiCom headset for providing hands-free cellular telephone communication between a wearer and others, and for providing audio playback from a portable music player, the Sports MusiCom headset comprising:

a helmet liner having a head covering portion adapted to fit on a wearer's head and a chin strap, extending downward from said head covering portion, adapted to fit around a wearer's chin;

at least one speaker mounted to said helmet liner;

a microphone mounted to said chin strap; and,

a cellular telephone plug, in electrical communication with said at least one speaker and said microphone, adapted for use with a cellular telephone audio input/output jack.

Claim 2. The Sports MusiCom headset of claim 1, wherein:

said at least one speaker comprises two speakers; and,

said head covering portion is adapted to hold each speaker on opposite sides of a wearer's head for stereophonic audio reproduction.

Claim 3. The Sports MusiCom headset of claim 1, wherein:

said head covering portion comprises at least one speaker pocket for containing said at least one speaker;

said chin strap comprises a microphone pocket for containing said microphone;

said at least one speaker is removably mounted within said at least one speaker pocket; and,

said microphone is removably mounted within said microphone pocket.

Claim 4. The Sports MusiCom headset of claim 1, wherein said chin strap is adapted to hold said microphone in communication with a wearer's throat.

Claim 5. The Sports MusiCom headset of claim 1, wherein said chin strap comprises a first elongated member, a second elongated member, and fastening means for removably attaching said first and second elongated members to one another.

Claim 6. The Sports MusiCom headset of claim 1, wherein said helmet liner is constructed of stretchable fabric to hold said helmet liner securely on a wearer's head.

Claim 7. The Sports MusiCom headset of claim 1, further comprising a breakaway connector in electrical communication with said at least one speaker, said microphone, and said cellular telephone plug, the breakaway connector comprising:  
a first segment having a first plurality of electrical contact elements; and,  
a second segment having a second plurality of electrical contact elements,  
wherein said first and second pluralities of electrical contact elements are adapted to be in electrical communication with one another when said breakaway connector is engaged.

Claim 8. The Sports MusiCom headset of claim 7, wherein:  
said first segment comprises at least one magnet; and,  
said second segment comprises at least one magnetically attractive element adapted to be in magnetic communication with said at least one magnet when said breakaway connector is engaged, whereby said first and second segments are held together by magnetic attraction.

Claim 9. The Sports MusiCom headset of claim 1, further comprising a switch operable for remotely answering and ending cellular telephone calls, the switch comprising:  
a base pad having a first substantially flat surface defining a first plane;  
a slap pad having a second substantially flat surface defining a second plane,  
wherein said second plane is substantially parallel to said first plane, the second substantially flat surface having a surface area;  
a first electrical contact in electrical communication with said cellular telephone plug;



a second electrical contact in electrical communication with said cellular telephone plug;

resilient means urging said first and second electrical contacts in an electrically open position; wherein,

said first and second electrical contacts contact one another to close an electrical circuit when said slap pad is displaced toward said base.

Claim 10. The Sports MusiCom headset of claim 9, wherein said surface area is between one square inch ( $6.5 \text{ cm}^2$ ) and four square inches ( $25.8 \text{ cm}^2$ ).

Claim 11. The Sports MusiCom headset of claim 9, wherein said surface area is approximately four square inches ( $25.8 \text{ cm}^2$ ).

Claim 12. The Sports MusiCom headset of claim 9, wherein said surface area is greater than four square inches ( $25.8 \text{ cm}^2$ ).

Claim 13. A switch operable for remotely answering and ending cellular telephone calls, the switch comprising:

a base pad having a first substantially flat surface defining a first plane;

a slap pad having a second substantially flat surface defining a second plane, wherein said second plane is substantially parallel to said first plane, the second substantially flat surface having a surface area;

a cellular telephone plug adapted for use with a cellular telephone audio input/output jack;

a first electrical contact in electrical communication with said cellular telephone plug;

a second electrical contact in electrical communication with said cellular telephone plug;

resilient means urging said first and second electrical contacts in an electrically open position; wherein,

said first and second electrical contacts contact one another to close an electrical circuit when said slap pad is displaced toward said base.

Claim 14. The MusiCom headset adapter of claim 13, wherein said surface area is between one square inch ( $6.5 \text{ cm}^2$ ) and four square inches ( $25.8 \text{ cm}^2$ ).

Claim 15. The MusiCom headset adapter of claim 13, wherein said surface area is approximately four square inches ( $25.8 \text{ cm}^2$ ).

Claim 16. The MusiCom headset adapter of claim 13, wherein said surface area is greater than four square inches ( $25.8 \text{ cm}^2$ ).

Claim 17. A MusiCom headset adapter for providing hands-free cellular telephone communication between a wearer and others, and for providing audio playback from a portable music player, the Sports MusiCom headset adapter comprising:

- a cellular telephone plug adapted for use with a cellular telephone audio input/output jack;

- a standard 3.5-mm female speaker jack in electrical communication with said cellular telephone plug; and,

- a standard 3.5-mm female microphone jack in electrical communication with said cellular telephone plug.

Claim 18. The MusiCom headset adapter of claim 17, further comprising a switch operable for remotely answering and ending cellular telephone calls, the switch comprising:

- a base pad having a first substantially flat surface defining a first plane;

- a slap pad having a second substantially flat surface defining a second plane, wherein said second plane is substantially parallel to said first plane, the second substantially flat surface having a surface area;

- a first electrical contact in electrical communication with said cellular telephone plug;

- a second electrical contact in electrical communication with said cellular telephone plug;

resilient means urging said first and second electrical contacts in an electrically open position; wherein,

said first and second electrical contacts contact one another to close an electrical circuit when said slap pad is displaced toward said base.

Claim 19. The MusiCom headset adapter of claim 18, wherein said surface area is between one square inch ( $6.5 \text{ cm}^2$ ) and four square inches ( $25.8 \text{ cm}^2$ ).

Claim 20. The MusiCom headset adapter of claim 18, wherein said surface area is approximately four square inches ( $25.8 \text{ cm}^2$ ).

Claim 21. The MusiCom headset adapter of claim 18, wherein said surface area is greater than four square inches ( $25.8 \text{ cm}^2$ ).



# DRAWINGS

## SHEET 1/6

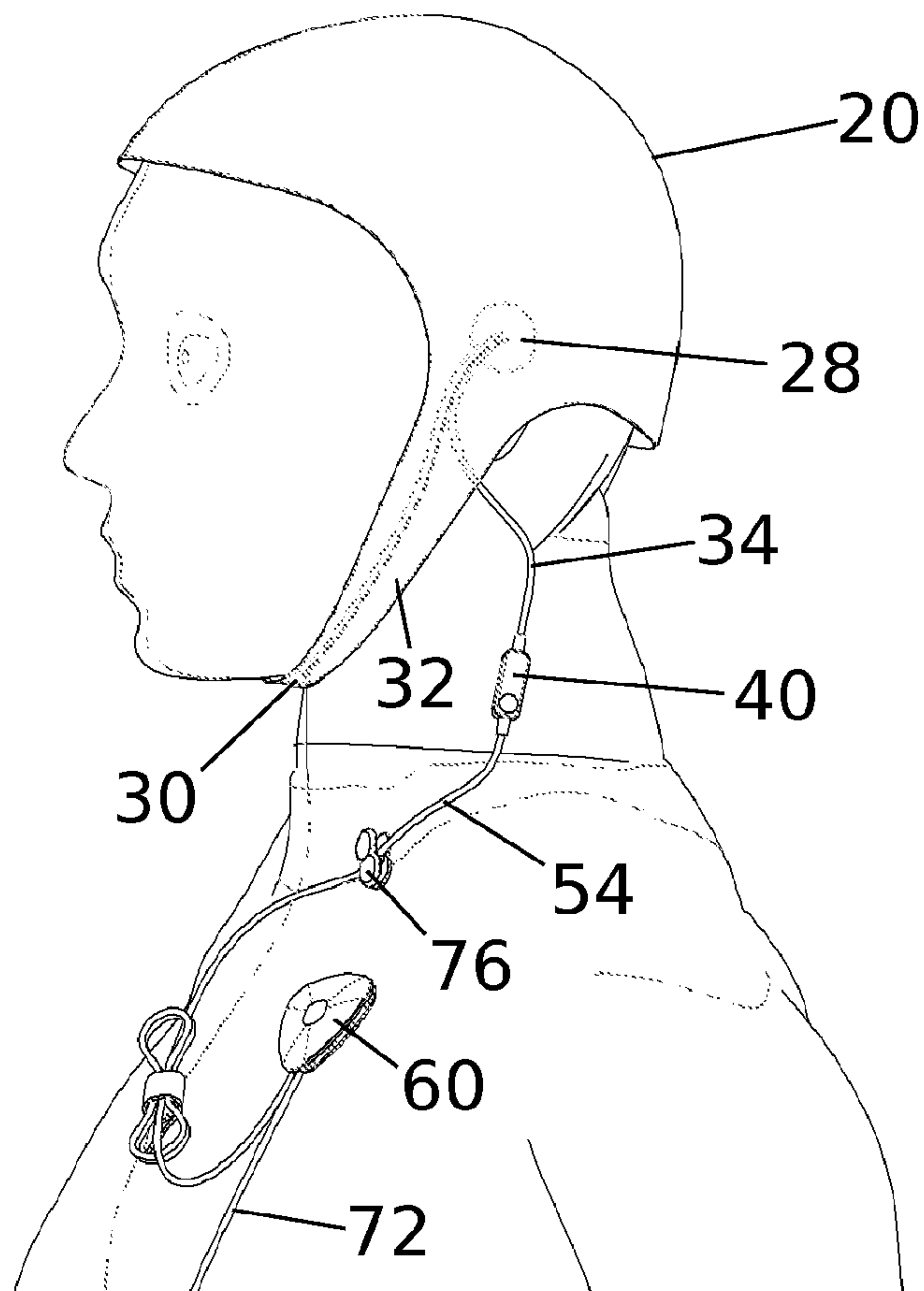


FIG. 1

# DRAWINGS

## SHEET 2/6

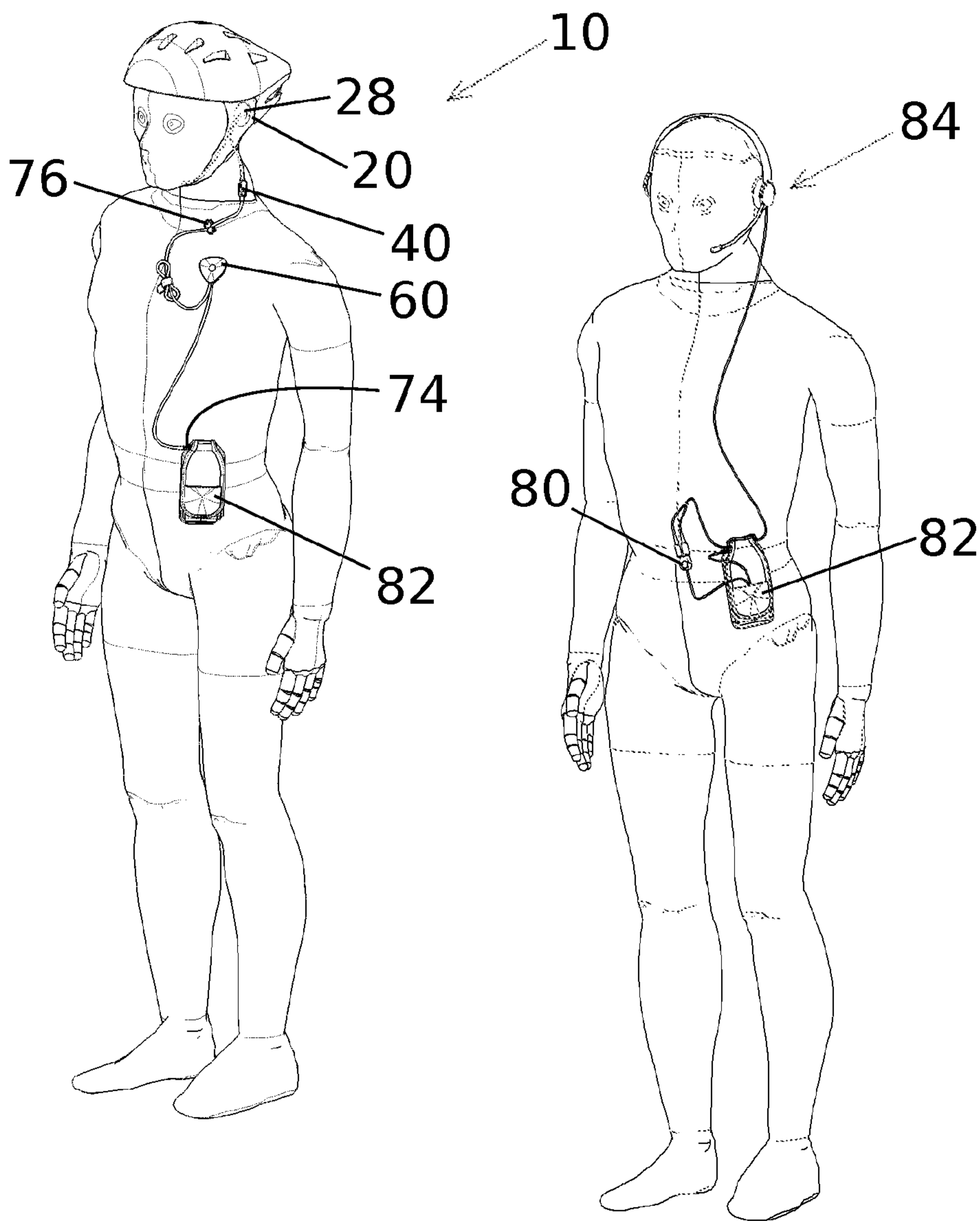


FIG. 2

FIG. 3

# DRAWINGS

## SHEET 3/6

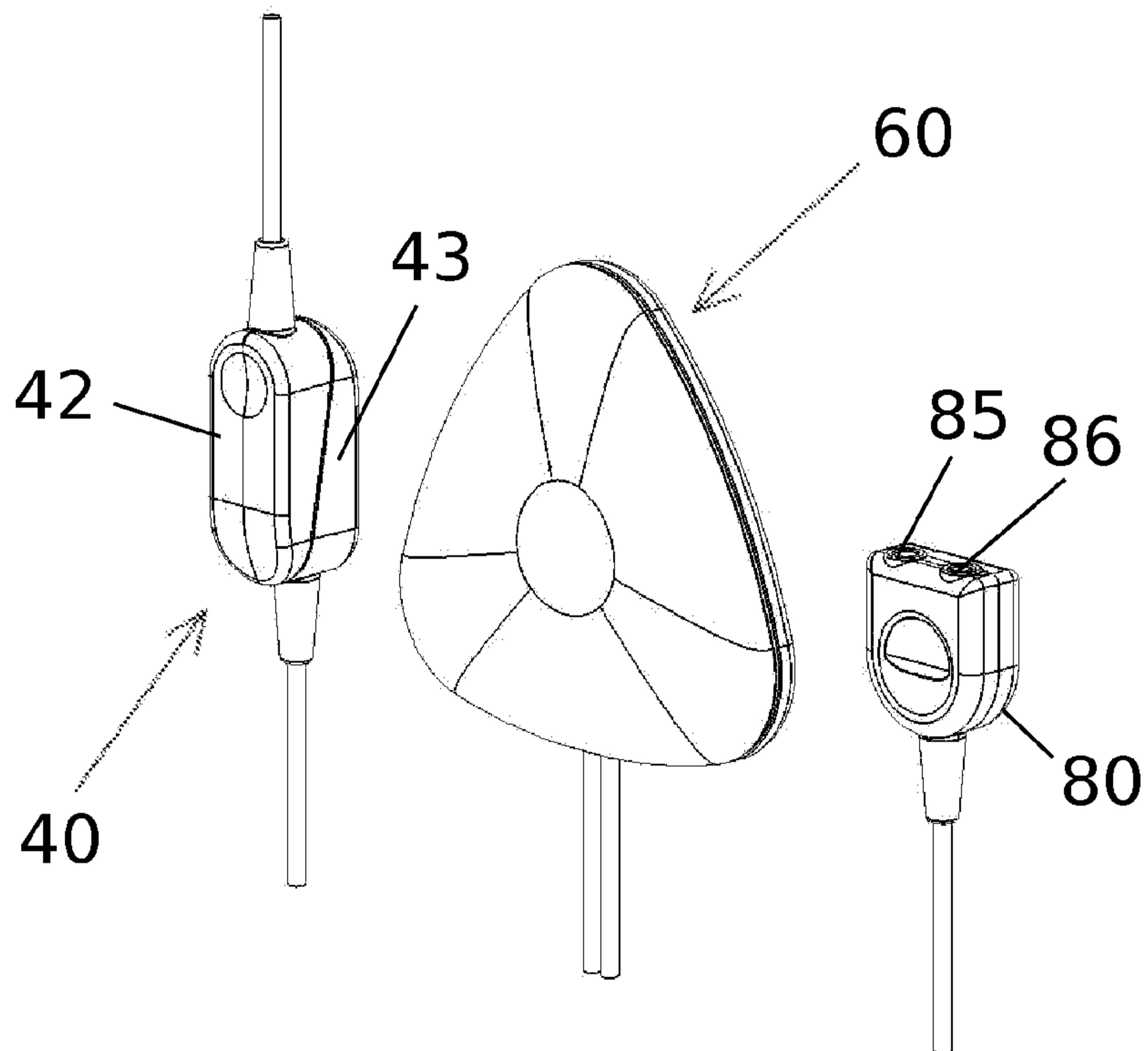
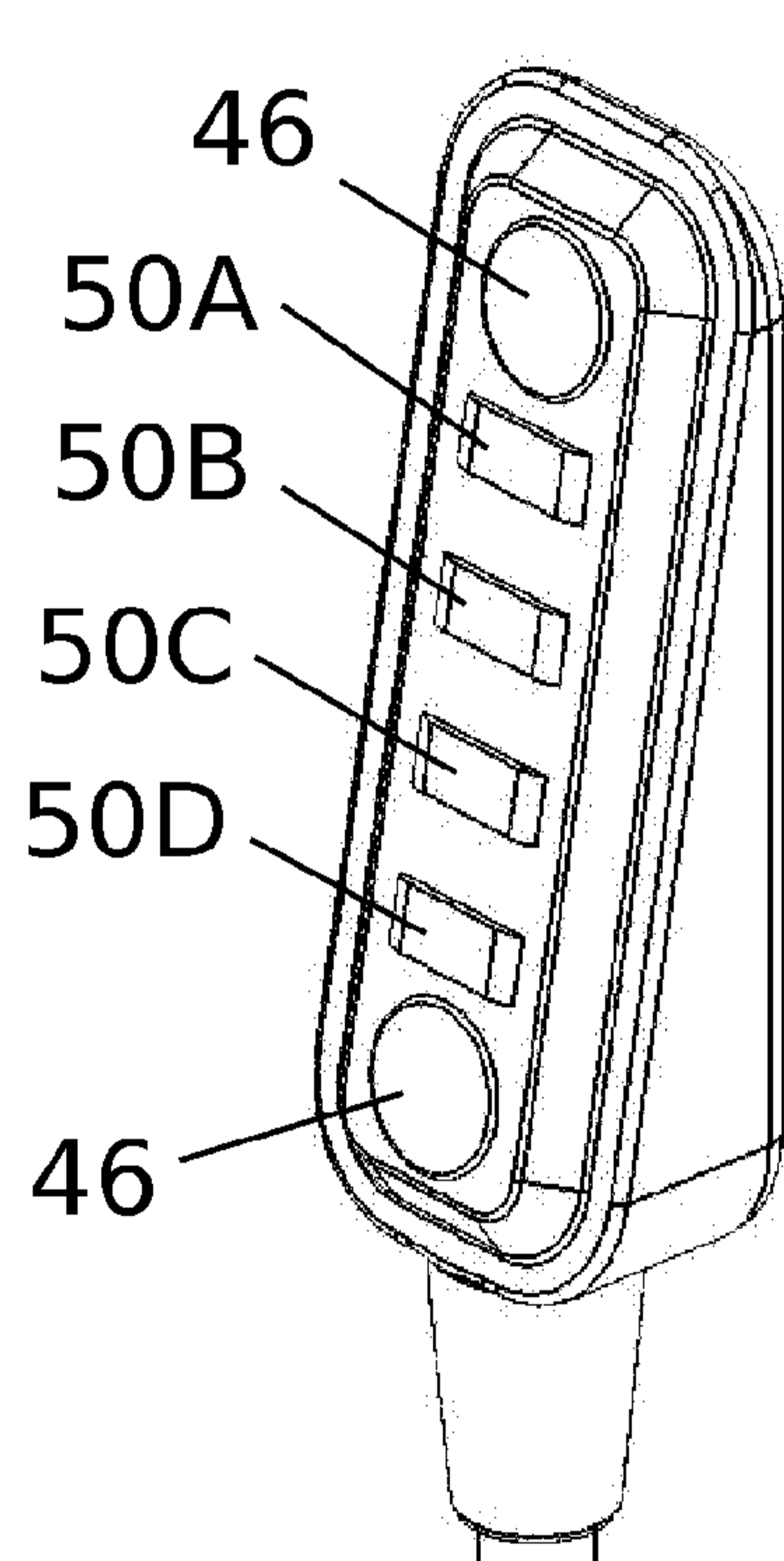


FIG. 4

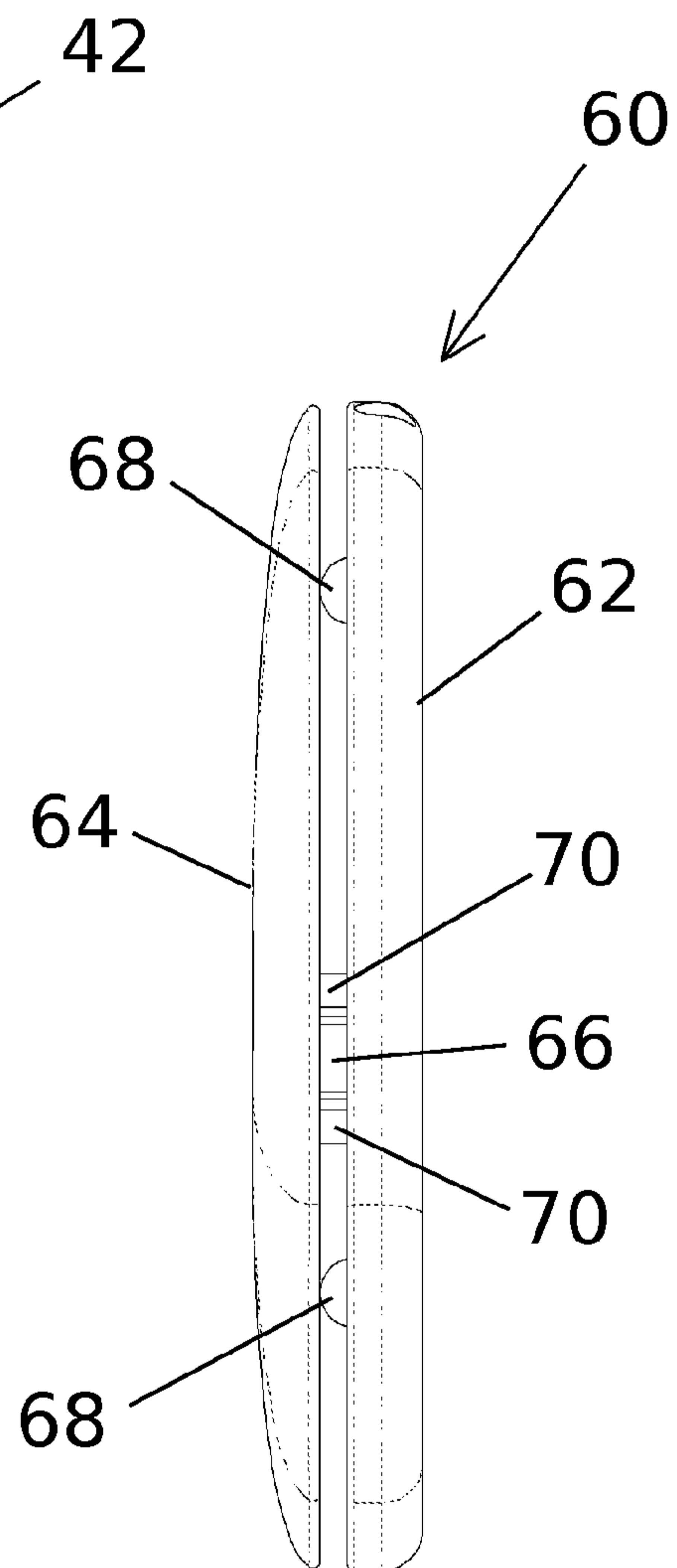


# DRAWINGS

## SHEET 4/6



**FIG. 5**



**FIG. 6**

# DRAWINGS

## SHEET 5/6

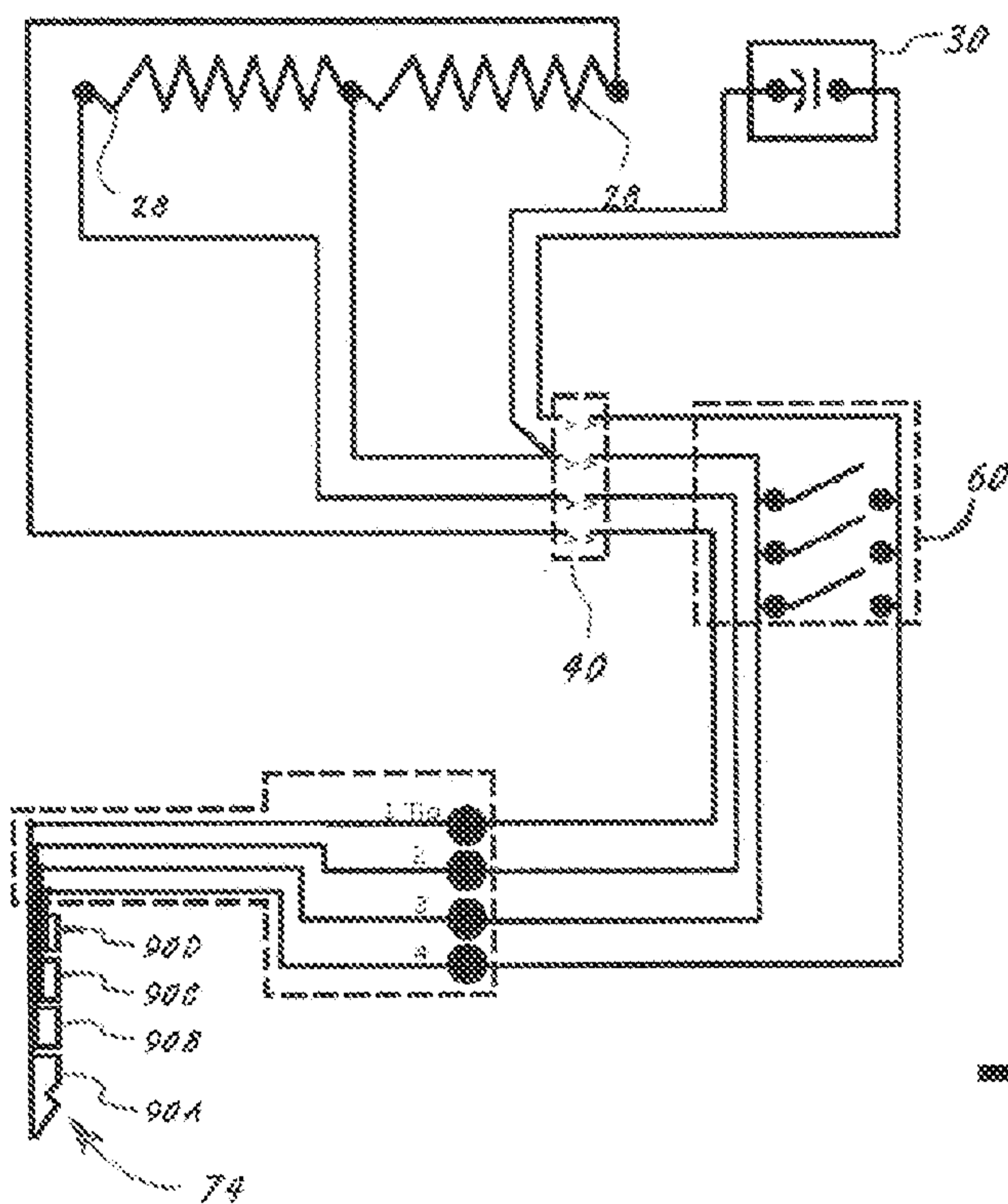


FIG. 7

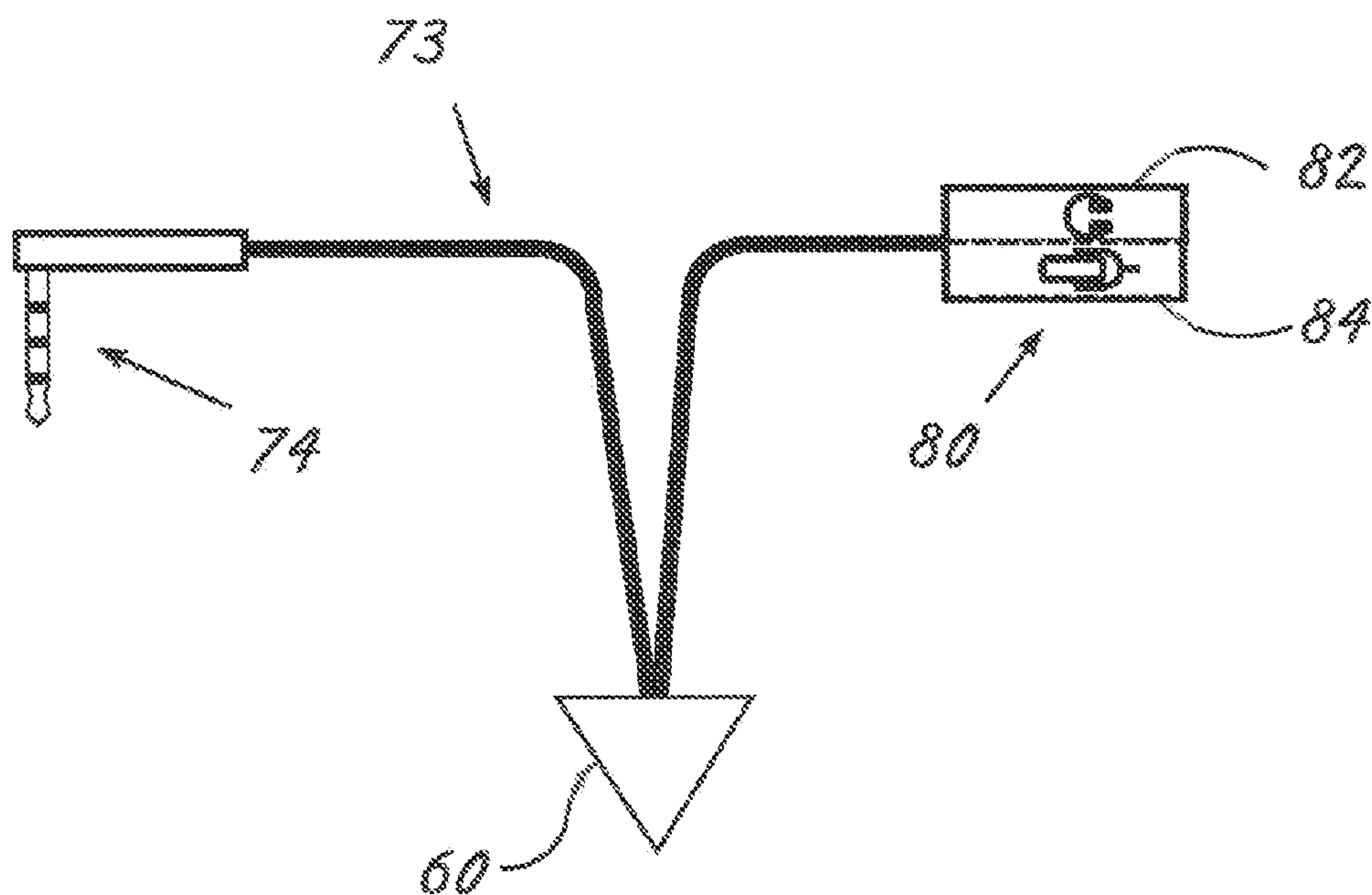
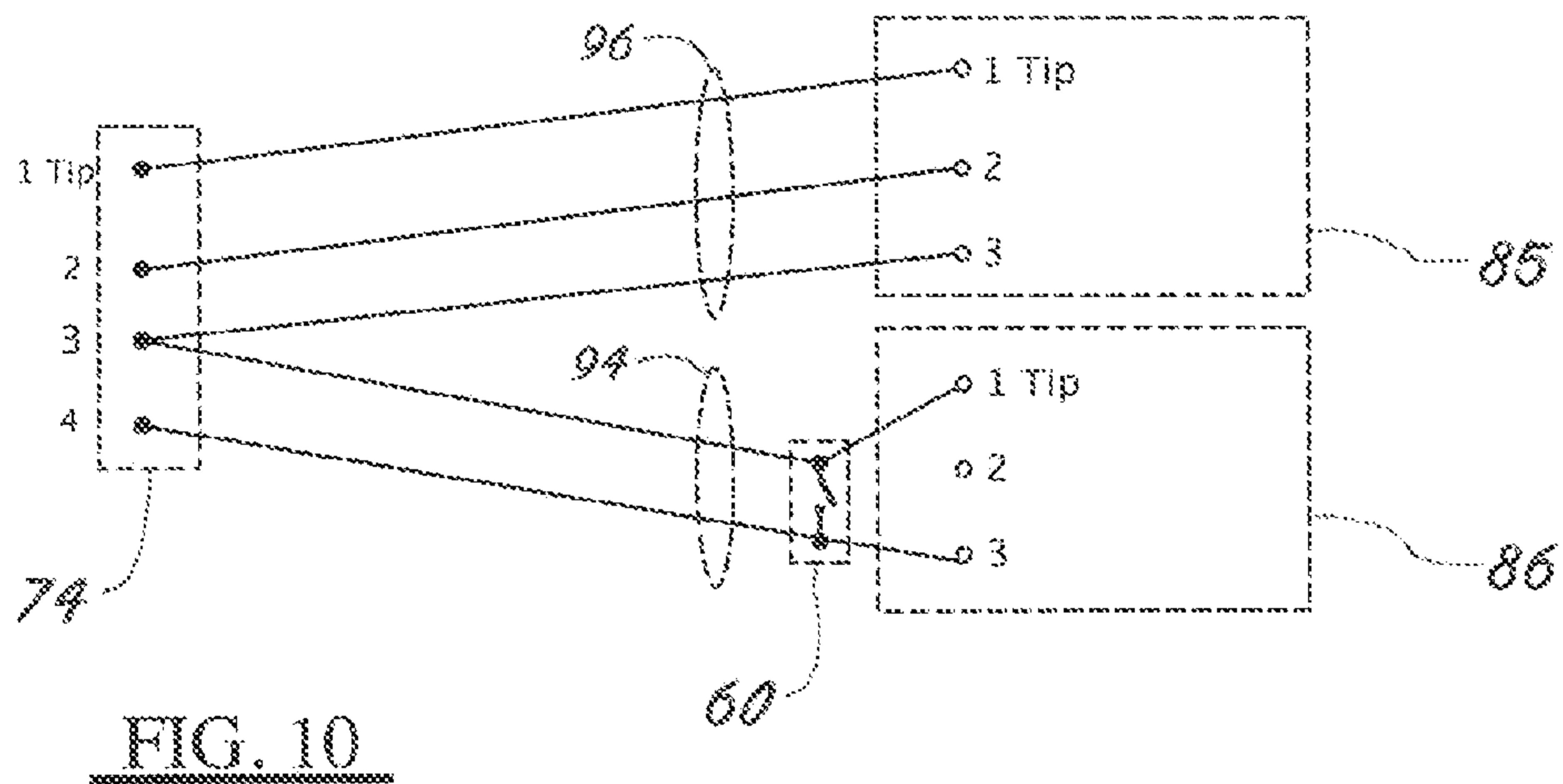
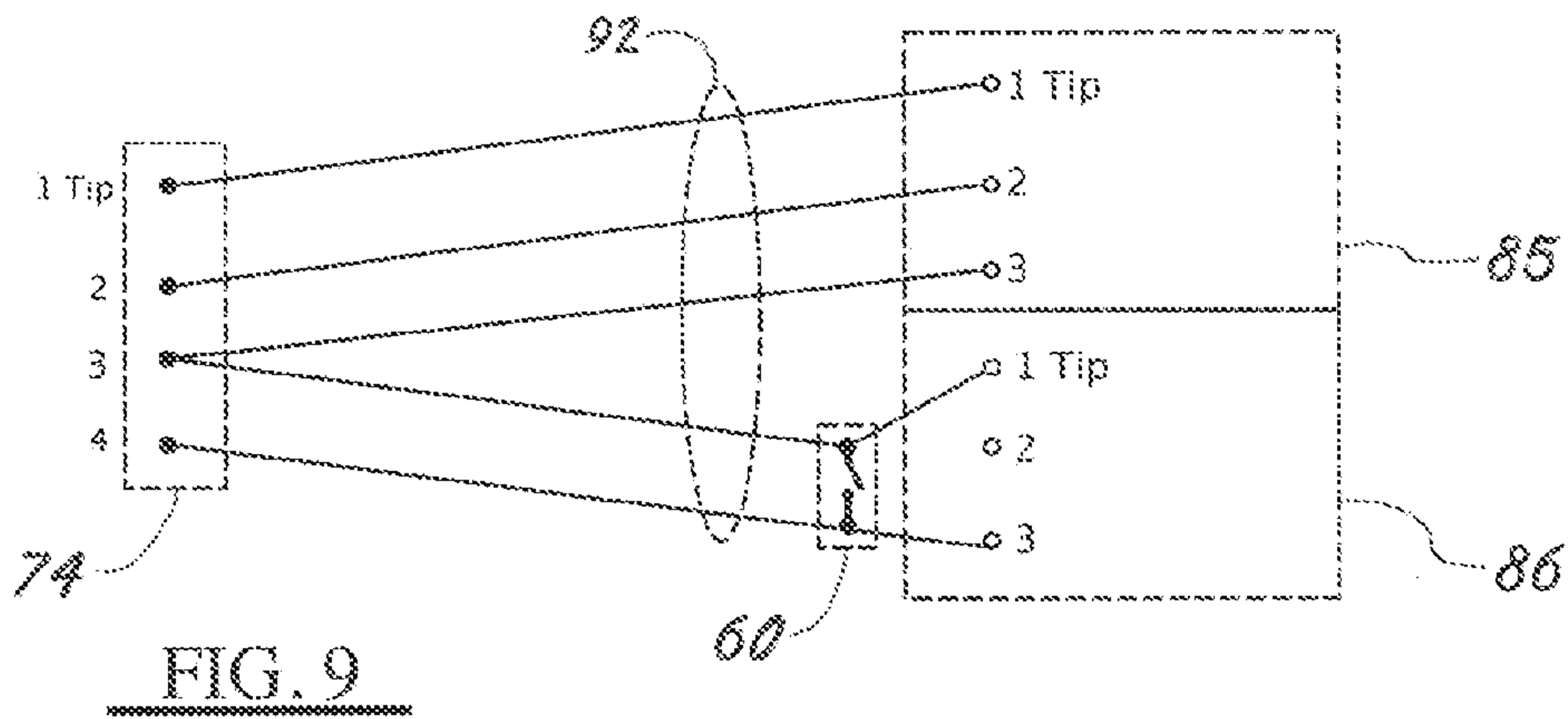


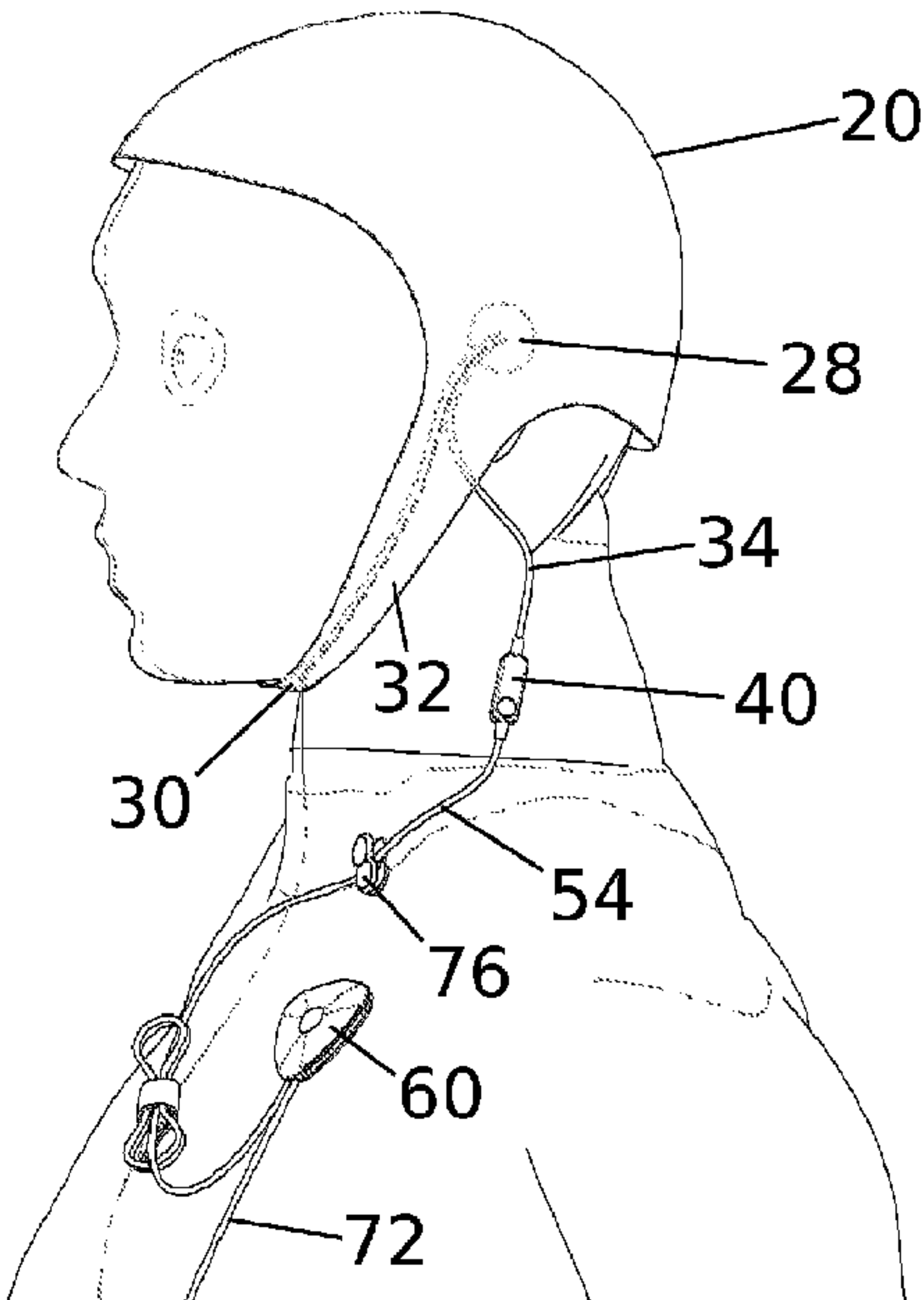
FIG. 8

# DRAWINGS

## SHEET 6/6







**FIG. 1**